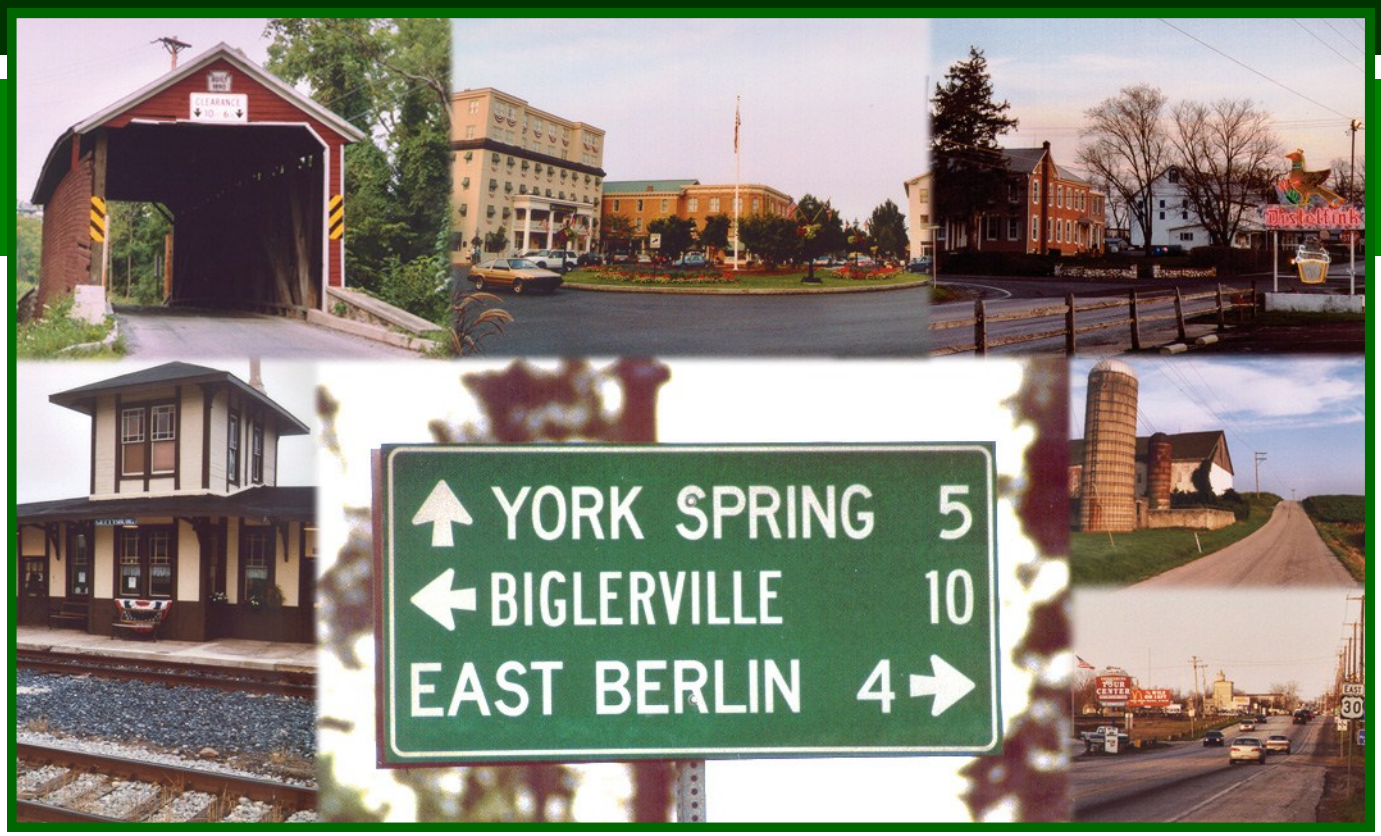
Adams County

Long Range Transportation Plan



Prepared by the :
Adams County Office of Planning and Development

Funding provided by the:
Pennsylvania Department of Transportation

Adopted: June 2012

This work was sponsored by the Pennsylvania Department of Transportation (PennDOT) and the Federal Highway Administration (FHWA).

The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Commonwealth of Pennsylvania, the United States Department of Transportation, or the Federal Highway Administration at the time of publication. This report does not constitute a standard, specification, or regulation.

Adams County
Long Range Transportation Plan

ACKNOWLEDGEMENTS

Adams County Commissioners

Lucy Lott
Lisa Moreno
Jim Martin
Randy Phiel
Marty Qually
Glenn Snyder
George Weikert
Tom Weaver

Advisory Committee

Victor Frank, Adams County Planning Commission
James Henderson, Adams County Planning Commission
Ferd Prehn, Arendtsville Borough
Richard Mountfort, Biglerville Borough
Richard Hileman/David Hazlett, Carroll Valley Borough
Mike Thoman, East Berlin Borough
Ted Streeter, Gettysburg Borough
Rich Adams, Littlestown Borough
Herb Riede, McSherrystown Borough
Robert Strausbaugh, Conewago Township
Flo McLeish, Cumberland Township
Dan Fetter, Franklin Township
Tim Beard, Hamilton Township
Eddie Deardorff, Hamiltonban Township
Robert Coleman, Straban Township
Dennis Hickethier, Healthy Adams County
John McKenna, Gettysburg National Military Park
Margaret Weaver, Chamber of Commerce
Matt Smoker, Federal Highway Administration
Walt Panko, PennDOT
Terry Adams, PennDOT
Bob Reilly, Office of U.S. Senator Todd Platts
Skip Strayer, Office of PA Senator Terry Punt
Larry E. Miller, Office of PA Rep. Stephen R. Maitland
Charmaine Wise, Adams County Transit Authority
Tim Edwards, Susquehanna Area Regional Airport Authority
Jeph Rebert/Don Bubb, York County Planning Commission

Adams County Office of Planning and Development

Nick A. Colonna, AICP, Director
Richard H. Schmoyer, AICP, Director (retired)
Andrew Merkel, AICP, Senior Planner
Sarah Weigle, Senior Planner
Cecelia Perdue, Administrative Assistant

Gannett Fleming, Inc.

Craig Shirk, AICP, Project Manager
John “Drew” Ames, Planning
Josie Boyer, AICP, Planning
Brian Funkhouser, AICP, Planning
Cindy Rensch, Planning
Rafey Subhani, Modeling
Mark Radoivc, Modeling
Steven Palmer, Engineering

COUNTY OF ADAMS
ORGANIZED JANUARY 22, 1800
COMMONWEALTH OF PENNSYLVANIA

Table of Contents

Chapter 1 Introduction to the Long Range Transportation Plan

A. What is a Transportation Planning Organization 1
B. Profile of the Adams County RPO 2

Chapter 2 Overview of the Long Range Transportation Plan Process

A. The Long Range Transportation Plan 3
B. State Long Range Transportation Plan 4
C. Transportation Improvement Program 4
D. State Twelve-Year Transportation Program 5
E. State Transportation Improvement Program 5

Chapter 3 History of Transportation in Adams County

A. Early Roadways 8
B. Early Bridges 10
C. Early Railroads 10

Chapter 4 Adams County Demographics

A. Population and Housing 13
B. Age Characteristics 14
C. Minority Populations 14
D. Vehicle and Travel Characteristics 15

Chapter 5 Transportation System

A. Roads 19
  (1). Functional Classification 20
  (2). Major Roadways in Adams County 21
  (3). Traffic Volumes 23
  (4). Freight and Goods Movement 24
  (5). International Roughness Index 25
  (6). Traffic Controls 25
  (7). US Route 15 Interchanges 26
B. Bridges 27
C. Public Transportation 28
  (1). Freedom Transit 29
  (2). Park and Ride Lots 30
  (3). Commuter Services 30
D. Rail 30
E. Aviation 32
F. Bicycle and Pedestrian Travel 33
G. Special Transportation Modes 33
H. Safety 33

Chapter 6 Travel Demand Model Analysis

A. Future Land Use Scenarios 37
B. County and Planning Area Modeling Results 38
C. Corridor Modeling Results 41

Chapter 7 Goals, Objectives and Federal Planning Factors 43

Chapter 8 Projected Transportation Network Needs

A. Highway Maintenance 47
B. Bridges 48
C. Congestion Management 48
D. Intelligent Transportation Systems 49
E. Transit 49
F. Non-Motorized 49
G. Aviation/Rail Freight 49
H. Future Network Costs 50

Chapter 9 Future Long Range Transportation Plan Funding

A. Funding Projections 52
B. Future Funding Allocation 52
(1). 2011-2014 TIP 52
(2). Highway Maintenance 57
(3). Bridges 57
(4). Capacity 57
(5). Safety 57
(6). Transportation Enhancements 58
(7). Rail 58
(8). Transit 58
(9). Aviation 58
(10). Air Quality 58

Chapter 10 Reducing the Funding Gap

A. Municipal Liquid Fuels Allocations 59
B. Public Private Partnerships 59
C. Transportation Impact Fees 59
D. Developer Contributions 60

Chapter 11 Capital Improvements Plan

A. Highway Maintenance Candidates 61
B. Bridge Candidates 62
C. Congestion Management Candidates 63
D. Safety Candidates 63
E. Transit Candidates 64
F. Bicycle, Pedestrian, and Non-Motorized Candidates 65
G. Other Projects 65

Chapter 12 Project Selection Process

A. Setting Local Priorities 67
B. Linking Planning with NEPA 69
C. Public Involvement Plan 70

Appendices

Appendix A: Detailed Goals and Objectives
Appendix B: Detailed Cost and Future Funding Projections
Appendix C: Project Evaluation Framework (Overview and Scoring)
Appendix D: Environmental Resources Overview
Appendix E: 2013 – 2016 Transportation Improvement Program
Appendix F: Long List of Future Projects
Appendix G: Maps
Appendix H: Truck Origin-Destination Study
Appendix I: Adams County Travel Demand Model – Refinement and Scenario Evaluation Report

List of Tables

Table 1: Population, 1990-2035 13
Table 2: Total Housing Units, 1990-2010 13
Table 3: Average Household Size, 1990-2010 14
Table 4: Population Age, 1990-2010 14
Table 5: Population by Race, 2000 and 2010 Percentage 15
Table 6: Vehicles Available by Household Size, 2005 and 2008-10 15
Table 7: Travel Mode Choice, 1990 – 2008/10 16
Table 8: Commuting Patterns, 1990-2000 16
Table 9: Average Annual Wages, 1999-2009 17
Table 10: Adams County Road Network by Jurisdiction 19
Table 11: Municipal Roads by Pavement Type 19
Table 12: Adams County Functional Classification Mileage 20
Table 13: Historic Average Annual Daily Traffic 24
Table 14: International Roughness Index Ratings 25
Table 15: Traffic Signals by Jurisdiction 25
Table 16: U.S. Route 15 Interchanges 27
Table 17: Structurally Deficient and Functionally Obsolete Bridges 28
Table 18: Paratransit Ridership Trends 29
Table 19: At-Grade Rail Crossings 31
Table 20: Adams County Crash Statistics, 1999-2009 34
Table 21: Pennsylvania Crash Statistics, 1999-2009 34
Table 22: Adams County Modeling Scenarios – Base Assumptions 37
Table 23: Highway Maintenance Cost Projection Criteria 48
Table 24: Transportation Network Cost Projections 50
Table 25: Highway Maintenance Candidates 62
Table 26: Bridge Candidates 62
Table 27: Congestion Management Candidates 63
Table 28: Safety Candidates 63
Table 29: Transit Candidates 64
Table 30: Bicycle, Pedestrian, and Non-Motorized Candidates 65
Table 31: Candidate Project Evaluation Framework 68
Table 32: Summary of Linking Planning & NEPA Environmental Screening Results ..... Appendix D
Table 33: Linking Planning & NEPA Detailed Environmental Screening Results ..... Appendix D

List of Figures

Figure 1: Summary of Federal & State Transportation Planning and Programming Process 4
Figure 2: Projected 2013-2037 Transportation Funding by Category
(Full Projected Act 44 and Discretionary Funds) 53
Figure 3: Projected 2013-2037 Transportation Funding by Category
(Reduced Act 44 and Discretionary Funds) 54
Figure 4: Projected 2013-2037 Transportation Funding by Category
(Reduced Act 44 and Full Discretionary Funds) 55
Figure 5: Future Funding Allocation 56
Figure 6: PennDOT Transportation Program Development and Project Delivery Process 68

Maps (Appendix F)

Map 1, Land Use
Map 2, Transportation Network
Map 3, Functional Classification of Highways
Map 4, Average Annual Daily Traffic
Map 5, Percentage of Trucks on Roadways
Map 6, International Roughness Index
Map 7, Structurally Deficient State Bridges
Map 8, Structurally Deficient Local Bridges
Map 9, Freedom Transit & Recommended Extensions
Map 10, Route 15 Detour Routes
Map 11, Composite Zoning
Map 12, Protected Lands
Map 13, Status of Joint Municipal Planning
Map 14, Trails and Scenic Tours
Map 15, Environmental Constraints
Map 16, Soil-Water Quality
Map 17, Monitored Environmental Sites
Map 18, Project Locations

Chapter 1
Introduction to the Long Range Transportation Plan

The Adams County 2011-2035 Long Range Transportation Plan (LRTP) identifies the county's long-term transportation needs and strategies for improving the transportation network relative to the challenges of community development and economic growth. In doing so, the LRTP fulfills the federal transportation planning requirements for Adams County and its Rural Planning Organization, thus ensuring the county's continued eligibility for Federal transportation funding. The plan includes short-term (1-4 years), medium-term (5-12 years) and long-term (13-25 years) projects and strategies to advance steady progress toward short, medium and long-range system goals. The plan will be updated every four years to adapt to changing conditions and new county, regional and state priorities. With the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) bill, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have undertaken an administrative process to change the frequency of updates to four years and this plan satisfies those requirements.

A. What is a Transportation Planning Organization

A transportation planning organization is a policy-making body made up of representatives of local and state government and transportation authorities. The Federal Aid Highway Act of 1962 requires the formation of a metropolitan planning organization (MPO) for any urbanized area with a population greater than 50,000 individuals. Each urbanized area listed by the U.S. Census Bureau must be represented by an MPO in order to carry out the metropolitan transportation planning process specified in Federal transportation regulations (23 USC 134 and 49 USC 5303).

The FHWA has identified six core functions of an MPO:

- **Establish a setting:** Establish and manage a fair and impartial setting for effective regional decision-making in the metropolitan area.
- **Evaluate alternatives:** Evaluate transportation alternatives, scaled to the size and complexity of the region, to the nature of its transportation issues, and to the realistically available options.
- **Maintain a Long Range Transportation Plan (LRTP):** Develop and update a long-range transportation plan for the metropolitan area covering a planning horizon of 20 or more years that fosters (1) mobility and access for people and goods, (2) efficient system performance and preservation, and (3) quality of life.
- **Develop a Transportation Improvement Program (TIP):** Develop a program based on the long-range transportation plan and designed to serve the area's goals, using spending, regulating, operating, management, and financial tools.
- **Involve the public:** Involve the public and all significantly affected sub-groups in the four essential functions listed above.
- **Develop a Unified Planning Work Program (UPWP):** Receive federal and state funds through the UPWP to carry out the above tasks and other planning functions.

Additionally, the metropolitan planning organization for each urbanized area must maintain a continuing, cooperative and comprehensive transportation planning process that considers all modes through three

mandated products, including 1) a Long Range Transportation Plan (LRTP); 2) a Transportation Improvement Program (TIP); and 3) a Unified Planning Work Program (UPWP).

While this transportation planning process has been established for urbanized areas, no similar requirement has been formally established for rural areas falling under the 50,000 population threshold. Under SAFETEA-LU, states are required to consult with non-metropolitan local officials in transportation planning and programming. However, the Pennsylvania Department of Transportation (PennDOT) has established a transportation planning relationship with rural areas of the state, formalized as Rural Planning Organizations (RPOs). These RPOs perform virtually all of the same tasks required of MPOs.

B. Profile of the Adams County RPO

Formally initiated in 1999 as an RPO, the Adams County Transportation Planning Organization (ACTPO) is an independent transportation planning and budgeting agency. It serves as the primary "planning partner" with PennDOT regarding the development, prioritization and funding of future transportation projects in Adams County which seek to use state and federal funding. The 11-member board includes representatives from Adams County municipalities and organizations, the Adams County Commissioners, the Adams County Planning Commission, several county departments and organizations, the Adams County Transit Authority and PennDOT. The ACTPO is supported by the Adams County Office of Planning and Development in performing its role in transportation planning for Adams County.

ACTPO coordinates with the PennDOT in the development of the twelve year Transportation Improvement Program (commonly referred as the "TIP") and the LRTP in accordance with local and county priorities. The ACTPO provides PennDOT with information regarding the transportation needs for the county and recommendations regarding the prioritization of proposed transportation improvements. This information is provided through development of the Adams County LRTP and its accompanying TIP. The LRTP serves to document the status of the transportation system, identify long-term system needs, and recommend system improvements and services targeted to meet those future needs. The TIP establishes a unified transportation improvement strategy that includes a prioritized list of transportation improvements, applicable implementation schedules, and identification of funding needs and mechanisms. PennDOT makes final project development and funding decisions to implement the TIP for state and federally funded projects. However, ACTPO has input and oversight authority over how the funds are distributed within the county.

Chapter 2
Overview of the Long Range Transportation Plan Process

Federal transportation legislation designates funding opportunities for a variety of transportation categories, including bridges, highways, safety and operations, public transit, demonstration projects, and discretionary programs. Recognizing the unique transportation needs of communities across the country, federal transportation legislation includes a flexible transportation planning process which allows regions to make local decisions concerning the prioritization of federally-available transportation funds. The role of Adams County as an RPO is to ensure that existing and future expenditures for transportation programs and projects are based on a comprehensive, cooperative and continuing planning and programming process.

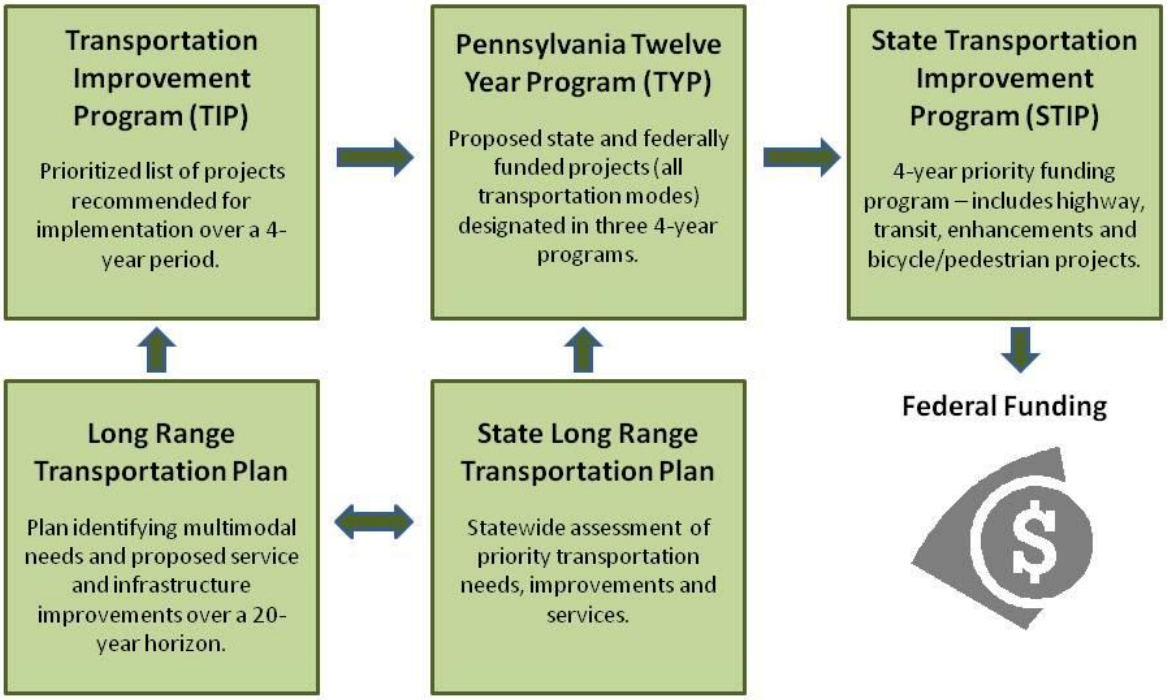
A. The Long Range Transportation Plan

The primary means for developing local transportation needs and priorities is completion of an LRTP. An LRTP is generally a 20-year horizon plan addressing transportation needs, policy and recommended investments. These plans must address specific requirements related to financial constraint (the plan must match desired transportation improvements with anticipated funding – i.e. there must be adequate current and future funding available to complete transportation projects to ensure full implementation), social justice issues, and federal air quality standards. Additionally, an LRTP should be consistent with the State LRTP (Figure 1) to ensure transportation issues and priorities are fully considered. Federal transportation legislation requires the LRTP to:

- Be multimodal in scope;
- Envision a minimum 20-year planning horizon;
- Address eight key planning factors;
- Be fiscally and environmentally constrained;
- Identify short-range and long-range strategies and actions;
- Provide for public participation, and
- Be updated every four (4) years

The LRTP also recognizes the close relationship between transportation and land use issues. Although Pennsylvania law places the implementation of land use policies with local government, the Adams County LRTP attempts to integrate the implications of current and projected land use trends with the analysis of transportation system performance and needs.

Figure 1: Summary of Federal & State Transportation Planning and Programming Process



B. State Long Range Transportation Plan

At the State level, the PennDOT has developed its LRTP, called the Pennsylvania Mobility Plan, which sets State transportation direction through 2030. The plan is a product of collaboration between PennDOT and its planning partners. While the plan leaves the identification and development of specific projects and programs to its partners, it does provide a context and framework for the development of those programs that help achieve the goals of the Mobility Plan.

C. Transportation Improvement Program

From the LRTP, a transportation improvement program (TIP) is developed in coordination with PennDOT. The TIP, updated every two (2) years, is an intermediate-range local planning document that reflects the transportation expenditures programmed over the forthcoming four years (Figure 1). Project details are provided in the TIP such as the general project description and cost, the funding source and funding year. The TIP contains budget data and other information on a wide array of transportation system components including aviation, bicycle facilities, planning studies, road improvements and transit, among others. Projects identified in the TIP must be derived from the LRTP to be eligible for federal funds.

D. State Twelve Year Transportation Program

The Twelve-Year Transportation Program (TYP) is Pennsylvania's official transportation program. It covers all transportation modes, both passenger and freight, and includes consideration of public and private transportation systems, facilities and operations. The TYP is used to guide the planning and decision-making process regarding implementation and funding of transportation improvements statewide (Figure 1).

The program is comprised of a schedule of agreed-upon priority projects that PennDOT, in coordination with its various planning partners across the state, will work to accomplish over a twelve-year period. The program is fiscally constrained to be consistent with expected funding levels (at both the state and federal level) and includes highways and bridges, transit, bike/pedestrian, rail freight and aviation projects. Regular review and adjustments to the TYP are made. Modifications, if necessary, are based on the ability to accomplish projects in a timely fashion, the costs for projects, and changing regional and local needs.

The first four-year period of the TYP coincides with the federally required State Transportation Improvement Program (STIP). Specific priority projects to be undertaken during the first four-year period are listed and described on the anticipated schedule and costs for each project phase are identified. The second and third periods of the program include future phases of priority project development, statewide line item programs, and other anticipated projects.

E. State Transportation Improvement Program

The Pennsylvania State Transportation Improvement Program (STIP) is the federally required program to guide the application of federal funding to priority projects throughout the state. The STIP generally coincides with the first four-year phase of the TYP, which provides a unified collection of transportation priorities from all of the local planning partners from across the state (Figure 1). Projects included in local TIPs must be included in the STIP to be eligible for state and federal funding. The STIP is used by the U.S. Department of Transportation in planning for the distribution of federal funding (via PennDOT) to priority transportation projects in the state.

Page intentionally left blank.

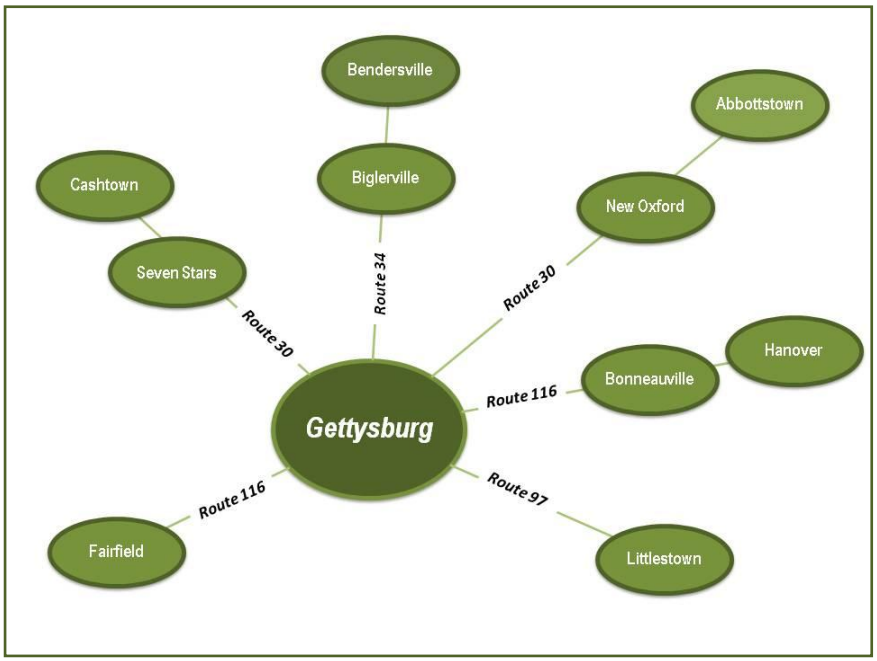
Chapter 3
History of Transportation in Adams County

Several pre-Revolutionary War east-west travel paths extend through Adams County. Some early Indian pathways were upgraded to accommodate horse and wagon transportation modes. A number of these early 18th century roads still cross Adams County, although their original purpose was not related to serving the town of Gettysburg, which did not exist at that time. Some of these pathways remain as rural roads and do not accommodate regional traffic patterns. Others have been substantially upgraded and do serve this purpose.

As a result of a court action in January 1800, Adams County was jurisdictionally separated from York County. A site located within today's Borough of Gettysburg was selected as the County Seat for the newly formed Adams County. Town lots were laid out and sold, and a courthouse and jail were constructed. As the new town named Gettysburg grew, new roads were built to connect the town with the villages and agricultural areas surrounding it. Within a few decades, a new 19th century development pattern linked by a unique transportation system began to emerge, one which was superimposed over the 18th century east-west immigrant roads.

Soon, a road pattern consisting of thirteen roads radiated outward from Gettysburg. Each connected with farms and small villages. This pattern of "hubs and spokes" is still recognizable in the 21st century and represents one of the few examples of a settlement pattern associated with "central place theory" in Eastern North America. By 1863, a web of historic roads connected Gettysburg with two concentric sets of secondary towns. In addition, an early east-west railroad passed through the county seat. The outcomes of many events associated with the Civil War and Battle of Gettysburg were dramatically

"Hubs and Spokes" Development Pattern of Adams County

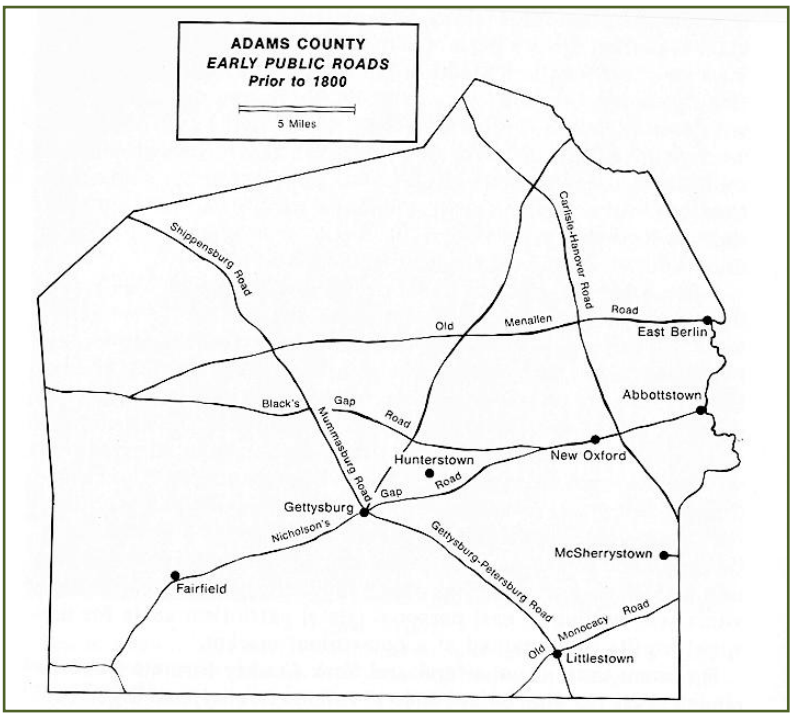


affected by the presence of this unique transportation network Today, this pattern provides relatively direct access from most locations within Adams County to the County Seat at Gettysburg. However, this pattern also seriously constrains options to improve traffic circulation at the center of Adams County. At

the same time, the surviving collection of roads, towns, villages and intervening rural areas offers a unique opportunity to plan for a sustainable pattern of future growth for the county which preserves and protects the unique character of Adams County.

A. Early Roadways

The early settlers of Adams County used historic Indians paths for travel within the county and to regional areas. Narrow, unpaved paths were adequate for travel until the mid-18th century, when a number of settlers began to petition the county court (until 1749 the Lancaster County Court and after then and York County Court) for permission to construct and operate roads in the area. By 1800, a network of locally financed and constructed public roads was serving the residents of Adams County.



The first public road to cross Adams County territory was the "Monocacy Road", which extended from the Susquehanna River at Wrightsville, York County through York, Hanover, Littlestown, Taneytown, MD, and beyond Frederick, MD to the Potomac River. The Adams County portion was in place by 1740 and today is part of Route 194 in the southwestern corner of the county.

The Black's Gap Road connected Eastern Pennsylvania settlements to Fort Pitt, via the "Forbes Road". This road was used by George Washington to access Western Pennsylvania during the French and Indian War. The Black's Gap Road, dating from 1747, was the second important roadway in the county, running from York through Abbottstown and New Oxford closely following the path of current Route 30. West of New Oxford, the road turned northwest and passed through Hunterstown, Mummasburg and Hilltown. The road then extended through the South Mountain at Black's Gap (today the Cashtown Gap). This part of the original road follows portions of present-day Route 394, Goldenville Road, and Hilltown Road.

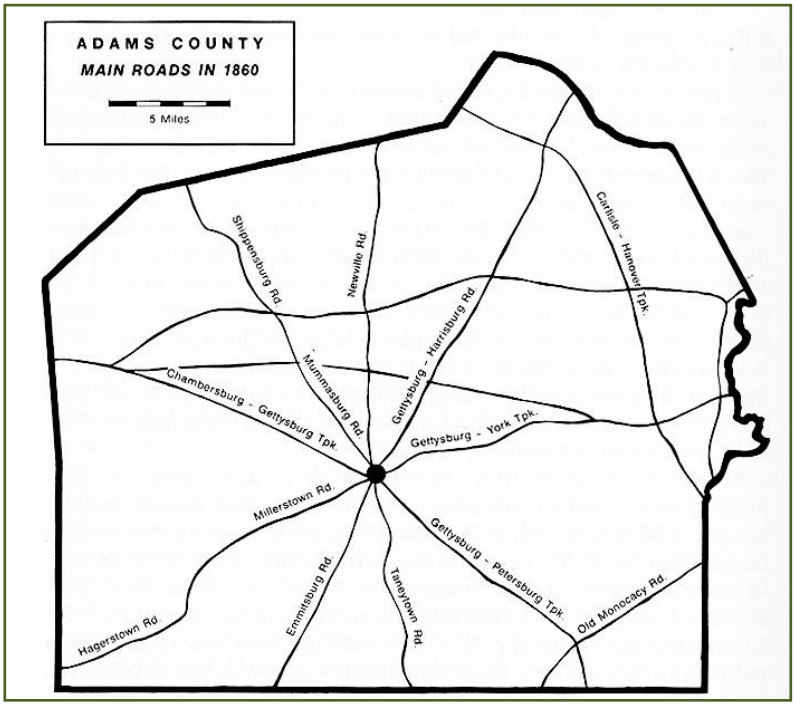
In 1748, another road, the Nicholson's Gap Road, was approved by the court. From Abbottstown it followed Black's Gap Road to west of New Oxford, where it turned southwest to pass through Gettysburg, Fairfield and Fountaindale. Ultimately, it passed through the South Mountain at Nicholson's Gap west of Fairfield. After 1762, this road was known as the Hagerstown Road. Today, this path makes up Route 30 from west of New Oxford to Gettysburg, Route 116 from Gettysburg to Zora, and Route 16 from Zora to Waynesboro.

Around 1750, the "Old Menallen Road" was opened leading from York to the original site of the Menallen Meeting House area in northern Adams County. The road was later extended west, passing through what is now Heidlersburg, Biglerville, Arendtsville and on to Hilltown, where it connected with Black's Gap Road (Route 30). Today, the alignment of Route 234 generally follows the path of the Old Menallen Road.

The first major north-south road through the county was approved in 1753, providing a connection with the Baltimore markets. Prior to this, most trade in Adams County had occurred with the Philadelphia market and other smaller cities to the east. The road extended from Hanover to East Berlin, following the path of today's Route 194.

Another early north-south road was the Carlisle-Hanover Road, which was approved by the court in 1770. This route extended from the York Springs area south to Hanover, passing through the village of Hampton. This route is today known as Route 94. From Hanover, the road met with the Patapsco Road, providing another key access point into the Baltimore market and the Chesapeake Bay.

Also around 1770, the Gettysburg-Petersburg Road was in service, connecting Gettysburg and Littlestown with Maryland along a path which is known today as Route 97. A later extension of this road (the Mummasburg Road) extending to Arendtsville and another extension to the Shippensburg area were in place before 1800.



On April 23, 1829, the Pennsylvania General Assembly ordered the "laying of a state road from Gettysburg in Adams County to a point at or near the summit of Connocheague Hill in Perry County." The eventual road followed the same path as today's Route 34 between Gettysburg to just south of Bendersville. From there, the road passed northward through Bendersville into the Cumberland Valley.

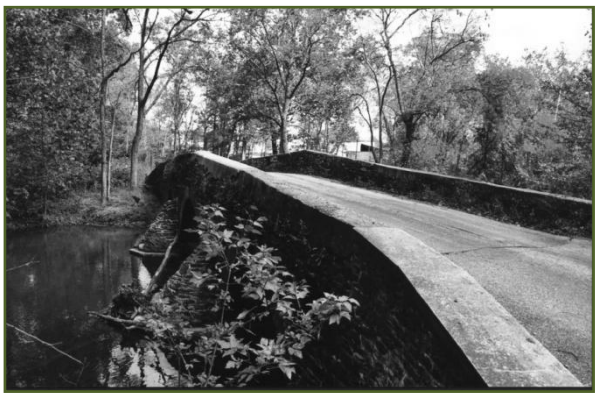
During the early 1800s, many roads were constructed in and around Adams County and operated as toll roads, or "turnpikes." By 1815, at least ten turnpike companies were operating in Adams County. By 1816, except for the northwest corner, a network of turnpikes crossed the county. This transportation network provided good connection to markets for county produce, and supported a variety of passenger and freight stagecoaches. In 1919, the state of Pennsylvania completed acquisition of all turnpikes in the county. Thereafter, in 1926, the state assumed responsibility for building, maintaining and marking roads.

Paving of Adams County roads began in the early 1900s to support growing interest and use in automobiles. Automobiles first appeared in Adams County in 1899 when a Philadelphia Inquirer sponsored an auto tour of the Gettysburg Battlefield. By November 1905, there were approximately fourteen automobiles registered in the county; by 1920 the number of registered autos in the county was estimated to be 500, beginning a rather rapid replacement of the horse-drawn wagon as the primary means of personal transportation. By 1922, paving was completed on the Lincoln Highway, the first coast-to-coast highway in the country which served to mark the beginning of the automobile age in America.

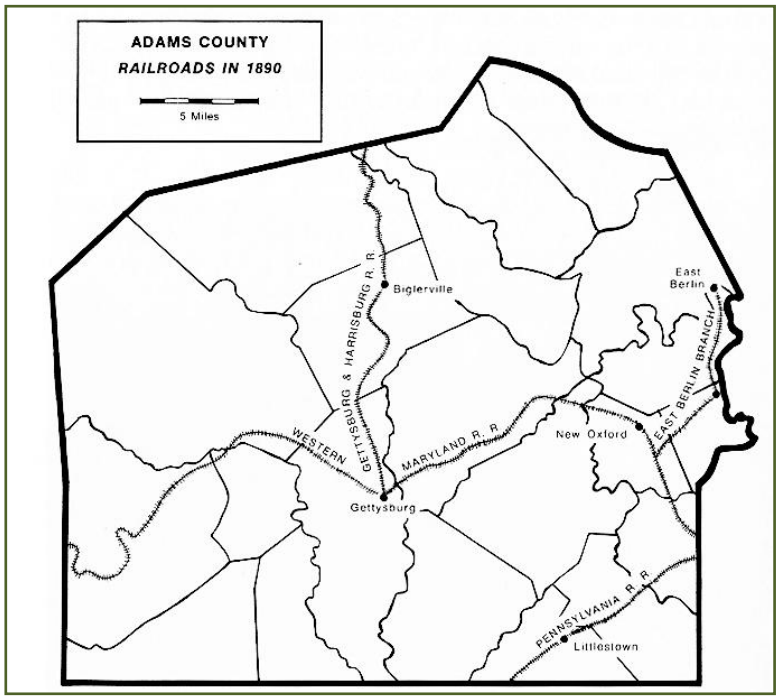
By 1930, the county had 1,168 miles of improved roadway. Route 30 across the county was reconstructed in the 1940s to serve a rapidly growing and modernizing automotive sector. By 1962, improved roadway mileage in the county had grown to 1,244 miles. Additional modern improvements continued on county roads, culminating with the opening of the limited access, four-lane US Route 15 highway around 1990.

B. Early Bridges

Prior to 1825, the majority of bridges in the county were constructed of stone. Early stone bridges included the South Branch (Little) of the Conewago Creek just west of New Oxford (1798); Rock Creek east of Gettysburg (1807); the Shippensburg Road over Conewago Creek at Fehl's Mill in Menallen Township (1808); and one spanning Marsh Creek along the Gettysburg-Fairfield Road. Today, only two major stone bridges remain in the county – the Pondtown Bridge in Latimore Township (placed on the National Register of Historic Places in 1988) and the Johns Burnt Mill Bridge in Mount Pleasant Township, recently restored by Adams County. After 1825, wood replaced stone as the material of choice for bridge building primarily due to the reduced costs. The county's first wooden covered bridge was built in 1826, crossing the Conewago Creek at Geiselman's Mill near East Berlin. By 1860, there were 23 major wooden bridges across the county. By the turn of century, iron bridges were also common in the county. Beginning in 1906, concrete was used extensively for new and replacement bridges.



C. Early Railroads



Efforts to develop a railroad system in Adams County were initiated in the 1830's, only seven years after the completion of the first successful public railroad in the U.S., the Baltimore and Ohio line. One of these efforts was by Thaddeus Stevens, then a state senator and large landowner in Adams County, to build a branch railroad to serve his iron works in southern Adams and Franklin Counties. He proposed extending a new line from the Philadelphia and Columbia Railroad in Columbia, PA through York and Gettysburg into Maryland before connecting to the B and O Railroad. Opponents dubbed it the "Tapeworm Railroad" due to its long winding route from the Maria Furnace iron works in Fairfield and Caledonia Furnace iron works in Franklin County. However, in the late 1830's Stevens lost power and financial backing for this line and construction was stopped leaving partially built embankments, cuts and fills and bridges behind. While the original line was never completed, remnants can still be seen in the Fairfield and Blue Ridge Summit area. Numerous failed endeavors were recorded until December 16, 1858, when the Hanover Junction, Hanover and Gettysburg Railroad, was formally opened and passenger service began two days later. The Carlisle Street railroad station in Gettysburg Borough was completed in 1859 and marked the western terminus of the line. A railroad line between Littlestown and Hanover was also in operation by 1858.

These two lines provided 25 miles of rail service; by 1890 railroad mileage in the county had more than tripled. In 1877, the East Berlin Railroad was completed from Berlin Junction southeast of New Oxford to East Berlin and remained in operation until 1940. Extensions of the Hanover Junction, Hanover and Gettysburg railroad (later the Baltimore and Harrisburg Railroad Company) took place over the last half of the 19th century, extending west near Orrtanna and ultimately reaching the Maryland line in 1889. Today, this line is part of the CSX railway network. In 1884, the Gettysburg and Harrisburg Railroad line was opened between Gettysburg and a spur of the Philadelphia and Reading Railroad line which ended just north of the Adams/Cumberland county line. The railroads continued as the major passenger and freight mode for the county until around 1947, when regular passenger rail service ceased. Today, the Gettysburg Railway carries local freight between the CSX line and connections with Norfolk Southern in Cumberland County.

Page intentionally left blank.

Chapter 4
Adams County Demographics

To provide an understanding of the human context which the transportation network serves, the following transportation-related demographic information has been compiled area to highlight significant data trends at both the county and planning area levels.

A. Population and Housing

The population of Adams County has exhibited a generally linear growth pattern since the 1970s. Through approximately 2003, the county's population continued to grow at a predictable rate of between 15 and 20 percent per decade. Around 2004 the growth rate in Adams County began to fall, although housing proposals in the county saw an unprecedented increase and as many as 15,000 people were expected to be added to the population over the next 5 to 10 years. As the national economy began to suffer around 2007, many of those proposals did not move into construction and the downturn in the housing market slowed population growth. County projections indicate a turnaround in the local housing market between 2010 and 2020, when Adams County should expect to see a spike in population similar to the increase envisioned toward the end of the 2000s. The location, form, and size of housing units may change to accommodate changing economic circumstances and needs.

Table 1: Population, 1990 – 2035

County Planning Area	1990	2000	2010	% change 1990-2000	% change 2000-2010	2020	2035*	% change 2000-2035
Southwest	6,298	8,725	9,766	39%	12%	11,173	24,565	182%
Northwest	11,586	12,767	13,752	10%	8%	15,415	20,577	62%
Northeast	11,577	14,079	15,381	22%	9%	17,116	24,449	74%
Eastern	16,485	19,739	23,353	20%	18%	26,686	33,669	71%
Southeast	7,101	9,205	10,282	27%	12%	11,558	16,762	82%
Central	25,227	26,777	28,873	10%	8%	32,928	58,609	118%
TOTAL	**78,274**	**91,292**	**101,407**	**17%**	**11%**	**114,876**	**178,631**	**96%**

Source: U.S. Census Bureau, 1990, 2000, and 2010 Decennial US Census; ACOPD Population Estimates August 2011
* - Population projections for 2035 were prepared in March 2008.

Data on available housing units in the county mirrors recent population trends (Table 2). Between 1990 and 2000, growth in housing units closely followed the increase in population *(a 19% increase in housing units v. a 17% increase in population)*. More current estimates of housing units in the county reflect the reduction in population growth. In addition, average household size in Adams County has been slowly decreasing over the past two decades (Table 3).

Table 2: Total Housing Units, 1990 – 2010

Year	Housing units	% change
1990	30,141	----
2000	35,831	19%
2010	38,013	14%

Source: U.S. Census Bureau, 1990, 2000 and 2010 Decennial US Census

Table 3: Average Household Size, 1990 – 2010

Year	Average household size
1990	2.78
2000	2.61
2010	2.56

Source: U.S. Census Bureau, 1990, 2000, and 2010 Decennial US Census

B. Age Characteristics

Adams County is not only growing in population, but the composition of the resident population is changing. These changes can affect the need and demand for not only certain transportation services, but also the design of facilities within the community. From 2000 to 2010 the bulk of Adams County's population growth occurred in those ages 45 and over. However, that same time frame saw a substantial decline in population amongst those under age 14 and 25 to 44. These changes indicate a substantial shift has occurred in the composition of Adams County. In particular, an increasingly older population will have an impact on the transportation network and the need for public transit services.

Table 4: Population Age, 1990 – 2010

Age Group	1990 Population	2000 Population	2010 Population	% change 1990 – 2000	% change 2000-2010
Under 5 years (2006-10)	5,499	5,405	5,594	-1.7%	3.5%
5 to 9 years (2001-05)	5,620	6,465	6,096	15.0%	-5.7%
10 to 14 years (1996-2000)	5,335	6,952	6,512	30.3%	-6.3%
15 to 19 years (1991-95)	5,918	6,810	7,507	15.0%	10.2%
20 to 24 years (1986-90)	6,051	5,573	6,588	-7.9%	18.2%
25 to 29 years (1981-85)	6,144	5,106	5,169	-16.9%	1.2%
30 to 34 years (1976-80)	6,543	6,320	5,271	-3.4%	-16.6%
35 to 39 years (1971-75)	6,231	7,511	6,130	20.5%	-18.4%
40 to 44 years (1966-70)	5,387	7,490	7,237	39.0%	-3.4%
45 to 49 years (1961-65)	4,396	6,750	8,028	53.5%	18.9%
50 to 54 years (1956-60)	3,614	5,872	7,800	62.5%	32.8%
55 to 59 years (1951-55)	3,446	4,620	7,208	34.1%	56.0%
60 to 64 years (1946-50)	3,456	3,762	6,313	8.8%	67.8%
65 to 69 years (1941-45)	3,381	3,453	4,896	2.1%	41.8%
70 to 74 years (1936-40)	2,682	3,178	3,638	18.5%	14.5%
75 to 79 years (1931-35)	2,012	2,717	2,954	35.0%	8.7%
80 to 84 years (1926-30)	1,324	1,752	2,246	32.3%	28.2%
85 years and over (pre1925)	1,235	1,556	2,220	26.0%	42.7%

Source: U.S. Census Bureau, 1990, 2000 and 2010 Decennial US Census

C. Minority Populations

Individuals from minority or ethnic groups or low-income households sometimes have greater difficulty getting to jobs, schools, recreation, and shopping than the population at large. Many persons of Hispanic or Latino descent have been attracted to Adams County by the large number of fruit and food processing jobs in the county. While, traditionally, many of these jobs were occupied by migrant workers, in recent years Hispanic and Latino workers have become permanent residents of the county. Between 2000 and 2010, the percentage of persons of Hispanic or Latino origin within the county increased from 3.6% to

6%. The percentage of other minority populations also increased, including Black or African American alone (1.2% to 1.5%) and Asian alone (0.5% to 0.7%) This increase is evident in the growth of specialized cafes and food stores, Spanish-speaking places of worship, and English as second language (ESL) programs in county schools.

Table 5: Population by Race, 2000 and 2010 Percentage

Year	2000	2010
White alone	95.4%	93.7%
Black or African American alone	1.2%	1.5%
American Indian and Alaska Native alone	0.2%	0.2%
Asian alone	0.5%	0.7%
Native Hawaiian and Other Pacific Islander alone	<0.1%	<0.1%
Some other race alone	1.7%	2.5%
Two or more races:	1.0%	1.3%
Hispanic or Latino	3.6%	6.0%

Source: U.S. Census Bureau, 2000 and 2010 Decennial US Census

D. Vehicle and Travel Characteristics

Changes in household size, economic factors, and the composition of households (e.g. more multi-generational living arrangements) have also affected the vehicle ownership trends in the county (Table 4). While vehicle availability is growing and expected to continue to increase, the number of vehicles per household is likely to decrease, except for households with two or more non-elderly adults. These households often include multiple workers, or students who make trips for educational purposes.

Table 6: Vehicles Available by Household Size, 2005 and 2008-10

Household type	Vehicle Availability Class	2005	2008-10 Estimate	% Change
1 person household	No vehicles	868	1,431	65%
	1 vehicle	5,316	5,323	0.13%
	2 vehicles	1,245	1,629	31%
	3 or more vehicles	365	315	-14%
2 person household	No vehicles	312	206	-34%
	1 vehicle	2,577	2,246	13%
	2 vehicles	7,626	8,103	6%
	3 or more vehicles	3,248	3,397	5%
3 person household	No vehicles	26	45	73%
	1 vehicle	688	909	32%
	2 vehicles	2,299	3,146	37%
	3 or more vehicles	3,059	3,065	0.2%
4 or more person household	No vehicles	80	170	113%
	1 vehicle	1,103	714	-35%
	2 vehicles	3,585	3,421	-5%
	3 or more vehicles	4,301	4,381	2%
TOTAL		**36,698**	**38,501**	**5%**

Source: U.S. Census Bureau, 2005 American Community Survey and 2008-2010 American Community Survey

Travel mode choice in Adams County is also changing in response to evolving demographic characteristics and current economic realities (Table 5). While driving alone is still the predominant travel choice for workers, those who use public transit (via connection to park and ride lots served by neighboring public transit providers, or, more recently, attributable to the recent emergence of the Freedom Transit system in Gettysburg) and work at home components of the workforce appear to be increasing. As the costs of the single occupancy vehicle option likely continue to increase, providing travel options will be an increasingly important issue for residents. The availability of alternative travel options to county businesses, including walking and bicycling, will also affect our ability to attract new employers to the county.

Table 7: Travel Mode Choice, 1990 – 2008/10

Year	Total Workers*	SOV**	Carpool	Public transit	Walked	Motor cycle	Bicycle	Other means	Work at home
1990	39,715	30,555 (77%)	5,269 (13%)	104 (0.3%)	2,011 (5%)	59 (0.1%)	63 (0.2%)	191 (0.5%)	1,463 (4%)
2000	45,475	36,794 (81%)	4,784 (11%)	83 (0.2%)	1,949 (4%)	18 (<1%)	46 (0.1%)	291 (0.6%)	1,510 (3%)
2008-2010 Estimate	50,997	41,480 (81%)	5,172 (10%)	156 (<1%)	1,882 (4%)	135 (<1%)	156 (<1%)	306 (<1%)	1,710 (3%)
1990-2000 % Change	15%	20%	-9%	-20%	-3%	-69%	-27%	52%	3%
2000-2008/2010 % Change	12%	13%	8%	88%	-3%	650%	239%	5%	13%

* Total workers= all employed persons 16 years of age and older
** SOV=Single occupant vehicle (car, truck or van)

Linked to travel mode choice, of the destinations of out-of-county commuters leaving Adams County to jobs within regional employment centers varies substantially. Workers commuting out of the county (Table 8) must generally rely on their personal automobiles or ride sharing opportunities for access to work. Adams County residents are increasingly commuting to job opportunities in the greater Washington D.C. metropolitan area (mainly professional services and governmental positions), the Capitol region (Harrisburg) and to the Hanover / Greater York area (mainly retail and manufacturing jobs).

Table 8: Commuting Patterns, 1990 – 2000

Employment Center	1990 Commuters	% of County Commuters	2000 Commuters	% of County Commuters
Baltimore – Washington, D.C. – Frederick, MD	4,190	10%	5,536	12%
Greater Hanover Area	6,715	17%	7,252	16%
Greater York Area	1,903	5%	2,614	6%
Capital Region	2,029	5%	2,149	5%
Greater Carlisle Area	541	1%	501	1%
Greater Chambersburg Area	797	2%	763	2%
Other areas	672	2%	2,165	5%
Total Out of County	**16,847**	**42%**	**20,980**	**46%**
Within Adams County	**22,868**	**58%**	**24,495**	**54%**

Source: U.S. Census Bureau, 1990 and 2000 Decennial US Census

Between 1990 and 2000 the number of residents commuting to locations outside of Adams County increased from 42% to 46%. While availability of jobs plays a role in this increase, it is also influenced by wage characteristics within Adams County. While household incomes in the county are typically at or above both state and national averages, the overall wages paid by Adams County businesses, while increasing steadily, remain below the statewide average. This increases the demand on the transportation system across to accommodate out-of-county commuters seeking higher wage opportunities in Maryland, York County, Harrisburg, and the Chambersburg Area.

Table 9: Average Annual Wages, 1999 – 2009

Year	Adams County Average Annual Wage	Statewide Average Annual Wage	Rank in Pennsylvania (67 counties)
1999	$24,328	$32,512	51st
2001	$26,572	$34,996	44th
2003	$28,184	$36,972	42nd
2005	$30,420	$39,676	37th
2007	$32,760	$43,264	35th
2009	$33,696	$44,824	40th
1999 – 2009 % Change	39%	38%	17th

Source: PA Department of Labor and Industry, Center for Workforce Information and Analysis

Page intentionally left blank.

Chapter 5
Transportation System

Adams County's transportation system is comprised of a complex network of transportation infrastructure that includes highways of regional significance, roadways and bridges providing essential interconnections between small communities, agricultural production facilities and access to the regional system, rail service, public transportation, aviation and facilities for non-motorized transport (Appendix 1: Map 2). The extent and condition of the transportation network affects overall economic, social, environmental, and quality of life characteristics of Adams County. All system components must adequately meet the demand for travel placed upon them. Given the projected growth levels for Adams County, it is increasingly important to maintain the current system and to improve wherever feasible.

A. Roads

The roadway network of Adams County forms the backbone of the overall transportation system relied upon by residents, businesses and visitors for the vast majority of travel both around and to and from the county. Thirteen historic roads converge on Gettysburg, many of which have remained similar in profile and appearance. This historic roadway pattern still impacts travel patterns today. Few new connections have been added to this historic network. The presence of the Gettysburg National Military Park, which surrounds many of the points of convergence, has made creating new connections difficult. In Eastern Adams County, early roads converged at Hanover. Today, county lines separate municipalities and counties while travel patterns remain unchanged. Except for modern Route 15 and modern Route 30 west of Gettysburg (essentially the "Cashtown Bypass") most of the existing network reflects the historic, rural road system as it existed before the Civil War.

Table 10: Adams County Road Network by Jurisdiction

Category	Roadway Mileage	Daily Vehicle Miles Traveled
PennDOT	543.7	2,248,246
Other Federal or State agency	52.5	53,697
Local	825.3	210,140
TOTAL	1,421.5	2,512,083

Source: Penn DOT Bureau of Planning and Research, Pennsylvania Highway Statistics, 2009

Table 11: Municipal Roads By Pavement Type

Municipality	Miles						
	Unimproved	Gravel	Sealcoat	Bituminous	Brick/Block	Concrete	Total
Boroughs	0	6.81	0	119.49	0	0	126.30
Townships	47.59	33.80	35.41	581.04	0	0	697.84
TOTAL	47.59	40.61	35.41	700.53	0	0	824.14

Source: Penn DOT Bureau of Municipal Services, 2007

(1). Functional Classification

"Functional classification" groups streets and highways into classes, or systems, according to the character and nature of service they are intended to provide (local access, regional, and intra-regional). A roadway's functional classification is based upon daily traffic volumes, purpose, design characteristics, and location. It should be used as a general guide for roadway design and access control, along with measured traffic volumes, speed, and engineering factors, not all roadways of the same designation will have the same design. Rapid population growth and traffic volume increases, along with land use changes, can influence the functionality of any roadway or intersection. The Functional Classification system within Adams County includes the following hierarchy of roads (Table 48, Appendix A: Map 3):

Interstate Highways: The Interstate System consists of all presently designated freeway routes meeting the Interstate geometric and construction standards for future traffic. The Interstate System is the highest classification of arterial roads and streets and provides the highest level of mobility, at the highest speed, connecting large population centers for a long uninterrupted distance. There are no Interstate Highways in Adams County.

Freeways/Expressways/Other Principal Arterials: This classification includes 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.

Minor arterials: Minor arterials provide for a lower level of mobility than principal arterials while placing emphasis on access to land rather than to other arterial roadways. These roads typically provide links to a collector roadway and connect small population centers to the overall arterial system.

Major rural collectors: Major collector roadways provide land access and movement within residential neighborhoods, commercial and industrial areas, and agricultural areas. Major Collector roads provide service to specific areas and to and from other important traffic generators such as school and parks. They connect local roads and streets with arterials and provide less mobility than arterials at lower speeds and over a shorter distance.

Minor rural collectors: Minor collector roadways serve remaining, smaller rural traffic generators. These roads connect residents, businesses and agricultural activities to major collector or arterial roads.

Local: The local roads and streets provide a direct access to individual properties and land uses. They are not intended to accommodate through traffic, and they are typically low volume roadways. Municipally owned and maintained roads and streets typically are included in this classification.

Table 12: Adams County Functional Classification Mileage

Category	Roadway Mileage	Daily Vehicle Miles Traveled
Interstate	0	0
Other freeway/expressway	22.5	457,288
Other principal arterial	41.3	531,468
Minor arterial	110.3	778,276
Major collector	81.3	226,511
Minor collector	156.4	173,158
Local	1,009.6	345,202
TOTAL	1,421.5	2,512,083

Source: Penn DOT Bureau of Planning and Research, Pennsylvania Highway Statistics, 2009

(2). Major Roadways in Adams County

Roadway	Characteristics
	Route 15 functional classification: Other principal arterial US Route 15 is the only four-lane roadway facility in Adams County, consisting of dual two-lane roadways for northbound and southbound travelers separated by a grassed/landscaped median. This roadway was completed in 1990 and provided improved access to Harrisburg to the north and the central Maryland/northern Virginia region around Washington, D.C. Eight (8) of its interchanges are separated-grade and six (6) are at-grade. US Route 15 carries on average about 17,000 vehicles per day at the Maryland line, increasing to approximately 23,000 at the interchange with Route 30 east of Gettysburg, and peaking at over 24,000 vehicles per day at the northern county boundary with York County. Recently, this roadway from the Maryland line to Gettysburg was designated as part of the National Scenic Byway (Journey Through Hallowed Ground). This special designation, stretching from Gettysburg to Monticello, VA for a distance of 179 miles, highlights important sites associated with the Revolutionary War, the Civil War and the Underground Railroad, and the homes of nine U.S. Presidents. In Pennsylvania, Route 15 connects the downtown historic district of Gettysburg to the Gettysburg National Battlefield Park, the site where Abraham Lincoln delivered his famous Gettysburg address and the Eisenhower Farm, where President Eisenhower retreated and entertained foreign dignitaries during and after his presidency.
	Route 30 functional classification: Other principal arterial US Route 30, the famous "Lincoln Highway" is the major east-west roadway in the county. Traffic volumes using Route 30 range from a low of approximately 6,000 vehicles per day near Cashtown to approximately 11,000 vehicles per day at the Franklin County line, approximately 16,000 vehicles per day just west of Route 15 near Gettysburg, and approximately 13,000 vehicles per day at the York County line. Route 30 is in many ways the "Main Street of Adams County", traversing through important historical community cores in Abbottstown, New Oxford, and Gettysburg. Land use along the route east of Gettysburg also supports the largest concentration of commercial land uses in the county. East of Gettysburg, the roadway has two distinct sections, one section with two travel lanes and a center turning lane and another section with two travel lanes and no turning lane. This two-lane section also includes where it passes through New Oxford and Abbottstown Boroughs. The US Route 30 Passing Lanes project will, when complete, add a center turning lane and two sections of offset passing lanes from Centennial Road to the York County Line, excluding New Oxford and Abbottstown Boroughs. West from Gettysburg to just east of McKnightstown, the roadway is comprised of two travel lanes only. From this point to the Franklin County line, Route 30 again is a three-lane section.
	Route 16 functional classification: Minor arterial PA Route 16 is a two-lane facility which crosses the southwestern corner of the county, linking Waynesboro, PA in Franklin County with Emmitsburg, MD in Frederick County. This roadway has become increasingly important as a connector to the Route 15 corridor in Maryland. Between Emmitsburg and Carroll Valley, Route 16 carries approximately 8,600 vehicles per day. West of Carroll Valley, Route 15 carries between 4,600 and 6,500 vehicles.
	Route 34 functional classification: Minor arterial PA Route 34 provides a direct connection with Cumberland County, extending from Gettysburg north through Biglerville. Traffic volumes on this two-lane roadway range from approximately 9,300 vehicles per day between Gettysburg and Biglerville, 6,000 vehicles per day passing through Biglerville, and 3,500 to 5,500 vehicles per day between Biglerville and the Cumberland County line to the north. Route 34 is an important truck route, providing major fruit processing facilities in Biglerville, Aspers and Peach Glen with access to Interstate 81 in Cumberland County.

Roadway	Characteristics
94	**Route 94 functional classification: Other principal arterial (Route 30 to York County), Minor arterial (Cumberland County to Route 30)** PA Route 94 is the major north-south route in the eastern half of the county, providing access between Cumberland County and the Hanover area in York County. North of Route 30, Route 94 crosses through a primarily rural area, carrying approximately 4,000 vehicles per day near the county border to near 11,000 just north of Cross Keys. South of Route 30, this roadway carries up to 23,000 vehicles per day, making this section the one of the most heavily traveled in the county. Route 94 is comprised of a two-lane roadway section for most of its length through the county. The pending Route 94 North Widening project will add an additional travel lane in each direction and a center turning lane from the York County Line north to Appler Road.
97	**Route 97 functional classification: Minor arterial** PA Route 97 connects Littlestown and southeastern Adams County with the Gettysburg area. This two-lane roadway has recently become an even more important link in the transportation network as the primary access roadway to the new Gettysburg National Military Park Visitor's Center. Traffic volumes along this roadway generally range from 7,500 to 10,000 vehicles per day.
116	**Route 116 functional classification: Other principal arterial (McSherrystown and Gettysburg), Minor arterial (other sections)** PA Route 116 is the major east-west travel route in the southern section of the county, extending from York County (Hanover Borough) to its terminus at Route 16 just north of the Frederick County, MD border. Along its route, the two lane roadway passes through the core communities of McSherrystown, Bonneauville, Gettysburg, Fairfield and Carroll Valley and provides access to important rural/agricultural areas between those communities. Traffic volumes on the eastern portion of this roadway range from 8,300 vehicles per day near Bonneauville to approximately 15,000 in McSherrystown. Moving west from Gettysburg to Carroll Valley, traffic volumes generally decrease from approximately 11,000 to 4,500 vehicles per day, respectively.
134	**Route 134 functional classification: Rural major collector** PA Route 134 is a two-lane roadway extending from Gettysburg south to the Carroll County, MD line. In addition to serving rural population areas, the roadway also provides access to the Gettysburg National Military Park. Average traffic volumes on Route 134 range from 1,800 to 2,300 vehicles per day.
194	**Route 194 functional classification: Minor arterial** PA Route 194 provides north-south mobility along the eastern boundary of Adams County, connecting with York County and Carroll County, MD. Within the county, the roadway is split into two distinct segments – a northern segment from north of East Berlin, through Abbottstown to the Hanover Area in York County and a southern segment extending from Hanover to Carroll County MD passing through Littlestown. For the northern segment, traffic volumes range from 4,700 vehicles in East Berlin to approximately 12,000 vehicles just north of Hanover Borough. In the southern segment, traffic volumes between Hanover and Littlestown are generally range from 13,000 vehicles south of Hanover to 7,000 vehicles entering Littlestown. West of Littlestown, traffic volumes on Route 194 are around 6,400 vehicles per day.
233	**Route 233 functional classification: Rural major collector** PA Route 233 is a rural two-lane roadway which traverses the Michaux State Forest in the northwestern corner of the county. Traffic volumes are approximately 700 vehicles per day. This roadway provides access to regional attractions, including Pine Grove State Park in Cumberland County and Caledonia State Park, Mont Alto State Park and the Penn State-Mont Alto college campus in Franklin County.

Roadway	Characteristics
	Route 234 functional classification: Minor arterial (from York County line west to Route 34), major rural collector (Route 34 west to Arendtsville Borough), Rural minor collector (Arendtsville Borough west to Route 30) PA Route 234 is a rural two-lane east-west roadway across the northern tier of the county. East of Route 34, the roadway accommodates regional travel, including commercial truck traffic serving the fruit industry. West of Route 34, the roadway serves a more rural function, providing resident mobility and access to agricultural areas (both fruit and forestry) in the northwest area of the county. A wide range of traffic volumes are found along this corridor. East of Route 34, traffic along Route 234 ranges from 4,200 to 8,900 vehicles per day, with the highest volumes in and around East Berlin. West of Route 34, volumes range from approximately 1,000 to 3,400 vehicles per day, with the highest volumes near Arendtsville Borough.
	Route 394 functional classification: Rural minor collector PA Route 394 is a two-lane rural roadway passing through the center of the county, extending from Route 94 at the village of Hampton to Route 234 in Biglerville Borough. Traffic volumes range from approximately 1,200 vehicles per day in Reading Township, to 3,600 vehicles per day in Straban Township, to 2,200 vehicles per day in Biglerville Borough.
Mummasburg Road	**Mummasburg Road functional classification: Minor arterial (northwest of Gettysburg Borough to just north of Herrs Ridge Road), Rural major collector (from north of Herrs Ridge Road to Arendtsville Borough)** Mummasburg Road is an important travel link connecting Gettysburg Borough with rural areas to the northwest of the borough. The roadway also provides access to the West Fields area of the Gettysburg National Military Park. Traffic volumes along the extent of Mummasburg Road are approximately 1,600 vehicles per day.
Old Harrisburg Road	**Old Harrisburg Road functional classification: Minor arterial (Gettysburg Borough to Shealer Road), Rural major collector – northern section (Shealer Road to Route 94 at York Springs Borough) – southern section (Gettysburg to Emmitsburg Road),** Old Harrisburg Road (Business Route 15) is the original Route 15 alignment through the county. Today, this roadway is generally used for local and commuter traffic in the northern section (Old Harrisburg Road), with additional tourism related traffic in the southern portion (Emmitsburg Road). Volumes in the northern section between York Springs and Gettysburg typically range from 1,400 to 6,900 vehicles per day. In the southern section, volumes range from 850 near the Maryland border to 6,000 vehicles per day just south of Gettysburg Borough.

Source: PennDOT Bureau of Planning and Research, Pennsylvania Highway Statistics, 2007 Highway Data, Publication 600 (9-08)

(3). Traffic Volumes

Traffic volumes carried by the major roadways within the county have generally exhibited a steady increase throughout the county over time. Between the 1970s and 1990s, traffic volume growth reflected the predominant rural land uses of the county, with only Route 30 exhibiting significant traffic volumes (Table 49). After the opening of the improved Route 15 and emerge of new residential and business development in the 1990s, traffic volumes in the county began to increase rapidly and by the year 2000 county roads were often carrying twice the traffic volume levels of the 1970-1990s. Since 2000, traffic volumes have continued to rise, albeit at a slower rate than previous decades, affected by some local development but more prominently by regional growth in traffic and commerce.

Table 13: Historic Average Annual Daily Traffic

Roadway	1972	1990	2002	2007	Approximate % change 1972-2007
Route 30 east of Route 15	8,100	12,308	14,000	13,000	60%
Route 116 east of Route 15	2,300	6,326	8,200	8,900	280%
Route 234 through Biglerville	2,000	2,829	4,600	4,200	110%
Route 116 at Fairfield	3,000	5,213	7,600	7,900	160%
Route 15 at Maryland line	4,360	4,589	19,000	17,000	290%*
Route 97 north of Littlestown	2,800	6,728	8,300	8,600	200%
Route 194 east of Littlestown	2,203	3,455	11,000	11,000	400%
Route 94 south of Cross Keys	4,800	6,326	16,000	14,000	190%
Route 30 west of Cashtown	4,400	5,370	7,600	7,700	75%
Route 94 north of York Springs	1,400	2,401	3,900	3,800	170%
Route 194 between Abbottstown and East Berlin	1,409	5,736	5,800	6,800	385%
Route 15 at Route 30	2,300	5,120	18,000	23,000	900%*
Route 15 at Route 94	5,660	5,839	13,000	15,000	165%*
Route 394 west of Business Route 15	3,000	3,274	2,400	2,600	-10%

Source: Adams County Comprehensive Plan (1991) and PennDOT Traffic Volume Maps for 2002 and 2007;
* - U.S. Route 15 upgraded from two to four lanes after 1990.

(4). Freight and Goods Movement

The transportation system serving Adams County has been influenced by growth in the movement of goods and products, mostly by means of truck transport. In 2005, a truck origin-destination study was conducted to gauge truck traffic movements along the major roads through the county, including Route 30, Route 94, and Route 234. Results of this study were compared to a similar truck survey performed in Gettysburg in 1991.

Generally, *local truck trips* showed a reduction in the proportion of total truck traffic found in Adams County between 1991 (33%) and 2005 (25%). *Through truck* traffic trips in Gettysburg showed a significant decline from 59% of trips in 1991 to 35% of trips in 2005.

The biggest change in truck traffic in Adams County since 1991 has been the increase of *to/from external to local trips*. These trips are as truck trips which begin outside of the county, enter Adams County and make a delivery or pickup, and then proceed out of the county. These trips accounted for 7% of truck trips passing through Gettysburg in 1991. In 2005, those trips accounted for 40% of all truck trips passing through Gettysburg. The complete results of this study are available in Appendix G.

Definitions of truck trip types

Through: Trip originated from a location outside of the county and was destined to a location outside of the county, and had no local stops.

To/From External to Local: Trip originated from a location outside of the county and was destined to a location within the county, or vice-versa.

Local: Trip had both beginning and ending points within the county, did not leave the county, and had local stops.

(5). International Roughness Index (Road Smoothness)

The International Roughness Index (IRI) is a worldwide standard for the measurement of pavement smoothness. The index measures pavement roughness by the number of inches per mile that a laser mounted in a specialized vehicle jumps as it is driven across the road. Generally, the lower the IRI the smoother the road and subsequent ride will be.

Within Adams County, the roadways with the poorest IRI scores are generally local roads, primarily those in rural areas or in urban areas typically with lower travel demand and low speed limits. As the functional class of roadways increases in terms of the type and volume of traffic expected, IRI scores generally improve.

Table 14: International Roughness Index Ratings

Category	Total Road Miles	Good Miles	% Good	Fair Miles	% Fair	Poor Miles	% Poor
Other freeway/ expressway	5.5	5.5	100%	0	0%	0	0%
Other principal arterial	85.3	59.8	70%	17.6	21%	7.9	9%
Minor arterial	110.4	99.6	90%	8.6	8%	2.2	2%
Major collector	75.2	42.4	56%	24.7	33%	8.1	11%
Minor collector	156.3	79.4	51%	43.4	28%	33.5	21%
Local	138.4	50.0	36%	29.6	21%	58.8	43%
TOTAL	**571.1**	**336.7**	**59%**	**123.9**	**22%**	**110.5**	**19%**

Source: Penn DOT Adams County Roadway Management System (RMS) database, November 2011

(6). Traffic Controls (including Intelligent Transportation Systems)

Within Adams County, most traffic signals are located in the central and eastern portions of the county, primarily within core communities along major roadway corridors (Table 53). Regardless of whether a traffic signal is located on a state or local road, the municipality has responsibility for the ownership, operation, and maintenance of those traffic signals that are within their municipality. PennDOT has oversight of all signals through the conditions of an issued traffic signal permit, which require completion of a signal warrant study to determine the necessity for control.

Table 15: Traffic Signals by Jurisdiction

Municipality	# of traffic signals
Berwick	1
Biglerville	2
Carroll Valley	1
Conewago	2
Cumberland	3
East Berlin	1

Table 15: Traffic Signals by Jurisdiction

Municipality	# of traffic signals
Franklin	1
Gettysburg	15
Hamilton	1
Littlestown	1
McSherrystown	1
Mount Joy	4
Oxford	1
Reading	1
Straban	9
TOTAL	44

Source: PennDOT, Engineering District 8-0, 2010

Additionally, a series of intelligent transportation system (ITS) improvements have been implemented in Gettysburg Borough and surrounding townships to improve mobility for resident, business and tourism traffic. These include:

- Upgraded phasing of traffic signals around Lincoln Square
- Changeable message boards on Route 15 and Route 30 to provide information on traffic conditions or incidents and direct travelers to alternate routes, as necessary
- Video detection and closed circuit television (CCTV) cameras at locations on Route 15, Route 30, and Baltimore Street to monitor incidents and other traffic situations in order to activate or adjust other ITS devices to manage congestion in the Gettysburg area.
- Improved wayfinding signage to better direct travelers to area attractions.
- Lighted crosswalks and countdown pedestrian crossing signals to increase the safety and visibility of pedestrians and decrease pedestrian/vehicle conflicts.

(7). US Route 15 Interchanges

In the early 1990s, U.S. Route 15 was expanded to its current limited-access form. It was the first "interstate" type facility in the county and greatly enhanced access to both the Harrisburg and Frederick/Washington D.C. metropolitan areas. The eight Route 15 interchanges in Adams County have become focal points of transportation and land use planning efforts and have been the identified as targeted areas for future economic development related activity. While many of these interchanges remain virtually unchanged since the expansion of Route 15, several have seen significant changes in surrounding land use and, as a result, have seen substantial change in form.

One interchange of note is the PA Route 97 interchange. The interchange was redesigned to provide access to the new outlet shopping center, hotel and restaurant complex, as well as access to the Lake Heritage community. These improvements, which were previously identified as a need in the 1990 County Comprehensive Plan were privately funded and constructed by the outlet center developer.

Table 16: U.S. Route 15 Interchanges

Roadway	Municipality	Design	1991 County Comp Plan Adjacent Land Use Recommendation	Existing Adjacent Land Use Condition
Business Route 15 (Emmitsburg Road)	Freedom	Modified diamond	Village center/commercial	Limited commercial/rural
Route 134 (Taneytown Road)	Cumberland	Diamond	Open space/agriculture	Open space/agriculture
Route 97 (Baltimore Street)	Mount Joy	Diamond	Industrial business park	Commercial/residential
Route 116 (Hanover Street)	Straban	Diamond	Residential	Residential
Route 30 (York Street)	Straban	Partial cloverleaf	Industrial business park	Commercial
Route 394 (Hunterstown Road)	Straban	Diamond	Industrial business park	Limited commercial/rural
Route 234 (East Berlin Road)	Tyrone	Diamond	Industrial business park	Rural/agriculture
Route 94 (York Springs)	Huntington/Latimore	Partial cloverleaf	Industrial-business park	Residential

Source: Adams County Comprehensive Plan ,1991 & Penn DOT Roadway Management System, District 8 Interchange files 1994

B. Bridges

The bridge system in Pennsylvania has two classes, state-owned and maintained and municipal-owned and maintained. As of 2010 over 25,000 state-owned (over 8' in length) and over 6,400 municipal-owned (over 20' in length), bridges were located throughout Pennsylvania. Of this, Adams County has 446 bridges, 381 state-owned and 65 municipal-owned bridges. The majority of these bridges are constructed of concrete (either precast or poured in place), steel (typically using an I-beam design), or a pre-stressed box or slab design. Some alternative designs/construction materials can be found on older, potentially historically significant bridges, including wood timbers, stone masonry and arch and truss designs. PennDOT regularly inspects state bridges over 8' and local bridges over 20'. However, the number and condition of bridges below those lengths is unknown.

Bridge structure terminology

Deck: The top surface of the bridge that carries traffic.

Superstructure: The underlying or supporting part of the bridge, for example steel members under the deck.

Substructure: The part of the bridge that supports the superstructure such as piers and abutments.

Of the 446 total bridges in Adams County, five are listed on the National Register of Historic Places. These include:

- Two stone arch bridges, Pondtown Mill Bridge in Latimore Township and John's Burnt Mill Bridge in Mt. Pleasant and Oxford Townships;
- Two covered bridges, Jacks Mountain Covered Bridge in Hamiltonban Township, Heikes Covered Bridge in Tyrone and Huntington Townships; and

- Cunningham Road Bridge in Cumberland and Freedom Townships.

Nationwide concern over bridge safety has been elevated following high-profile bridge collapses around the country. Of special concern are bridges classified as "structurally deficient". A structurally deficient bridge has suffered deterioration to one or more major components, such as its deck, superstructure, or substructure. While a structurally deficient bridge is capable of carrying traffic, it must be monitored and inspected on a continuing basis. Overall, approximately one in four bridges in Pennsylvania is classified as structurally deficient.

A bridge may also be classified as functionally obsolete. A functionally obsolete bridge typically has an outdated design which may have a lower weight bearing capacity, narrower lanes or shoulders, or less clearance underneath than bridges built to current standards. Currently in Adams County one (1) Penn DOT owned bridge is closed to traffic and five (5) others have posted weight limitations. One locally owned bridge is closed to traffic and another 17 bridges have posted weight limitations.

Table 17: Structurally Deficient And Functionally Obsolete Bridges

Roadway Functional Class	Total Bridges	Structurally Deficient (SD)	% SD	Functionally Obsolete (FO)	% FO	Posted Weight Limit	Closed
Other principal arterial	53	4	8%	3	6%	1	0
Minor arterial	86	15	17%	18	21%	0	0
Major collector	41	7	17%	8	20%	1	0
Minor collector	113	27	24%	12	11%	2	0
Local	88	18	20%	10	11%	1	1
Municipal	65	15	23%	11	17%	17	1
TOTAL	**446**	**86**	**19%**	**62**	**14%**	**22**	**2**

Source: PennDOT Adams County Bridge Management System (BMS) database, October 2011

C. Public Transportation

The York Adams Transit Authority (YATA) is the primary provider of transit services within Adams County. YATA operates an "on-demand" paratransit service which provides curb-to-curb trips for seniors and those with disabilities. The bulk of these trips are for seniors although many also serve persons with disabilities that work at the HART (Hanover Adams Rehabilitation/Training) Center in New Oxford, as well as others who need medical transportation, banking, shopping, and personnel services. Locally sponsored shared-ride operations provide door-to-door service under an advance reservation system. Shared-ride service ridership volumes in Adams County have been generally steady (Table 56).

Table 18: Paratransit Ridership Trends

Timeframe	65+ Age Ridership
2000-2001	23,286
2001-2002	23,564
2002-2003	23,865
2003-2004	26,925
2004-2005	28,176
2005-2006	29,000
2006-2007	30,000
2007-2008	27,500
2008-2009	29,000

Source: PennDOT Bureau of Public Transportation, Public Passenger Transportation Performance Reports

(1). Freedom Transit

In June 2009, a new fixed route transit system, known as Freedom Transit, began operation in the Gettysburg area, providing access to tourism attractions, hotels, medical facilities and shopping venues for residents and tourists. The Freedom Transit system operates from a location near the site of a proposed transit center to be constructed just north of the Lincoln Train Station along Carlisle Street in the borough. From this location, passengers can select one of three routes:

Lincoln Line: The Lincoln Line provides transit service to historical attractions within and surrounding the borough. From the downtown transfer center, Lincoln Line service links passengers with the Wills House, the Adams County Courthouse, the National Cemetery, the Eisenhower Conference Center, the Gettysburg Outlet Mall, and the Gettysburg National Military Park Visitors Center, using Baltimore Street, Steinwehr Avenue, Taneytown Road (Route 34), and Baltimore Pike (Route 97).

Grey Line: The Grey Line connects downtown Gettysburg and Gettysburg College with traffic generators and attractions along Route 30 east of the borough. The line terminates at the Gateway Gettysburg complex and the Adams County Commerce center at the southeastern quadrant of the Route 15/Route 30 interchange. This route also provides transit service to the Harrisburg Area Community College (HACC) campus on Old Harrisburg Road northeast of the borough.

Blue Line: The Blue Line provides service for transit riders from downtown Gettysburg with Gettysburg Hospital, the Lutheran Seminary, the Gettysburg Post Office, Deatrick Village, and Lincoln Estates. It extends northwest and southwest from the downtown along Route 30 and Route 116.

Adams County residents have limited access to transit service in adjacent counties. Commuter access to the Capital region is provided by the rabbitEXPRESS service between Gettysburg and Harrisburg. Transit service to York County via Rabbittransit is limited to stops in Hanover Borough and Penn Township just across the county line. No direct connection exists for commuters from Adams County heading south towards Baltimore, Frederick, MD, Washington D.C. and Northern Virginia. However, Frederick County TransIT offers an Emmitsburg/Thurmont Shuttle that connects to the Transit Center/MARC Station in downtown Frederick. From there, commuters can use fixed route transit to points within Frederick County and MARC and MTA lines to points further east and south.

(2). Park and Ride Lots

Adams County does not have any official park and ride lots for commuters and carpoolers. Two temporary park and ride lots have been established in support of the rabbittEXPRESS service between Gettysburg and Harrisburg, one at Gateway Gettysburg (Route 30) and another in Heidlersburg (Route 234). Several unofficial parking areas have cropped up over time, most in close proximity to US Route 15. Some of the larger retail sites near Route 15 also permit unofficial park and ride areas for commuters.

(3). PA Commuter Services

Commuter Services of Pennsylvania is a non-profit organization, serving Adams, Berks, Cumberland, Dauphin, Franklin, Lancaster, Lebanon, Perry, and York counties, dedicated to reduce traffic congestion and improve air quality by helping commuters find alternative travel means to reach employment areas. Commuter Services arranges carpool and vanpool services for commuters, works with regional transit agencies to improve service, and assists employers in developing programs which can help reduce commuting travel for employees, such as telework and flexible scheduling programs and commuter education programs. The Commuter Services program is funded through the federal Congestion Mitigation and Air Quality (CMAQ) funds associated with federal transportation programming, as an alternative way to reduce roadway congestion through travel demand reduction and help improve the environment. Each participating MPO and RPO contributes CMAQ funds to this operation based on population.

D. Rail

Adams County is served by two freight rail service providers. CSX Transportation provides rail freight service over the “Hanover Subdivision Line” which connects Baltimore, Maryland with Hagerstown, Maryland. The Pennsylvania portion of this line extends 54 miles from the Maryland state line in Franklin County, through Gettysburg and Hanover before crossing back into Maryland. The Adams County portion extends 35.2 miles from the Franklin County line north of Route 16 through Gettysburg and New Oxford before exiting just north of McSherrystown.

CSX carries approximately 4 million gross tons of freight, including consumer goods, coal, rock, and municipal and construction waste, over this line annually. As a fairly low volume rail corridor, the 2003 Pennsylvania State Rail Plan identified this corridor as an “at risk” corridor, meaning that due to the low use of the line, it is a potential candidate for sale or lease. However, recent upgrades on the CSX line from the Hanover area through Adams County to improve rail service through the local corridor, indicates that freight movement along this corridor may increase in the future, especially to new freight transfer facilities in Franklin County.

The Gettysburg Northern Railroad Company, formed by Pioneer Railcorp of Peoria, Illinois, operates primarily as a freight line, connecting to CSX Transportation and Norfolk Southern lines over its twenty-five (25) miles of track between Gettysburg and Mount Holly Springs (Cumberland County). Eight freight stations are located along this line, including Gettysburg, Biglerville, Aspers, Gardners, Peach Glen, Hunters Run, Upper Mill, and Mount Holly Springs.

The freight aspect of Gettysburg Northern’s business primarily serves four major customers: Inland Container in Biglerville (mostly rolls of paper), Cadbury Schweppes (formerly Motts) food processing in Aspers (syrup/concentrate for juice products), Knouse food processors in Gardners (combination of processed and finished food products), and transport of soda ash (primarily bound to PPG) via a load transfer facility in Gardners. The freight operations transported approximately 2,300 rail cars in 2004. The local trend in freight transport demand has varied from relatively flat to a slight increase, while no major increase in freight demand is expected in the near future. Gettysburg Northern can be used for

movement of "oversized" loads (last activity was transport of generators to Reliant Energy in Hunterstown), but this capability is not expected to be a major issue/demand in the future.

Adams County has 52 at-grade rail crossing sites over these two rail lines. These include:

Table 19: Adams County At-Grade Rail Crossings

Municipality	Cross-street	Railroad	Warning Type
Biglerville	East York Street	GB & Northern	Flashing lights
Biglerville	Hanover Street	GB & Northern	Flashing lights
Huntington	Peach Glen –Idaville Road	GB & Northern	Flashing lights
Tyrone	Gardners Station Road	GB & Northern	Flashing lights
Tyrone	Upper Bermudian Road	GB & Northern	Flashing lights
Menallen	Aspers North	GB & Northern	Flashing lights
Menallen	Nursery Road	GB & Northern	Cross bucks
Menallen	Center Mills Road	GB & Northern	Flashing lights
Butler	Spankle Road	GB & Northern	Cross bucks
Butler	Guernsey Road	GB & Northern	Flashing lights
Butler	Rake Factory	GB & Northern	Flashing lights
Highland	Railroad Lane	CSX	Cross bucks
Franklin/Highland	Orrtanna	CSX	Flashing lights
Hamiltonban	Carrolls Tract Road	CSX	Flashing lights
Hamiltonban	Hickory Bridge Road	CSX	Stop signs
Hamiltonban	Cold Springs Road	CSX	Stop signs
Hamiltonban	Mount Hope Road	CSX	Flashing lights
Hamiltonban	Fairfield Station	CSX	Cross bucks
Hamiltonban	Fairfield Station	CSX	Flashing lights
Gettysburg	Fourth Street	CSX	Flashing lights
Gettysburg	Stratton Street	CSX	Flashing lights
Gettysburg	Carlisle Street	CSX	Gates
Gettysburg	Alley	CSX	None
Gettysburg	Washington Street	CSX	Flashing lights
Butler	Goldenville Road	GB & Northern	Flashing lights
Tyrone	Carlisle Road	GB & Northern	Other
Cumberland	Herrs Ridge Road	GB & Northern	Flashing lights
Cumberland	Mummasburg Road	GB & Northern	Flashing lights
Straban	Granite Station Road	CSX	Gates
Straban	Moose Road	CSX	Flashing lights
Straban	Flickinger Road	CSX	Flashing lights
Straban	Smith Road	CSX	Cross bucks
Straban	Shealer Road	CSX	Flashing lights
Straban	Hunterstown Road	CSX	Flashing lights
Cumberland	Herrs Ridge Road	CSX	Flashing lights
Franklin	Chambersburg Road (Rt 30)	CSX	Flashing lights

Table 19: Adams County At-Grade Rail Crossings

Municipality	Cross-street	Railroad	Warning Type
Franklin	Tillietown Road	CSX	Stop signs
Franklin/Highland	Silo Road	CSX	Cross bucks
Conewago	Kindig Lane	CSX	Gates
Conewago	Radio Road	CSX	Cross bucks
Oxford	Hanover Street	CSX	Flashing lights
New Oxford	College Avenue	CSX	Cross bucks
New Oxford	Hanover Street	CSX	Flashing lights
New Oxford	Lincoln Highway (Rt 30)	CSX	Flashing lights
New Oxford	Golden Lane	CSX	Stop signs
Oxford	Red Hill Road	CSX	Cross bucks
Oxford	Brickyard Road	CSX	Cross bucks
Mount Pleasant	Fleishman Mill Road	CSX	Cross bucks
Mount Pleasant	Brickcrafters Road	CSX	Flashing lights
Mount Pleasant	Swift Run Road	CSX	Stop signs
Straban	New Chester Road	CSX	Flashing lights
Hamiltonban	Iron Springs Road	CSX	Flashing lights

E. Aviation

Adams County has four aviation facilities which provide general aviation air transport services. Aside from the important transportation functions associated with these facilities, in 1999 these airports contributed over $1.2 million to the local economy through direct employment and secondary output spending related to air travel.

The largest aviation facility in the county, the Gettysburg Airport and Travel Center is located in Cumberland Township just outside of Gettysburg Borough. The facility is classified as a general service airport with approximately 8,600 annual operations. The airport has one asphalt runway approximately 3,100 feet in length. Approximately 12-14 aircraft are based at the airport. Activities occurring at the airport include local pilot/aircraft operations, flight training, and aircraft maintenance and repair. Flight training services are provided by Cumberland Valley Aviation. The airport is used by air clubs throughout Pennsylvania, New York and New Jersey for weekend battlefield visits. Additionally, the airport is the home field for the Gettysburg Barnstormers, a recreational pilot group with approximately 65 members.

In 2006 the airport was purchased by the Susquehanna Area Regional Airport Authority (SARAA), which also owns and operates other regional airport facilities including the Harrisburg International Airport, Capital City Airport, and the Franklin County Regional Airport. To improve service, the airport completed a three-phase strategic plan to expand operations and improve existing facilities. Phase I involves the development of additional hangers and aircraft parking aprons. Phase II would provide a full parallel runway and small runway extension and widening to increase the runway to 3,317 feet by 75 feet and meet FAA standards. Additional hanger and apron improvements are forecast as part of Phase III.

The Hanover Airport is located in Conewago Township and is classified as a general service airport. The airport has a single turf runway 2,700 feet in length. Although still open for flight activity, the facility is primarily used for aircraft maintenance and repair.

The Mid-Atlantic Soaring Center Airport is classified as a general service airport with an asphalt runway approximately 2,700 feet in length. The airport is located in Liberty Township about two miles south of Fairfield. Operations at the airport are exclusively for private recreational flying.

The Southern Adams County Heliport, located in southern Cumberland Township, is classified as a general service airport with a concrete helicopter landing pad.

F. Bicycle and Pedestrian Travel

In 2001 Penn DOT designated and signed six cross-state bicycle routes, referred to as the "BicyclePA" system. The six BicyclePA routes use existing public roads and some rail trails to guide bicyclists through the state. The routes are designed for competent road bicyclists who may undertake a long distance cycle touring trip. Across Adams County, Route 234 is designated as part of Pennsylvania Bicycle Route S. Penn DOT has recently installed signs for "branches" to the State bike routes along Old Harrisburg Road and Mummasburg Road from their connections with Route 234.

Adams County is also working towards the completion of the first link in the North Gettysburg Area Trail System. When complete, this system would provide a walking and bicycling link between Gettysburg Borough and portions of Cumberland and Straban Townships. The first component will link Gettysburg with the Gettysburg Senior High School, the Gettysburg Campus of the Harrisburg Area Community College, the Adams County Agricultural and Natural Resources Service Center and the surrounding residential neighborhoods.

Other bicycle or pedestrian networks in and around Adams County include Michaux State Forest and Caledonia and Mont Alto State Parks on the county's western border (attractive to mountain bike enthusiasts), the Gettysburg National Military Park, and the York-Hanover Trolley Line trail, connecting Hanover Borough with West York Borough. On a local scale, Biglerville Borough extended a bicycle and pedestrian trail eastward connecting Oakside Park to the borough.

G. Special Transportation Modes

In Adams County, the transportation system is also used extensively by the agricultural/orchard industry. Farmers must move equipment and agricultural products using the existing roadway network. Agricultural vehicles using the transportation system are predominantly experienced in the more rural areas of the county with the most frequent use found in the Fruitbelt on Northwest Adams County. However, equipment is often needs to be moved through some of the urban borough cores, such as Arendtsville, Biglerville, and East Berlin.

H. Safety

Based on historic data, crash statistics across Adams County have exhibited a rather consistent trend in terms of the number and character of crashes (Table 58). The number of crashes in the 2000s was slightly higher than the 1990s, which is attributable to increasing population and travel demand, with an accompanying slight increase in the average number of fatal crashes and traffic deaths. In comparison with the state as a whole, fatal and injury crash trends for Pennsylvania have also remained fairly consistent over the analysis period, however the average number of total crashes has decreased slightly (Table 59).

Table 20: Adams County Crash Statistics 1999-2009

Category	Year										
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total crashes	1,035	1,030	991	n/a	1,085	1,096	1,025	974	1,061	1,034	1,158
Fatal crashes	20	12	11	16	23	15	25	16	17	21	21
Injury crashes	545	508	514	n/a	536	546	505	468	525	485	566
PDO crashes	470	510	466	n/a	526	535	495	490	519	528	571
Traffic deaths	21	13	13	17	24	17	27	19	17	22	22
Pedestrian deaths	1	1	1	1	2	0	0	0	2	1	3
Alcohol-related deaths	9	10	6	4	15	5	13	9	3	8	11
% of seatbelt use in crashes	74%	71%	73%	n/a	82%	83%	78%	83%	85%	83%	87%

Note: PDO = Property Damage Only
Source: Penn DOT Annual Pennsylvania Crash Facts and Statistics

Table 21: Pennsylvania Crash Statistics 1999-2009

Category	Year										
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total crashes	145,044	147,611	131,446	n/a	140,206	137,366	132,829	128,342	130,675	125,327	121,242
Fatal crashes	1,382	1,396	1,378	1,458	1,435	1,361	1,497	1,409	1,393	1,358	1,143
Injury crashes	77,876	77,704	71,865	n/a	73,557	72,980	70,000	67,439	66,833	63,449	61,875
PDO crashes	65,786	68,511	58,203	n/a	65,214	63,025	61,332	59,494	62,449	60,520	58,224
Traffic deaths	1,549	1,520	1,532	1,611	1,577	1,489	1,616	1,525	1,491	1,468	1,256
Pedestrian deaths	187	172	195	157	175	151	162	170	155	142	136
Alcohol-related deaths	532	553	544	600	558	542	580	545	535	534	449
% of seatbelt use in crashes	65%	65%	67%	n/a	71%	72%	73%	73%	75%	76%	77%

Note: PDO = Property Damage Only
Source: Penn DOT Annual Pennsylvania Crash Facts and Statistics

From a physical standpoint, safety concerns include roadways which exhibit a significant discrepancy between their designed function and the travel demands placed on them by surrounding land use and travel patterns. One example would be older rural roadways designed to provide access to farm properties that often become local "bypass" routes for commuters and residents as primary travel routes become congested. These rural roadways generally have reduced visibility in certain areas, poor lane markings and signage, and horizontal and vertical alignments which reduce the effective speed of travel.

Motorists on congested roadways can become impatient and take more risks when driving. These decisions increase the potential for rear-end collisions or side-swipe conditions were drivers making left turns strike a vehicle coming through an intersection. Other notable safety concerns that can cause unsafe traffic movements include, generational difference in travel speeds, increased use of motorcycles,

presence of high truck volumes, poor sight distances on local roads and at some intersections, and long distance commuter travel versus local trip makers.

While there are numerous infrastructure conditions throughout the county which affect motorist and pedestrian safety, most accidents, especially those involving injuries or fatalities, appear to be most closely related to certain overriding factors. These include:

- Unsafe driving speeds
- Driver inattention/error
- Lack of seatbelt use

Other safety issues of significance countywide include:

- Increased instances of automobiles illegally passing stopped school buses.
- Drivers not properly yielding to emergency vehicles, ignore emergency personnel instructions or directions, and not following established detours
- Higher numbers of pedestrian and bicycle crossing conflicts, particularly in downtown settings.

Page intentionally left blank.

Chapter 6
Travel Demand Model Analysis

The future performance of the Adams County transportation network will be affected by future population and employment demographics and future land use patterns. Therefore, a "context scenario" planning process, which takes these factors into account, using computerized travel demand modeling was completed to quantitatively characterize future transportation network performance.

Context scenario analysis helps planners and citizens to address future needs and identify policies and actions that will help the community address future needs. Context scenario planning offers various benefits:

- Provides an analytical framework and process for understanding complex issues and early response to potential future changes;
- Includes tools and techniques to assess the impact of transportation and other public policy choices on a community;
- Offers the opportunity to recognize the impact of various tradeoffs among competing goals and implementation strategies;
- Provide the community with a decision-making framework that will result in consistent decisions over time, and
- Facilitate improved management of increasingly limited resources.

A. Future Land Use Scenarios

An analysis of future traffic conditions was conducted (Appendix E: Refinement of the Adams County Travel Demand Model and Evaluation of Development Scenarios) using an enhanced version of a county travel demand model originally developed for the 2001 "Adams County Comprehensive Road Improvement Study (CRIS)". Future land use scenarios were developed in coordination with the plan steering committee and the ACOPD. These scenarios were used to analyze broad future roadway trends based on projected changes in population and employment. Three future trend lines (2010, 2020, and 2035) were used in association with corresponding population and employment projections (Table 63).

Table 22: Adams County Modeling Scenarios – Base Assumptions

Scenario Year	Population Base	Employment Base
2004	99,256	29,892
2010	108,625	35,700
2020	154,975	49,000
2035	178,168	61,000

Population base from ACOPD population projections developed March 2008.

Employment base derived from 2007 Dun and Bradstreet county employment data with projections based on historic/future trend analysis ratio between population and employment

Two scenarios depicting the future in Adams County were developed using different assumptions regarding population distribution and employment growth. These scenarios were subsequently used to illustrate how population and employment could affect the County's roadway system.

The "Policy Scenario" provides a distribution of projected growth which generally conforms to the land use management goals and designated growth areas of the existing Adams County Comprehensive Plan. This scenario distributes future population and employment across the county based on strong correlations with growth policies of the Adams County Comprehensive Plan (i.e. more compact development around borough areas, strong preservation of rural lands component).

The "Market Scenario" was developed to illustrate system performance based on the distribution of projected population and employment growth that could occur in areas currently experiencing increased development pressure. The distribution of population and employment was based on trends in the location and size of recent development proposals in the county and other areas of the county (e.g. interchange locations) that were available and could be attractive sites for future development. The areas identified as growth locations under the Market Scenario did not necessarily match designated growth areas in correlation with the comprehensive plan, and therefore are often contradictory to the distribution used under the policy scenario.

Data from these scenarios were computed through the enhanced travel demand model to provide a comparison of future roadway performance conditions. The comparisons are based predominantly on changes in total vehicle trips and the geographic distribution of those trips within the county under the two future scenarios – the Policy Scenario and the Market Scenario. Comparisons were provided for the county as a whole, for the six county planning areas (Northwest Adams, Northeast Adams, Eastern Adams, Southeast Adams, Southwest Adams and Central Adams), and for major roadway corridors (e.g. Route 15, Route 30, Route 97, etc.).

B. County and Planning Area Modeling Results

For the county as a whole, differences between growth in daily average traffic and vehicle miles traveled for the 2035 Market Scenario and the 2035 Policy Scenario showed a relatively low level of differentiation. However at the planning area level, affects are more pronounced.

Under the assumptions of the Policy Scenario, growth in average daily traffic volumes (ADT) in 2020 ranged from a low of 29.3 percent in the East planning area to 43.6 percent in the Central planning area (Figure 6). Under the Market Scenario (Figure 7), growth in ADT for 2020 ranged from a low of 27.0 percent in the East planning area to a high of 47.3% in the Central planning area. The largest difference in 2020 ADT growth was shown in the Southeast, which indicates a 33.0 percent increase under the Policy Scenario and a 38.7 percent increase under the Market Scenario.

Between 2020 and 2035, expected growth is more conservative in terms of percentage increases. Anticipated increases range from 15.2 percent in the Northwest planning area to 18.4 percent in the East planning area for the Policy Scenario. Overall projected increases in ADT are higher under the Market Scenario, ranging from 16 percent in the Northwest planning area to 19.4 percent in the Southeast and Central planning areas.

The Market Scenario illustrates slightly higher growth in ADT among all planning areas except the East and Southeast areas, where growth is slightly lower in the Market Scenario than in the Policy Scenario (Figure 6 and Figure 7).

Figure 6: Average daily traffic volumes (ADT) over time for each planning area under the assumptions in the Policy Scenario

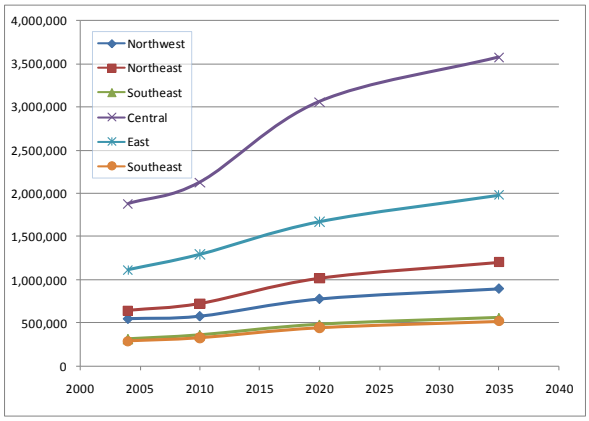
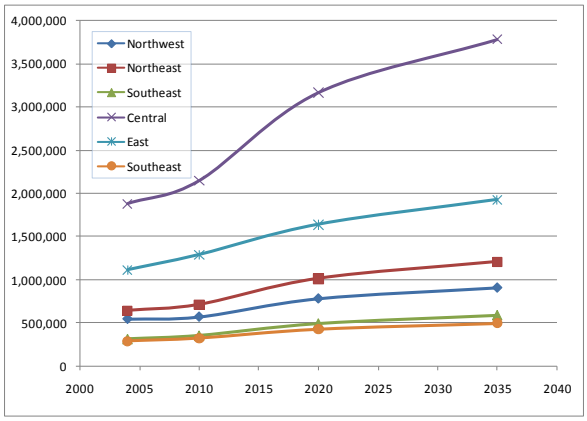


Figure 7: Average daily traffic volumes (ADT) over time for each planning area under the assumptions in the Market Scenario



Overall annual growth rates in ADT are lower for the Policy Scenario in comparison with the Market Scenario (Figure 8 and Figure 9). Annual growth rates for 2020 in the Market Scenario range from 2.7 percent in the East planning area to 4.7 percent in the Central planning area. In 2035, the Market Scenario represents slightly higher annual growth among all of the planning areas, with growth rates ranging from 1.1 percent to 1.3 percent.

Comparing the Policy and Market Scenarios, the most significant difference related to future traffic volumes occurs in the East and Southeast planning areas. Although each planning area is anticipated to grow throughout the forecast years when comparing scenarios, there is less growth expected in accordance with the Market Scenario in the Eastern and Southeast planning areas than under the Policy Scenario. By 2035, projected ADT's in the Eastern and Southeast planning areas are anticipated to reach 1,980,600 and 517,900 vehicle trips daily respectively in the Policy Scenario. When the results of the Market Scenario are evaluated, average daily traffic is expected to reach 1,927,300 and 499,400 in the Eastern and Southeast planning areas, respectively. This translates to approximately 53,000 (-2.7%) less vehicles in the Market Scenario and approximately 18,000 (-3.6%) less vehicles less in the Market scenario when compared to the Policy Scenario for the East and Southeast planning areas, respectively. Overall, this signifies that under the Policy Scenario more development (population, employment) is expected to occur and result in fewer vehicle trips generated in the Eastern and Southeast planning areas than under the Market Scenario.

Figure 8: Annual growth percentage in daily traffic volumes over time for each planning area under the assumptions in the Policy Scenario

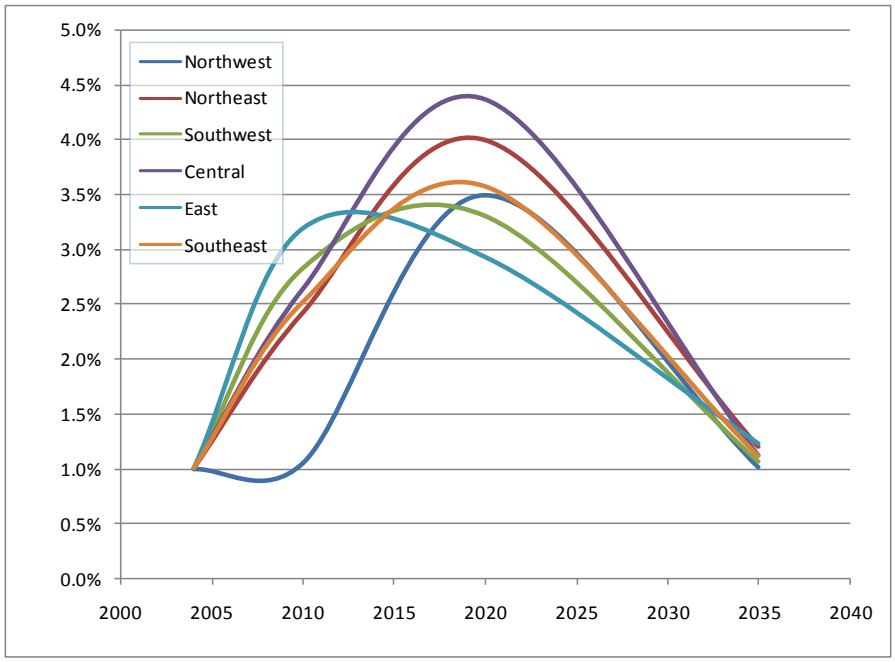
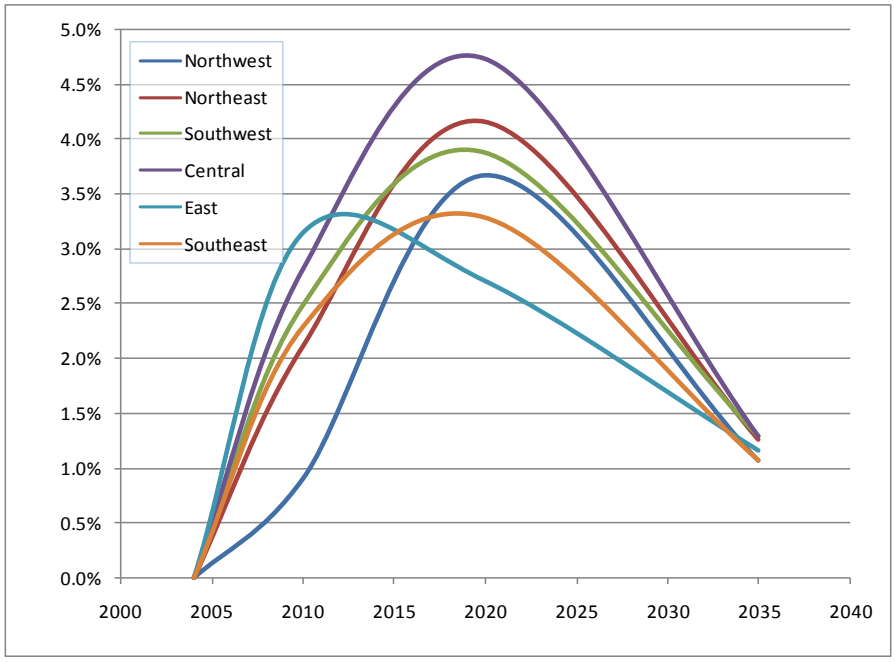


Figure 9: Annual growth percentage in daily traffic volumes over time for each planning area under the assumptions in the Market Scenario



C. Corridor Modeling Results

For each of the County's major corridors, the model indicates the following conditions can be anticipated.

(1). Route 34/Route 134 Corridor

- Similar growth in ADT is anticipated under both the Policy and Market Scenarios. Slightly higher growth in ADT is anticipated south of Gettysburg Borough along Route 134 under the Market Scenario than under the Policy Scenario.
- Adequate capacity is anticipated to exist throughout the corridor. However, the section of Route 34 between Gettysburg Borough and Route 394 will approach capacity by 2035. For this section of Route 34 the projected volume to capacity ratio is 0.4 to 0.6.

(2). Route 97 Corridor

- Both the Policy and Market Scenarios anticipate significant growth in ADT between Hoffman Home Road in Mount Joy Township and Gettysburg Borough. The Policy Scenario predicts slightly higher ADT growth, in comparison to the Market Scenario, between Hoffman Home Road and Littlestown Borough.
- Both scenarios anticipate the section of Router 97 between Hoffman Home Road and Route 15 will approach capacity by 2020. Capacity will be reached by 2035, with a projected volume to capacity ratio of 0.9 to 1.0. A section of Route 97 just north of the Littlestown Square is also anticipated to be at or over capacity by 2035.
- By 2035, the entire corridor is projected to be approaching capacity. The anticipated volume to capacity ratio will reach at least 0.8.

(3). Route 194 Corridor

- Projected growth in ADT is similar under both the Policy and Market scenarios.
- Under both scenarios, by 2020 the section of Route 194 just north of Hanover Borough is anticipated to be at or above capacity.
- Portions of Route 194 south of Hanover Borough are anticipated to be approaching capacity by 2020 and will reach or exceed capacity by 2035.

(4). Route 234 Corridor

- Projected growth in ADT is similar under both scenarios, with a slightly higher ADT anticipated east of Biglerville Borough and west of Route 15 under the Market Scenario.
- The only capacity forecast which raises a concern involves Route 234 (West King Street) in East Berlin Borough. This road segment anticipated to be just under capacity (volume/capacity ratio of 0.9) by 2035.

(5). Route 94 Corridor

- Projected Growth in ADT is similar for each growth scenario, with most of the growth, from a percentage aspect, anticipated to occur between Route 15 and the Cumberland County line.
- The section of Route 94 between Route 30 (Cross Keys) and Hanover Borough is anticipated to be at capacity by 2020 and over capacity by 2035.

(6). Route 116/Route 16 Corridor

- Projected growth in ADT is similar for the corridor under both scenarios.

- Under the Policy scenario, Route 116 through the McSherrystown area is at capacity by 2020 and over capacity by 2035, a condition which extends farther West than under the Market Scenario.
- Under the Market Scenario, Route 116 through the McSherrystown Area will be approaching capacity by 2020 and over capacity by 2035.
- East of Gettysburg Borough, the Route 116 corridor will be approaching capacity (v/c ratio of 0.9) under the Market Scenario and at capacity (v/c ratio of 1.0) under the Policy Scenario for 2035. The same trend is anticipated along Route 116 west of Gettysburg Borough.

(7). Route 15 Corridor

- Projected ADT growth is anticipated under both the Policy and Market Scenario.
- No mainline capacity concerns are identified throughout the corridor under both scenarios, however some interchanges may experience delay due to future traffic volume increases.

(8). Route 30 Corridor

- Projected ADT growth is anticipated under both the Policy and Market Scenario.
- In accordance with both scenarios, the section of Route 30 from Route 94(Cross Keys) west to Gettysburg Borough is anticipated to be over capacity (v/c ratio of 1.1) by 2010.
- Under both scenarios, the section of Route 30 from Gettysburg Borough west to Knoxlyn Road is anticipated to be at capacity by 2020.
- Under both scenarios, the section of Route 30 through Abbottstown Borough is projected to be over capacity by 2035.

Chapter 7
Goals, Objectives and Federal Planning Factors

In preparing this joint planning document, Adams County has sought to meet a number of transportation related goals that will provide an important context for the development of complementary elements of the transportation element of the Adams County Comprehensive Plan and the LRTP.

The specific goals of the plan are:

- Evaluate existing comprehensive plan data and recommendations pertaining to transportation planning and to identify an adequate policy framework for future update strategies.
- Assess the current transportation system in terms of accessibility, use, capacity, connectivity, energy efficiency, and safety especially with regard to the future fiscal health of Adams County community revitalization and sustainability and the demands of alternative future growth scenarios.
- Identify, through broad public participation and citizen involvement approaches, emerging social and economic issues which generate special needs upon the county's transportation system.
- Evaluate the future transportation demands on the county transportation system, in response to emerging land use and socioeconomic trends which will directly affect system capacity and performance.
- Identify the need and opportunity for enhanced public transit service in Adams County and to construct a policy decision-making framework to address this issue.
- Identify needs and opportunities for increased development of pedestrian and bicycle modes of transport within the county.

At the beginning of planning process five community-wide key planning factors were identified that more specific goals and objectives were derived from.

Community factors integrated in the development of this LRTP are:

- **Revitalization of Core Communities:** Retain and improve key borough and village communities as attractive and sustainable places to live, work and do business.
- **Maintaining a Sense of Place and Quality of Experience:** Preserve historical development patterns, community context and high quality values and experiences for both residents and visitors.
- **Increasing Public Health:** Facilitate improvements that provide convenient and safe opportunities for walking and bicycling and reducing emissions, noise and vibration that adversely affect communities.
- **Enhancing Mobility:** Promote transportation infrastructure that serves both residential and employment sectors and improve mobility and connections between roadway, transit and non-motorized transport modes.

- **Providing Flexibility for the Future:** Develop transportation improvements which reflect future needs, technologies and societal changes while promoting wise use of available funding considering priorities and timing.

Additionally, current federal transportation law identifies eight federal planning factors that were considered to help guide the development of the comprehensive plan transportation component and the corresponding LRTP plans. Each planning factor relates to areas of importance across the breadth of national, state and local transportation concerns.

The federal planning factors integrated in development of this LRTP are:

- **Economic Vitality**: Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency**.**
- **Safety:** Increase the safety of the transportation system for motorized and non-motorized users**.**
- **Mobility:** Increase accessibility and mobility for people and for freight.
- **Protect and Enhance the Environment:** Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.
- **Integration and Connectivity:** Enhance the integration and connectivity of the transportation system across and between modes, for people and freight.
- **Efficient System Management and Operation:** Promote efficient system management and operation.
- **System Preservation:** Emphasize the preservation of the existing transportation system.
- **Security:** Increase the security of the transportation system for motorized and non-motorized users.

Finally, the Pennsylvania Keystone Principles also guided the development of future transportation policies to help ensure sustainability for Adams County in its broadest nature.

The Keystone Principles considered in the development of this LRTP are:

- **Redevelop first**
- **Provide efficient infrastructure**
- **Concentrate development**
- **Increase job opportunities**
- **Foster sustainable businesses**
- **Restore and enhance the environment**
- **Enhance recreational and heritage resources**
- **Expand housing opportunities**
- **Plan regionally, implement locally**
- **Be fair**

These factors and principles were influential in the development of the comprehensive plan transportation element and the LRTP. They were used to identify transportation needs, prepare transportation policies, develop selection criteria, and evaluate future funding levels. The goals and objectives, key community-wide planning factors and federal planning factors are discussed in depth, with recommendations, in Appendix C.

Page intentionally left blank.

Chapter 8
Projected Transportation Network Needs

An important first step in preparing an LRTP is a review of the existing condition of transportation network. A comprehensive overview of the status and performance of the network transportation system is provided in Chapter 5, Transportation System of the Adams County Comprehensive Plan Transportation Element. The second step is to identify future network needs and estimate their cost. For the purposes of this LRTP document, several guidelines were used during the process. These include:

- Needs were evaluated over a 25 year period (2011-2035).
- The needs were not constrained by available or projected revenues.
- Future costs were projected under three financial scenarios. First, a baseline cost was established in current dollars. Next, annual inflation rates of 5% and 10% were used to estimate future costs. Ultimately, the 10% annual inflation rate was selected as the most accurate projection of the cost future needs. While slightly high, this rate best incorporates the cost of pre-construction project items such as engineering design, right-of-way, and utility relocation given current financial trends.
- Cost estimates for locally-owned road facilities were not included as the primary local funding source (i.e. Municipal Liquid Fuels funds) is outside the direct influence of ACTPO.
- Aviation, rail, and transit needs were not included in any cost estimates. Aviation and rail improvements are primarily funded by sources external to the TIP and, therefore, are outside of the normal scope of ACTPO. Transit needs, while ordinarily funded through the TIP, were not included due to the uncertainty surrounding future service funding availability.

A. Highway Maintenance

When projecting anticipated costs for routine highway maintenance work, only state-owned roads were considered. Local roads were not included in the projections, as the primary funding source for local portions of the network (Municipal Liquid Fuels funds) is beyond ACTPO's direct control. Also not included were maintenance activities on traffic signals, road signs and snow removal. Bridges were calculated separately from roadway elements.

When preparing cost projections, state-owned roads were classified into three distinct categories: National Highway System (NHS) roads (i.e. U.S. Route 15, U.S. Route 30 and PA Route 94), other roads with greater than 2,000 Average Daily Traffic (ADT), and roads with less than 2,000 ADT. For each roadway category, an average baseline cost per mile (including resurfacing, pavement markings, drainage system repairs and other upgrades) and a typical maintenance cycle was assigned to calculate future maintenance costs (Table 1).

Table 23: Highway Maintenance Cost Projection Criteria

Roadway	Average baseline construction cost per mile	Typical maintenance cycle
National Highway System roads	$700,000	15 years
Other roads with greater than 2,000 vehicles ADT	$500,000	15 years
Road with less than 2,000 vehicles ADT	$125,000	10 years

Source: Penn DOT

B. Bridges

Anticipated costs for bridge rehabilitations, replacements, and preservation activities were calculated for state bridges over 8 feet and local bridges over 20 feet in length. Culverts and bridges, either state or local under 8 feet or 20 feet respectively, were not counted.

For state and local bridges, three separate components were calculated. First, the existing square footage of structurally deficient bridge deck area was compiled using publically available bridge condition reports. This figure was then pro-rated over a 25 year period. An average baseline cost per square foot of $750 was then applied.

Second, a review of the bridge condition reports was done and all bridges with at least one structural component with a rating of 5 (out of 10) were identified. These bridges were deemed the most at risk of becoming structurally deficient. The square footage of structurally deficient bridge deck area was compiled and pro-rated over a 25 year period. An average baseline cost per square foot of $750 was then applied.

Finally, an assumption was made that bridge preservation activities would be performed on all bridges at a rate of 4% of total bridge deck area per year. An average baseline cost per square foot of $100 for bridge preservation activities was then applied.

C. Congestion Management

Congestion management projects often have design and construction timelines that stretch well past a typical bridge or highway maintenance project or even the time horizon of an LRTP. Because of this, efforts to project estimated costs to deliver congestion management projects were completed only for projects currently at some stage of the project design process. These cost estimates were based on information provided by PennDOT. Two congestion management projects were used.

- US 15/30 Interchange - $30,000,000 (Final Design, Right-of-way, Utilities and Construction Phases)
- Eisenhower Parkway Extension - $17,625,000 (All Phases)

While project costs were not developed for projects still in the planning study or conceptual phases, an average of $10,000,000 per mile would be a reasonable starting point to estimate engineering, right-of-way, utility relocation, and construction costs for a new road connection.

D. Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) encompasses a broad range of technologies that help monitor and manage traffic flow, reduce congestion, and enhance safety. Examples include safety enhancements, integrated signal systems, traffic video/control technologies, variable message signs, etc. The installation cost of a new ITS network can range from $250,000 for a new multi-signal control system to over $1,000,000 for a larger system involving variable message signs. Yearly operational costs of an ITS system can range from $50,000 to $75,000 per year. Also included here are projects to retrofit existing traffic signals to increase operation efficiency (i.e. replacing incandescent bulbs with LED's). A cost estimate of $80,000 to retrofit an existing signal to LED's was assessed for each existing signal in Adams County. Finally, an assumption was made that, on average, one new traffic signal, at an estimated $150,000 each, would be installed every three years over the span of the LRTP. These new signals would be identified by Road Safety Audits or as part of new ITS network installations.

E. Transit

Funding for public transit systems and non-motorized transportation are distributed by formula to MPO's/RPO's and transit providers by formula. At present, Freedom Transit system is operating as a pilot program with operational funds from the Adams County TIP. At such time that an allocation of transit funds is provided, those funds will be allocated for operating assistance, new vehicles and other transit facility related improvements. As such, specific projects and cost estimates were not identified.

F. Non-Motorized

Adams County receives a direct allocation of funds for non-motorized improvements in the form of Transportation Enhancement funds. Additionally, statewide competitive funds for Home Town Streets/Safe Routes to Schools and discretionary Transportation Enhancement funds are occasionally made available. Future non-motorized projects should be consistent with the five community-wide key planning factors identified in Chapter 7 — Revitalization of Core Communities; Maintaining a Sense of Place and Quality of Experience; Increasing Public Health; Enhancing Mobility; and Providing Flexibility for the Future. Since such projects are typically identified and completed by a local sponsor, specific projects and cost estimates were not identified.

G. Aviation / Rail Freight

Funding for aviation and rail freight projects fall outside the TIP but are included in PennDOT's Statewide Twelve Year Program (TYP). Facilities in Adams County have received such funding in the past. However, since these funds are distributed on a competitive basis from a statewide pot of funds, no projects or cost estimates have been prepared. Should future funding sources for aviation and/or rail freight be allocated directly to the Adams County TIP, those funds shall be reserved for projects identified cooperatively with aviation and rail freight providers operating in the County.

H. Future Network Costs

The LRTP has identified $707,334,708 in transportation improvements (in 2010 dollars) over the 25-year span of the plan. Adjusting for inflation and pre-construction related costs, this estimate rises to $2,642,860,413 over the LRTP time frame. Detailed cost projections for future Highway Maintenance, State Bridge and Local Bridge Maintenance and Preservation, and ITS costs can be found in Appendix A. Congestion management project costs are identified in the congestion management section above. Projected costs are not shown for Transit due to the newness of the Freedom Transit system. Projected costs are not shown for Aviation, Rail Freight, and Non-Motorized modes as their funding is allocated outside of the Adams County TIP or by formula.

Table 24: Transportation Network Cost Projections

Network Mode	Projected Costs	
	2010 ($)	2010 ($) + 10%
Highway Maintenance	$309,083,333	$1,215,897,583
State Bridge Maintenance	$256,483,650	$1,009,027,198
State Bridge Preservation	$60,352,650	$237,379,043
Local Bridge Maintenance	$23,350.,200	$91,852,682
Local Bridge Preservation	$4,564,875	$17,967,348
Congestion Management	$47,625,000	$47,625,000
ITS	$5,875,000	$23,111,559
Transit	$0	$0
Aviation/Rail Freight/Non-motorized	$0	$0
TOTAL	707,334,708	2,642,860,413

Source: Projections based on information provided by Penn DOT. See Appendix A for details.

Chapter 9
Future Long Range Transportation Plan Funding

According to federal law, the LRTP must be "financially constrained" and include a financial plan to demonstrate the amount of revenue expected over the life of the LRTP. Fiscal constraint of the LRTP means that the LRTP includes sufficient financial information for demonstrating that proposed projects can be implemented using committed, available or reasonably available revenue sources that existed in the base year of the LRTP.

A second purpose of the LRTP is to provide assurance that the federally supported transportation system is being adequately operated and maintained. This requirement applies to each program year of the LRTP for a planning horizon of not less than 20 years. The plan must estimate the level of funding that can reasonably be expected over that period, and it must show how planned projects can be accommodated within the period of financial constraint.

Adams County's LRTP time horizon spans 25 years (2013-2037). The LRTP revenue baseline was developed using historical PennDOT Transportation Financial Guidance as a base. The first four years of the LRTP projections reflect the 2013-2014 Transportation Improvement Program (TIP) adopted by ACTPO. Total revenues were projected to 2037. A 4-percent annual growth rate was assumed for all federal sources. State funds were based on the most recent estimates by PennDOT's Bureau of Fiscal Management.

Finally, discretionary funding, which includes special federal funds or federal or state discretionary funds (also known as "Spike" funds), was projected using historical funding levels appropriated for Adams County. "Special federal funds" are typically project specific "earmarks" set forth in a federal reauthorization act or annual federal appropriation. "Spike" funds represent the 20 percent of highway funding which is reserved for distribution by the PennDOT Secretary of Transportation to offset the impact of high cost projects which are beyond a region's normal allocation. Without an occasional "spike" of funding, some TIP projects could not proceed.

While existing financial guidance and historical funding trends for Adams County were used to project available revenues for 2013-2037, several state and national issues of concern may potentially alter the composition of these future revenue sources. These include:

- Pennsylvania Act 44 of 2007 established a long-term funding stream to address needed highway, bridge and transit improvements. The source of the funds was to come from a mix of 1) converting Interstate 80 to a toll facility, 2) a long-term lease of the Pennsylvania Turnpike through a Public-Private Partnership, 3) increasing existing mainline Turnpike tolls, and 4) issuing bonds based on future Turnpike toll revenues. At this time, neither of the primary funding sources envisioned by Act 44 has been implemented. The FHWA has rejected the conversion of Interstate 80 to a toll facility and the long-term lease of the Turnpike has also been rejected by the Pennsylvania legislature. The uncertainty surrounding the status of anticipated revenues from Act 44 substantially impacts future LRTP revenue projections for Adams County.

- SAFTEA-LU, the most recent long-term Federal transportation legislation expired on September 30, 2009. Since then, Federal transportation funding has been achieved through a series of continuing congressional resolutions. As yet, new Federal transportation legislation has not been developed. Eventually new legislation is expected to provide for an overall reduced Federal

contribution (in comparison to previous authorizations) for transportation development and maintenance and incorporate new ideas on raising revenues.

- The LRTP revenue projections also include funding levels based on the existing level of revenues generated from the state and federal gasoline tax. The amount generated has been decreasing steadily over the past few years as people drive less and new, more fuel efficient vehicles are produced. The dip in gas tax revenues affects both state and federal revenue sources.

A. Funding Projections

Given the historical trends, existing financial guidance and future issues of concern, two future revenue scenarios were developed. Both represent anticipated revenues over the next 25 years. Scenario 1 identifies $658,639,000 in future transportation revenues for Adams County over the next 25 years (Figure 2). This assumes a fully funded Act 44 and the continued use of earmarked funds through federal reauthorization acts or annual appropriation bills.

Scenario 2 identifies $547,017,000 in future transportation revenues for Adams County over the next 25 years (Figure 3). This assumes a substantial reduction in Act 44 related funds as well as the elimination of earmarked funds through federal reauthorization acts or annual appropriation bills.

After a review of these scenarios with ACTPO and PennDOT, a third scenario was suggested. This third scenario assumes that ACTPO's share of the minimum funding levels identified in Act 44 would continue over the next 25 years. It also assumes the continued use of earmarked funds through federal reauthorization acts or annual appropriation bills. Using these two assumptions, Scenario 3 identifies $585,300,000 in future transportation revenues for Adams County over the next 25 years (Figure 4). Despite the uncertainty surrounding Act 44, federal earmarks, and concerns over state and national budgeting and funding difficulties, a consensus as reached to use Scenario 3 as the projected level of transportation funding for Adams County over the next 25 years.

B. Future Funding Allocation

After selecting a future transportation funding scenario, the next step involves determining the best mixture of those transportation funds over the next 25 years. The mixture constitutes the recommendation for the best transportation system within limited financial resources. The identified amounts would not be a year-by-year guidance, but a total distribution over the next 25 years (Figure 5). This future funding plan allocates more than 87% of all funding to maintaining the existing transportation network.

(1). 2013-2016 TIP ($48,113,000)

The first four years of the LRTP coincide with the adopted 2013-2016 TIP. This represents the only portion of LRTP with specific funding amounts allocated to specific projects. As such, the funding identified on the adopted TIP is reflected in the total projected LRTP transportation funding in Figure 4 ($585,300,000). However, since these 2013-2016 funds are already tied to specific projects, they are not included below when allocating funds to specific improvement categories or when calculating percentages of total LRTP funding. A list of projects and funding amounts for the 2013-2016 TIP are listed in Appendix D.

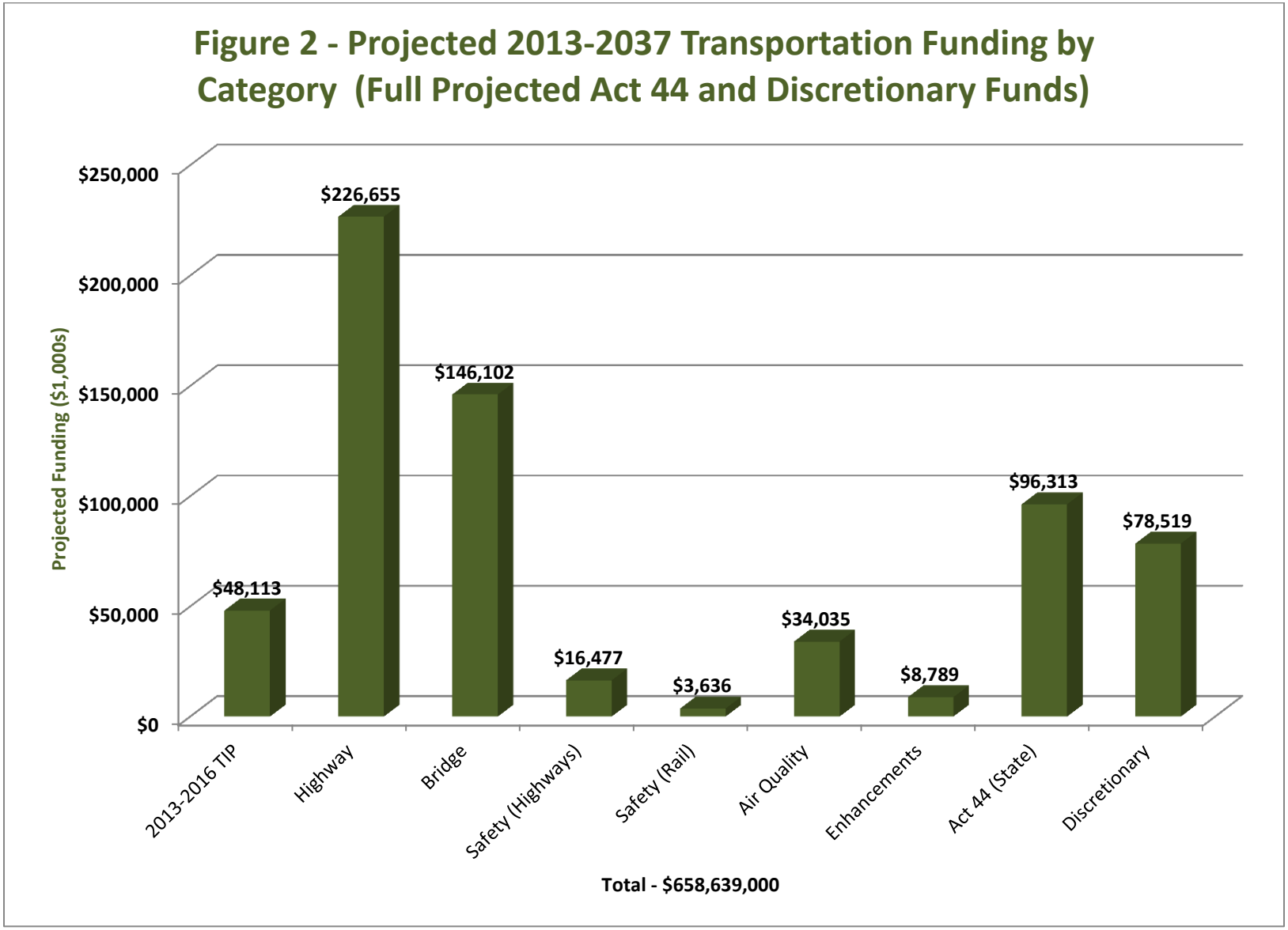


Figure 2 - Projected 2013-2037 Transportation Funding by Category (Full Projected Act 44 and Discretionary Funds)
Projected Funding ($1,000s)
$250,000
$200,000
$150,000
$100,000
$50,000
$0
$48,113
$226,655
$146,102
$16,477
$3,636
$34,035
$8,789
$96,313
$78,519
2013-2016 TIP
Highway
Bridge
Safety (Highways)
Safety (Rail)
Air Quality
Enhancements
Act 44 (State)
Discretionary
Total - $658,639,000

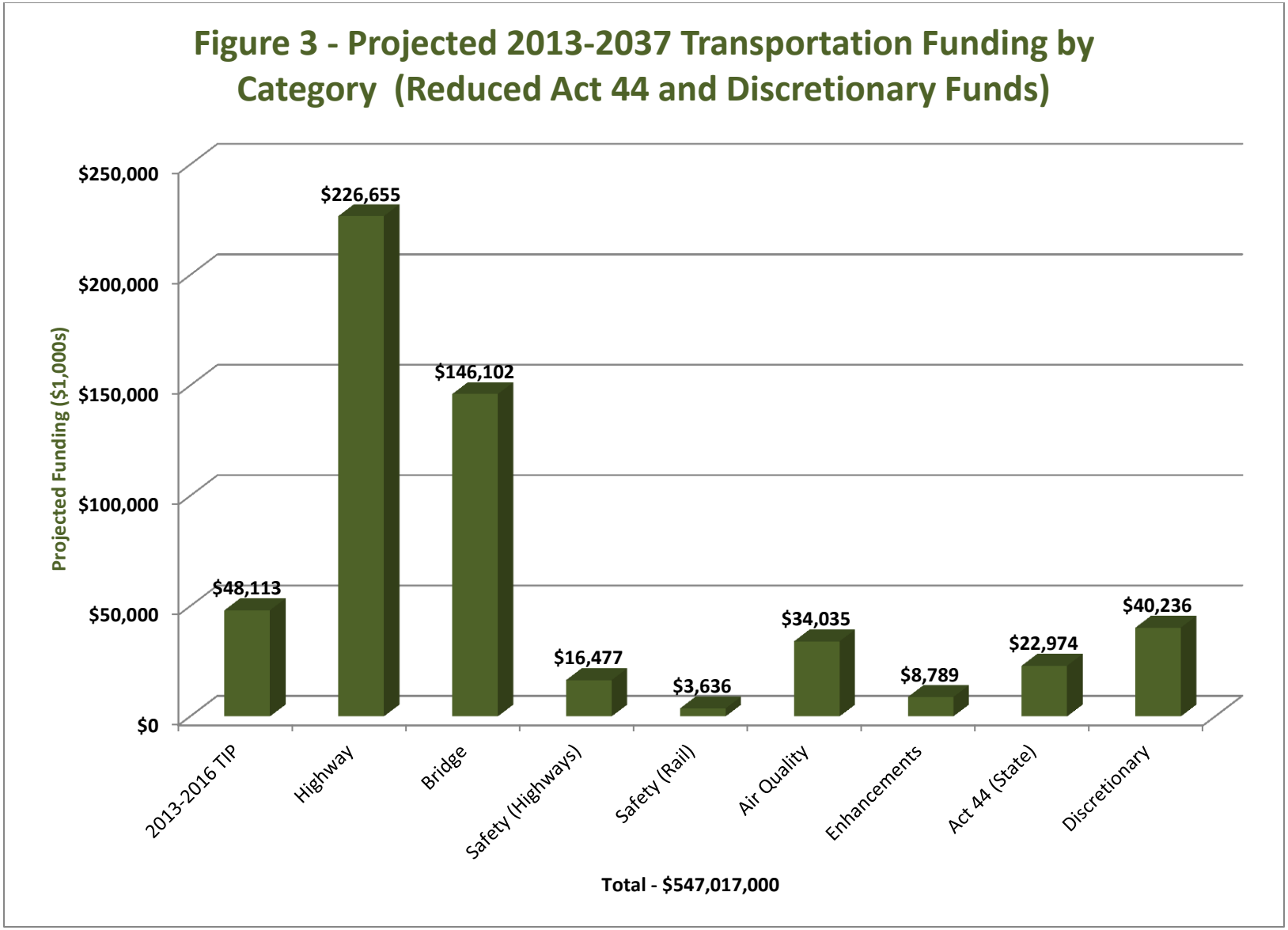


Figure 3 - Projected 2013-2037 Transportation Funding by Category (Reduced Act 44 and Discretionary Funds)
Projected Funding ($1,000s)
$250,000
$200,000
$150,000
$100,000
$50,000
$0
$48,113
$226,655
$146,102
$16,477
$3,636
$34,035
$8,789
$22,974
$40,236
2013-2016 TIP
Highway
Bridge
Safety (Highways)
Safety (Rail)
Air Quality
Enhancements
Act 44 (State)
Discretionary
Total - $547,017,000

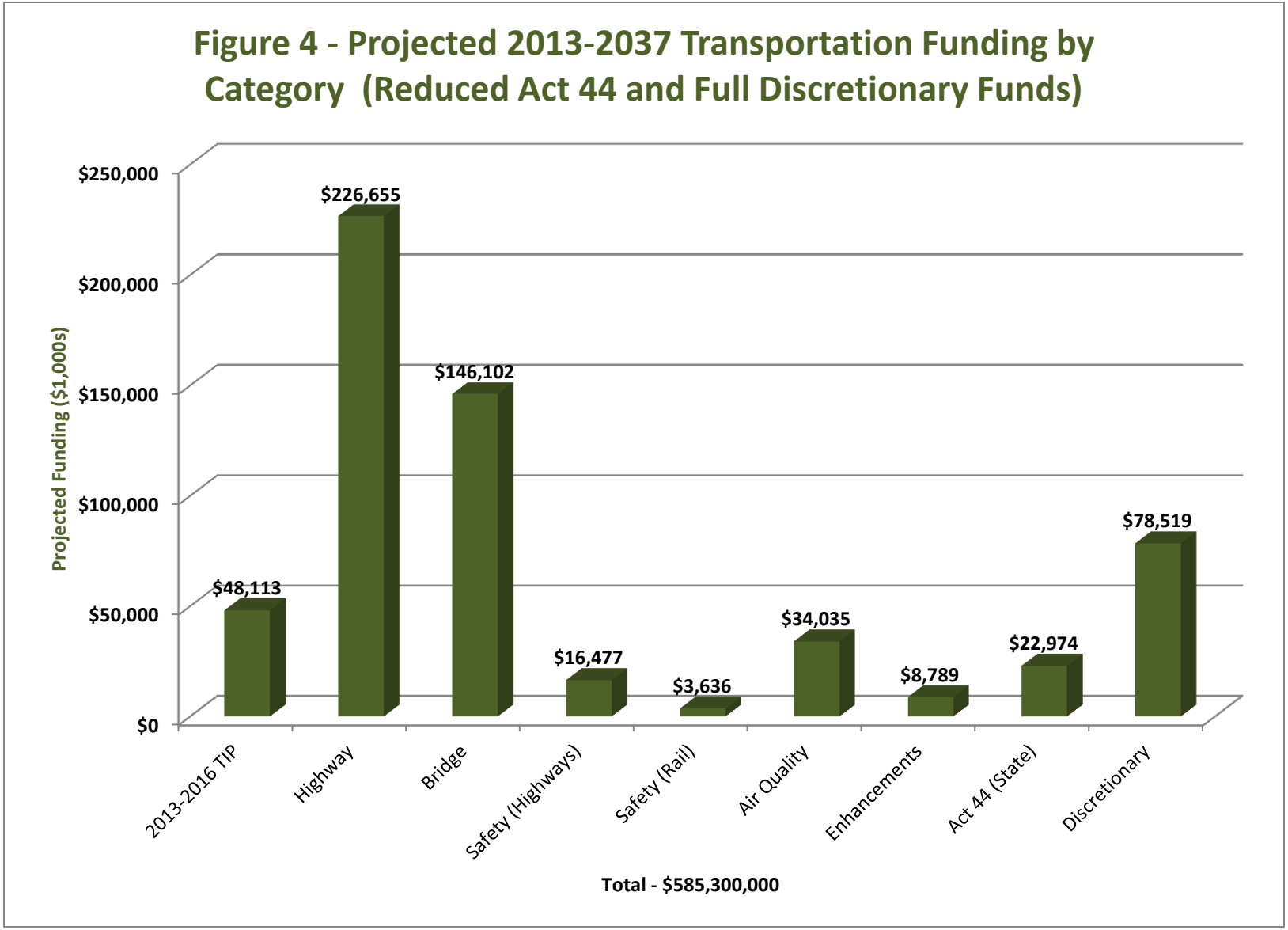


Figure 4 - Projected 2013-2037 Transportation Funding by Category (Reduced Act 44 and Full Discretionary Funds)
Projected Funding ($1,000s)
$250,000
$200,000
$150,000
$100,000
$50,000
$0
$48,113
$226,655
$146,102
$16,477
$3,636
$34,035
$8,789
$22,974
$78,519
2013-2016 TIP
Highway
Bridge
Safety (Highways)
Safety (Rail)
Air Quality
Enhancements
Act 44 (State)
Discretionary
Total - $585,300,000

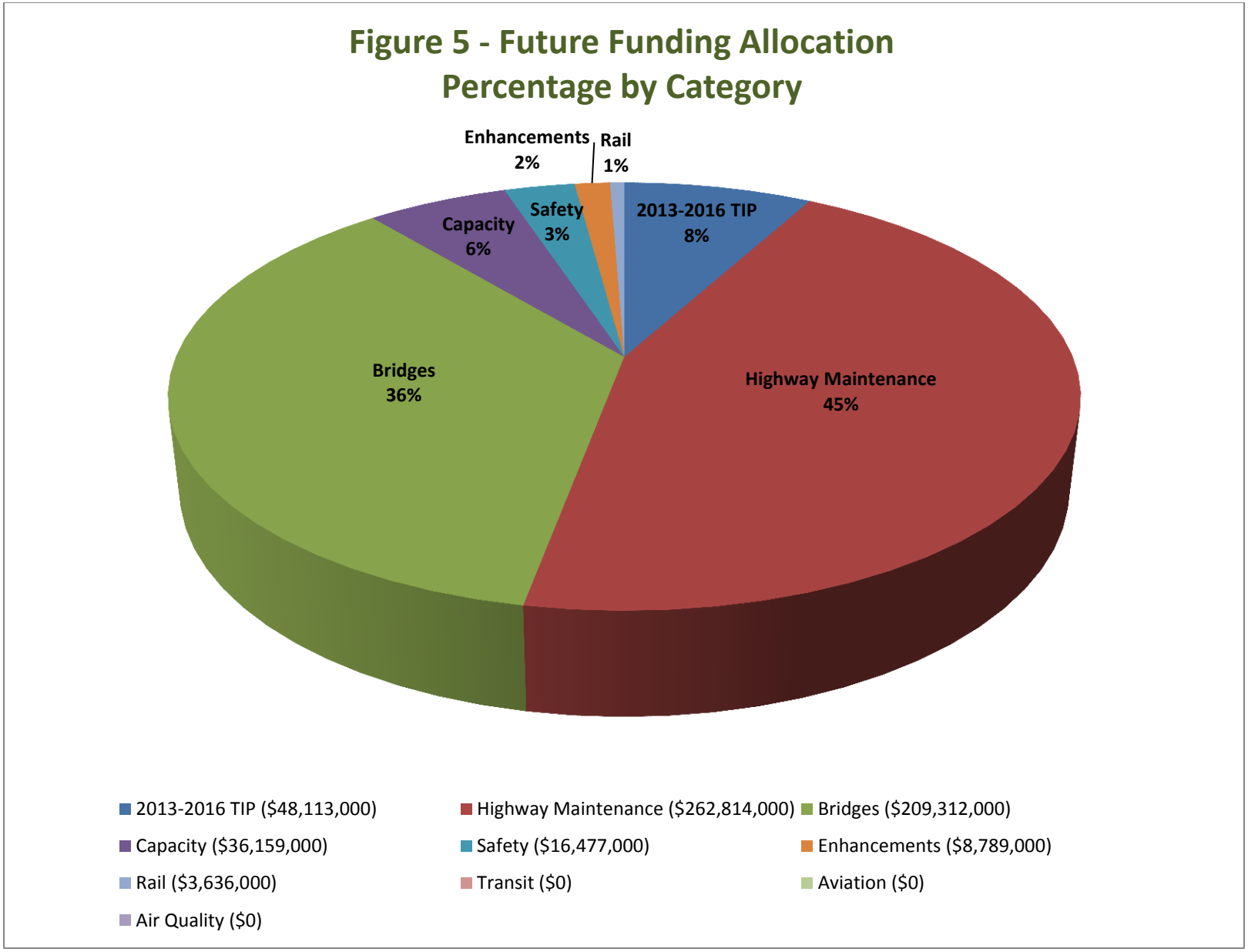


Figure 5 - Future Funding Allocation Percentage by Category
Enhancements 2%
Rail 1%
2013-2016 TIP 8%
Safety 3%
Capacity 6%
Bridges 36%
Highway Maintenance 45%
2013-2016 TIP ($48,113,000)
Highway Maintenance ($262,814,000)
Bridges ($209,312,000)
Capacity ($36,159,000)
Safety ($16,477,000)
Enhancements ($8,789,000)
Rail ($3,636,000)
Transit ($0)
Aviation ($0)
Air Quality ($0)

(2). Highway Maintenance ($262,814,000)

The $262,814,000 allocated for highway maintenance represents 44% of all projected transportation funds over the span of the LRTP. This provides an average of $12,515,000 per year towards maintaining the existing roadway system in Adams County. Using an average cost per mile and 2007 prices, approximately 375 miles of roadway could be paved with this allocation. This represents 69% of the total PennDOT maintained road network in Adams County (544 miles total). When combined with PennDOT's Adams County maintenance budget, a funding source not included here, a normal pavement management cycle can be accomplished.

(3). Bridges ($209,312,000)

A total of $209,312,000 has been allocated for bridge related improvements. This represents 35% of all projected transportation funds over the span of the LRTP. This provides an average of $9,967,000 per year towards maintaining the state and local bridge networks in Adams County, split between minor bridge rehabilitations, major bridge rehabilitations, and full bridge replacements. Within this allocation of $21,000,000, an average of $1,000,000 per year, has been reserved for bridge preservation activities. Additionally, $15,750,000 (an average of $750,000 per year) of the overall bridge allocation has been reserved for ACTPO to fund rehabilitations and replacements on locally owned bridges. The remaining $172,562,000 is for use in funding the rehabilitation or replacement of structurally deficient state-owned bridges. Based on bridge inspection report data as of June 2010, a total of 152 bridges and 281,625 square feet of deck area must be addressed within Adams County over the next 25 years in order to reach and maintain a goal of no more than 10% of bridges and deck area classified as Structurally Deficient. Using an average cost per square foot and 2007 prices, the funding allocated for rehabilitation or replacement of structurally deficient bridges could address 82% of the existing and projected structurally deficient bridge deck area over the next 25 years.

(4). Capacity ($36,159,000)

The $36,159,000 allocated towards capacity improvements represents 6% of all projected transportation funds over the s25-year pan of the LRTP. Of the candidate capacity projects identified, two reached a point in the programming and project design process where a cost estimate was prepared. The proposed allocation would be sufficient to entirely fund one of these projects. However, it should be noted that many maintenance and safety related improvements could address congestion issues through the normal project engineering and design process. Given ACTPO's allocation level in relation to other MPOs and RPOs, large scale capacity projects should be pursued through other funding avenues, including Public-Private Partnerships and legislative initiatives.

(5). Safety ($16,477,000)

The allocated amount for safety improvements is identified by formula. The LRTP does not identify specific cost for potential safety projects. This is partly due to the federal eligibility requirements for safety funds, focusing primarily on reducing fatalities, and partly to the close held nature of accident data. While these funds should be allocated to locations with higher than average injury and fatality rates, it is important to note that many crashes can be attributed to by factors other than the design or maintenance of the roadway. Efforts should be made to increase driver education programs, as well as to modify roadway design elements, which contribute to unsafe or inattentive driving behaviors.

(6). Enhancements ($8,789,000)

The Federal-designated amount for enhancements is identified by formula. The LRTP does not identify specific projects for these funds. However, the type of enhancement projects funded by ACTPO in the future should be consistent with the five community-wide key planning factors; Revitalization of Core Communities, Maintaining a Sense of Place and Quality of Experience, Increasing Public Health, Enhancing Mobility, and Providing Flexibility for the Future.

(7). Rail ($3,636,000)

The federal-designated amount for railroad crossing improvements is identified by formula. Funding will be allocated to these projects on a project-by-project basis. When ACTPO or PennDOT identifies a beneficial project, funding will be allocated.

(8). Transit ($0)

Adams County does not currently receive direct transit funding for operation assistance through ACTPO. Therefore, no funding for transit operations has been identified within the LRTP. However, should a fixed-route transit system qualify for operation assistance funding through the TIP/LRTP financial guidance, those funds will be allocated towards transit projects identified by ACTPO and the transit provider and added to the LRTP.

(9). Aviation ($0)

Aviation does not currently receive funding through ACTPO and no funding is identified for the future.

(10). Air Quality ($0)

Many projects that are completed under categories other than Air Quality have pollution reducing or air quality benefits. Intersection safety upgrades, Intelligent Transportation Systems (ITS), and certain maintenance and capacity improvements all can improve air quality. Fiscal constraints being what they are, air quality benefits are often a secondary benefit rather than the primary purpose for pursuing a specific project. The impact of a potential project on Air Quality should be considered as an important component of future project selection.

C. LRTP – Category Allocations

With the exception of those funds programmed on the 2013-2016 TIP, all remaining funds projected for the LRTP are hereby placed into Line Items as follows. Funding for specific projects will be broken out of these Line Items at the discretion of the Adams County RPO with approval from Penn DOT.

- **Highway Maintenance** – $262,814,000
- **Bridges** – $210,302,000
- **Capacity** – $36,159,000
- **Safety** – $16,477,000
- **Enhancements** – $8,789,000
- **Rail** – $3,636,000
- **Transit** – $0

Chapter 10
Reducing the Funding Gap

The $2.6 billion in future transportation system improvements identified in Chapter 4 is more than $2 billion higher than the $598 million in projected funding over the 25-year span of the LRTP. Due to the size of this funding shortfall, a range of alternative funding and policy methods are needed to close the gap between system needs and available funds. These methods range from policy recommendations to increased use of supplemental state, local and private funding sources. Some of these methods include:

A. Municipal Liquid Fuels Allocations

In Pennsylvania, townships, boroughs, and counties receive an annual allocation of funds from PennDOT through the Municipal Liquid Fuels Program and the County Liquid Fuels Program. Townships and boroughs use these funds to support equipment purchases and construction, reconstruction, maintenance, and repair of public roads and bridges. County Liquid Fuels funds are used to support construction, reconstruction, maintenance, and repair of county-owned roads and bridges. The exact allocation received is based on a municipality's population and miles of eligible roads. Roads must be a minimum of 16' wide, at least 250' in length and maintained to a condition that allows a vehicle to drive safely at 15 miles per hour. Over the last three years of available municipal liquid fuels distributions, municipalities in Adams County cumulatively received an average of **$3,036,871** per year. For the 25-year span of the LRTP, this equates to an additional **$75,921,774** in funds available to improve the transportation network in Adams County. While most of these funds will be used for annual maintenance, these funds could play a role in reducing the gap in funding necessary to maintain the county's transportation network. For example, liquid fuels funds could be used as matching funds to leverage state and federal bridge funds to repair and/or replace a larger number of municipal bridges.

B. Public Private Partnerships

Federal agencies, including the FHWA and the FTA, and PennDOT encourage the consideration of public-private partnerships (P3s) in the development of transportation improvements. Early involvement of the private sector can bring creativity, efficiency, and capital to address complex transportation problems facing state and local governments. Public-private partnerships (P3s) are contractual agreements formed between a public agency and a private sector entity that allow for greater private sector participation in the delivery and financing of transportation projects. Public-private partnerships (P3s) can take many forms, but commonly are associated with congestion management and travel demand improvements, often involving toll facilities.

C. Transportation Impact Fees

Traditionally, municipalities in Pennsylvania have relied on federal, state and, in some instances, county funding to provide major upgrades to their transportation system. An additional tool available to municipalities for funding transportation improvements involves the enactment of impact fees. Acts 203 and 209 of 1990 provide municipalities with the legal authority to assess impact fees on developers for transportation improvements. These laws authorize the use of impact fees for improvements that are included in a municipality's Transportation Capital Improvements Program.

The costs of enhancing the transportation network, which are attributable to development, including acquisition of lands and rights-of-way, legal costs, engineering and planning costs, debt service, and any other cost directly related to road improvements within identified service areas may be paid for with these

fees. In short, developers can be required to contribute to projects that may not lie directly adjacent to their site. These are costs that cannot be assessed without using the options listed in Pennsylvania's impact fee legislation. Although impact fees can be a powerful tool for raising funds needed to pay for transportation improvements, they are only occasionally used to implement comprehensive transportation improvement programs in Pennsylvania. This is most likely due to the lengthy and expensive process that must be adhered to before an impact fee ordinance can be adopted and before fees can be assessed. Some municipalities consider the up-front costs associated with implementing an impact fee assessment ordinance to be too costly. However, if a municipality expects to accommodate substantial new development in the future, these costs can usually be recouped through increased efficiency of the transportation system, enhanced mobility and lower fuel costs, and a more competitive environment for municipalities that desire additional jobs and tax base enhancements. The county should work with local municipalities to educate them on their ability to assess impact fees.

In Adams County, the townships of Cumberland, Franklin, Mount Joy and Straban currently have an established Transportation Impact Fee Ordinance and program. These are among the county's largest municipalities, and several are located along the U.S. Route 15 corridor, a location which is conducive to future investment and development. However, other municipalities which host major transportation network components or which are confronting growing congestion challenges have not established a program.

D. Developer Contributions

Even without an impact fee ordinance, developers can be required to mitigate the effects of the traffic generated by new development on roadways directly bordering a project site. Municipalities should be encouraged to require appropriate traffic studies identifying effects of new development on the transportation network. Subsequent roadway and signal improvements should be required of the developer for each new development project. Municipal officials should also be hesitant in granting waivers or accepting fees in lieu of required transportation improvements.

Additionally, municipal officials should encourage developers working on adjacent sites to pool their resources to make necessary roadway upgrades. Subdivision and land development ordinances can provide oversight and control of new development, and they can help local officials to negotiate necessary roadway and other public improvements with developers. This can be an especially effective approach for encouraging economic development. An example of this approach was used in the planning, design and construction of the Route 97 interchange on Route 15 in Adams County. The developers of the Outlet Shoppes at Gettysburg agreed to design and construct necessary bridge and roadway improvements using private funds to support this large commercial development. This arrangement allowed the roadway improvement to be expedited by using only private funding and the benefits of the economic development to be more quickly put in place, a benefit for both the private side and Mount Joy Township/Adams County.

Chapter 11
Capital Improvements Plan

One of the primary components of the Adams County Long Range Transportation Plan (LRTP) is a Capital Improvements Plan (CIP) which identifies planned capital investments to the County's transportation network. To remain consistent with SAFETEA-LU, the LRTP must cover a timeframe of at least twenty (20) years. This plan covers 2013-2037, a span of twenty-five (25) years. This ensures that the plan will remain consistent with the guidelines established in SAFETEA-LU until the next update of the LRTP in 2015.

The first four years of the CIP corresponds to the 2013-2016 Adams County Transportation Improvement Program (TIP). The TIP allocates funding to project phases for bridges, highways, transit and other transportation system improvements. Since the TIP is routinely modified based on cost savings or increases in construction bids, project delays, and changes in projected funding or policy decisions, the projects it contains are included in this CIP. The CIP places the rest of the projected funding for the remaining 2017-2037 portion of the LRTP in general line items rather than allocating those funds to specific projects. The CIP Chart shown in this chapter provides the line item amounts broken down by category and timeframe. This was done because the fluid nature of federal and state transportation funding sources, as well as the complex nature of project delivery, makes linking a specific project starting point and overall funding amount to an as yet undefined project difficult. Instead, candidate highway, bridge, and congestion management projects have been placed into lists for future consideration. These lists are not intended to be comprehensive. Rather, they show projects already identified by a previous planning process. Additional projects will be added as identified by future studies and/or changing transportation system conditions. The selection criteria and processes identified in Chapter 8 will be used to select projects from those lists when appropriate.

A. Highway Maintenance Candidates

The following highway-related improvements have been identified as candidate projects for the Adams County LRTP Capital Improvements Plan. These projects are not yet programmed to be completed. They constitute a list of projects that have been identified through a previous planning process. This list of projects will be reviewed when financial capacity is available to implement new projects.

Table 25: Highway Maintenance Candidates

Project Location	Description	Status	Estimated Costs	Priority
U.S. 15 Resurfacing	Resurface U.S. 15 from PA 134 to PA 394. Include Bridge Preservation on U.S. 30 over U.S. 15.	All Project Phases	$12,000,000	Immediate
U.S. 15 Resurfacing	Resurface U.S. 15 southbound from PA 134 to Maryland State Line	All Project Phases	$4,600,000	Immediate
U.S. 30 Resurfacing	Resurface U.S. 30 from Franklin County line to SR 3011	All Project Phases	$4,500,000	Immediate
U.S. 30 Resurfacing	Resurface U.S. 30 from Cashtown Road to Gettysburg Borough	All Project Phases	$4,900,000	Immediate
East Berlin Road (PA 234)	Resurface PA 234 from US 15 to PA 94	All Project Phases	$1,600,000	Immediate
Waynesboro Pike (PA 16)	Resurface PA 16 from Old Waynesboro Road to Maryland State line	All Project Phases	$1,300,000	Immediate
Fairfield Road (PA 116)	Resurface PA 116 from Carroll Valley Borough line to SR 3011	All Project Phases	$400,000	Immediate
Water Street (SR 3010)	Resurface Water Street from PA 116 to Hamiltonban Township line	All Project Phases	$400,000	Immediate
PA 394 Resurfacing	Resuface PA 394 from PA 234 to Biglerville Borough line	All Project Phases	$380,000	Immediate
King Street (PA 194)	Resurface PA 194 from PA 97 to Littlestown Borough line	All Project Phases	$355,000	Immediate
Berlin Road (SR 1019)	Resurface Berlin Road from SR 1015 to New Oxford Borough line	All Project Phases	$76,000	Immediate
Hanover Street (SR 1015)	Resurface Berlin Road from New Oxford Borough line to US 30	All Project Phases	$76,000	Immediate
TOTAL			**$30,587,000**	

B. Bridge Candidates

The following bridge improvements have been identified as candidate projects for the Adams County LRTP CIP. These projects are not yet programmed to be completed. They constitute a list of projects that have been identified through a previous planning process. This list of projects will be reviewed when financial capacity is available to implement new projects.

Table 26: Bridge Candidates

Project Location	Description	Status	Estimated Costs	Priority
York Road Bridge (US Route 30)	Bridge replacement on U.S. Route 30 over Rock Creek in Gettysburg Borough	All Project Phases	$3,439,800	Immediate
TOTAL			**$3,439,800**	

C. Congestion Management Candidates

The following congestion management improvements have been identified as candidate projects for the Adams County LRTP CIP. These projects are not yet programmed to be completed. They constitute a list of projects that have been identified through a previous planning process. This list of projects will be reviewed when financial capacity is available to implement new projects.

Table 27: Congestion Management Candidates

Project Location	Description	Status	Estimated Costs	Priority
Eisenhower Parkway	Connect Eisenhower Drive from High Street to Route 116	Preliminary Engineering programmed. Work halted in 2008.	$17,625,000	Mid-term
U.S. Route 15/U.S. Route 30 Interchange	Reconstruct U.S. Route 15/U.S. Route 30 interchange	Preliminary engineering complete.	$30,000,000	Long-term
TOTAL			**$47,625,000**	

D. Safety Candidates

The following safety-related improvements have been identified as candidate projects for the Adams County LRTP CIP. These projects are not yet programmed to be completed. They constitute a list of projects that have been identified through a previous planning process. This list of projects will be reviewed when financial capacity is available to implement new projects.

Table 28: Safety Project Candidates

Project Location	Description	Status	Estimated Costs	Priority
Route 116 @ Oxford Ave/Elm Ave	Realign intersection to eliminate skew. Construct additional left turning lanes for westbound Route 116 and eastbound Elm Avenue to reduce queuing. Install new signal system with overlap and protected phase. Restripe intersection approaches.	All Construction Phases	*	Immediate
Route 234@ Old Harrisburg Road	Two-way stop controlled intersection. Add intersection control beam and channelized right turn lane	All Project Phases	*	Immediate
Route 94 @ Berlin Road/Pine Run Road	Four-leg intersection with two-way stop and substantial approach skew. Redesign intersection to a four-way intersection with roadway approach shift to eliminate skew and effect of vertical grade. Cut back vegetation. Install additional signage, pavement markings and intersection ahead warnings	All Project Phases	*	Immediate
Route 94 @ Route 234	Signalized intersection with skewed alignment. Realign intersection and replace signal to provide for protected left turns.	All Project Phases	*	Immediate
Route 94 @ Route 394 (Hampton Village)	Four-way intersection with stop signs on east and west legs. Evaluate redesign and enhancement of village square to provide traffic calming, improved site distance, improved safety and enhanced aesthetics. Install roundabout with other pedestrian enhancements.	All Project Phases	*	Immediate

Table 28: Safety Project Candidates

Project Location	Description	Status	Estimated Costs	Priority
Route 30 @ Route 94	Signalized intersection. Install new signal to provide protected left turn phases for eastbound Route 30 and northbound Route 94. Improve turn radii	All Project Phases	*	Immediate
Route 94 @ Lake Meade Road	Four-leg intersection with 2-way stop. Slightly skewed intersection. Add additional stop signs and stop bars on both minor approaches. Trim vegetation.	All Project Phases	*	Mid-term
Route 94 @ Green Springs Road/Appler Road	Four-leg intersection with two-way stop control. Redesign intersection to improve lane definition and configuration for Green Springs Road. May require utility relocation.	All Project Phases	*	Mid-term
Route 94 @ Red Hill Road	T-intersection with one leg stop controlled. Poor sight distance prior to intersection northbound on Route 94. Options include reprofile of intersection, physically restrict turning movements to right-in/right-out only, or complete closure.	All Project Phases	*	Long-term
U.S. Route 15 and County Line Road	Consider limiting intersection to right-in/right-out with median closure, acceleration and deceleration lanes, and median closure. Maintain emergency access.	All Project Phases	$280,000	Long-term
U.S. Route 15 and South Ridge Road	Realign South Ridge Road to intersect with PA 94 at the US 15 ramps.	All Project Phases	$2,200,000	Long-term
TOTAL			**$2,480,000**	

E. Transit Candidates

The following transit improvements have been identified as candidate projects for the Adams County LRTP CIP. These projects are not yet programmed to be completed. They constitute a list of projects that have been identified through a previous planning process. This list of projects will be reviewed when financial capacity is available to implement new projects.

Table 29: Transit Candidates

Project Location	Description	Status	Estimated Costs	Priority
Adams County Transit Authority	Maintenance facility	Construction	$3,500,000	Immediate
TOTAL			**$3,500,000**	

F. Bicycle, Pedestrian, and Non-Motorized Candidates

The following bicycle, pedestrian, and non-motorized improvements have been identified as candidate projects for the Adams County LRTP CIP. These projects are not yet programmed to be completed. They constitute a list of projects that have been identified through a previous planning process. This list of projects will be reviewed when financial capacity is available to implement new projects.

Table 30: Bicycle, Pedestrian, and Non-Motorized Candidates

Project Location	Description	Status	Estimated Costs	Priority
Gettysburg	Gettysburg Inner Loop Trail System	All Project Phases	$3,500,000	Mid-term
TOTAL			**$3,500,000**	

G. Other Projects

During the development of the LRTP, projects identified by previous county and regional Comprehensive Plans, targeted transportation plans, and municipal traffic studies were reviewed and considered for inclusion in the CIP. A list of the projects which did not rise to the level of inclusion in this section of the LRTP is provided in Appendix D. These projects should be considered for further analysis and study through regional or targeted corridor studies before being added to the CIP and ultimately the TIP, again when financial capacity is available to implement new projects.

Page intentionally left blank.

Chapter 12
Project Selection Process

Adams County's TIP and LRTP are not intended to be static, unchanging documents. The fluid nature of transportation funding sources, as well as the complex nature of project delivery, requires constant update to efficiently manage the transportation system. To do so, a selection process to consistently evaluate projects is necessary. The processes outlined in this chapter are intended to provide a means to perform that evaluation.

A. Setting Local Priorities

During the planning process for the Adams County Comprehensive Plan Transportation Component and the LRTP a series of goals and objectives were developed for five key community-wide planning factors and for eight Federal planning factors. These are outlined in detail in Chapter 9 of the Adams County Comprehensive Plan Transportation Element and Chapter 3 of the LRTP. These goals and objectives were then used to create a broad selection framework and scoring system to use for evaluating candidate transportation projects. A summary of the selection framework is shown below and a sample scoring sheet is included in Appendix B.

This selection framework is designed to accommodate candidate projects from all transportation modes. However, the scoring system alone should not be relied upon as the sole input into the selection process. Rather, it should be considered as a decision making guide along with input from local decision makers, including, but not limited to, the County Planning Commission, municipal officials, emergency service providers, and a robust public involvement effort. The goal is to develop a process that helps guide decision makers to select projects that meet the identified goals of County and local plans. The final prioritization process should be driven be people and not by a mechanical, inflexible process that dictates results based on spreadsheets.

Table 31: Candidate Project Evaluation Framework

Planning Factor	Plan Integration	Evaluation Framework Considerations
Revitalize Core Communities	Identified candidate projects that would promote core communities as sustainable, livable communities for future residents.	a. Is a substantial part of the project located within a core community? b. Does the project promote population and employment stability or growth within a core community? c. Does the project support the sustainability of local businesses and commerce? d. Would implementation of the project support context sensitive redevelopment opportunities in a core community?
Maintain a Sense of Place & Quality of Experience	Highlight special areas and features of Adams County and transportation improvements necessary to sustain them for the future.	a. Is the project "context-sensitive" in terms of complementing local character and traditional aesthetics without unduly restricting potential future transportation improvements? b. Does the project provide safety benefits for residents and visitors in core communities from both a motorized and non-motorized transportation perspective? c. Would implementation of the project improve mobility and access for motorized and non-motorized transport within a core community?
Public Health and Safety	Acknowledge importance of non-motorized transportation for health and environment.	a. Does the project support more efficient travel and reductions in emissions? b. Does the project promote walkability and/or provide pedestrian and bicycle amenities to encourage healthy lifestyles? c. Does the project reduce levels of air emissions, noise, vibration and psychological stressors that adversely affect the quality of core communities?
Community Mobility	Need for integrated transportation choices to increase system performance and as competitive advantage.	a. Could the project be designed to integrate intermodal connections with other non-highway transportation facilities and services? b. Does the project provide new or improved linkages between core communities or between existing/planned neighborhoods or communities? c. Does the project provide improved transport or connections to workforce locations (either intracounty or intercounty)?
Flexibility for the Future	Visualize future and emphasize context-sensitive improvements.	a. Is the project consistent with and supportive of associated major planning initiatives at the local, county or state level? b. Is the location and potential influence of the project consistent with future land use plans of Adams County and adjacent communities? c. Has the scope of the project considered other related actions which may be required in the future and are directly/indirectly related to the proposed improvement?
Economic Vitality	Considered the importance of transportation to the local economy, especially to the tourism and agricultural sectors, and has identified key transportation considerations for future economic and employment development.	a. Does the project provide benefits for sustaining the tourism or agricultural industry in Adams County? b. Does the project improve the transport of goods through the county without adverse community effects? c. Does the project support a specific county or municipal economic development initiative?
Safety	Identified local safety issues and concerns based on available roadway crash data and citizen input through the public involvement process.	a. Does the project address a priority roadway, bridge or non-motorized safety deficiency? b. Would implementation of the project reduce the number or severity of crashes? c. Does the project improve an existing design or operational deficiency which contributes to safety concerns?

Table 31: Candidate Project Evaluation Framework

Planning Factor	Plan Integration	Evaluation Framework Considerations
System Accessibility & Mobility	Identified existing and projected demand for improved operation and access between transportation modes and the need for alternative transportation options based on the changing demographics of the county.	a. Does the project enhance travel efficiency or provide additional travel choices for environmental justice, elderly, or disabled populations? b. Does the project enhance travel efficiency or provide additional travel choices to tourism venues? c. Does the project provide improved regional (intercounty) connectivity?
Protect & Enhance the Environment	Consideration of protection of important water resources, reduction in air pollution, conservation of historic and scenic resource and view sheds, and the social fabric of communities.	a. Can the project be designed to reduce direct and indirect impacts on important cultural resources and landscapes? b. How well does the project avoid and minimize adverse effects on important ecological resources? c. How well does the project avoid and minimize adverse effects to individual agricultural operations?
Integration and Connectivity	Identified key gaps in the existing transportation system which hinder connectivity between transport modes within the county and to external regions.	Combined with Community Factor – Community Mobility
Efficient System Management & Operation	Used up to date and reliable data and technology to identify management needs.	a. What roadway type is improved by the project? b. Does the project provide capacity or operational improvements to a priority congested corridor?
System Preservation	Inventories and assesses existing modal conditions and highlights areas for potential maintenance and improvement.	a. Does the project address priority roadway maintenance issue (IRI score)? b. Does the project address a priority deficient bridge? (sufficiency rating) c. Does the project address a roadway which is an important truck route or segment? (Truck AADT %)
Security	Identifies potential security issues related to the transportation system of Adams County through an analysis of the general risk factors involved and geographic proximity to resources of concern.	a. Does the project enhance regional evacuation or strategic highway networks for military/security operations? b. Does the project enhance local or regional options for detours (construction or emergency events) by improving directional redundancy? c. Does the project improve response time or access for emergency services?

B. Linking Planning and NEPA

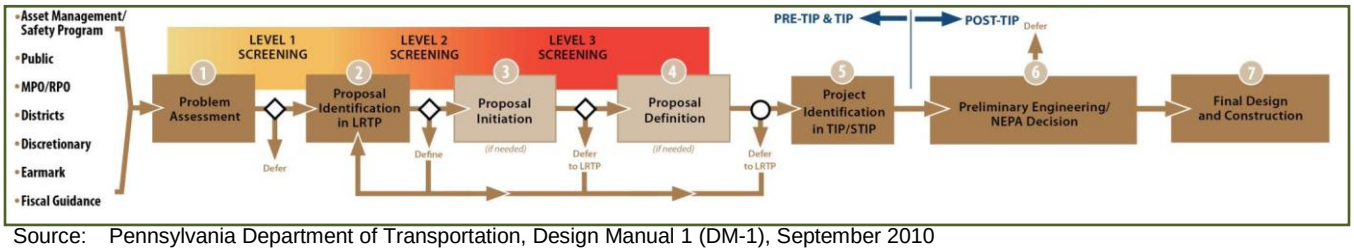
In addition to the selection framework and scoring system outlined above, MPO's and RPO's statewide have worked closely with PennDOT to streamline the transportation program development and project delivery process through an effort known as Linking Planning and NEPA. NEPA is an acronym for the National Environmental Policy Act, which requires an evaluation and consideration of the environmental effects of proposed actions prior to the commitment of Federal funds or regulatory approvals. The primary objectives of the Linking Planning and NEPA process are:

- Focus resources on the most appropriate transportation needs.
- Promote early public participation and public involvement.
- Develop more accurate project scopes.
- Improve cost estimating for potential projects.

- Increase accuracy in project scheduling.
- Improve predictability of project delivery.
- Accurately reflect national, state, and local goals in the project selection process.
- Enhance communication, coordination and cooperation between Penn DOT, MPOs/RPOs, and resource agencies.

To implement this effort, a seven-step process was established to assist MPO/RPO staff, PennDOT and members of the public through the problem identification, data collection and project review stages prior to inclusion on the LRTP or TIP (Figure 6). Efforts are also underway to automate the initial project submission and data collection efforts. However, as with the evaluation frame and scoring system described above, the information collected through this Linking Planning and NEPA process should be use as an input to the decision making process. The final decision to add a project to the LRTP and/or TIP should be driven by a thorough review of all available data.

FIGURE 6: PennDOT Transportation Program Development and Project Delivery Process



Source: Pennsylvania Department of Transportation, Design Manual 1 (DM-1), September 2010

C. Public Involvement Plan

Public involvement ensures that the general public, communities, businesses and various interest groups most affected by the LRTP and the TIP have the opportunity to provide input at all steps of the planning process. Community participation and "buy-in" are critical to building long-term support for maintaining Adams County's transportation system.

Several sources are used to notify the public of potential actions involving ACTPO meetings and the LRTP and TIP. These include:

- Placing meeting notices in the Gettysburg Times.
- Sending press releases to newspapers, radio and television stations of local circulation.
- Posting meeting times, dates and locations on the Adams County website.
- Distributing meeting times, dates and locations by email to municipal officials and other interested parties.

Additionally, compliance with Title VI of the Civil Rights Act of 1964 and Executive Order 12898 of 1994 on Environmental Justice must be taken into consideration. Title VI states, "*No person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.*" Executive Order 12898 mandates that recipients of federal funding make achieving environmental justice part of their mission by identifying as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority

populations and low income populations. To comply with these regulations, demographic data is analyzed regularly to identify areas of Adams County with concentrations of environmental justice populations. Further, information on LRTP and TIP updates are regularly shared with local social service organizations whose constituents could be members of these environmental justice populations. Finally, six Native American Tribes and Nations were identified as having potential environmental justice concerns in Adams County. These Tribes and Nations now receive the same updates as the local social service organizations.

Page intentionally left blank.

APPENDIX A
Detailed Goals and Objectives

A. Community Factors

A key part of any planning process is the identification of goals and objectives, policies, and projects and the requisite implementation measures to put these ideas into action. However, before doing so it is important to establish the key overall community planning elements that the more specific goals and objectives, policies, projects and implementation measures should be derived from. In addition to adhering to accepted planning principles and techniques, contemporary transportation planning principles such as Smart Transportation, "rightsizing", and context sensitive design must be considered, along with Smart Growth and other land use planning principles. This planning process seeks to merge these planning ideas with conventional transportation planning methods to create a plan that can accommodate both short-term opportunities and constraints and long-term county development and infrastructure needs. It must also be recognized that it is more appropriate for comprehensive plans to envision full solutions to potential future problems. Consequently, five community-wide key planning elements have been identified for Adams County.

(1). Community Factor #1 - Revitalize Core Communities

Adams County contains a number of rural boroughs and villages that have high historic and architectural values. In addition to providing a diverse array of housing options, these areas serve as community focal points for commerce, employment, personal services, and entertainment needs. Many of these communities are also confronting major strategic changes. Retail has moved from general household purchasing to specialty shops. Some manufacturing uses no longer exist. While boroughs and villages provide housing options for older and disabled persons, it is also crucial that they remain attractive for younger people as a place of residence. Keeping the core areas of these boroughs and villages as inviting, sustainable places to live, work and do business is a fundamental principle of this plan.

However, continuing reliance upon the transportation network in Adams County creates significant challenges for these core areas. The presence of major east-west and north-south roadways, such as US Route 30, PA Route 234, US Route 15, and PA Route 94, as well as a classic "spokes on a wheel" pattern centering upon Gettysburg generates large pass-through volumes of truck and other vehicular traffic that has little choice but to pass through these core communities. Increasing traffic volumes, and in particular truck traffic, produces unacceptable noise and emissions that diminish the attractiveness and willingness of people to reside in, visit, or use these communities. Future investment strategies should focus on policies and network improvements that encourage the revitalization of these core communities as places to live, work, shop and visit rather than on maximizing the number of vehicular movements passing through these areas.

Integration: The plan has identified several transportation projects which would serve to promote the core communities of Adams County as attractive, livable communities for residents and visitors. Additionally, consideration of core communities and transportation network improvements has been integrated as a key consideration in the prioritization evaluation process for future funding commitments.

Action:

- Adams County should continue to promote the sustainability of its core communities in through targeted prioritization of county funding and services to meet the needs of these communities.

- Adams County and county municipalities should increase their commitment to integrate respective planning and growth management efforts to further focus future investment, growth and redevelopment to core communities.

(2). Community Factor #2 - Maintain a Sense of Place and Quality of Experience

While there has been some standardization of development at some entrances to Adams County boroughs, the 19th century pattern of small towns located along historic roads and separated by farmland and open space still defines Adams County. History and historical events play a large part in how both residents and visitors view Adams County. The presence of internationally significant historical sites (Gettysburg National Military Park, Eisenhower Farm National Historic Site, historical events (Battle of Gettysburg, Gettysburg Address) and nationally significant historical areas (Fruitbelt, Lincoln Highway Heritage Corridor) produces a very high sense of local pride and fosters a high sense of civic responsibility to maintain Adams County as a place of high quality to ensure that its special sense of place is not lost for visitors and that the quality of their visit and experiences around the county are preserved. While it is important to ensure that these scenic and historic values are sustained through proper architectural, landscaping and other visual standards, it is equally important to make certain that the transportation network does not diminish these values and experiences as well. Decisions on enhancements to the transportation network must be done with a focus on preserving a high quality of experience for visitor and residents rather than only on temporary fiscal constraints.

Integration: Providing positive environments and effective infrastructure is a key consideration in preserving and promoting communities as aesthetically pleasing and economically robust areas in which to live, visit and recreate. Adams County is fortunate to have many communities which draw people seeking to experience a traditional sense of place and special experience that is increasingly absent in our rapidly changing society. This plan has attempted to highlight these areas, identify key transportation issues which need to be addressed to improve these communities, and set in place policies which target county investment to help sustain them for future generations.

Action:

- Adams County, in association with other non-governmental organizations, should develop a united effort to promote and secure key funding at the local, state and national level, to address transportation issues which are vital to maintaining sense of place and quality in core communities. These improvements should focus on alternative routing of through-traffic which is adversely affecting core communities (such as Abbottstown, New Oxford, McSherrystown, and Gettysburg) and consider long-range viability.
- ACTPO, with ACPC and local communities, should encourage local municipalities to develop transportation enhancement efforts such as improved signage, lighting, landscaping, and non-motorized transportation facilities (sidewalks, bicycle paths, trails, etc.) and seek to prioritize funding and implementation of these projects to improve community sense of place in core areas, with appropriate consideration of other transportation needs in the county.

(3). Community Factor #3 - Public Health

Increasingly, residents and visitors are becoming more conscious of the effects that environmental and community design attributes have on health and fitness. Bicycle and pedestrian improvements have been sought and alternative modes of transportation including public transit and ridesharing/carpooling have grown in popularity. The public is becoming cognizant of increasing noise levels and decreasing air

quality in core community areas due to increased traffic volumes and especially increased truck traffic. Improvements to the transportation system addressing such issues in unconventional or not previously conceived manners should not be dismissed without careful evaluation.

Integration: Promotion of non-motorized transportation provides numerous mobility improvements for both motorized and non-motorized travelers and can also measurably improve public health through facilitation of more convenient and safe walking and bicycling opportunities and a reduction in emissions, noise and vibration from motorized transport through communities. These benefits are available to all citizens, both young and old, providing an important contribution to physical and mental well-being. In coordination with other county initiatives such as the Adams County Greenways Plan, the transportation plan has identified numerous improvements which contribute to public health, provide transportation benefits, and improve the character and quality of our communities.

Action:

- Through coordination with other planning initiatives, Adams County should develop a prioritized list of non-motorized transportation improvements and seek local funding mechanisms for implementation.
- Adams County should revisit the existing Green Space Grant Program to expand the list of eligible projects and funding focus beyond land acquisition to include those which provide multiple direct benefits for core communities, the transportation network, and citizens in general through specific paths, trails and related amenities. These types of improvements can also provide for increased protection of green infrastructure components within our built environments, such as floodplains, stream corridors, and urban wildlife habitat, which relate to public and community health.

(4). Community Factor #4 - Mobility

As advances in technology have increasingly allowed people to live further from their employer, the toll on the transportation network has increased. Further, changes in the workforce have created new stresses on the transportation system. It is not uncommon for people to choose housing which is somewhat equidistant from jobs held by family members, including, increasingly adult children. With a workforce that is becoming more and more spread out, employment centers have followed. This has led to longer commutes, more congested roads, and increased vehicle emissions. These problems have been exacerbated by a heavy reliance on the automobile and lack of adequate investment in alternate transportation options such as public transit, rail service and ridesharing/carpooling/vanpooling. Sustainable future transit connections that serve both the residential and employment sectors are important components for a community to stay connected to adjacent employment areas and metropolitan centers. Finally, it is important to note that the United States as a whole, and Pennsylvania in particular, will experience a rapid and extensive increase in the number of elderly citizens during the next 10 to 20 years. Many of these people will need access to alternative transportation options. Safety, in terms of carefully designed roads, lighting, and appropriate signage will also be essential.

Integration: Improved and increased mobility is a common theme highlighted throughout the development of this plan. Roadway, transit and non-motorized mobility improvements have been identified as key improvements necessary to keep Adams County competitive as a place for families, business, and tourism.

Action:

- Adams County should strive to maintain an efficient multi-modal transportation system which accommodates the mobility of local residents while serving the diverse needs of business and industry, including tourism and agriculture, within the county.
- Adams County should continue and expand education to local governments in integrating transportation factors into land use planning and growth management initiatives.

(5). Community Factor #5 - Flexibility for the Future

Effecting change, whether small or large, to the transportation network is a slow process requiring continuous attention. Developing a project of any significant size can take five, ten or even twenty years from kick-off until the first shovel is turned. Efforts to reduce that lead time should be evaluated and implemented. However, the planning process for this study, and others, must be conducted with an eye on creating a plan with enough flexibility to accommodate demographic, technological, financial and political trends that are certain to challenge commuters. Put another way, given the rapid rate of change that is confronting society, it is better to anticipate change and accommodate it than to "size" all concepts and ideas to meet current designs or constraints. A quick review of changes to the transportation network in the United States throughout history makes it clear that to assume current philosophical, financial or technological inclinations will continue ad infinitum is the best way to be left behind and unprepared for the future, something all plans, including this one, should strive to overcome. For example, what impacts would a shift from a nation economic structure based on bulk consumption of imported products to one based on less consumption and/ or more domestic manufacturing have on trucking routes and volumes. Short term circumstances should not be given precedent over appropriate long-term planning efforts.

Integration: The plan addresses transportation improvements and maintenance activities, prioritization concerning planning factors, and timing and funding issues.

Action:

- Adams County should use, and continue to update, a project evaluation process which considers multiple factors and transportation needs in establishing prioritization of future improvements.
- Opportunities for increased integration of county and municipal planning regarding transportation and land use linkages should be identified and capitalized. A process for planning of projects which involve multiple municipalities should be developed and piloted to provide for long-range consideration of transportation and land use dynamics.

B. Federal Planning Factors

Current federal transportation law also provides an important framework for transportation planning in Adams County. Over the past several decades, federal transportation planning policy has placed greater emphasis on transportation plans that satisfy key planning issues relative to transportation's role within the community and region, focusing on economic development/trade, quality of life, congestion reduction and other key concerns at a national level. As part of that emphasis, seven federal planning factors have been identified to guide the development of long range transportation plans. Each planning factor relates to areas of importance across the breadth of national, state and local transportation concerns.

Adams County endorses the importance of the federal planning factors and has incorporated them into development of this plan. For each factor, issues and concerns have been identified and considered and a series of action items have been identified for future transportation-related initiatives and endeavors.

(1). Federal Factor #1 – Economic Vitality

Transportation planning for Adams County must support the economic vitality of the area and region by enabling global competitiveness, productivity, and efficiency.

Integration: The plan has considered the importance of transportation to the local economy, especially to the tourism and agricultural sectors, and has identified key transportation considerations for future economic and employment development.

Action:

- ACTPO should continue to plan for economically-beneficial transportation projects through its Transportation Improvement Program (TIP) and actively pursue available funding through interaction with the State Transportation Commission and PennDOT.
- Adams County and ACTPO should continue to support and participate in local and regional transportation initiatives, such as the Regional Goods Movement Study.
- Adams County and the Adams County Transit Authority should pursue additional opportunities to provide strategic transportation services for worker travel, including park and ride facilities and additional connections to surrounding transit systems. The county should also support telecommuting programs and the development of needed communications infrastructure to reduce local peak-period travel demand and expand employment opportunities for local citizens. The county should also support the development of bicycle and pedestrian connections to promote the use of alternate transportation modes.
- Adams County and the Adams County Transit Authority should pursue connections with nearby transit systems such as Frederick, Harrisburg, and York, to enhance tourism visitor access to the Gettysburg area. Special emphasis should be placed on making connections to Amtrak's "Keystone Service" rail station as well as commuter rail and metro service in Maryland.
- In addition to providing emergency response helicopter service, Adams County should seek opportunities to preserve the Gettysburg Airport as a vital air transportation facility to help sustain and expand Adams County as an important location for conferences, conventions, and meetings of statewide and national importance, and to provide business-customer linkages for existing and future employer's located in Adams County.
- Adams County should work with county and regional tourism organizations in south central Pennsylvania in establishing a tourism destination loop connecting Gettysburg, York, Lancaster, Hershey and Harrisburg by multiple transportation modes, including vehicular, bicycle, and regularly scheduled public transportation.
- Adams County, with the involvement and participation of the Gettysburg Convention and Visitors Bureau, the Gettysburg-Adams Chamber of Commerce, and other applicable stakeholders, should pursue an in-depth study of the heritage tourism industry to determine the "carrying capacity" of the county related to the necessary services, infrastructure, and support mechanisms to accommodate increased tourism while balancing the quality of life needs of its communities and citizens.

(2). Federal Factor #2 - Safety

Transportation planning for Adams County must seek to increase the safety of the transportation system for motorized and non-motorized users.

Integration: The plan has identified local safety issues and concerns based on available roadway crash data and citizen input through the public involvement process.

Action:

- Adams County and ACTPO should ensure that existing components of the transportation system are maintained and rehabilitated as necessary (before a safety problem arises).
- Efforts shall be made to remover "intrusions" such as large rocks, tree growth, or inappropriately located poles within rights-of-way.
- Adams County and ACTPO should strive to support and promote the development of expanded transport and recreational opportunities for pedestrians and non-motorized transport through the development of sidewalks, parks, trails and greenways which link important community destinations. On-road improvements (shoulder improvements, dedicated lanes, etc.) should include proper signage and marking to promote safety for motorized and non-motorized vehicles.
- Adams County and ACTPO, in cooperation with local municipalities, should strive to identify private funding opportunities and promote the implementation of local funding mechanisms to address local safety issues.
- Adams County and ACTPO should strive to minimize truck traffic and maximize pedestrian safety in town and village centers. Dedicated crosswalks, crossing signals, lighting, and yield signage should be promoted at key pedestrian crossings within borough and other urbanized settings.
- Adams County, through the County Emergency Services Department and volunteer service provider organizations, should seek opportunities to fund additional equipment acquisition, training opportunities, and improved communication standards to advance the ability of professional and volunteer emergency services to provide timely and safe response.
- In cooperation with Adams County, local municipalities should address pedestrian connections and safety through an analysis of system deficiencies and the identification of necessary improvements and available funding sources.
- To ensure long range availability of emergency response helicopter service, Adams County should seek opportunities to preserve the Gettysburg Airport as a vital air transportation facility.
- Adams County should seek to improve driver education for young drivers by working with local school districts to develop and fund curricula and training services. The county should also expand its support for older driver safety programs currently being facilitated by the Adams County Office of Aging.

(3). Federal Factor #3 – Accessibility and Mobility

The Adams County transportation system should be one that is balanced and coordinated with regard to serving the diverse transportation needs of county citizens, businesses and visitors while providing convenient and safe choices. Transportation planning activities should focus on implementation of new or enhanced transportation services or infrastructure to provide for efficient access and operations between modes. Additionally, integration of transportation modes can help improve the movement of goods within the county and help to alleviate conflicting travel demands on the county's roadway network. Finally, efforts should be taken to ensure that employers and citizens can reach work locations

conveniently and efficiently using alternative transportation modes, including transit services, carpooling/vanpooling, bicycle/pedestrian options, and transit services.

Integration: The plan has identified both existing and projected future demand for improved operation and access between transportation modes and the need for alternative transportation options based on the changing demographics of the county. Potential environmental justice and disabled segments of the community have also been broadly identified to inform detailed planning activities.

Action:

- Adams County should continue to be sensitive to and assess environmental justice issues and concerns of minority and low-income populations, in accordance with federal and state guidelines, to ensure the transportation system is developed, operated and maintained in a manner which does not disproportionately impact those individuals and communities.
- Adams County should strive to develop a transportation system which addresses the accessibility and mobility needs of disabled citizens.
- Adams County should strive to develop a transportation system which provides access for visitors to and from tourism venues in Adams County.
- Based on the results of future scenario modeling, Adams County should initiate planning for needed system improvements to alleviate identified future system congestion.
- Using results of this study and similar efforts, Adams County should investigate opportunities for reducing delay caused by conflicts between passenger and freight movements.

(4). Federal Factor #4 – Protect and Enhance the Environment

An efficient transportation system must be planned, constructed and operated without significant impacts upon our natural, cultural and community environments. Protection of important water resources, reduction in air pollution, conservation of historic and scenic resource and view sheds, and the social fabric of our communities must be important considerations in Adams County transportation planning initiatives. These considerations should influence decision-making throughout the transportation development process, including the determination of the need, location, and scope of planned transportation improvements.

Integration: Lessons learned from the stakeholder and public involvement process has identified a number of conflicts between the transportation system and environmental and community resources.

Action:

- Adams County should implement an environmental screening and analysis process using available data and information from federal, state and county agencies to assess potential impacts associated with priority projects identified for inclusion on the county TIP. The county should coordinate with PennDOT and their "Linking Planning and NEPA" and other streamlining initiatives to establish a process which can streamline project planning at the local level and project development at the state level.
- The ACOPD, working in conjunction with the Adams County Conservation District and the county GIS department should continue to update and expand the county environment database and identify to more effectively incorporate GIS analysis in planning efforts and support to local municipalities.

- Through current and future planning processes, Adams County should document the values and importance of special ecological, natural, community and cultural resources and develop a priority measure to inform and educate the project development and National Environmental Policy Act processes in developing transportation alternatives, alignments, and mitigation strategies.
- Promote the preservation of the historic "spokes on wheel" settlement pattern as an important future part of Adams County's cultural heritage environment for historic preservation and interpretation of historic events that are important to visitors.
- Through education and planning and funding opportunities, Adams County should promote the use of transit, carpooling, vanpooling and other shared ride services and bicycle and pedestrian facilities to reduce local gasoline demand and provide positive influences on local air quality.

(5). Federal Factor #5 – Enhance Integration and Connectivity

Transportation planning activities and implementation of new or enhanced transportation services or infrastructure must promote the availability of alternative travel and transport mode options and provide key linkages between modes to fill transport system gaps.

Integration: This study has identified key gaps in the existing transportation system which hinder connectivity between transport modes internal to communities, connections between neighboring communities, and external connections to regional centers outside of Adams County.

Action:

- Adams County should continue to work with the Adams County Transit Authority and other regional transit service providers to develop strategic transit links with employment and service centers in Harrisburg, York and Frederick.
- Adams County should become active with the Susquehanna Regional Transportation Partnership and their Commuter Services of South Central Pennsylvania Program, with the mission to reduce congestion by encouraging alternatives to single occupancy commuting.
- Adams County, in cooperation with PennDOT and the Federal Aviation Administration, should actively pursue preservation of the Gettysburg Airport as a vital component of the county and regional transportation system.
- Based on strategies of the Adams County Greenways Plan, the county should work with the York Rail Trail Authority and other multi-regional efforts to establish links with existing and future non-motorized trails.
- Adams County should continue to encourage and assist rail entities in Adams County to tap PennDOT's Rail Freight Assistance Program (RFAP) for rail improvement projects to further encourage use of freight transport via rail.
- Adams County should identify potential roadway, pedestrian, and trail connections between existing developments and communities. The county should also work with municipalities to encourage mandatory establishment of applicable trail/path facilities which link to the local and/or countrywide network as part of the approval process for future development.
- Through its plan review process, Adams County should encourage newly proposed development to be connected into adjoining developments or parcels which could be developed in the future.
- Adams County should encourage the preservation of rights-of-way for future road alignments.

(6). Federal Factor #6 – Efficient System Management and Operation

To continually manage the transportation system for current and future demands, the planning process needs accurate, up to date and reliable data, access to the latest technology, and timely review and update of policies. As demand on the system increases in Adams County over the next decades, the county must have the necessary skills and information available to identify and respond to system needs.

Integration: Use of existing data has been the foundation of the development of this plan. This effort will help to provide a framework for future data development.

Action:

- Adams County should continue to work with PennDOT, ACTPO, and regional transportation planning partners in acquiring and sharing system performance data and evaluations.
- Adams County and its municipalities must work with PennDOT to improve communication procedures and tools between these entities, especially related to congestion management, emergency routing, and maintenance and protection of traffic and detours during construction and maintenance operations.
- Adams County should continue to work with PennDOT, local municipalities and interested private sector organizations to develop and implement intelligent transportation systems (ITS) features to increase the efficiency and capability of the existing system to meet current and future demand.
- Adams County and its municipalities should work together to share resources and offer joint educational opportunities.

(7). Federal Factor #7 – System Preservation

The preservation of the existing transportation system should continue to be supported through the development of the county transportation improvement program. Recognizing that limited resources are available, preservation through repair and rehabilitation of existing system infrastructure should continue as a major focus of transportation planning and prioritized needs. Along with safety issues, preventive maintenance strategies should continue as a high priority in the prioritization of needed transportation infrastructure improvements.

Integration: The plan supplies an inventory and assessment of existing modal conditions and highlights areas for potential improvement.

Action:

- ACTPO should continue to provide input to PennDOT on county maintenance and betterment needs.
- ACTPO should promote the maintenance of existing facilities, especially where reuse or rehabilitation at appropriate intervals provides a more efficient expenditure of transportation dollars than full reconstruction or renovation.
- ACTPO should promote targeted new capacity and system linkages where growth, system deficiencies, and/or special community needs dictate such improvements.
- Adams County should investigate the potential for implementation of a right-of-way/land preservation program, in coordination with county and local comprehensive planning efforts, to preserve alternative corridors for potential long-range transportation needs.

(8). Federal Factor #8 - Security

Since September 11, 2001, security issues related to our transportation system have been a revitalized area of concern. Security issues include potential direct physical attacks on portions or modes of the transportation system, the ability of the system to accommodate demands imposed by the disruption of a major linkage or mode, and the potential use of the transportation system in contributing to the vulnerability of other vital infrastructure, security installations, or other special targets. Sources of these issues could include acts of terrorism, natural disasters, and the unpredicted failure of system components. In Adams County, acknowledgement and consideration of each of these issues is necessary due to a unique mix of potential security targets, geographic proximity to major federal installations, and special "intrinsic" landmarks which represent common and shared cultural and historic bonds.

Integration: The plan identifies potential security issues related to the transportation system of Adams County through an analysis of the general risk factors involved and geographic proximity to resources of concern.

Action:

- Adams County should broaden its interaction and support with volunteer emergency services in the county to address issues related to emergency detours, funding of specialized shared/centralized equipment such as portable signs, and assistance in recruitment and retention of volunteers.
- ACOPD should develop a more formal working relationship with the Adams County Office of Emergency Services to assist in development of emergency/evacuation plans and hazard mitigation plans.

APPENDIX B
Detailed Cost and Future Funding Projections

Scenarios	Current SD Bridges	Bridges at Risk of SD Rating	Bridge Preservation	Current SD Local Bridges	Local Bridges at Risk of SD Rating	Local Bridge Preservation	NHS Roads	State Roads >2000 ADT	State Roads <2000 ADT	Projected Future Maintenance Costs
Base	$120,571,500	$135,912,150	$60,352,650	$8,636,160	$14,714,040	$4,564,875	$100,333,333	$113,125,000	$95,625,000	**$653,834,708**
Base + 5%	$452,982,303	$510,616,511	$224,342,871	$16,488,157	$28,092,045	$8,717,085	$376,941,085	$424,997,946	$359,252,537	**$2,402,430,539**
Base + 10%	$474,337,927	$534,689,271	$237,379,043	$33,972,063	$57,880,619	$17,967,348	$394,699,534	$445,020,437	$376,177,612	**$2,572,123,854**

Scenarios	Current SD Bridges	Bridges at Risk of SD Rating	Bridge Preservation	Current SD Bridges	Local Bridges at Risk of SD Rating	Bridge Preservation	NHS Roads	State Road >2000 ADT	State Roads <2000 ADT	Projected Future Maintenance Costs
Base	$4,822,860	$5,436,486	$2,414,106	$345,446	$588,562	$182,595	$4,013,333	$4,525,000	$3,825,000	**$26,153,388**
Base + 5%	$18,119,292	$20,424,660	$8,973,715	$659,526	$1,123,682	$348,683	$15,077,643	$16,999,918	$14,370,101	**$96,097,222**
Base + 10%	$18,973,517	$21,387,571	$9,495,162	$1,358,883	$2,315,225	$718,694	$15,787,981	$17,800,817	$15,047,104	**$102,884,954**

Adams County Long Range Transportation Plan
Projected Future Network Costs
State Bridges (in 2010 $)

Year	SD Bridge Repair ($ per sf)	Current SD Bridge Repair Costs	Potential Future SD Bridge Repair Costs	Total SD Bridge Repair Costs	Bridge Preservation ($ per sf)	Total Bridge Preservation Costs
2011	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2012	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2013	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2014	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2015	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2016	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2017	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2018	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2019	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2020	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2021	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2022	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2023	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2024	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2005	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2026	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2027	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2028	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2029	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2030	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2031	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2032	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2033	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2034	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2035	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
Totals		**$120,571,500**	**$135,912,150**	**$256,483,650**		**$60,352,650**

Total Bridge Deck Area - 603,527
2010 SD Bridge Deck Area - 160,762
Future SD Bridge Deck Area - 181,216

Note: Bridge Preservation program would address 4% of total deck area every year.

Adams County Long Range Transportation Plan
Projected Future Network Costs
Local Bridges (in 2010 $)

Year	SD Bridge Repair ($ per sf)	Current SD Bridge Repair Costs	Potential Future SD Bridge Repair Costs	Total SD Bridge Repair Costs	Bridge Preservation ($ per sf)	Total Bridge Preservation Costs
2011	$400	$345,446	$588,562	$934,008	$50	$182,595
2012	$400	$345,446	$588,562	$934,008	$50	$182,595
2013	$400	$345,446	$588,562	$934,008	$50	$182,595
2014	$400	$345,446	$588,562	$934,008	$50	$182,595
2015	$400	$345,446	$588,562	$934,008	$50	$182,595
2016	$400	$345,446	$588,562	$934,008	$50	$182,595
2017	$400	$345,446	$588,562	$934,008	$50	$182,595
2018	$400	$345,446	$588,562	$934,008	$50	$182,595
2019	$400	$345,446	$588,562	$934,008	$50	$182,595
2020	$400	$345,446	$588,562	$934,008	$50	$182,595
2021	$400	$345,446	$588,562	$934,008	$50	$182,595
2022	$400	$345,446	$588,562	$934,008	$50	$182,595
2023	$400	$345,446	$588,562	$934,008	$50	$182,595
2024	$400	$345,446	$588,562	$934,008	$50	$182,595
2005	$400	$345,446	$588,562	$934,008	$50	$182,595
2026	$400	$345,446	$588,562	$934,008	$50	$182,595
2027	$400	$345,446	$588,562	$934,008	$50	$182,595
2028	$400	$345,446	$588,562	$934,008	$50	$182,595
2029	$400	$345,446	$588,562	$934,008	$50	$182,595
2030	$400	$345,446	$588,562	$934,008	$50	$182,595
2031	$400	$345,446	$588,562	$934,008	$50	$182,595
2032	$400	$345,446	$588,562	$934,008	$50	$182,595
2033	$400	$345,446	$588,562	$934,008	$50	$182,595
2034	$400	$345,446	$588,562	$934,008	$50	$182,595
2035	$400	$345,446	$588,562	$934,008	$50	$182,595
Totals		**$8,636,160**	**$14,714,040**	**$23,350,200**		**$4,564,875**

Total Bridge Deck Area - 91,280
2010 SD Bridge Deck Area - 21,590
Future SD Bridge Deck Area - 36,785

Note: Bridge Preservation program would address 4% of total deck area every year.

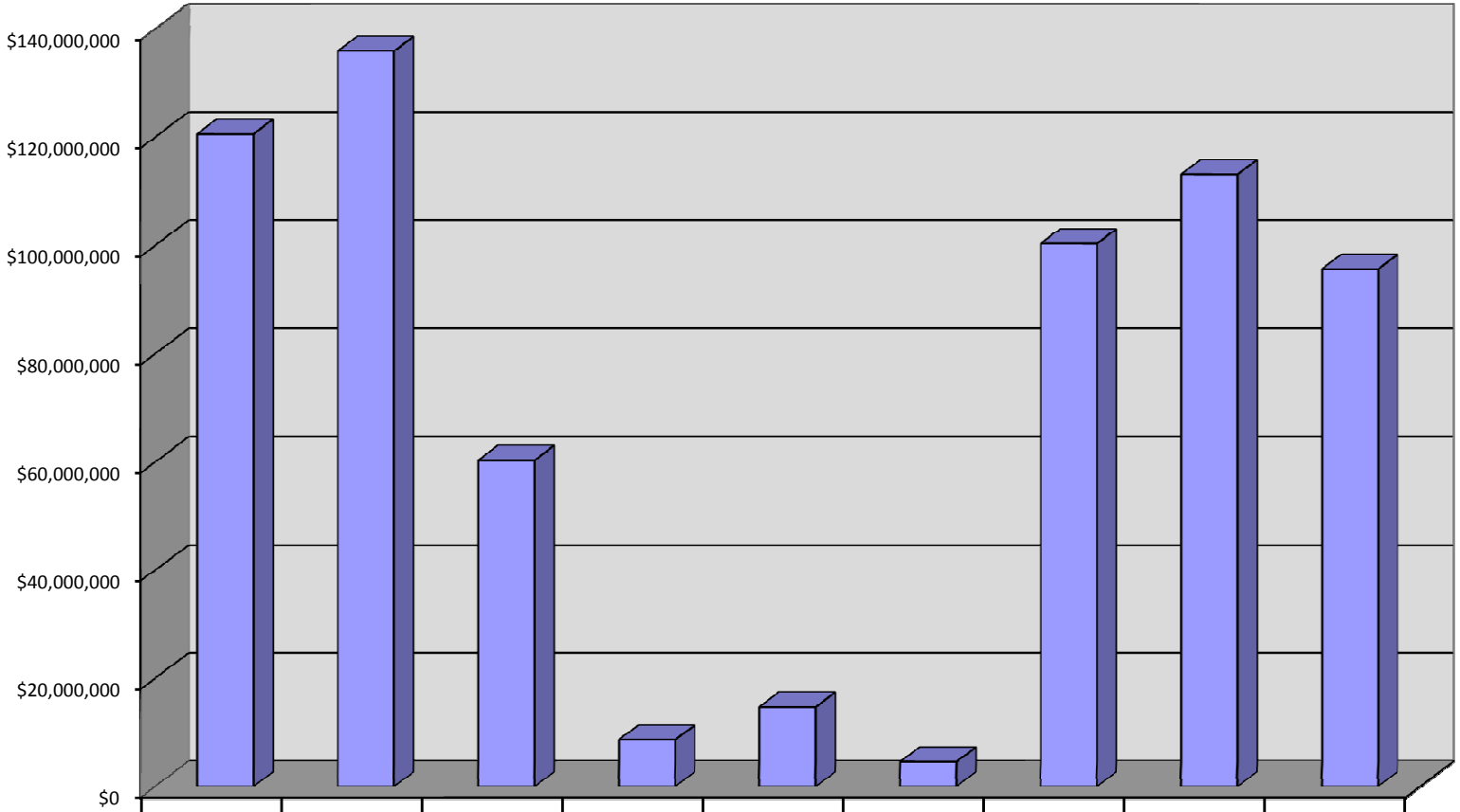
Adams County Long Range Transportation Plan
Projected Future Network Costs
State Roads (in 2010 $)

Year	NHS Roads ($ per mile)	Total NHS Road Costs	State Roads greater than 2000 ADT ($ per mile)	Total State Roads greater than 2000 ADT Costs	State Roads less than 2000 ADT ($ per mile)	Total State Roads less than 2000 ADT Costs
2011	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2012	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2013	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2014	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2015	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2016	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2017	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2018	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2019	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2020	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2021	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2022	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2023	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2024	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2005	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2026	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2027	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2028	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2029	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2030	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2031	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2032	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2033	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2034	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2035	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
Totals		**$100,333,333**		**$113,125,000**		**$95,625,000**

Notes:

1) NHS Roads addressed on a 15 year cycle.
2) State Roads >2000 ADT addressed on a 15 year cycle.
3) State Roads <2000 ADT addressed on a 10 year cycle.

Anticipated Future Maintenance Costs
(2010 Baseline)



	Current SD Bridges	Bridges at Risk of SD Rating	Bridge Preservation	Current SD Local Bridges	Local Bridges at Risk of SD Rating	Local Bridge Preservation	NHS Roads	State Roads >2000 ADT	State Roads <2000 ADT
Categories	$120,571,500	$135,912,150	$60,352,650	$8,636,160	$14,714,040	$4,564,875	$100,333,333	$113,125,000	$95,625,000

Total - $637,605,327

Adams County Long Range Transportation Plan
Projected Future Network Costs
State Bridges (5% annual increase)

Year	SD Bridge Repair ($ per sf)	Current SD Bridge Repair Costs	Potential Future SD Bridge Repair Costs	Total SD Bridge Repair Costs	Bridge Preservation ($ per sf)	Total Bridge Preservation Costs
2011	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2012	$788	$5,067,218	$5,711,935	$10,779,153	$105	$2,534,811
2013	$866	$5,568,796	$6,277,329	$11,846,125	$116	$2,800,363
2014	$953	$6,128,247	$6,907,962	$13,036,209	$127	$3,065,915
2015	$1,048	$6,739,143	$7,596,583	$14,335,726	$140	$3,379,748
2016	$1,153	$7,414,343	$8,357,691	$15,772,035	$153	$3,693,582
2017	$1,268	$8,153,849	$9,191,286	$17,345,134	$169	$4,079,839
2018	$1,395	$8,970,520	$10,111,864	$19,082,384	$186	$4,490,237
2019	$1,535	$9,870,787	$11,126,675	$20,997,461	$205	$4,948,917
2020	$1,688	$10,854,650	$12,235,718	$23,090,368	$225	$5,431,739
2021	$1,856	$11,934,971	$13,453,491	$25,388,462	$148	$3,572,877
2022	$2,042	$13,131,040	$14,801,739	$27,932,779	$272	$6,566,368
2023	$2,247	$14,449,289	$16,287,712	$30,737,001	$299	$7,218,177
2024	$2,471	$15,889,716	$17,911,409	$33,801,125	$330	$7,966,550
2005	$2,718	$17,478,045	$19,701,825	$37,179,870	$362	$8,739,064
2026	$2,990	$19,227,135	$21,673,458	$40,900,593	$399	$9,632,283
2027	$3,290	$21,156,279	$23,848,052	$45,004,331	$439	$10,597,925
2028	$3,618	$23,265,477	$26,225,608	$49,491,085	$482	$11,635,991
2029	$3,981	$25,599,741	$28,856,868	$54,456,609	$530	$12,794,762
2030	$4,379	$28,159,072	$31,741,830	$59,900,902	$584	$14,098,379
2031	$4,816	$30,969,192	$34,909,489	$65,878,680	$643	$15,522,702
2032	$5,301	$34,087,974	$38,425,083	$72,513,058	$707	$17,067,729
2033	$5,828	$37,476,837	$42,245,121	$79,721,958	$777	$18,757,604
2034	$6,410	$41,219,377	$46,463,834	$87,683,210	$855	$20,640,606
2035	$7,052	$45,347,745	$51,117,466	$96,465,211	$940	$22,692,596
Totals		**$452,982,303**	**$510,616,511**	**$963,598,814**		**$224,342,871**

Total Bridge Deck Area - 603,527
2010 SD Bridge Deck Area - 160,762
Future SD Bridge Deck Area - 181,216

Note: Bridge Preservation program would address 4% of total deck area every year.

Adams County Long Range Transportation Plan
Projected Future Network Costs
Local Bridges (5% annual increase)

Year	SD Bridge Repair ($ per sf)	Current SD Bridge Repair Costs	Potential Future SD Bridge Repair Costs	Total SD Bridge Repair Costs	Bridge Preservation ($ per sf)	Total Bridge Preservation Costs
2011	$400	$345,446	$588,562	$934,008	$50	$182,595
2012	$420	$362,719	$617,990	$980,708	$53	$193,551
2013	$441	$380,855	$648,889	$1,029,744	$55	$200,855
2014	$463	$399,854	$681,260	$1,081,114	$58	$211,810
2015	$486	$419,717	$715,102	$1,134,820	$61	$222,766
2016	$511	$441,308	$751,887	$1,193,195	$64	$233,722
2017	$536	$462,898	$788,673	$1,251,571	$67	$244,677
2018	$563	$486,216	$828,400	$1,314,616	$70	$255,633
2019	$591	$510,397	$869,600	$1,379,997	$74	$270,241
2020	$621	$536,306	$913,742	$1,450,047	$78	$284,848
2021	$652	$563,078	$959,355	$1,522,433	$81	$295,804
2022	$684	$590,713	$1,006,440	$1,597,154	$86	$314,063
2023	$718	$620,076	$1,056,468	$1,676,544	$90	$328,671
2024	$754	$651,166	$1,109,439	$1,760,605	$94	$343,279
2005	$792	$683,984	$1,165,352	$1,849,336	$99	$361,538
2026	$832	$718,529	$1,224,208	$1,942,737	$104	$379,798
2027	$873	$753,937	$1,284,536	$2,038,472	$109	$398,057
2028	$917	$791,936	$1,349,277	$2,141,213	$115	$419,969
2029	$963	$831,662	$1,416,962	$2,248,624	$120	$438,228
2030	$1,011	$873,116	$1,487,589	$2,360,705	$126	$460,139
2031	$1,061	$916,297	$1,561,160	$2,477,456	$133	$485,703
2032	$1,114	$962,068	$1,639,144	$2,601,212	$139	$507,614
2033	$1,170	$1,010,431	$1,721,543	$2,731,973	$146	$533,177
2034	$1,229	$1,061,384	$1,808,356	$2,869,740	$154	$562,393
2035	$1,290	$1,114,065	$1,898,111	$3,012,176	$161	$587,956
Totals		**$16,488,157**	**$28,092,045**	**$44,580,202**		**$8,717,085**

Total Bridge Deck Area - 91,280
2010 SD Bridge Deck Area - 21,590
Future SD Bridge Deck Area - 36,785

Note: Bridge Preservation program would address 4% of total deck area every year.

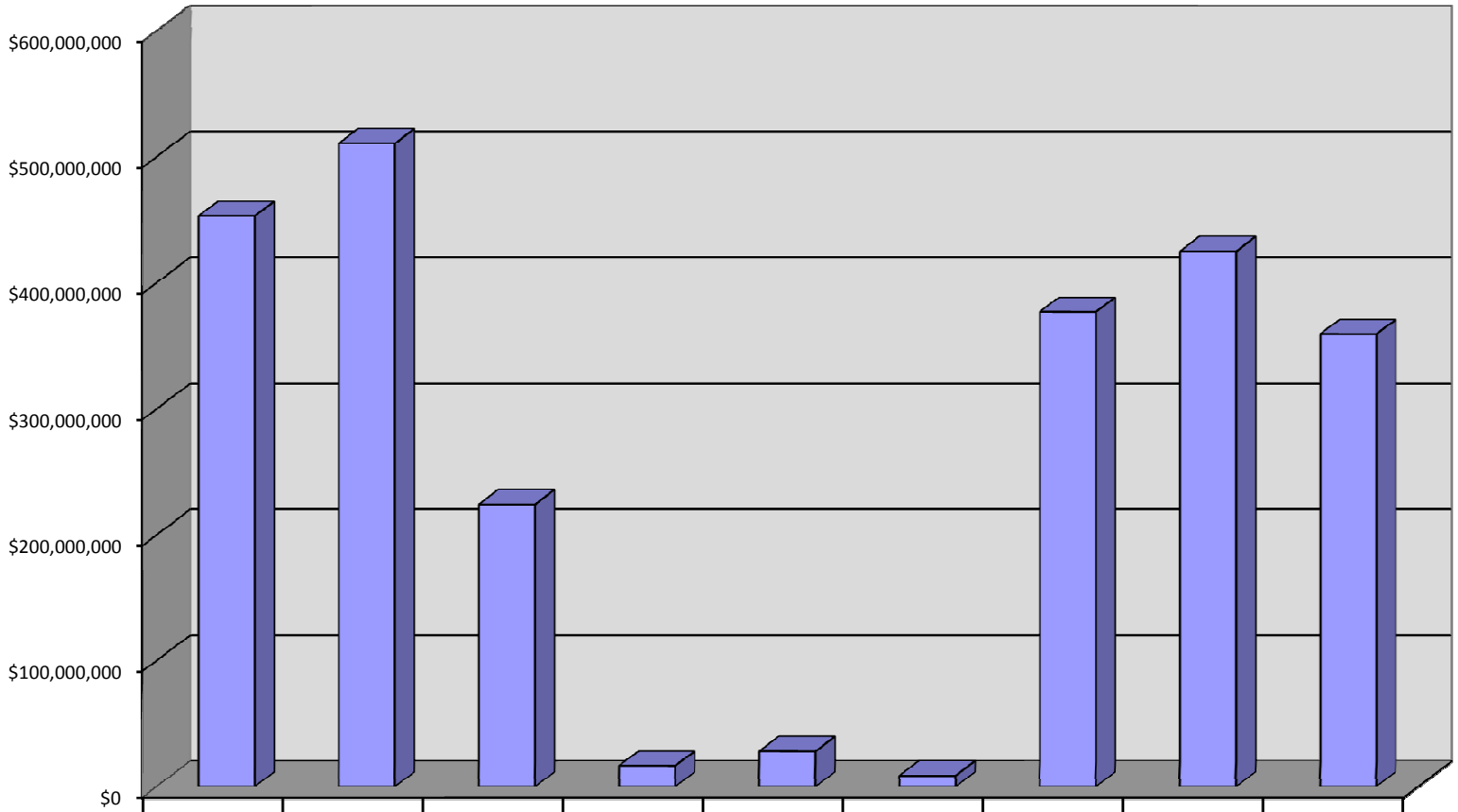
Adams County Long Range Transportation Plan
Projected Future Network Costs
State Roads (5% annual increase)

Year	NHS Roads ($ per mile)	Total NHS Road Costs	State Roads greater than 2000 ADT ($ per mile)	Total State Roads greater than 2000 ADT Costs	State Roads less than 2000 ADT ($ per mile)	Total State Roads less than 2000 ADT Costs
2011	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2012	$735,000	$4,214,000	$525,000	$4,751,250	$131,250	$4,016,250
2013	$808,500	$4,635,400	$577,500	$5,226,375	$144,375	$4,417,875
2014	$889,350	$5,098,940	$635,250	$5,749,013	$158,813	$4,859,678
2015	$978,285	$5,608,834	$698,775	$6,323,914	$174,694	$5,345,636
2016	$1,076,114	$6,169,720	$768,653	$6,956,310	$192,164	$5,880,218
2017	$1,183,725	$6,786,690	$845,518	$7,651,938	$211,380	$6,468,228
2018	$1,302,098	$7,465,362	$930,070	$8,417,134	$232,517	$7,115,020
2019	$1,432,307	$8,211,893	$1,023,077	$9,258,847	$255,770	$7,826,562
2020	$1,575,538	$9,033,085	$1,125,384	$10,184,725	$281,346	$8,609,188
2021	$1,733,091	$9,936,388	$1,237,923	$11,203,203	$309,481	$9,470,119
2022	$1,906,401	$10,930,032	$1,361,715	$12,323,521	$340,429	$10,417,127
2023	$2,097,041	$12,023,035	$1,497,886	$13,555,868	$374,472	$11,458,843
2024	$2,306,745	$13,225,338	$1,647,675	$14,911,459	$411,919	$12,604,721
2005	$2,537,420	$14,547,875	$1,812,443	$16,402,609	$453,111	$13,865,197
2026	$2,791,161	$16,002,656	$1,993,686	$18,042,858	$498,421	$15,251,683
2027	$3,070,278	$17,602,927	$2,193,055	$19,847,148	$548,264	$16,776,878
2028	$3,377,305	$19,363,215	$2,412,360	$21,831,858	$603,091	$18,454,585
2029	$3,715,035	$21,299,534	$2,653,597	$24,015,053	$663,399	$20,300,009
2030	$4,086,539	$23,429,490	$2,918,957	$26,416,561	$729,740	$22,330,044
2031	$4,495,193	$25,772,440	$3,210,853	$29,058,220	$802,713	$24,563,018
2032	$4,944,713	$28,349,688	$3,531,938	$31,964,039	$882,984	$27,019,310
2033	$5,439,184	$31,184,655	$3,885,131	$35,160,436	$971,283	$29,721,260
2034	$5,983,102	$34,303,118	$4,273,644	$38,676,478	$1,068,411	$32,693,377
2035	$6,581,413	$37,733,435	$4,701,009	$42,544,131	$1,175,252	$35,962,711
Totals		**$376,941,085**		**$424,997,946**		**$359,252,537**

Notes:

1) NHS Roads addressed on a 15 year cycle.
2) State Roads >2000 ADT addressed on a 15 year cycle.
3) State Roads <2000 ADT addressed on a 10 year cycle.

Anticipated Future Maintenance Costs
(5% Inflation Rate)



	Current SD Bridges	Bridges at Risk of SD Rating	Bridge Preservation	Current SD Local Bridges	Local Bridges at Risk of SD Rating	Local Bridge Preservation	NHS Roads	State Roads >2000 ADT	State Roads <2000 ADT
Categories	$452,982,303	$510,616,511	$224,342,871	$16,488,157	$28,092,045	$8,717,085	$376,941,085	$424,997,946	$359,252,537

Total - 2,344,165,550

Transportation Plan
Projected Future Network Costs
State Bridges (10% annual increase)

Year	SD Bridge Repair ($ per sf)	Current SD Bridge Repair Costs	Potential Future SD Bridge Repair Costs	Total SD Bridge Repair Costs	Bridge Preservation ($ per sf)	Total Bridge Preservation Costs
2011	$750	$4,822,860	$5,436,486	$10,259,346	$100	$2,414,106
2012	$825	$5,305,146	$5,980,135	$11,285,281	$110	$2,655,517
2013	$908	$5,838,876	$6,581,772	$12,420,648	$121	$2,921,068
2014	$998	$6,417,619	$7,234,151	$13,651,770	$133	$3,210,761
2015	$1,098	$7,060,667	$7,959,016	$15,019,683	$146	$3,524,595
2016	$1,208	$7,768,020	$8,756,367	$16,524,387	$161	$3,886,711
2017	$1,329	$8,546,108	$9,633,453	$18,179,561	$177	$4,272,968
2018	$1,462	$9,401,362	$10,597,523	$19,998,885	$195	$4,707,507
2019	$1,608	$10,340,212	$11,655,826	$21,996,038	$214	$5,166,187
2020	$1,768	$11,369,089	$12,815,610	$24,184,698	$236	$5,697,290
2021	$1,945	$12,507,284	$14,098,620	$26,605,904	$259	$6,252,535
2022	$2,140	$13,761,227	$15,512,107	$29,273,334	$285	$6,880,202
2023	$2,354	$15,137,350	$17,063,317	$32,200,667	$314	$7,580,293
2024	$2,589	$16,648,513	$18,766,750	$35,415,262	$345	$8,328,666
2005	$2,848	$18,314,007	$20,644,150	$38,958,157	$380	$9,173,603
2026	$3,133	$20,146,694	$22,710,014	$42,856,708	$418	$10,090,963
2027	$3,446	$22,159,434	$24,978,841	$47,138,275	$459	$11,080,747
2028	$3,791	$24,377,950	$27,479,625	$51,857,574	$505	$12,191,235
2029	$4,170	$26,815,102	$30,226,862	$57,041,964	$556	$13,422,429
2030	$4,587	$29,496,612	$33,249,548	$62,746,160	$612	$14,774,329
2031	$5,049	$32,467,494	$36,598,424	$69,065,917	$673	$16,246,933
2032	$5,550	$35,689,164	$40,229,996	$75,919,160	$740	$17,864,384
2033	$6,105	$39,258,080	$44,252,996	$83,511,076	$814	$19,650,823
2034	$6,716	$43,187,104	$48,681,920	$91,869,024	$895	$21,606,249
2035	$7,387	$47,501,956	$53,545,763	$101,047,719	$985	$23,778,944
Totals		**$474,337,927**	**$534,689,271**	**$1,009,027,198**		**$237,379,043**

Total Bridge Deck Area - 603,527
2010 SD Bridge Deck Area - 160,762
Future SD Bridge Deck Area - 181,216

Note: Bridge Preservation program would address 4% of total deck area every year.

Transportation Plan
Projected Future Network Costs
Local Bridges (10% annual increase)

Year	SD Bridge Repair ($ per sf)	Current SD Bridge Repair Costs	Potential Future SD Bridge Repair Costs	Total SD Bridge Repair Costs	Bridge Preservation ($ per sf)	Total Bridge Preservation Costs
2011	$400	$345,446	$588,562	$934,008	$50	$182,595
2012	$440	$379,991	$647,418	$1,027,409	$55	$200,855
2013	$484	$417,990	$712,160	$1,130,150	$61	$222,766
2014	$532	$459,444	$782,787	$1,242,231	$67	$244,677
2015	$586	$506,079	$862,243	$1,368,322	$73	$266,589
2016	$644	$556,169	$947,584	$1,503,753	$81	$295,804
2017	$709	$612,304	$1,043,225	$1,655,529	$89	$325,019
2018	$779	$672,757	$1,146,224	$1,818,981	$97	$354,234
2019	$857	$740,119	$1,260,993	$2,001,112	$107	$390,753
2020	$943	$814,390	$1,387,534	$2,201,924	$118	$430,924
2021	$1,037	$895,570	$1,525,846	$2,421,416	$130	$474,747
2022	$1,141	$985,386	$1,678,872	$2,664,258	$143	$522,222
2023	$1,255	$1,083,838	$1,846,612	$2,930,450	$157	$573,348
2024	$1,381	$1,192,654	$2,032,009	$3,224,663	$173	$631,779
2005	$1,519	$1,311,833	$2,235,063	$3,546,895	$190	$693,861
2026	$1,671	$1,443,102	$2,458,716	$3,901,818	$209	$763,247
2027	$1,838	$1,587,326	$2,704,441	$4,291,767	$230	$839,937
2028	$2,022	$1,746,232	$2,975,179	$4,721,410	$253	$923,931
2029	$2,224	$1,920,682	$3,272,402	$5,193,084	$278	$1,015,228
2030	$2,446	$2,112,405	$3,599,054	$5,711,459	$306	$1,117,481
2031	$2,691	$2,323,991	$3,959,548	$6,283,539	$336	$1,227,038
2032	$2,960	$2,556,303	$4,355,356	$6,911,659	$370	$1,351,203
2033	$3,256	$2,811,934	$4,790,891	$7,602,825	$407	$1,486,323
2034	$3,582	$3,093,473	$5,270,569	$8,364,042	$448	$1,636,051
2035	$3,940	$3,402,647	$5,797,332	$9,199,979	$492	$1,796,735
Totals		**$33,972,063**	**$57,880,619**	**$91,852,682**		**$17,967,348**

Total Bridge Deck Area - 91,280
2010 SD Bridge Deck Area - 21,590
Future SD Bridge Deck Area - 36,785

Note: Bridge Preservation program would address 4% of total deck area every year.

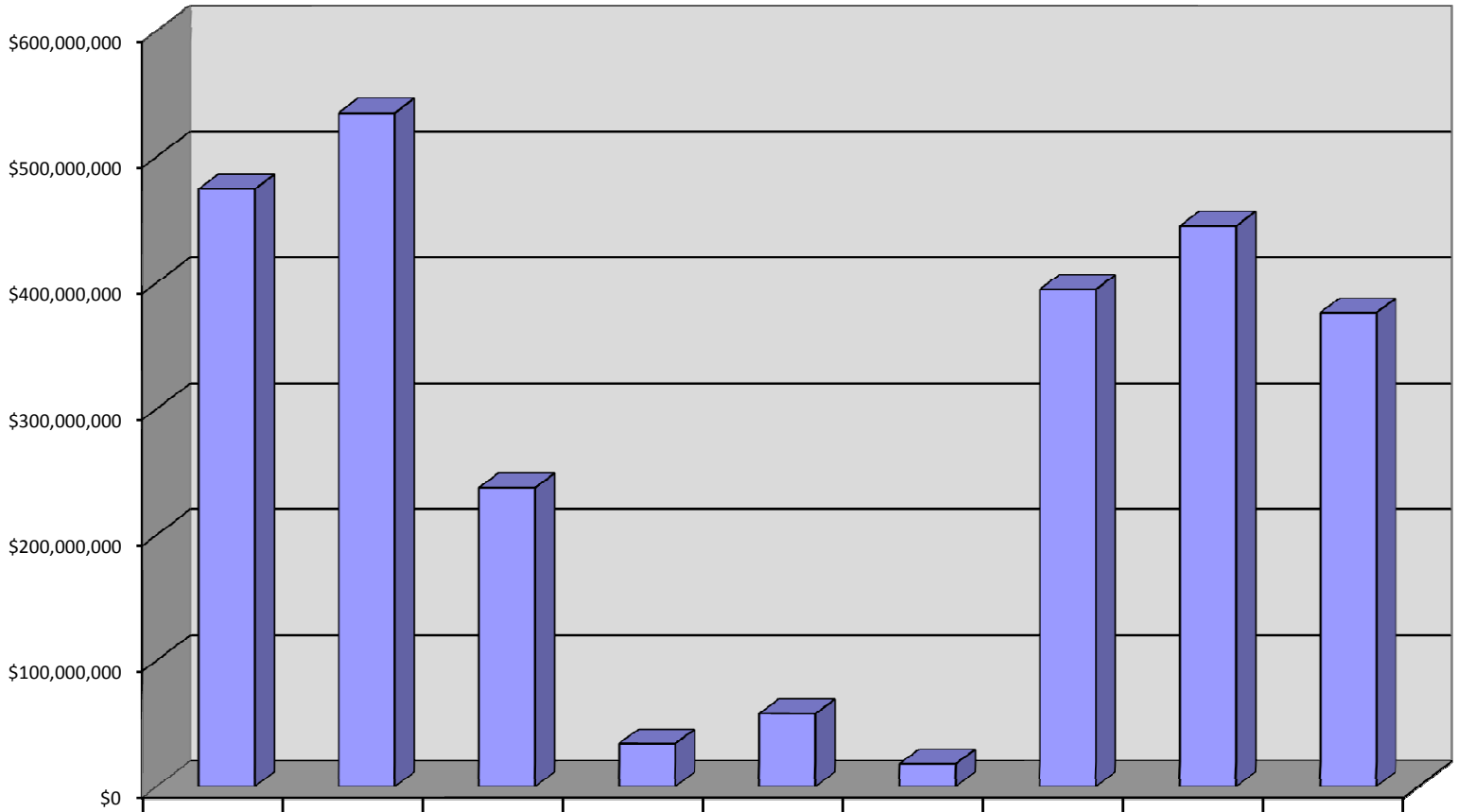
Transportation Plan
Projected Future Network Costs
State Roads (10% annual increase)

Year	NHS Roads ($ per mile)	Total NHS Road Costs	State Roads greater than 2000 ADT ($ per mile)	Total State Roads greater than 2000 ADT Costs	State Roads less than 2000 ADT ($ per mile)	Total State Roads less than 2000 ADT Costs
2011	$700,000	$4,013,333	$500,000	$4,525,000	$125,000	$3,825,000
2012	$770,000	$4,414,667	$550,000	$4,977,500	$137,500	$4,207,500
2013	$847,000	$4,856,133	$605,000	$5,475,250	$151,250	$4,628,250
2014	$931,700	$5,341,747	$665,500	$6,022,775	$166,375	$5,091,075
2015	$1,024,870	$5,875,921	$732,050	$6,625,053	$183,013	$5,600,198
2016	$1,127,357	$6,463,513	$805,255	$7,287,558	$201,314	$6,160,208
2017	$1,240,093	$7,109,867	$885,781	$8,016,318	$221,445	$6,776,217
2018	$1,364,102	$7,820,851	$974,359	$8,817,949	$243,590	$7,453,854
2019	$1,500,512	$8,602,935	$1,071,794	$9,699,736	$267,949	$8,199,239
2020	$1,650,563	$9,463,228	$1,178,974	$10,669,715	$294,744	$9,019,166
2021	$1,815,620	$10,409,555	$1,296,871	$11,736,683	$324,218	$9,921,071
2022	$1,997,182	$11,450,510	$1,426,558	$12,910,350	$356,640	$10,913,184
2023	$2,196,900	$12,595,560	$1,569,214	$14,201,387	$392,304	$12,004,502
2024	$2,416,590	$13,855,116	$1,726,136	$15,621,531	$431,534	$13,204,940
2005	$2,658,249	$15,240,628	$1,898,749	$17,183,678	$474,687	$14,525,422
2026	$2,924,074	$16,764,691	$2,088,624	$18,902,047	$522,156	$15,977,974
2027	$3,216,481	$18,441,158	$2,297,486	$20,792,248	$574,372	$17,575,783
2028	$3,538,129	$20,285,273	$2,527,235	$22,871,477	$631,809	$19,333,355
2029	$3,891,942	$22,313,801	$2,779,959	$25,158,629	$694,990	$21,266,694
2030	$4,281,136	$24,545,180	$3,057,955	$27,674,493	$764,489	$23,393,363
2031	$4,709,250	$26,999,700	$3,363,750	$30,441,938	$840,937	$25,732,672
2032	$5,180,175	$29,699,670	$3,700,125	$33,486,131	$925,031	$28,305,949
2033	$5,698,192	$32,669,634	$4,070,137	$36,834,740	$1,017,534	$31,136,540
2034	$6,268,012	$35,936,602	$4,477,151	$40,518,217	$1,119,288	$34,250,213
2035	$6,894,813	$39,530,261	$4,924,866	$44,570,037	$1,231,217	$37,675,240
Totals		**$394,699,534**		**$445,020,437**		**$376,177,612**

Notes:

1) NHS Roads addressed on a 15 year cycle.
2) State Roads >2000 ADT addressed on a 15 year cycle.
3) State Roads <2000 ADT addressed on a 10 year cycle.

Anticipated Future Maintenance Costs
(10% Inflation Rate)



	Current SD Bridges	Bridges at Risk of SD Rating	Bridge Preservation	Current SD Local Bridges	Local Bridges at Risk of SD Rating	Local Bridge Preservation	NHS Roads	State Roads >2000 ADT	State Roads <2000 ADT
Categories	$474,337,927	$534,689,271	$237,379,043	$33,972,063	$57,880,619	$17,967,348	$394,699,534	$445,020,437	$376,177,612

Total - $2,508,287,256

Adams County RPO
Projected 2013 - 2037 Funding
(amounts in 1,000s)

	Federal Funds							State Funds				Discretionary Funds		Total Adams
Year	NHS	STP	Bridge	Enhancements	CMAQ	Safety (HSIP)	Safety (Rail)	Highway	Bridge	Act 44	Bridge Bond	Earmarks (SXF)	Spike	RPO Funds
2013														
2014														
2015														
2016														
2017	$2,604	$2,879	$3,284	$275	$1,065	$515	$114	$2,450	$1,928	$1,094	$360	$1,823	$1,916	$20,307
2018	$2,708	$2,994	$3,416	$286	$1,107	$536	$118	$2,450	$1,928	$1,094	$270	$1,823	$1,916	$20,646
2019	$2,816	$3,114	$3,552	$297	$1,151	$558	$123	$2,450	$1,928	$1,094		$1,823	$1,916	$20,822
2020	$2,929	$3,238	$3,695	$309	$1,198	$580	$128	$2,450	$1,928	$1,094		$1,823	$1,916	$21,288
2021	$3,046	$3,368	$3,842	$322	$1,245	$603	$133	$2,450	$1,928	$1,094		$1,823	$1,916	$21,770
2022	$3,168	$3,503	$3,996	$335	$1,295	$627	$138	$2,450	$1,928	$1,094		$1,823	$1,916	$22,273
2023	$3,295	$3,643	$4,156	$348	$1,347	$652	$144	$2,450	$1,928	$1,094		$1,823	$1,916	$22,796
2024	$3,427	$3,789	$4,322	$362	$1,401	$678	$150	$2,450	$1,928	$1,094		$1,823	$1,916	$23,340
2025	$3,564	$3,940	$4,495	$376	$1,457	$705	$156	$2,450	$1,928	$1,094		$1,823	$1,916	$23,904
2026	$3,706	$4,098	$4,675	$391	$1,515	$734	$162	$2,450	$1,928	$1,094		$1,823	$1,916	$24,492
2027	$3,855	$4,262	$4,862	$407	$1,576	$763	$168	$2,450	$1,928	$1,094		$1,823	$1,916	$25,104
2028	$4,009	$4,432	$5,056	$423	$1,639	$794	$175	$2,450	$1,928	$1,094		$1,823	$1,916	$25,739
2029	$4,169	$4,609	$5,258	$440	$1,704	$825	$182	$2,450	$1,928	$1,094		$1,823	$1,916	$26,398
2030	$4,336	$4,794	$5,469	$458	$1,773	$858	$189	$2,450	$1,928	$1,094		$1,823	$1,916	$27,088
2031	$4,509	$4,985	$5,688	$476	$1,844	$893	$197	$2,450	$1,928	$1,094		$1,823	$1,916	$27,803
2032	$4,609	$5,185	$5,915	$495	$1,917	$928	$205	$2,450	$1,928	$1,094		$1,823	$1,916	$28,465
2033	$4,877	$5,392	$6,152	$515	$1,994	$965	$213	$2,450	$1,928	$1,094		$1,823	$1,916	$29,319
2034	$5,072	$5,608	$6,398	$536	$2,074	$1,004	$222	$2,450	$1,928	$1,094		$1,823	$1,916	$30,125
2035	$5,275	$5,832	$6,654	$557	$2,157	$1,044	$230	$2,450	$1,928	$1,094		$1,823	$1,916	$30,960
2036	$5,486	$6,066	$6,920	$579	$2,243	$1,086	$240	$2,450	$1,928	$1,094		$1,823	$1,916	$31,831
2037	$5,706	$6,308	$7,179	$602	$2,333	$1,129	$249	$2,450	$1,928	$1,094		$1,823	$1,916	$32,717
Totals	**$83,166**	**$92,039**	**$104,984**	**$8,789**	**$34,035**	**$16,477**	**$3,636**	**$51,450**	**$40,488**	**$22,974**	**$630**	**$38,283**	**$40,236**	**$537,187**

	Highways	Bridges	Enhanc.	CMAQ	HSIP	Rail	Other Sources
Federal	$175,205	$104,984	$8,789	$34,035	$16,477	$3,636	$38,283
State	$51,450	$41,118	$0	$0	$0	$0	$22,974
Other	$0	$0	$0	$0	$0	$0	$40,236
Totals	$226,655	$146,102	$8,789	$34,035	$16,477	$3,636	$101,493

Notes:

Adams County RPO
Projected 2013 - 2037 Funding
(amounts in 1,000s)

1) The base year for all federal funds (excluding Earmarks (SXF) and Spike funds) was 2007. The Adams County RPO per year share was derived using the percentage received from each funding category in the 2009-2012 TIP Financial Guidance. An annual increase of 4.00% was factored in as well.

2) The projected federal funds (see above) to be received by Adams County were calculated as a percentage of the total available statewide funds for the following funding categories (as projected). The percentage of each category allocated to Adams County was derived from the 2009-2012 TIP Financial Guidance (Appendix 2) as follows:

   - NHS - 0.91%
   - STP - 1.00%
   - Bridge - 0.56%
   - CMAQ - 0.82%
   - Enhancements - 0.65%
   - Safety (HSIP) - 0.893%
   - Safety (Rail) - 0.197%

3) The base year for State Highway and Bridge funds was 2007-2008. The Adams County RPO per year share was derived using the percentage received from each funding category in the 2009-2012 TIP Financial Guidance. No annual increase in funds was included.

4) The projected State Highway and Bridge funds (see above) to be received by Adams County were calculated as a percentage of the total available statewide funds for the following funding categories (as projected). The percentage of each category allocated to Adams County was derived from the 2009-2012 TIP Financial Guidance (Appendix 2) as follows:

   - Highway - 0.87%
   - Bridge - 0.68%

5) State ACT 44 Funds were projected using Penn DOT provided guidance (including annual 2.5% increases)

6) Earmarks (SXF) were projected as follows:
   - $1,016 per year for all modes per Federal Reauthorization Acts (i.e. TEA-21, SAFETEA-LU)
   - $807 per year for all modes per FFY Appropriations Acts

7) Spike funds were projected using the historical average of % of Spike funds received by Adams County in the 2003, 2005, and 2007 STIPs (2.01%). This % was multiplied by the average total Spike Funds available per STIP from the 1999, 2001, 2003, 2005, and 2007 STIPs ($380,362) and averaged out to a per year amount of $1,916.

8) The funding projections for 2009 through 2012 were done using the above methods and may not reflect the actual 2009 -2012 funding allocations for the Adams County TIP from Penn DOT financial guidance.

9) The funding projections of the Bridge Bond Funds for 2009 through 2018 were provided by Penn DOT.

APPENDIX C
Project Evaluation Framework (Overview and Scoring)

ADAMS COUNTY
COMPREHENSIVE PLAN TRANSPORTATION ELEMENT & LONG RANGE TRANSPORTATION PLAN
CANDIDATE PROJECT EVALUATION - OVERVIEW

PROJECT: **TYPE:**

PLANNING FACTOR	CRITERIA	CONSIDERATIONS
1. Revitalize Core Communities	a. Is a substantial part of the project located within a core community?	Adams County core communities include the following incorporated boroughs and unincorporated villages: Abbottstown, Arendtsville, Aspers, Bendersville, Biglerville, Bonneauville, Brushtown, Carroll Valley, Cashtown, East Berlin, Fairfield, Fountaindale, Gardners, Gettysburg, Hampton, Heidlersburg, Hunterstown, Irishtown, Lake Meade, Littlestown, McKnightstown, McSherrystown, Mummasburg, New Chester, New Oxford, Ortanna, York Springs.
	b. Does the project promote population and employment stability or growth within a core community?	Does the project improve access and mobility or conditions within a core community which would provide a desirable setting for maintaining and/or expanding the community for residential use, community facilities and services, and/or for local employment opportunities? Does the project support continuance and expansion of a "core community", or does it influence or disperse future population and employment to non-core areas?
	c. Does the project support the sustainability of local business and commerce?	What is the overall impact of the project on the continued viability of local businesses, considering the change in traffic volumes and patterns generated by the proposed project and the type, number and location of local businesses affected - "destination" businesses to which a customer makes a planned visit (e.g. major retail, specialty store, fine dining establishment, major auto dealers, recreation or tourism oriented venue) versus an "opportunity" business; those to which most customers make either an unplanned or momentary decision to patronize (e.g. gas station, fast-food restaurant, convenience store, used car lot).
	d. Would implementation of the project support context-sensitive redevelopment opportunities in a core community?	Does the project provide enhanced access or improve community conditions for undeveloped or underutilized areas which could accommodate compatible redevelopment or reuse opportunities to help revitalize or improve a core community? Could the project help to revitalize the core community?
2. Maintain a Sense of Place & Quality of Experience	a. Is the project "context-sensitive" in terms of complementing local character and traditional aesthetics without unduly restricting potential future transportation improvements?	Is the proposed project compatible with the area (e.g. is not over engineered - a major 4-lane highway within or adjacent to a small village or community) while providing opportunities for improvement/expansion in the future? Are proper growth controls in place or anticipated to preserve this condition?
	b. Does the project provide safety benefits for residents and visitors in core communities from both a motorized and non-motorized transportation perspective?	Does the project address a safety issue (e.g. poor site distance, congested conditions) or change existing traffic conditions (incompatible traffic speed, volume, user mix) which creates unsafe conditions for motorists and pedestrian/bicyclists?
	c. Would implementation of the project improve mobility and access for motorized and non-motorized transport within the core community	Does the project directly help or affect access or indirectly transform existing travel patterns to improve access to community facilities and services (access to business, civic buildings, social services, recreation, shopping, places of worship, etc.)?
3. Public Health	a. Does the project support more efficient travel and reductions in emissions?	Does the project provide improved levels of service and/or traffic control/management systems resulting in less idling/congestion
	b. Does the project promote walkability and/or provide pedestrian and bicycle amenities to encourage healthy lifestyles?	Does the project include new or expanded sidewalks, path or trails and/or connect with existing facilities? Does the project act as a division to pedestrian or bicycle movements?
	c. Does the project reduce levels of air emissions, noise, vibration and psychological stressors which adversely affect the quality of core communities?	Does the project reduce traffic volumes or speeds through a major portion of a core community? Does the project provide an alternative diversion route for regional through and truck traffic?

PLANNING FACTOR	CRITERIA	CONSIDERATIONS
4. Community Mobility, Integration & Connectivity	a. Could the project be designed to integrate intermodal connections with other non-highway transportation facilities or services?	Does the project cross or run adjacent to other modes (rail, air, other transit) which could provide an opportunity for development of intermodal connections for personal travel or commercial goods movement?
	b. Does the project provide new or improved linkages between core communities or between existing/planned neighborhoods or communities?	Does the project affect and improve travel time or choices between core communities? Does the project affect and improve access linkages between existing communities and developments which provide benefits for local travel, emergency access and school transport?
	c. Does the project provide improved transport or connections to workforce locations (either intracounty or intercounty)?	Does the project improve travel time or travel options to work centers in Adams County (travel between core communities to major employment centers) or to regional employment centers such as York, Hanover, Chambersburg, Carlisle, Frederick?
5. Flexibility for the Future	a. Is the project consistent with and supportive of associated major planning initiatives at the local, county or state level?	Is the project an important component of a planning initiative such as regional transit or goods movement initiative, or address a major transportation deficiency as noted in the county comprehensive plan?
	b. Is the location and potential influence of the project consistent with future land use plans of Adams County and adjacent communities?	Is the project consistent with the local and county comprehensive plans in municipalities directly and indirectly affected by project implementation?
	c. Has the scope of the project considered other related actions which may be required in the future and are directly/indirectly related to the proposed improvement?	Have other future improvements, which may be necessary as a result of the implementation of the project, been identified and considered in terms of effects on land use and transportation planning?
6. Economic Vitality	a. Does the project provide benefits for sustaining the tourism or agricultural industry in Adams County?	Does the project improve access to tourism venues? Does the project provide improved agricultural product transport and/or access to markets from either a local or countywide perspective?
	b. Does the project improve the transport of goods through the county without adverse community effects?	Is goods movement, regardless of mode, improved by the project without (1) increasing traffic, noise, emissions, vibration, or stress on communities and (2) dividing communities from new or expanded infrastructure?
	c. Does the project support a specific county or municipal economic development initiative?	Is the project a strategic component of a major economic development project (e.g. work center development, intermodal center, airport or transit service expansion, tourism initiative) which requires transportation improvements to enhance projected success?
7. Safety	a. Does the project address a priority roadway, bridge or non-motorized safety deficiency?	Consider priority safety projects as identified by PennDOT and local agencies
	b. Would implementation of the project reduce the number or severity of crashes	Consider existing crash history related to existing functional classification, speeds, traffic control and balance of improvements – (note: reducing speed and providing more traffic control may increase the frequency of crashes but reduce severity, whereas increasing speed or decreasing traffic control may reduce frequency but increase severity of crashes).
	c. Does the project improve an existing design or operational deficiency which contributes to safety concerns?	Consider presence of design deficiency (vertical/horizontal alignment, narrow cartpath, limiting turning radii) and operational deficiency (serving function beyond design capacity, excess traffic control, poor access management)
8. System Accessibility & Mobility	a. Does the project enhance travel efficiency or provide additional travel choices for environmental justice, elderly, or disabled populations?	Does the project area have substantial minority, low-income, elderly or disabled populations? Does the project provide benefits for those populations (positive) or does it generate disproportionate adverse effects (negative) on their mobility or the qualities of their communities, considering community services, shopping, employment, and environmental factors.
	b. Does the project enhance travel efficiency or provide additional travel choices to tourism venues?	Is the project important for maintaining existing or developing new access connections to existing venues and future developed or expanded venues (projected via local and county planning processes)?
	c. Does the project provide improved regional (intercounty) connectivity?	Does the project sustain an important link or improve overall access connections with surrounding counties relative to capacity, choice, level of service, etc.

PLANNING FACTOR	CRITERIA	CONSIDERATIONS
9. Protect and Enhance the Environment	a. Can the project be designed to reduce direct and indirect impacts on important cultural resources and landscapes?	Does the project avoid impacts on National Register of Historic Places resources, locally important sites and significant landscapes such as the Fruit Belt landscape, the Hanover Shoe Farms landscape, and other important rural area? Consult the Adams County Greenways Plan.
	b. How well does the project avoid and minimize adverse effects on important ecological resources?	Does the project avoid impacts on sites in the Adams County Natural Heritage Inventory or other sites of ecological importance scientifically documented and supported by local and state resource agencies? Consult PA Natural Heritage Program Project Planning and Environmental Review tool at http://www.naturalheritage.state.pa.us/
	c. How well does the project avoid and minimize adverse effects to individual agricultural operations?	Is the project adjacent to or encroach upon agricultural easements or agricultural security areas? How well does the project avoid impacts on active agricultural operations, considering division of active agricultural parcels, access to parcels, equipment operations, water supply, and structures? Consult PennDOT Publication 324 Agricultural Resources Evaluation Handbook.
10. Efficient System Management and Operation	a. What roadway type is improved by the project?	Determine functional classification of roadway to be improved or affected by the proposed project, as applicable
	b. Does the project provide capacity or operational improvements to a priority congested corridor?	Determine congested corridors based on 2030 v/c modeled ratio for applicable roadway segment
11. System Preservation	a. Does the project address a priority roadway maintenance issue (IRI score)?	Determine IRI score from roadway inventory
	b. Does the project address a priority deficient bridge? (sufficiency rating)	Determine sufficiency rating from bridge inventory
	c. Does the project address a roadway which is an important truck route or segment? (Truck AADT %)	Determine truck AADT% from roadway inventory
12. Security	a. Does the project enhance regional evacuation or strategic highway networks for military/security operations?	Consider improvements to US 30, US 15, PA 94, PA 116, PA 16 which are part of potential military transport routes, the STRAHNET roadway network, or part of evacuation routes for Three Mile Island, etc. Consult Adams County Emergency Operations Plan and the Adams County Hazard Vulnerability Assessment and Mitigation Plan.
	b. Does the project enhance local or regional options for detours (construction or emergency events) by improving directional redundancy?	Does the project provide or improve an alternative route in the same direction (e.g. east-west or north-south) as another facility which could be effectively used as a detour route (for example Old Harrisburg Road and US 15 or Hilltown Road/Mummasburg Road and US 30).
	c. Does the project improve response time or access for emergency services?	Does the project improve congested conditions, eliminate system bottlenecks, provide additional access options, etc. which could help move equipment and personnel more quickly to an emergency event

ADAMS COUNTY
COMPREHENSIVE PLAN TRANSPORTATION ELEMENT & LONG RANGE TRANSPORTATION PLAN
CANDIDATE PROJECT EVALUATION

PROJECT: **TYPE:**

PLANNING FACTOR	RELATIVE WEIGHTING	CRITERIA	EVALUATION FACTOR				CRITIERA SCORE	FACTOR SCORE	
			DOES NOT ADDRESS CRITERIA (0)	MINIMALLY ADDRESSES CRITERIA (2)	PARTIALLY ADDRESSES CRITERIA (4)	FULLY ADDRESSES CRITERIA (6)		Non weighted	Weighted
1. Revitalize Core Communities		a. Is a substantial part of the project located within a core community?	Not within 3 miles	Within 3 miles	Within 1 mile	Within	0	0	
		b. Does the project promote population and employment stability or growth within a core community?					0		
		c. Does the project support the sustainability of local business and commerce?					0		
		d. Would implementation of the project support context-sensitive redevelopment opportunities in a core community?					0		
2. Maintain a Sense of Place & Quality of Experience		a. Is the project "context-sensitive" in terms of complementing local character and traditional aesthetics without unduly restricting potential future transportation improvements?					0	0	
		b. Does the project provide safety benefits for residents and visitors in core communities from both a motorized and non-motorized transportation perspective?					0		
		c. Would implementation of the project improve mobility and access for motorized and non-motorized transport within the core community (access to business, community facilities and services, recreation, shopping, places of worship, etc.)					0		
3. Public Health		a. Does the project support more efficient travel and reductions in emissions (i.e. improved levels of service and/or traffic control systems resulting in less idling/congestion)?					0	0	
		b. Does the project promote walkability and/or provide pedestrian and bicycle amenities to encourage healthy lifestyles?					0		
		c. Does the project reduce levels of air emissions, noise, vibration and psychological stressors which adversely affect the quality of core communitiies?					0		
4. Community Mobility, Integration & Connectivity		a. Could the project be designed to integrate intermodal connections with other non-highway transportation facillities or services?					0	0	
		b. Does the project provide new or improved linkages between core communities or between existing/planned neighborhoods or communities?					0		
		c. Does the project provide improved transport or connections to workforce locations (either intracounty or intercounty)?					0		

PLANNING FACTOR	RELATIVE WEIGHTING	CRITERIA	EVALUATION FACTOR				CRITIERA SCORE	FACTOR SCORE	
			DOES NOT ADDRESS CRITERIA (0)	MINIMALLY ADDRESSES CRITERIA (2)	PARTIALLY ADDRESSES CRITERIA (4)	FULLY ADDRESSES CRITERIA (6)		Non weighted	Weighted
5. Flexibility for the Future		a. Is the project consistent with and supportive of associated major planning initiatives at the local, county or state level?					0	0	
		b. Is the location and potential influence of the project consistent with future land use plans of Adams County and adjacent communities?					0		
		c. Has the scope of the project considered other related actions which may be required in the future and are directly/indirectly related to the proposed improvement?					0		
6. Economic Vitality		a. Does the project provide benefits for sustaining the tourism or agricultural industry in Adams County?					0	0	
		b. Does the project improve the transport of goods through the county without adverse community effects?					0		
		c. Does the project support a specific county or municipal economic development initiative?					0		
7. Safety		a. Does the project address a priority roadway, bridge or non-motorized safety deficiency?					0	0	
		b. Would implementation of the project reduce the number or severity of crashes					0		
		c. Does the project improve an existing design or operational deficiency which contributes to safety concerns?					0		
8. System Accessibility & Mobility		a. Does the project enhance travel efficiency or provide additional travel choices for environmental justice, elderly, or disabled populations?					0	0	
		b. Does the project enhance travel efficiency or provide additional travel choices to tourism venues?					0		
		c. Does the project provide improved regional (intercounty) connectivity?					0		
9. Protect and Enhance the Environment		a. Can the project be designed to reduce direct and indirect impacts on important cultural resources and landscapes?					0	0	
		b. How well does the project avoid and minimize adverse effects on important ecological resources?					0		
		c. How well does the project avoid and minimize adverse effects to individual agricultural operations?					0		

PLANNING FACTOR	RELATIVE WEIGHTING	CRITERIA	EVALUATION FACTOR				CRITIERA SCORE	FACTOR SCORE	
			DOES NOT ADDRESS CRITERIA (0)	MINIMALLY ADDRESSES CRITERIA (2)	PARTIALLY ADDRESSES CRITERIA (4)	FULLY ADDRESSES CRITERIA (6)		Non weighted	Weighted
10. Efficient System Management and Operation		a. What roadway type is improved by the project?	Local/minor collector	Major collector	Minor arterial	Principal arterial	0	0	
		b. Does the project provide capacity or operational improvements to a priority congested corridor? (based on modeled 2030 V/C ratio)	Available capacity	Approaching capacity	At capacity	Substantially above capacity (v/c 1.2 or greater)	0		
11. System Preservation		a. Does the project address a priority roadway maintenance issue (IRI score)?	0-75	76-150	151-225	>225	0	0	
		b. Does the project address a priority deficient bridge? (sufficiency rating)	76-100	51-75	26-50	0-25	0		
		c. Does the project address a roadway which is an important truck route or segment? (Truck AADT %)	0-4%	5-9%	10-14%	>14%	0		
12. Security		a. Does the project enhance regional evacuation or strategic highway networks for military/security operations?					0	0	
		b. Does the project enhance local or regional options for detours (construction or emergency events) by improving directional redundancy?					0		
		c. Does the project improve response time or access for emergency services?					0		
TOTAL									

APPENDIX D
Environmental Resources Overview

As part of the LRTP development process, existing plans concerning natural resources, such as water, agriculture and open space/greenways, cultural and/or historic resources, and other key environmental resources were evaluated in context with potential transportation improvements. Two main plans were used to analyze potential environmental impacts, the 1996 Adams County Natural Areas Inventory and the 2010 Adams County Greenways Plan. The LRTP and potential environmental impacts were presented to the federal and state resource agencies at the Agency Coordination Meeting (ACM) on April 25, 2012. A summary of the contents of each plan and the analysis presented to the ACM are provided below.

A. Adams County Natural Areas Inventory

The Adams County Natural Areas Inventory (NAI) was prepared in 1996 (and subsequently updated in 2002) in conjunction with the Adams County Parks, Recreation and Open Space Study. The NAI contains information on the locations of rare, threatened, and endangered species and of the highest quality natural areas in the county. Each site identified in the NAI is accompanied by management recommendations to help ensure the protection and continued existence of the rare plants, animals, and natural communities.

B. Adams County Greenways Plan

The Adams County Greenways Plan was adopted in February 2010 as an amendment to the Adams County Comprehensive Plan. The primary goal of the Plan is *"to enhance existing and future communities in Adams County by preserving and, where appropriate, developing various types of greenways."* Environmental resources identified and evaluated by the Greenways plan include significant regional settings, cultural and historic sites, scenic resources, natural features, man-made corridors, parks and recreation sites, and open spaces of significance.

C. LRTP Environmental Screening Results

On April 25, 2012, the Adams County LRTP was presented to federal and state resource agencies at the Agency Coordination Meeting (ACM). The purposed of this presentation was to summaries existing resources and identify opportunities for mitigation of impacts to resources. Through the Linking Planning and NEPA process and following an evaluation of existing environmental resources the following resources were identified as having the most potential impacts:

- Act 167 Watersheds
- Agriculture
    - Prime Farmland Soils
    - Agricultural Easements
- Historic Properties or Archeological Resources
    - Potential for Historic Properties
- Wetlands
    - Hydric Soils
- Resources Protected under Section 4(f)
- Hazardous / Residual Waste Sites

Table 32: Summary of Linking Planning & NEPA Environmental Screening Results

Environmental Screening Categories	Screening Hits	Percentage
Wild or Stocked Trout Streams	1	4%
High Quality / EV Streams	2	7%
Wetlands	26	93%
Potential Impacts to T / E Species	0	0%
Historic Properties or Archaeological Resources	27	96%
Potential Public Controversy	0	0%
Resources Protected Under Section 4(f)	26	93%
Water Trail	0	0%
Hazardous / Residual Waste Site	16	57%
Regulated Floodplain	11	39%
Agriculture	28	100%
Navigable Watercourses	0	0%
Properties Under Section 6(f) of the LWCF Act	0	0%
Properties Under the Stafford Act	0	0%

Table 33: Linking Planning &NEPA Detailed Environmental Screening Results

Detailed Environmental Screening Categories	Screening Hits	Percentage
Class A Wild Trout Streams	0	0%
Streams Supporting Wild Trout Production	1	4%
Wilderness Trout Streams	1	4%
Ch. 93 Existing Use wild or stocked Trout Streams	0	0%
Ch. 93 Designated Use	2	7%
Ch. 93 High Quality / EV Streams	0	0%
Hydric Soils	25	89%
PNDI - US Fish& Wildlife	6	21%
PNDI - DCNR	5	18%
PNDI - PA Fish & Boat	2	7%
NWI for PA	20	71%
Potential for effects to Archaeological Resources	8	29%
Potential for effects to Historic Properties	27	96%
State Parks in PA	1	4%
DCNR - State Forest Lands	1	4%
Protected Lands Inventory - Federal	1	4%
State Game Lands	2	7%

Detailed Environmental Screening Categories	Screening Hits	Percentage
Statewide Trails - DCNR	2	7%
PA Water Trails	0	0%
Captive Hazardous Waste Operations	0	0%
Commercial Hazardous Waste Operations	0	0%
EPA GeoSpatial Data	12	43%
Land Recycling Cleanup Locations	9	32%
Municipal Waste Operations	3	11%
Storage Tank Locations	0	0%
Bridge Project with a Reg. Floodplain w/in 100 Yards	1	4%
100-year Floodplains	11	39%
Agricultural Easements	14	50%
Prime Farmland soils	28	100%
Navigable Waters	0	0%
Boundaries for lands acquired with LWCF money	0	0%
Projects that use LWCF grants	0	0%
Act 167 Watershed	28	100%

APPENDIX E
2013 – 2016 Transportation Improvement Program

Adams

MPMS #: 87792 **Municipality:**

Title: Bridge Reserve **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County RPO area

Narrative: Federal and State bridge Reserve
Adams County RPO.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	BOO	$0	$0	$0	$36	$0	$0
CON	185	$1	$7	$51	$120	$0	$0
		$1	$7	$51	$156	$0	$0

Total FY 2013-2016 Cost $214

MPMS #: 87794 **Municipality:**

Title: CMAQ Line Item **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** "Not Rgnlly Significant" - do not fit exempt ctgry

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: CMAQ Reserve
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	CAQ	$0	$34	$885	$23	$0	$0
		$0	$34	$885	$23	$0	$0

Total FY 2013-2016 Cost $942

MPMS #: 87807 **Municipality:**

Title: Delivery / Consult Assist **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** "Not Rgnlly Significant" - do not fit exempt ctgry

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: Consultant assistance in project delivery and construction.
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	581	$158	$42	$0	$0	$0	$0
PE	185	$95	$95	$0	$0	$0	$0
CON	185	$140	$140	$0	$0	$0	$0
		$393	$277	$0	$0	$0	$0

Total FY 2013-2016 Cost $670

Adams

MPMS #: 87809 **Municipality:**

Title: ENH Line Item **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** Trns enhnc acts (excpt rehab, opr. of hist. trans)

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: Enhancement Reserve
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	STE	$199	$199	$199	$199	$0	$0
		$199	$199	$199	$199	$0	$0

Total FY 2013-2016 Cost $796

MPMS #: 87811 **Municipality:**

Title: HSIP Line Item **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Safety Improvement **Exempt Code:** Safety improvement program

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: HSIP Reserve
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	HSIP	$134	$66	$0	$0	$0	$0
		$134	$66	$0	$0	$0	$0

Total FY 2013-2016 Cost $200

MPMS #: 87812 **Municipality:**

Title: RRX Line Item **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Safety Improvement **Exempt Code:** Railroad/highway crossing

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: RRX Reserve
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	RRX	$0	$0	$0	$88	$0	$0
		$0	$0	$0	$88	$0	$0

Total FY 2013-2016 Cost $88

Adams

MPMS #: 88019 **Municipality:**

Title: Adams HRST Line Item **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** Pavement resurfacing and/or rehabilitation

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: Highway Reserve
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	STP	$0	$0	$1,919	$2,277	$0	$0
CON	581	$0	$0	$121	$581	$0	$0
		$0	$0	$2,040	$2,858	$0	$0

Total FY 2013-2016 Cost $4,898

MPMS #: 88086 **Municipality:**

Title: App 916 Reserve **Route:** **Section:** **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County

Narrative: Appropriation 916 Reserve
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	916	$0	$0	$102	$73	$0	$0
		$0	$0	$102	$73	$0	$0

Total FY 2013-2016 Cost $175

MPMS #: 94899 **Municipality:**

Title: Adams RPO Park & Ride **Route:** **Section:** **A/Q Status:** Significant

Improvement Type: Park and Ride Lot

Est. Let Date: **Actual Let Date:**

Geographic Limits: An undeterminded location Adams County

Narrative: Build a park-and-ride lot in an undetermined location within Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	CAQ	$679	$621	$0	$0	$0	$0
		$679	$621	$0	$0	$0	$0

Total FY 2013-2016 Cost $1,300

Adams

MPMS #: 93722 **Municipality:** Gettysburg (Boro)

Title: Seminary Ridge Trail **Route:** **Section:** ENH **A/Q Status:** Exempt

Improvement Type: Bicycle Facilities/Services **Exempt Code:** Bicycle and pedestrian facilities

Est. Let Date: **Actual Let Date:**

Geographic Limits: The vicinity of Lutheran Theological Seminary Gettysburg Boro

Narrative: Construct a multi-use trail and trailhead in the vicinity of the Lutheran Theological Seminary in Gettysburg Borough.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	SBY	$0	$960	$0	$0	$0	$0
CON	LOC	$0	$240	$0	$0	$0	$0
		$0	$1,200	$0	$0	$0	$0

Total FY 2013-2016 Cost $1,200

MPMS #: 94743 **Municipality:** Menallen (Twp)

Title: Pond Street RR Crossing **Route:** **Section:** RRX **A/Q Status:** Exempt

Improvement Type: RR Warning Devices **Exempt Code:** Railroad/highway crossing warning devices

Est. Let Date: **Actual Let Date:**

Geographic Limits: T-398 (Pond Street Rd) crossing Gettysburg & Northern RR Menallen Twp

Narrative: Install flashers on T-398 (Pond Street Road) grade crossing Gettysburg and Northern Railroad in Menallen Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	RRX	$88	$27	$0	$0	$0	$0
		$88	$27	$0	$0	$0	$0

Total FY 2013-2016 Cost $115

MPMS #: 82372 **Municipality:**

Title: SRTP Rideshare Program **Route:** **Section:** RSP **A/Q Status:** Exempt

Improvement Type: Miscellaneous **Exempt Code:** Cont. ride-shrng & van-pool prom. at cur lvls

Est. Let Date: **Actual Let Date:**

Geographic Limits: Adams County RPO

Narrative: Ridesharing, vanpooling programs, and transit coordination
Adams County RPO

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	CAQ	$64	$58	$58	$0	$0	$0
		$64	$58	$58	$0	$0	$0

Total FY 2013-2016 Cost $180

Adams

MPMS #: 90201 **Municipality:** Freedom (Twp)

Title: US 15 Resurfacing South **Route:** 15 **Section:** 029 **A/Q Status:** Exempt

Improvement Type: Resurface **Exempt Code:** Pavement resurfacing and/or rehabilitation

Est. Let Date: 06/20/2013 **Actual Let Date:**

Geographic Limits: US-15 PA/Maryland State Line to PA 394 Cumberland, Freedom, Mount Joy and Straban Township

Narrative: Resurface US 15 from the PA/MD State Line to PA 394 in Cumberland, Freedom, Mount Joy and Straban Townships.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	916	$25	$0	$0	$0	$0	$0
CON	NHS	$1,839	$2,593	$3,968	$2,400	$0	$0
CON	581	$460	$580	$1,060	$600	$0	$0
		$2,324	$3,173	$5,028	$3,000	$0	$0

Total FY 2013-2016 Cost $13,525

MPMS #: 82983 **Municipality:** Abbottstown (Boro)

Title: East King Street Bridge **Route:** 30 **Section:** 070 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 04/09/2015 **Actual Let Date:**

Geographic Limits: US 30 (East King Street) bridge over Beaver Creek Abbottstown Boro

Narrative: Bridge Replacement on US 30 (East King Street) over Beaver Creek in Abbottstown Borough, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$140	$0	$0	$0	$0	$0
FD	185	$35	$0	$0	$0	$0	$0
UTL	BOO	$8	$0	$0	$0	$0	$0
UTL	185	$2	$0	$0	$0	$0	$0
ROW	BOO	$8	$0	$0	$0	$0	$0
ROW	185	$2	$0	$0	$0	$0	$0
CON	BOO	$0	$0	$560	$800	$0	$0
CON	185	$0	$0	$140	$200	$0	$0
		$195	$0	$700	$1,000	$0	$0

Total FY 2013-2016 Cost $1,895

Adams

MPMS #: 90860 **Municipality:** Franklin (Twp)

Title: US 30 Resurface #1 **Route:** 30 **Section:** 102 **A/Q Status:** Exempt

Improvement Type: Resurface **Exempt Code:** Pavement resurfacing and/or rehabilitation

Est. Let Date: 06/06/2013 **Actual Let Date:**

Geographic Limits: US 30 from Franklin County Line to SR 3011 (High Street) Franklin Twp

Narrative: Resurface US 30 from Franklin County Line to State Route 3011 (High Street) in Franklin Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	582	$100	$0	$0	$0	$0	$0
UTL	582	$20	$0	$0	$0	$0	$0
ROW	582	$20	$0	$0	$0	$0	$0
CON	NHS	$2,500	$2,000	$0	$0	$0	$0
		$2,640	$2,000	$0	$0	$0	$0

Total FY 2013-2016 Cost $4,640

MPMS #: 87416 **Municipality:** Biglerville (Boro)

Title: S Main St Bridge **Route:** 34 **Section:** 038 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 06/20/2013 **Actual Let Date:**

Geographic Limits: PA Route 34 (Biglerville Rd) over a Tributary to Conewago Creek Biglerville Borough

Narrative: Bridge Replacement on PA 34 (Biglerville Road) over a Tributary to Conewago Creek in Biglerville Borough, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	916	$575	$0	$0	$0	$0	$0
		$575	$0	$0	$0	$0	$0

Total FY 2013-2016 Cost $575

Adams

MPMS #: 87417 **Municipality:** Huntington (Twp)

Title: Carlisle Road Bridge **Route:** 34 **Section:** 040 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 08/11/2016 **Actual Let Date:**

Geographic Limits: PA 34 (Carlisle Road) over Bermudian Creek

Narrative: Bridge Replacement on PA 34 (Carlisle Road) over Bermudian Creek in Tyrone and Huntington Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	BOO	$240	$0	$0	$0	$0	$0
PE	185	$60	$0	$0	$0	$0	$0
FD	BOO	$0	$0	$160	$0	$0	$0
FD	185	$0	$0	$40	$0	$0	$0
UTL	185	$0	$20	$0	$0	$0	$0
ROW	185	$0	$20	$0	$0	$0	$0
CON	916	$0	$0	$0	$800	$0	$0
		$300	$40	$200	$800	$0	$0

Total FY 2013-2016 Cost $1,340

MPMS #: 92391 **Municipality:** Butler (Twp)

Title: Biglerville Road RR **Route:** 34 **Section:** RRX **A/Q Status:** Exempt

Improvement Type: RR Warning Devices **Exempt Code:** Railroad/highway crossing warning devices

Est. Let Date: **Actual Let Date:**

Geographic Limits: Biglerville Road (SR 34) on the at-grade railroad crossing with the single active track of the Gettysburg and Nort

Narrative: Installation of the existing antiquated warning devices on Biglerville Road (State Route 34) on the at-grade railroad crossing DOT#593416B
with the single active track of the Gettysburg and Northern Railroad LLC in Butler Towship, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	RRX	$0	$61	$88	$0	$0	$0
		$0	$61	$88	$0	$0	$0

Total FY 2013-2016 Cost $149

Adams

MPMS #: 94894 **Municipality:** Reading (Twp)

Title: 94 & 394 Intersection Imp **Route:** 94 **Section:** 025 **A/Q Status:** Exempt

Improvement Type: Intersection Improvement **Exempt Code:** Safety improvement program

Est. Let Date: **Actual Let Date:**

Geographic Limits: Intersection of PA 94, PA 394, and SR 1007 (Stoney Point Road) Reading Township

Narrative: Intersection improvement to the intersection of PA 94, PA 394, and State Route 1007 (Stoney Point Road) in Reading Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	HSIP	$200	$0	$0	$0	$0	$0
FD	HSIP	$0	$150	$0	$0	$0	$0
UTL	HSIP	$0	$50	$0	$0	$0	$0
ROW	HSIP	$0	$100	$0	$0	$0	$0
CON	HSIP	$0	$0	$0	$0	$1,035	$0
		$200	$300	$0	$0	$1,035	$0

Total FY 2013-2016 Cost $500

MPMS #: 94897 **Municipality:** Reading (Twp)

Title: 94 & 234 Intersection Imp **Route:** 94 **Section:** 026 **A/Q Status:** Exempt

Improvement Type: Intersection Improvement **Exempt Code:** Safety improvement program

Est. Let Date: 06/09/2016 **Actual Let Date:**

Geographic Limits: Intersection of PA 94 and PA 234 Reading Township

Narrative: Intersection improvement to the intersection of PA 94 and PA 234 in Reading Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	CAQ	$200	$0	$0	$0	$0	$0
FD	CAQ	$0	$150	$0	$0	$0	$0
UTL	CAQ	$0	$30	$0	$0	$0	$0
ROW	CAQ	$0	$50	$0	$0	$0	$0
CON	CAQ	$0	$0	$0	$920	$0	$0
		$200	$230	$0	$920	$0	$0

Total FY 2013-2016 Cost $1,350

Adams

MPMS #: 68744 **Municipality:** Mount Pleasant (Twp)

Title: Hanover Road Bridge 2 **Route:** 116 **Section:** 024 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 10/17/2013 **Actual Let Date:**

Geographic Limits: PA-116 (Hanover Road) over White Run and branch of White Run Mount Pleasant Twp

Narrative: Bridge Replacements on PA-116 (Hanover Road) over White Run and branch of White Run in Mount Pleasant Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	STP	$694	$0	$0	$0	$0	$0
CON	BOO	$1,170	$0	$0	$0	$0	$0
CON	185	$466	$0	$0	$0	$0	$0
		$2,330	$0	$0	$0	$0	$0

Total FY 2013-2016 Cost $2,330

MPMS #: 85652 **Municipality:** Conewago (Twp)

Title: PA 116 and Oxford Ave **Route:** 116 **Section:** 030 **A/Q Status:** Exempt

Improvement Type: Intersection Improvement **Exempt Code:** Safety improvement program

Est. Let Date: 08/20/2015 **Actual Let Date:**

Geographic Limits: Intersection of PA-116 (Main Street, Third Street) & SR 2008 (Elm Avenue/Oxford Avenue) McSherrystown

Narrative: Intersection improvement to the intersection of PA 116 and State Route 2008 (Elm Avenue/Oxford Avenue) in McSherrystown Borough and Conewago Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	HSIP	$90	$0	$0	$0	$0	$0
FD	581	$10	$0	$0	$0	$0	$0
UTL	HSIP	$45	$0	$0	$0	$0	$0
UTL	581	$5	$0	$0	$0	$0	$0
ROW	HSIP	$45	$0	$0	$0	$0	$0
ROW	581	$5	$0	$0	$0	$0	$0
CON	HSIP	$0	$0	$514	$386	$0	$0
CON	581	$0	$0	$57	$43	$0	$0
		$200	$0	$571	$429	$0	$0

Total FY 2013-2016 Cost $1,200

Adams

MPMS #: 18147 **Municipality:** Cumberland (Twp)

Title: Fairfield Road Bridge 2 **Route:** 116 **Section:** 032 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: PA 116 (Hanover Rd) over Willoughby Run Cumberland Twp

Narrative: Bridge Replacement on PA 116 (Hanover Road) over Willoughby Run in Cumberland Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$0	$0	$160	$0	$0	$0
FD	185	$0	$0	$40	$0	$0	$0
UTL	185	$0	$0	$15	$0	$0	$0
ROW	185	$0	$0	$15	$0	$0	$0
CON	STP	$0	$0	$0	$0	$2,400	$0
CON	185	$0	$0	$0	$0	$600	$0
		$0	$0	$230	$0	$3,000	$0

Total FY 2013-2016 Cost $230

MPMS #: 81087 **Municipality:** Conewago (Twp)

Title: Bridge PM/Painting **Route:** 116 **Section:** 033 **A/Q Status:** Exempt

Improvement Type: Bridge Preservation Activities **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 06/01/2014 **Actual Let Date:**

Geographic Limits: Various bridges in Adams County: PA 116 over S Branch of Conewago Ck, SR 1017 (Red Bridge Rd) over Beav

Narrative: Bridge Preservation on various bridges in Adams County:

PA 116 over South Branch of Conewago Creek in Union, Mt Pleasant, and Conewago Townships.
State Route 1017 (Red Bridge Road) over Beaverdam Creek in Straban Township.
State Route 2009 (Chapel Road) over Plum Creek in Conewago Township.
State Route 3003 (Hunterstown Road) over Rock Creek in Straban Township.
State Route 3017 (Mummasburg Road) over Willoughby Run in Cumberland Township.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	916	$0	$499	$702	$0	$0	$0
		$0	$499	$702	$0	$0	$0

Total FY 2013-2016 Cost $1,200

Adams

MPMS #: 18051 **Municipality:** Highland (Twp)

Title: Fairfield Road Bridge 3 **Route:** 116 **Section:** 035 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: PA 116 (Fairfield Road) over Muddy Run Highland Township

Narrative: Bridge Replacement on PA 116 (Fairfield Road) over Muddy Run in Highland Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
PE	916	$0	$0	$250	$0	$0	$0
FD	916	$0	$0	$0	$150	$0	$0
UTL	916	$0	$0	$0	$15	$0	$0
ROW	916	$0	$0	$0	$15	$0	$0
CON	916	$0	$0	$0	$0	$750	$0
		$0	$0	$250	$180	$750	$0

Total FY 2013-2016 Cost $430

MPMS #: 73602 **Municipality:** Tyrone (Twp)

Title: 234 & 3001 Improvements **Route:** 234 **Section:** 020 **A/Q Status:** Exempt

Improvement Type: Widen **Exempt Code:** Safety improvement program

Est. Let Date: 01/07/2016 **Actual Let Date:**

Geographic Limits: SR 234 and SR 3001 (Heidlersburg Road) Tyrone and HuntingtonTownships

Narrative: Upgrade signing/pavement markings and minor pave/shoulder upgrade on PA-234 and State Route 3001 (Heidlersburg Road) in Tyrone and Huntington Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	HSIP	$0	$113	$0	$0	$0	$0
FD	581	$0	$13	$0	$0	$0	$0
UTL	HSIP	$0	$18	$0	$0	$0	$0
UTL	581	$0	$2	$0	$0	$0	$0
ROW	HSIP	$0	$18	$0	$0	$0	$0
ROW	581	$0	$2	$0	$0	$0	$0
CON	HSIP	$0	$0	$0	$128	$232	$0
CON	581	$0	$0	$0	$14	$26	$0
		$0	$165	$0	$142	$258	$0

Total FY 2013-2016 Cost $307

Adams

MPMS #: 87418 **Municipality:** Conewago (Twp)

Title: Black Lane Bridge **Route:** 2009 **Section:** 011 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 02/04/2016 **Actual Let Date:**

Geographic Limits: SR 2009 (Black Lane Road) over tributary of Conewago Creek. Conewago and Oxford Townships

Narrative: Bridge Replacement on State Route 2009 (Black Lane Road) over Tributary of Conewago Creek in Conewago and Oxford Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	STP	$0	$200	$0	$0	$0	$0
FD	185	$0	$50	$0	$0	$0	$0
UTL	BOO	$0	$20	$0	$0	$0	$0
UTL	185	$0	$5	$0	$0	$0	$0
ROW	BOO	$0	$20	$0	$0	$0	$0
ROW	185	$0	$5	$0	$0	$0	$0
CON	STP	$0	$0	$0	$1,530	$0	$0
		$0	$300	$0	$1,530	$0	$0

Total FY 2013-2016 Cost $1,830

MPMS #: 58603 **Municipality:** Huntington (Twp)

Title: Old Hbg Road Bridge 3 **Route:** 3001 **Section:** 034 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 12/10/2015 **Actual Let Date:**

Geographic Limits: SR 3001 (Old Harrisburg Road) over Bermudian Creek Huntington Twp

Narrative: Bridge Replacement on State Route 3001 (Old Harrisburg Road) over Bermudian Creek in Huntington Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$180	$0	$0	$0	$0	$0
FD	185	$45	$0	$0	$0	$0	$0
UTL	BOO	$20	$0	$0	$0	$0	$0
UTL	185	$5	$0	$0	$0	$0	$0
ROW	BOO	$12	$0	$0	$0	$0	$0
ROW	185	$3	$0	$0	$0	$0	$0
CON	BOO	$0	$0	$0	$600	$0	$0
CON	STP	$0	$0	$0	$0	$1,400	$0
		$265	$0	$0	$600	$1,400	$0

Total FY 2013-2016 Cost $865

Adams

MPMS #: 18145 **Municipality:** Butler (Twp)

Title: Old Harrisburg Rd. Br. 1 **Route:** 3001 **Section:** 036 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 07/09/2015 **Actual Let Date:**

Geographic Limits: SR 3001 (Old Harrisburg Road Bridge) over Conewago Creek Butler & Tyrone Twps

Narrative: Bridge Replacement on State Route 3001 (Old Harrisburg Road) over Conewago Creek in Butler and Tyrone Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$160	$0	$0	$0	$0	$0
FD	185	$40	$0	$0	$0	$0	$0
UTL	BOO	$20	$0	$0	$0	$0	$0
UTL	185	$5	$0	$0	$0	$0	$0
ROW	BOO	$16	$0	$0	$0	$0	$0
ROW	185	$4	$0	$0	$0	$0	$0
CON	BOO	$0	$1,000	$680	$0	$0	$0
CON	185	$0	$250	$170	$0	$0	$0
		$245	$1,250	$850	$0	$0	$0

Total FY 2013-2016 Cost $2,345

MPMS #: 68733 **Municipality:** Butler (Twp)

Title: Old Hbg Road Bridge 2 **Route:** 3001 **Section:** 037 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 07/09/2015 **Actual Let Date:**

Geographic Limits: SR 3001 (Old Harrisburg Road) over Conewago Creek Butler and Tyrone Twps

Narrative: Bridge Replacement on State Route 3001 (Old Harrisburg Road) over Conewago Creek in Butler and Tyrone Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$120	$0	$0	$0	$0	$0
FD	185	$30	$0	$0	$0	$0	$0
UTL	BOO	$20	$0	$0	$0	$0	$0
UTL	185	$5	$0	$0	$0	$0	$0
ROW	BOO	$20	$0	$0	$0	$0	$0
ROW	185	$5	$0	$0	$0	$0	$0
CON	BOO	$0	$0	$798	$642	$0	$0
CON	185	$0	$0	$200	$161	$0	$0
		$200	$0	$998	$803	$0	$0

Total FY 2013-2016 Cost $2,000

Adams

MPMS #: 18149 **Municipality:** Freedom (Twp)

Title: Mason Dixon Rd Bridge **Route:** 3002 **Section:** 013 **A/Q Status:** Exempt

Improvement Type: Bridge Rehabilitation **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 03/14/2013 **Actual Let Date:**

Geographic Limits: SR 3002 (Mason Dixon Road) over Marsh Creek Freedom Township in Adams County

Narrative: Bridge Rehabilitation on State Route 3002 (Mason Dixon Road) over Marsh Creek in Freedom Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
UTL	916	$20	$0	$0	$0	$0	$0
ROW	916	$25	$0	$0	$0	$0	$0
CON	916	$308	$555	$0	$0	$0	$0
		$353	$555	$0	$0	$0	$0

Total FY 2013-2016 Cost $908

MPMS #: 17938 **Municipality:** Cumberland (Twp)

Title: Cunningham Road Bridge **Route:** 3008 **Section:** 001 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 01/24/2013 **Actual Let Date:**

Geographic Limits: SR 3008 (Cunningham Road) over Marsh Creek Cumberland and Freedom Townships

Narrative: Bridge Replacement on State Route 3008 (Cunningham Road) over Marsh Creek in Cumberland and Freedom Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	916	$2,500	$0	$0	$0	$0	$0
		$2,500	$0	$0	$0	$0	$0

Total FY 2013-2016 Cost $2,500

Adams

MPMS #: 87674 **Municipality:** Franklin (Twp)

Title: Fairview Road Bridge **Route:** 3015 **Section:** 013 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 06/01/2014 **Actual Let Date:**

Geographic Limits: SR3015 (Fairview Road) over Marsh Road Franklin Township

Narrative: Bridge Replacement on State Route 3015 (Fairview Road) over Marsh Road in Franklin Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
UTL	BOO	$0	$40	$0	$0	$0	$0
UTL	185	$0	$10	$0	$0	$0	$0
ROW	BOO	$0	$40	$0	$0	$0	$0
ROW	185	$0	$10	$0	$0	$0	$0
CON	BOO	$0	$500	$800	$0	$0	$0
		$0	$600	$800	$0	$0	$0

Total FY 2013-2016 Cost $1,400

MPMS #: 18148 **Municipality:** Butler (Twp)

Title: Old Carlisle Road Bridge **Route:** 4001 **Section:** 012 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: SR 4001 (Old Carlisle Rd) Over Opposum Creek Butler Twp

Narrative: Bridge Replacement on State Route 4001 (Old Carlisle Road) over Opposum Creek in Butler Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$200	$0	$0	$0	$0	$0
FD	185	$50	$0	$0	$0	$0	$0
UTL	BOO	$12	$0	$0	$0	$0	$0
UTL	185	$3	$0	$0	$0	$0	$0
ROW	BOO	$12	$0	$0	$0	$0	$0
ROW	185	$3	$0	$0	$0	$0	$0
CON	STP	$0	$0	$0	$0	$1,978	$0
CON	185	$0	$0	$0	$0	$494	$0
		$280	$0	$0	$0	$2,472	$0

Total FY 2013-2016 Cost $280

Adams

MPMS #: 90629 **Municipality:** Butler (Twp)

Title: Old Carlisle Road Bridge **Route:** 4001 **Section:** 013 **A/Q Status:** Exempt

Improvement Type: Dept. Force Culvert Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: Sr4001 Old Carlisle Road over Tributary to Opossum Creek Butler Township

Narrative: Bridge Replacement on State Route 4001 (Old Carlisle Road) over a Tributary to Opossum Creek in Butler Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
CON	916	$100	$0	$0	$0	$0	$0
		$100	$0	$0	$0	$0	$0

Total FY 2013-2016 Cost $100

MPMS #: 74952 **Municipality:** Franklin (Twp)

Title: Shippensburg Road Bridge **Route:** 4010 **Section:** 011 **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: 09/08/2016 **Actual Let Date:**

Geographic Limits: SR 4010 (Shippensburg Road) over Conewago Creek Franklin & Menallen Twps

Narrative: Bridge Replacement on State Route 4010 (Shippensburg Road) over Conewago Creek in Franklin and Menallen Townships, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOO	$0	$200	$0	$0	$0	$0
FD	185	$0	$50	$0	$0	$0	$0
UTL	BOO	$0	$16	$0	$0	$0	$0
UTL	185	$0	$4	$0	$0	$0	$0
ROW	BOO	$0	$16	$0	$0	$0	$0
ROW	185	$0	$4	$0	$0	$0	$0
CON	BOO	$0	$0	$0	$760	$352	$0
CON	185	$0	$0	$0	$190	$88	$0
		$0	$290	$0	$950	$440	$0

Total FY 2013-2016 Cost $1,240

Adams

MPMS #: 18151 **Municipality:**

Title: Horner Rd Brg T-402 **Route:** 7204 **Section:** BRG **A/Q Status:** Exempt

Improvement Type: Bridge Replacement **Exempt Code:** Widen narw. pave. or recon brdgs (No addtl lanes)

Est. Let Date: **Actual Let Date:**

Geographic Limits: Horner Road (SR 7204) over Marsh Creek Cumberland Township

Narrative: Bridge Replacement on Horner Road (State Route 7204) over Marsh Creek in Cumberland Township, Adams County.

TIP Program Years ($000)

Phase	Fund	FY 2013	FY 2014	FY 2015	FY 2016	2nd 4 Years	3rd 4 Years
FD	BOF	$320	$0	$0	$0	$0	$0
FD	183	$60	$0	$0	$0	$0	$0
FD	LOC	$20	$0	$0	$0	$0	$0
UTL	BOF	$40	$0	$0	$0	$0	$0
UTL	183	$8	$0	$0	$0	$0	$0
UTL	LOC	$3	$0	$0	$0	$0	$0
ROW	BOF	$64	$0	$0	$0	$0	$0
ROW	183	$12	$0	$0	$0	$0	$0
ROW	LOC	$4	$0	$0	$0	$0	$0
CON	BOF	$0	$0	$0	$0	$2,240	$0
CON	183	$0	$0	$0	$0	$420	$0
CON	LOC	$0	$0	$0	$0	$140	$0
		$530	$0	$0	$0	$2,800	$0

Total FY 2013-2016 Cost $530

							FFY 2013 Costs						FFY 2014 Costs						FFY 2015 Costs						FFY 2016 Costs						
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St	Federal	State	Local	Total	^Milestones
Adams			87792	Bridge Reserve	C	BRDG														185		50,500		50,500							
Adams			87792	Bridge Reserve	C	BRDG								185		7,000		7,000													
Adams			87792	Bridge Reserve	C	BRDG		185		1,100		1,100																			
Adams			87792	Bridge Reserve	C	BRDG																			BOO	185	36,000	119,500		155,500	
Adams			87794	CMAQ Line Item	C	SAMI							CAQ		34,458			34,458													
Adams			87794	CMAQ Line Item	C	SAMI													CAQ		884,922			884,922							
Adams			87794	CMAQ Line Item	C	SAMI																			CAQ		23,000			23,000	
Adams			87807	Delivery / Consult Assist	P	BRDG		185		95,000		95,000																			
Adams			87807	Delivery / Consult Assist	P	HRST								185		95,000		95,000													
Adams			87807	Delivery / Consult Assist	P	HRST								581		41,544		41,544													
Adams			87807	Delivery / Consult Assist	P	HRST		581		158,150		158,150																			
Adams			87807	Delivery / Consult Assist	C	BRDG								185		140,000		140,000													
Adams			87807	Delivery / Consult Assist	C	BRDG		185		140,000		140,000																			
Adams			87809	ENH Line Item	C	TENH	STE		199,000			199,000																			
Adams			87809	ENH Line Item	C	TENH							STE		199,000			199,000													
Adams			87809	ENH Line Item	C	TENH													STE		199,000			199,000							
Adams			87809	ENH Line Item	C	TENH																			STE		199,000			199,000	
Adams			87811	HSIP Line Item	C	SAMI	HSIP		134,000			134,000																			
Adams			87811	HSIP Line Item	C	SAMI							HSIP		65,500			65,500													
Adams			87812	RRX Line Item	C	HRST																			RRX		88,000			88,000	
Adams			88019	Adams HRST Line Item	C	HRST													STP	581	1,919,400	120,695		2,040,095							
Adams			88019	Adams HRST Line Item	C	HRST																			STP	581	2,277,000	580,889		2,857,889	
Adams			88086	App 916 Reserve	C	BRDG																				916		73,000		73,000	
Adams			88086	App 916 Reserve	C	BRDG														916		101,500		101,500							
Adams			f94899	Adams RPO Park & Ride	C	SAMI	CAQ		678,691			678,691																			
Adams			f94899	Adams RPO Park & Ride	C	SAMI							CAQ		621,039			621,039													
Adams		ENH	93722	Seminary Ridge Trail	C	SPFED							SBY		960,000		240,000	1,200,000													
Adams		RRX	94743	Pond Street RR Crossing	C	SAMI	RRX		88,000			88,000																			
Adams		RRX	94743	Pond Street RR Crossing	C	SAMI							RRX		27,000			27,000													
Adams		RSP	82372	SRTP Rideshare Program	P	IMOD	CAQ		64,309			64,309																			
Adams		RSP	82372	SRTP Rideshare Program	P	IMOD							CAQ		57,503			57,503													
Adams		RSP	82372	SRTP Rideshare Program	P	IMOD													CAQ		58,078			58,078							
Adams	15	029	90201	US 15 Resurfacing South	P	XRST		916		25,000		25,000																			
Adams	15	029	90201	US 15 Resurfacing South	C	XRST	NHS	581	1,839,400	459,850		2,299,250																			06/20/2013 E
Adams	15	029	90201	US 15 Resurfacing South	C	XRST							NHS	581	2,593,000	579,956		3,172,956													06/20/2013 E
Adams	15	029	90201	US 15 Resurfacing South	C	XRST													NHS	581	1,567,600	460,194		2,027,794							06/20/2013 E
Adams	15	029	90201	US 15 Resurfacing South	C	XRST														s581		600,000		600,000							06/20/2013 E
Adams	15	029	90201	US 15 Resurfacing South	C	XRST													sNHS		2,400,000			2,400,000							06/20/2013 E
Adams	15	029	90201	US 15 Resurfacing South	C	XRST																			sNHS	s581	2,400,000	600,000		3,000,000	06/20/2013 E
Adams	30	070	82983	East King Street Bridge	F	BRDG	BOO	185	140,000	35,000		175,000																			
Adams	30	070	82983	East King Street Bridge	U	BRDG	BOO	185	8,000	2,000		10,000																			
Adams	30	070	82983	East King Street Bridge	R	BRDG	BOO	185	8,000	2,000		10,000																			
Adams	30	070	82983	East King Street Bridge	C	BRDG													BOO	185	560,000	140,000		700,000							04/09/2015 E

							FFY 2013 Costs						FFY 2014 Costs						FFY 2015 Costs						FFY 2016 Costs						
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St	Federal	State	Local	Total	^Milestones
Adams	30	070	82983	East King Street Bridge	C	BRDG																			BOO	185	800,000	200,000		1,000,000	04/09/2015 E
Adams	30	102	90860	US 30 Resurface #1	P	HRST		582		100,000		100,000																			03/28/2013 E
Adams	30	102	90860	US 30 Resurface #1	U	HRST		582		20,000		20,000																			
Adams	30	102	90860	US 30 Resurface #1	R	HRST		582		20,000		20,000																			
Adams	30	102	90860	US 30 Resurface #1	+C	HRST	NHS		2,500,000			2,500,000																			06/06/2013 E
Adams	30	102	90860	US 30 Resurface #1	+C	HRST							NHS		2,000,000			2,000,000													06/06/2013 E
Adams	34	038	87416	S Main St Bridge	C	BRDG		916		575,000		575,000																			06/20/2013 E
Adams	34	040	87417	Carlisle Road Bridge	P	BRDG	BOO	185	184,000	60,000		244,000																			
Adams	34	040	87417	Carlisle Road Bridge	P	BRDG	BOO		56,000			56,000																			
Adams	34	040	87417	Carlisle Road Bridge	F	BRDG													BOO	185	160,000	40,000		200,000							
Adams	34	040	87417	Carlisle Road Bridge	U	BRDG								185		20,000		20,000													
Adams	34	040	87417	Carlisle Road Bridge	R	BRDG								185		20,000		20,000													
Adams	34	040	87417	Carlisle Road Bridge	C	BRDG																				916		800,000		800,000	08/11/2016 E
Adams	34	RRX	92391	Biglerville Road RR	C	SAMI							RRX		61,000			61,000													
Adams	34	RRX	92391	Biglerville Road RR	C	SAMI													RRX		88,000			88,000							
Adams	94	025	94894	94 & 394 Intersection Imp	P	SAMI	HSIP		200,000			200,000																			
Adams	94	025	94894	94 & 394 Intersection Imp	F	SAMI							HSIP		150,000			150,000													
Adams	94	025	94894	94 & 394 Intersection Imp	U	SAMI							HSIP		50,000			50,000													
Adams	94	025	94894	94 & 394 Intersection Imp	R	SAMI							HSIP		100,000			100,000													
Adams	94	026	94897	94 & 234 Intersection Imp	+P	SAMI	CAQ		200,000			200,000																			
Adams	94	026	94897	94 & 234 Intersection Imp	+F	SAMI							CAQ		150,000			150,000													
Adams	94	026	94897	94 & 234 Intersection Imp	+U	SAMI							CAQ		30,000			30,000													
Adams	94	026	94897	94 & 234 Intersection Imp	+R	SAMI							CAQ		50,000			50,000													
Adams	94	026	94897	94 & 234 Intersection Imp	+C	SAMI																			CAQ		920,000			920,000	06/09/2016 E
Adams	116	024	68744	Hanover Road Bridge 2	C	BRDG	sBOO	185	1,170,400	173,400		1,343,800																			10/17/2013 E
Adams	116	024	68744	Hanover Road Bridge 2	C	BRDG		s185		292,600		292,600																			10/17/2013 E
Adams	116	024	68744	Hanover Road Bridge 2	C	BRDG	STP		693,600			693,600																			10/17/2013 E
Adams	116	030	85652	PA 116 and Oxford Ave	F	SAMI	HSIP	581	90,000	10,000		100,000																			
Adams	116	030	85652	PA 116 and Oxford Ave	U	SAMI	HSIP	581	45,000	5,000		50,000																			
Adams	116	030	85652	PA 116 and Oxford Ave	R	SAMI	HSIP	581	45,000	5,000		50,000																			
Adams	116	030	85652	PA 116 and Oxford Ave	C	SAMI													HSIP	581	514,000	57,111		571,111							08/20/2015 E
Adams	116	030	85652	PA 116 and Oxford Ave	C	SAMI																			HSIP	581	386,000	42,889		428,889	08/20/2015 E
Adams	116	032	18147	Fairfield Road Bridge 2	F	BRDG													BOO	185	160,000	40,000		200,000							
Adams	116	032	18147	Fairfield Road Bridge 2	U	BRDG														185		15,000		15,000							
Adams	116	032	18147	Fairfield Road Bridge 2	R	BRDG														185		15,000		15,000							
Adams	116	033	81087	Bridge PM/Painting	C	BRDG														916		701,500		701,500							06/01/2014 E
Adams	116	033	81087	Bridge PM/Painting	C	BRDG								916		498,500		498,500													06/01/2014 E
Adams	116	035	18051	Fairfield Road Bridge 3	P	BRDG														916		250,000		250,000							
Adams	116	035	18051	Fairfield Road Bridge 3	F	BRDG																				916		150,000		150,000	
Adams	116	035	18051	Fairfield Road Bridge 3	U	BRDG																				916		15,000		15,000	
Adams	116	035	18051	Fairfield Road Bridge 3	R	BRDG																				916		15,000		15,000	
Adams	234	020	73602	234 & 3001 Improvements	F	SAMI							HSIP	581	112,500	12,500		125,000													
Adams	234	020	73602	234 & 3001 Improvements	U	SAMI							HSIP	581	18,000	2,000		20,000													

							FFY 2013 Costs						FFY 2014 Costs						FFY 2015 Costs						FFY 2016 Costs						
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St	Federal	State	Local	Total	^Milestones
Adams	234	020	73602	234 & 3001 Improvements	R	SAMI							HSIP	581	18,000	2,000		20,000													
Adams	234	020	73602	234 & 3001 Improvements	C	SAMI																			HSIP	581	128,000	14,222		142,222	01/07/2016 E
Adams	2009	011	87418	Black Lane Bridge	F	BRDG							STP	185	200,000	50,000		250,000													
Adams	2009	011	87418	Black Lane Bridge	U	BRDG							BOO	185	20,000	5,000		25,000													
Adams	2009	011	87418	Black Lane Bridge	R	BRDG							BOO	185	20,000	5,000		25,000													
Adams	2009	011	87418	Black Lane Bridge	+C	BRDG																			STP		1,530,000			1,530,000	02/04/2016 E
Adams	3001	034	58603	Old Hbg Road Bridge 3	F	BRDG	BOO	185	180,000	45,000		225,000																			
Adams	3001	034	58603	Old Hbg Road Bridge 3	U	BRDG	BOO	185	20,000	5,000		25,000																			
Adams	3001	034	58603	Old Hbg Road Bridge 3	R	BRDG	BOO	185	12,000	3,000		15,000																			
Adams	3001	034	58603	Old Hbg Road Bridge 3	+C	BRDG																			BOO		600,000			600,000	12/10/2015 E
Adams	3001	036	18145	Old Harrisburg Rd. Br. 1	F	BRDG	BOO	185	160,000	40,000		200,000																			
Adams	3001	036	18145	Old Harrisburg Rd. Br. 1	U	BRDG	BOO	185	20,000	5,000		25,000																			
Adams	3001	036	18145	Old Harrisburg Rd. Br. 1	R	BRDG	BOO	185	16,000	4,000		20,000																			
Adams	3001	036	18145	Old Harrisburg Rd. Br. 1	C	BRDG							BOO	185	1,000,000	250,000		1,250,000													07/09/2015 E
Adams	3001	036	18145	Old Harrisburg Rd. Br. 1	C	BRDG													BOO	185	680,000	170,000		850,000							07/09/2015 E
Adams	3001	037	68733	Old Hbg Road Bridge 2	F	BRDG	BOO	185	120,000	30,000		150,000																			
Adams	3001	037	68733	Old Hbg Road Bridge 2	U	BRDG	BOO	185	20,000	5,000		25,000																			
Adams	3001	037	68733	Old Hbg Road Bridge 2	R	BRDG	BOO	185	20,000	5,000		25,000																			
Adams	3001	037	68733	Old Hbg Road Bridge 2	C	BRDG													BOO	185	798,000	199,500		997,500							07/09/2015 E
Adams	3001	037	68733	Old Hbg Road Bridge 2	C	BRDG																			BOO	185	642,000	160,500		802,500	07/09/2015 E
Adams	3002	013	18149	Mason Dixon Rd Bridge	U	BRDG		916		20,000		20,000																			
Adams	3002	013	18149	Mason Dixon Rd Bridge	R	BRDG		916		25,000		25,000																			
Adams	3002	013	18149	Mason Dixon Rd Bridge	C	BRDG								916		554,500		554,500													03/14/2013 E
Adams	3002	013	18149	Mason Dixon Rd Bridge	C	BRDG		916		308,000		308,000																			03/14/2013 E
Adams	3008	001	17938	Cunningham Road Bridge	C	BRDG		d916		2,500,000		2,500,000																			01/24/2013 E
Adams	3015	013	87674	Fairview Road Bridge	U	BRDG							BOO	185	40,000	10,000		50,000													
Adams	3015	013	87674	Fairview Road Bridge	R	BRDG							BOO	185	40,000	10,000		50,000													
Adams	3015	013	87674	Fairview Road Bridge	+C	BRDG							BOO		500,000			500,000													06/01/2014 E
Adams	3015	013	87674	Fairview Road Bridge	+C	BRDG													BOO		800,000			800,000							06/01/2014 E
Adams	4001	012	18148	Old Carlisle Road Bridge	F	BRDG	BOO	185	200,000	50,000		250,000																			
Adams	4001	012	18148	Old Carlisle Road Bridge	U	BRDG	BOO	185	12,000	3,000		15,000																			
Adams	4001	012	18148	Old Carlisle Road Bridge	R	BRDG	BOO	185	12,000	3,000		15,000																			
Adams	4001	013	90629	Old Carlisle Road Bridge	C	BRDG		916		100,000		100,000																			
Adams	4010	011	74952	Shippensburg Road Bridge	F	BRDG							BOO	185	200,000	50,000		250,000													
Adams	4010	011	74952	Shippensburg Road Bridge	U	BRDG							BOO	185	16,000	4,000		20,000													
Adams	4010	011	74952	Shippensburg Road Bridge	R	BRDG							BOO	185	16,000	4,000		20,000													
Adams	4010	011	74952	Shippensburg Road Bridge	C	BRDG																			BOO	185	760,000	190,000		950,000	09/08/2016 E
Adams	7204	BRG	18151	Horner Rd Brg T-402	F	BRDG	BOF	183	320,000	60,000	20,000	400,000																			
Adams	7204	BRG	18151	Horner Rd Brg T-402	U	BRDG	BOF	183	40,000	7,500	2,500	50,000																			

							FFY 2013 Costs						FFY 2014 Costs						FFY 2015 Costs						FFY 2016 Costs						
County	S.R.	Sec.	Project	Project Title	Ph	Area	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St.	Federal	State	Local	Total	Fed.	St	Federal	State	Local	Total	^Milestones
Adams	7204	BRG	18151	Horner Rd Brg T-402	R	BRDG	BOF	183	64,000	12,000	4,000	80,000																			
Totals for: Adams									9,559,400	5,409,600	26,500	14,995,500			9,349,000	2,361,000	240,000	11,950,000			10,789,000	2,961,000		13,750,000			10,789,000	2,961,000		13,750,000	54,445,500
									9,559,400	5,409,600	26,500	14,995,500			9,349,000	2,361,000	240,000	11,950,000			10,789,000	2,961,000		13,750,000			10,789,000	2,961,000		13,750,000	54,445,500

Summary information is now found on the TIP200e report.

APPENDIX F
Long List of Future Projects

A. Future Projects

During the development of the LRTP, projects identified by previous county and regional Comprehensive Plans, targeted transportation plans, and municipal traffic studies were reviewed and considered for inclusion in the CIP. Projects that did not rise to the level of inclusion in Capital Improvements Plan (CIP) are listed below. These projects should be considered for further analysis and study through regional or targeted corridor studies before being added to the CIP of the LRTP, and ultimately the TIP, when financial capacity is available to implement new projects and/or a source of matching funds is identified by a local sponsor.

(1). Previously Funded Projects. The following projects were previous recipients of funding through the TIP process or as an Earmark in Federal legislation.

- East-West Adams County Mobility Study

(2). Congestion Management Projects. The following area or corridors were identified by the Travel Demand Model (TDM) as area of concern for future congestion issues.

- Gettysburg, including:
  - US Route 30,
  - PA Route 116,
  - PA Route 234, and
  - PA Route 394.
- New Oxford, including:
  - US Route 30,
  - Hanover Street (SR 1015), and
  - Oxford Road (SR 1015).
- Abbottstown, including:
  - US Route 30, and
  - PA Route 194.
- PA Route 194 between Hanover and Littlestown.
- High Street Connection between Eisenhower Drive and Hanover Street (SR 1015).

(3). US Route 15 Interchange Projects. The following interchange and at-grade crossing points along the US Route 15 Corridor should be further evaluated for safety and congestion management related issues.

- Business Route 15 (Emmitsburg Road)
- PA Route 134 (Taneytown Road)
- PA Route 97 (Baltimore Street)
- PA Route 116 (Hanover Street)
- PA Route 394 (Hunterstown Road)
- PA Route 234 (Biglerville Road)
- South Ridge Road (T-560)
- PA Route 94
- County Line Road

(4). National Highway System (NHS) Improvements.

Adams County has three road corridors designated as components of the National Highway System (NHS), Route 15, Route 30 and Route 94 south of Route 30. These corridors encompass over fifty-eight (58) miles of road within the County. These roads connect Adams County to larger regional commercial and employment centers and carry the highest traffic volumes of all roads in the County. Improvements to specific intersections, bridges and/or road segments along these routes should receive a higher degree of priority for roadway and bridge maintenance as well as for safety improvements, for both vehicles and bicycles and pedestrians, and mobility improvements related to goods movement and transit due to their importance in providing access for Adams County residents and workers to regional commercial and employment centers.

(5). Safety Improvement Projects. Due to the sensitive nature of accident cluster reports and the continually changing database for evaluating the number and severity of accident locations, no specific projects have been identified in this section. However, all intersection locations within Adams County identified on the Statewide and Countywide Accident lists prepared by PennDOT are hereby included.

(6). Bridge Projects. As of the effective date of this plan, all current Structurally Deficient (SD) bridges, as well as all bridges subsequently classified as SD through the bridge inspection process are hereby included for future consideration.

(7). Bicycle, Pedestrian, and Non-Motorized Projects. The following projects have been identified as future candidates under this category:

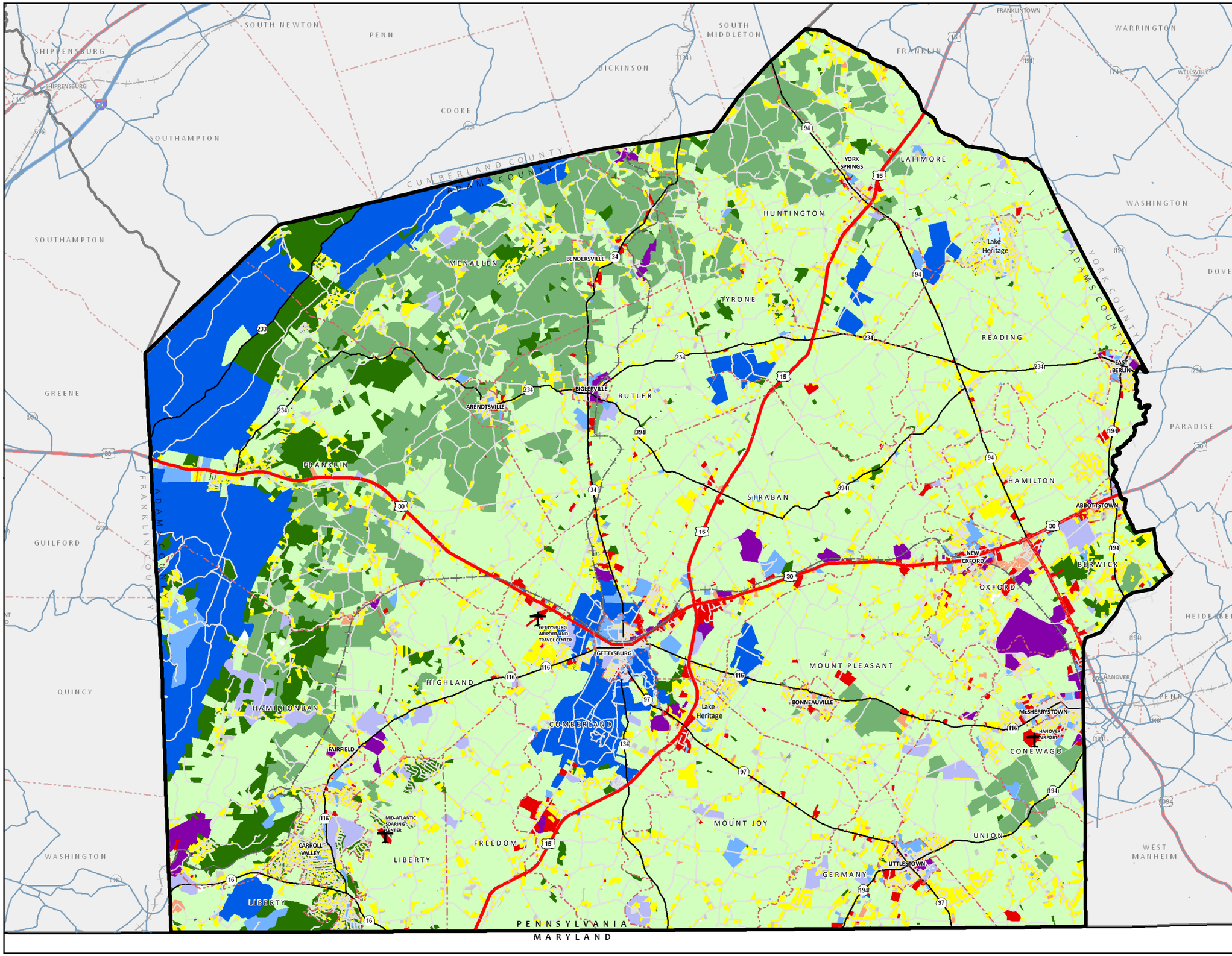
- New Oxford Center Square Improvements
- Hanover to Gettysburg Bicycle Trail
- Gettysburg to Emmitsburg Bicycle Trail
- North Gettysburg Trail
- Journey Through Hallowed Ground / Scenic Byways Implementation

APPENDIX G
Maps

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 1
Land Use



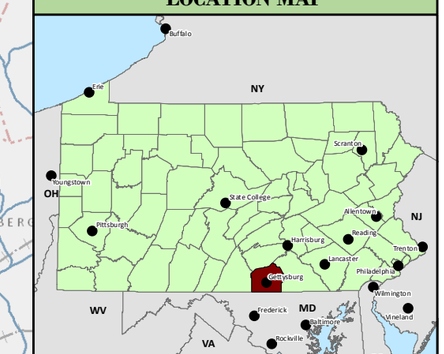
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- State Roads
- National Highway System
- Township Roads

2007 Land Use

- Wooded
- Specialized Ag
- Agricultural/ Residential 10+ ac
- Residential - <10 ac
- Mixed Use
- Commercial
- Industrial/Quarry
- State/Federal
- Public/Utility
- Outdoor Recreation
- Vacant - <10 ac

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, 2007 existing land use data from ACOPD

July 20, 2011

Scale (Feet)

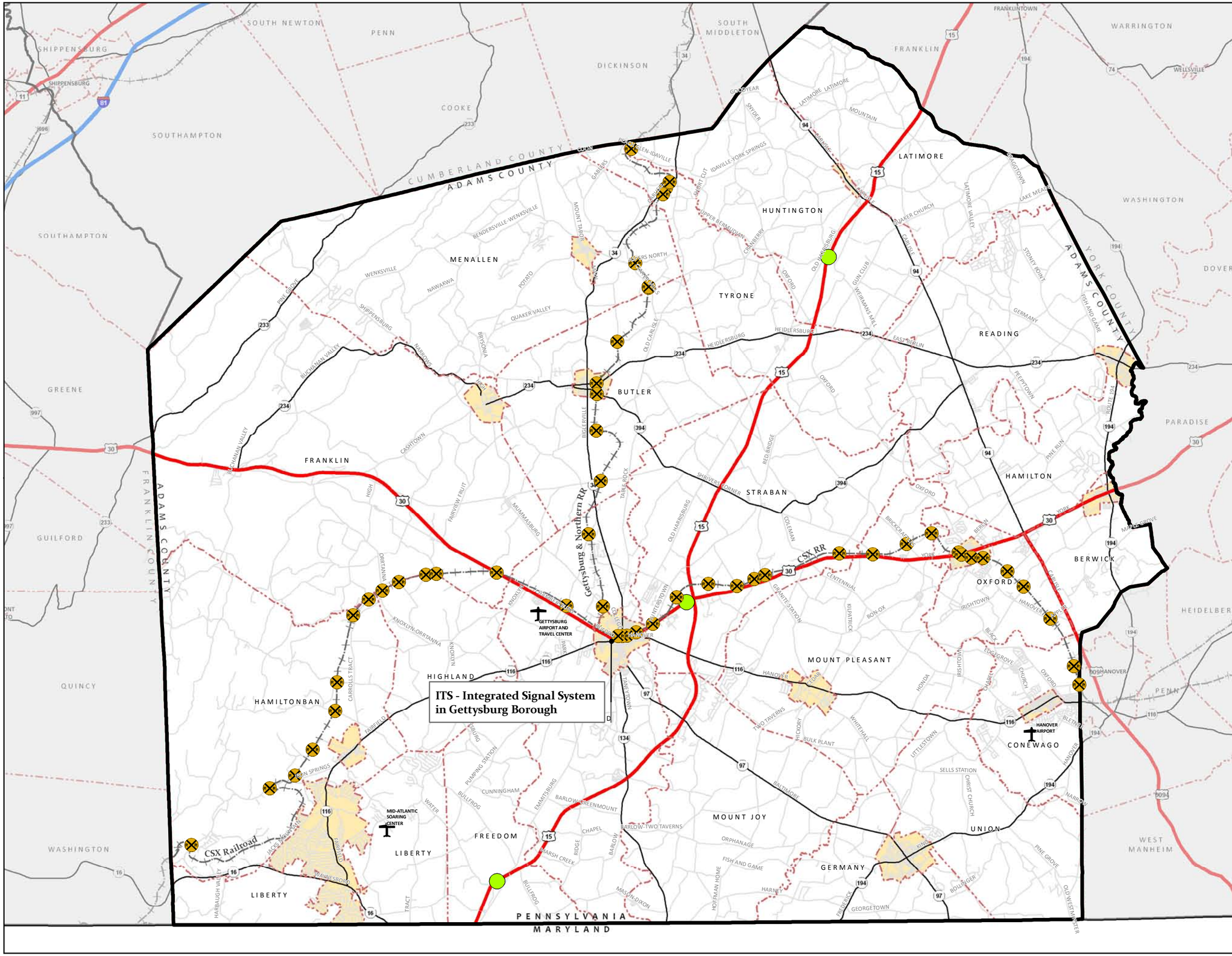
0 3,2506,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

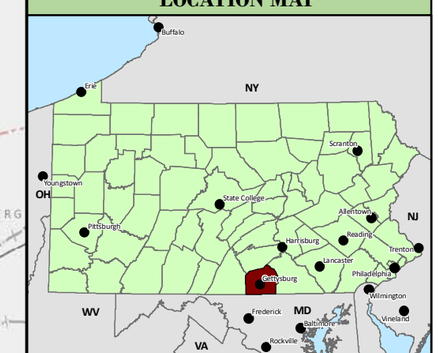
Map 2
Transportation Network



LEGEND

- Airports
- At-Grade Railroad Crossing
- ITS - Message Boards
- Railroads
- State Roads
- National Highway System
- Township Roads
- Municipal Boundaries
- Adams County Boundary
- Gettysburg National Military Park
- Urban Areas

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, ACOPD

July 27, 2011

Scale (Feet)

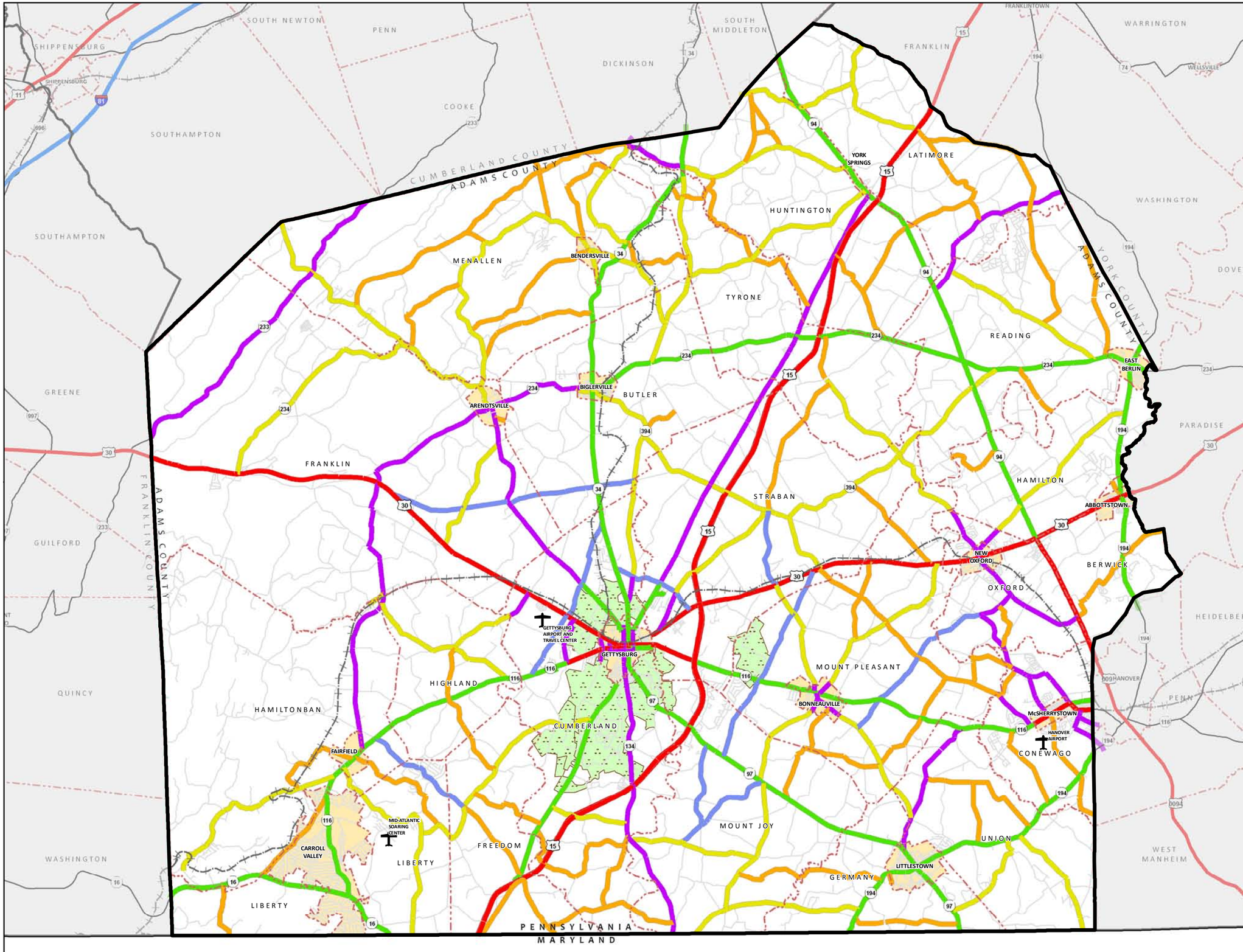
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 3
Functional Classification of Highways



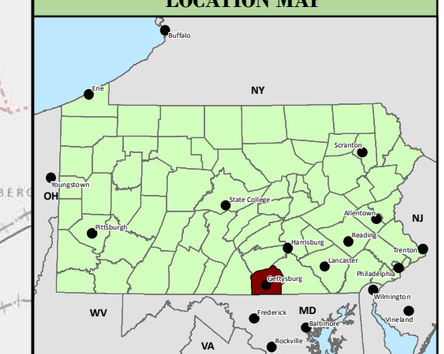
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- Township Roads
- Gettysburg National Military Park
- Boroughs

Functional Classification

- Other Principal Arterial
- Minor Arterial
- Rural Major Collector
- Rural Minor Collector
- State-owned Local Road
- Other Important Road (Not Classified by FHA)

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers

March 11, 2010

Scale (Feet)

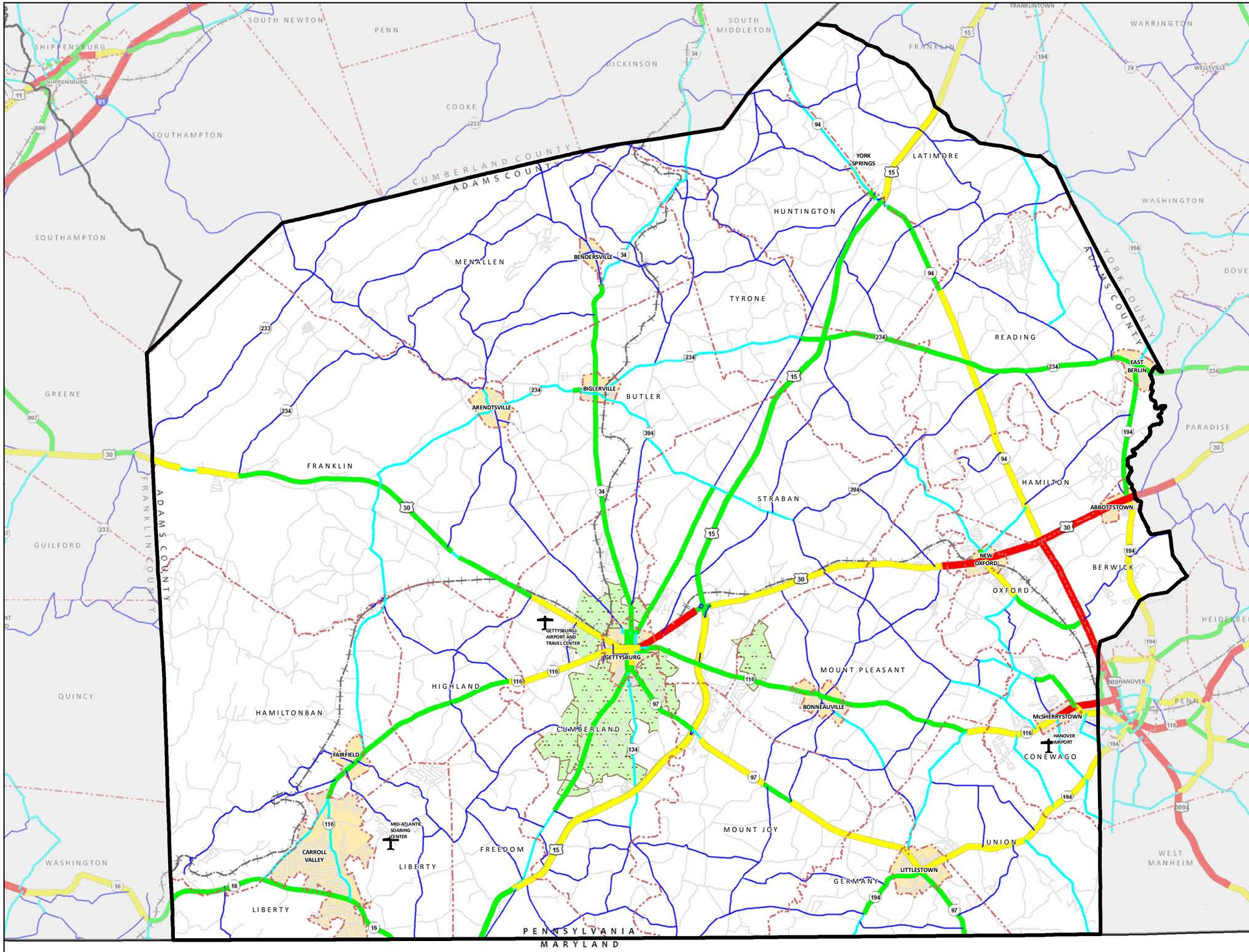
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 4
Annual Average Daily Traffic - 2010



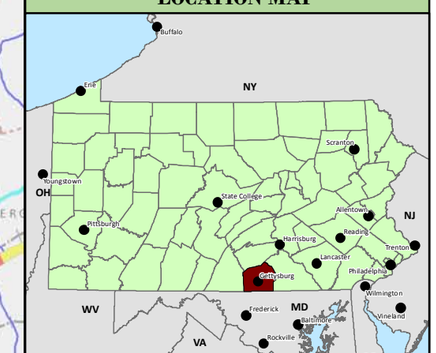
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- Township Roads
- Gettysburg National Military Park
- Boroughs

Current Annual Average Daily Traffic

- 18 - 2,029
- 2,030 - 5,300
- 5,301 - 9,106
- 9,107 - 13,793
- 13,794 - 22,883

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:
Adams County 2005 GIS data, 2010 PENNDOT GIS layers

March 11, 2010

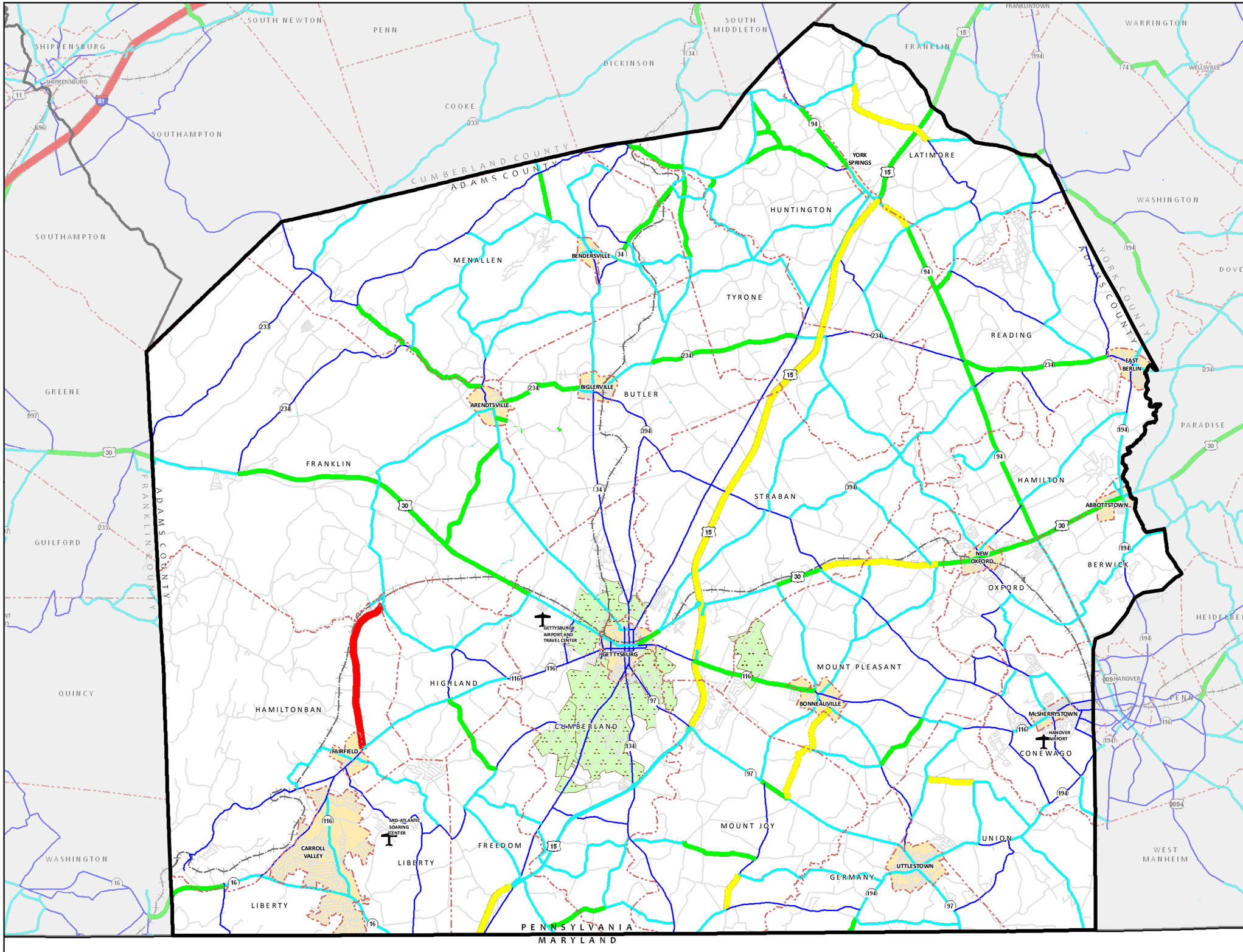
Scale (Feet)
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 5
Percentage of Trucks on Roadways



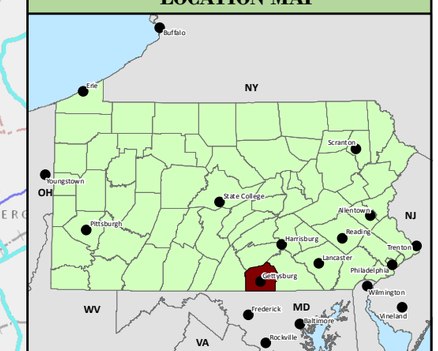
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- Township Roads
- Gettysburg National Military Park
- Boroughs

Truck Percentage

- 1% - 6%
- 7% - 10%
- 11% - 15%
- 16% - 23%
- 24% - 44%

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers

March 11, 2010

Scale (Feet)

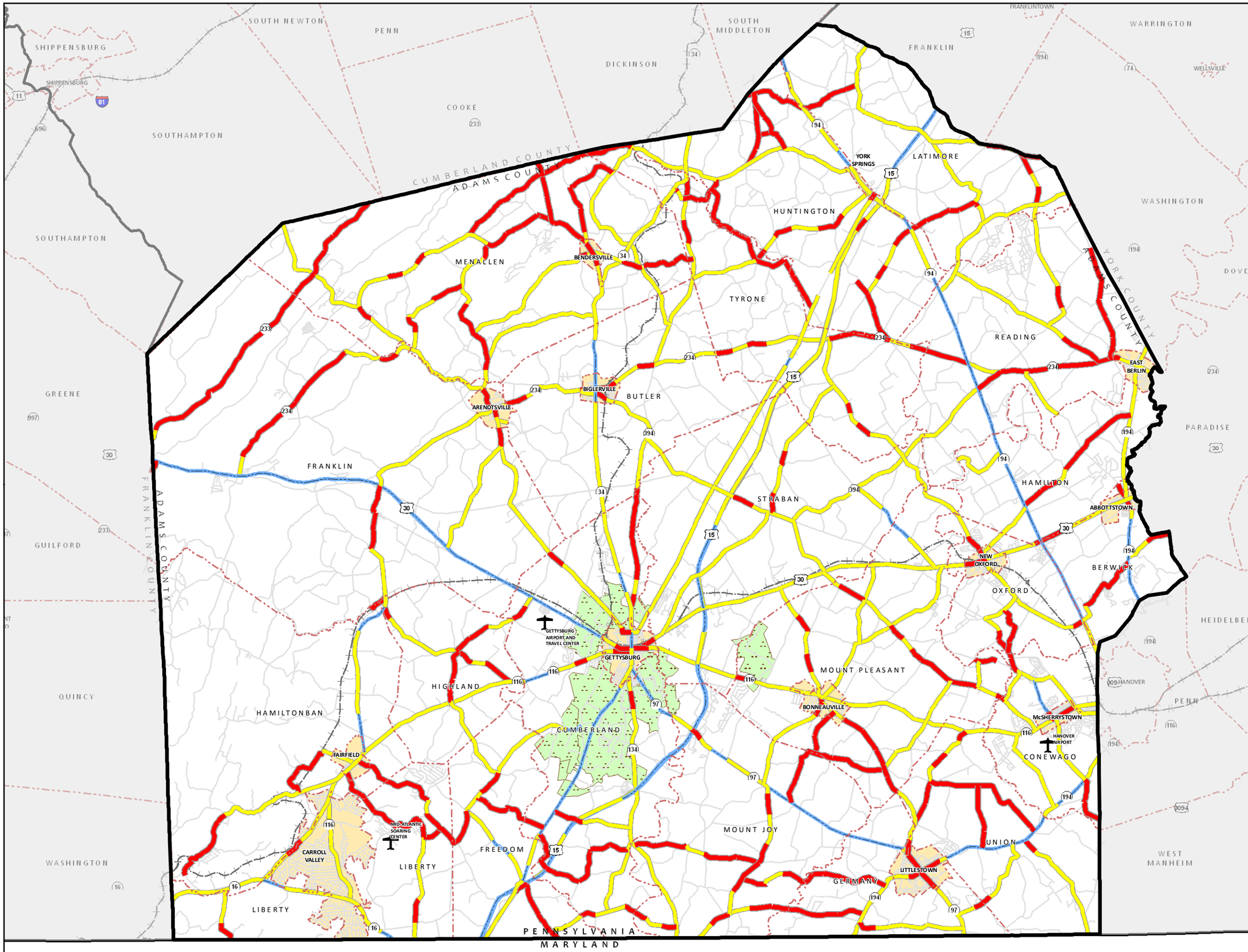
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 6
International Roughness Index (IRI)



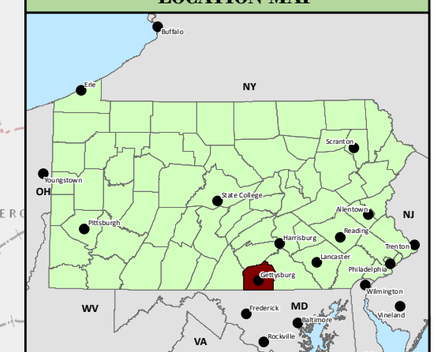
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- Township Roads
- Gettysburg National Military Park
- Boroughs

International Roughness Index (IRI)

- Good
- Fair
- Poor

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, 2007 PENNDOT IRI database

March 24, 2010

Scale (Feet)

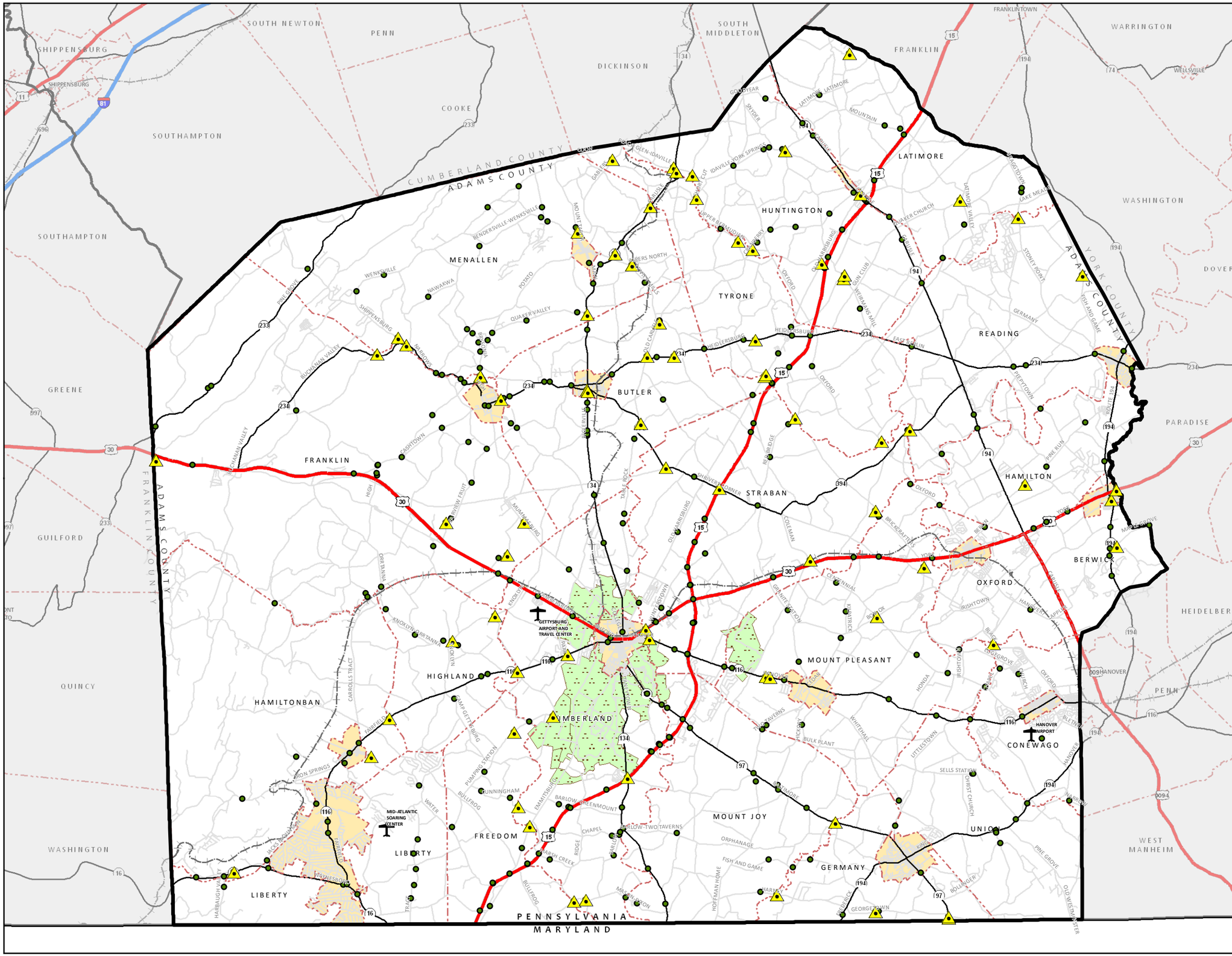
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

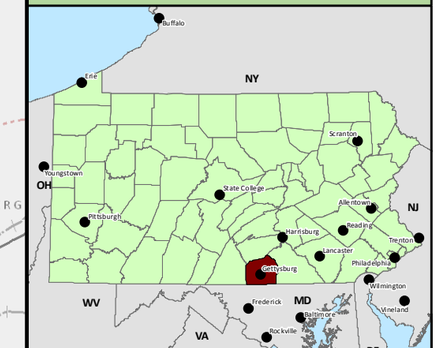
Map 7
Structurally Deficient State Bridges



LEGEND

- Airports
- Structurally Deficient Bridge
- State Road Bridge
- Railroads
- State Roads
- National Highway System
- Township Roads
- Municipal Boundaries
- Adams County Boundary
- Gettysburg National Military Park
- Urban Areas

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers,

July 27, 2011

Scale (Feet)

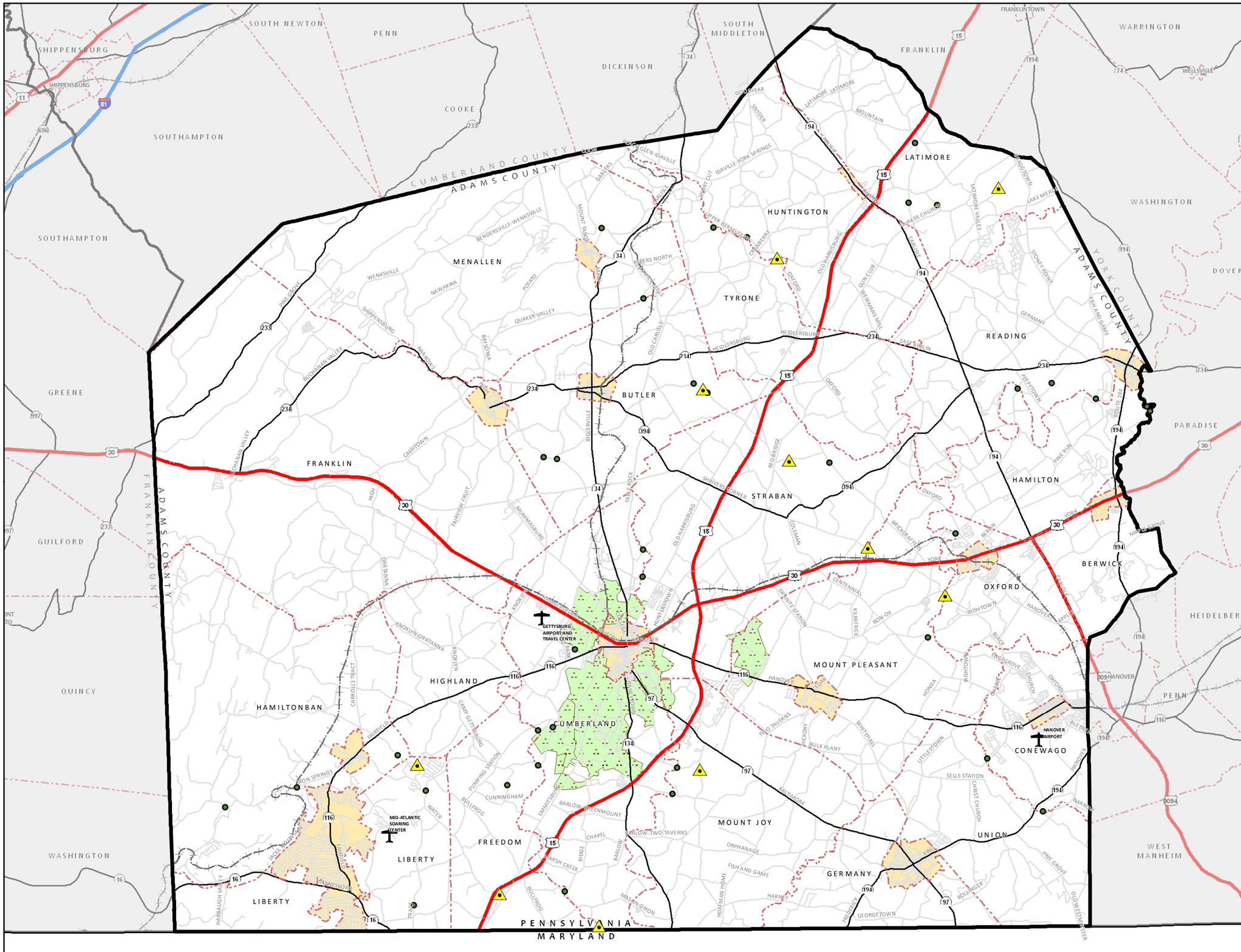
0 3,2506,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

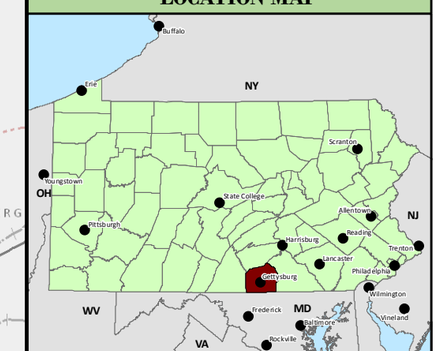
Map 8
Structurally Deficient Local Bridges



LEGEND

- Airports
- Structurally Deficient Bridge
- Local Road Bridge
- Railroads
- State Roads
- National Highway System
- Township Roads
- Municipal Boundaries
- Adams County Boundary
- Gettysburg National Military Park
- Urban Areas

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers,

September 1, 2011

Scale (Feet)

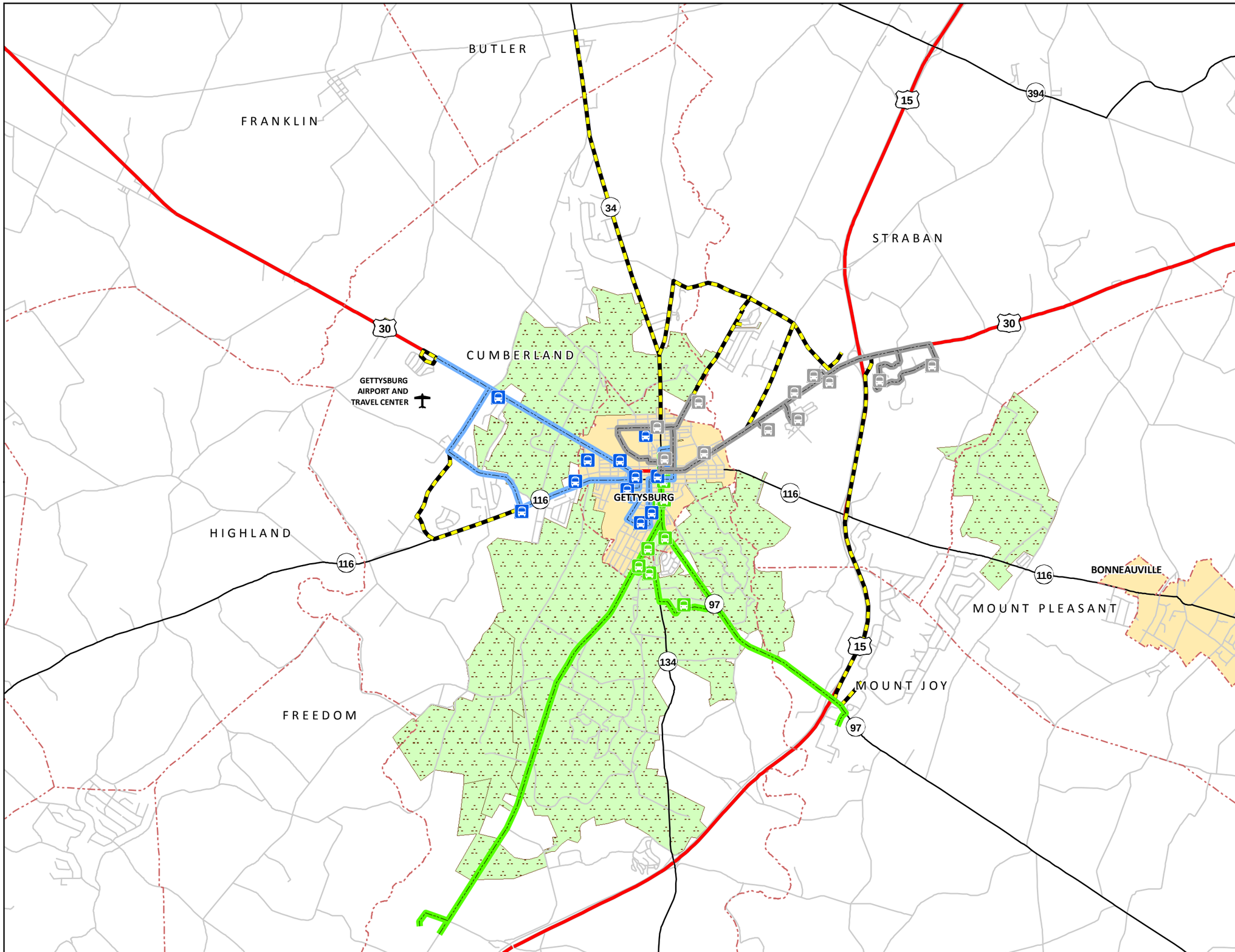
0 3,2506,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

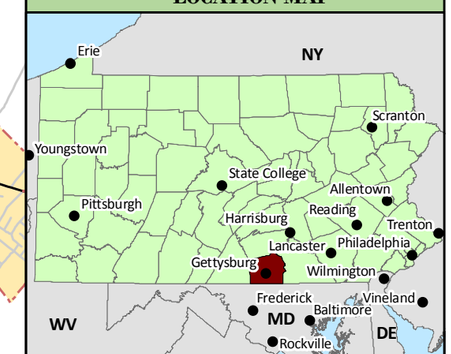
Map 9
Freedom Transit & Recommended Extensions



LEGEND

- Gray Line Bus Stops
- Blue Line Bus Stops
- Lincoln Line Bus Stops
- Gray line Bus Route
- Blue Line Bus Route
- Lincoln Line Bus Route
- Suggested Transit Extensions
- Airports
- Municipal Boundaries
- State Roads
- National Highway System
- Township Roads
- Gettysburg National Military Park
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, Adams County Transit Authority

July 28, 2011

Scale (Feet)

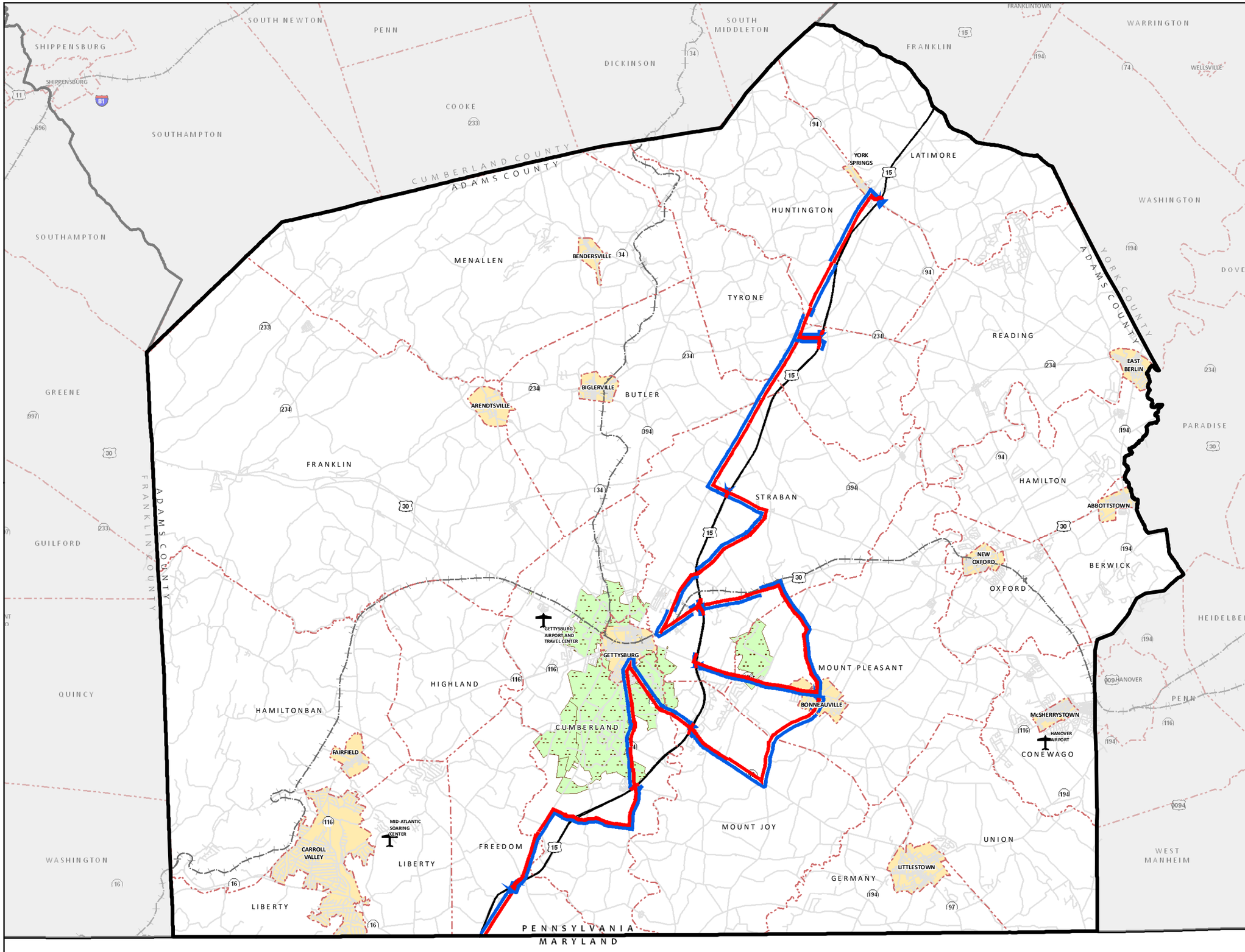
0 2,375 4,750 9,500

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 10
Route 15 Detour Routes



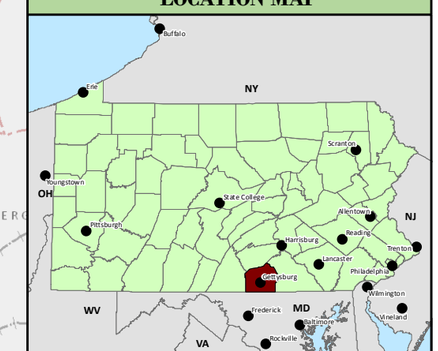
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- Township Roads
- Gettysburg National Military Park
- Boroughs

Route 15 Detour Routes

- North Bound
- South Bound

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County 2005 GIS data, 2010 PENNDOT GIS layers, Adams County Emergency Services

July 25, 2011

Scale (Feet)

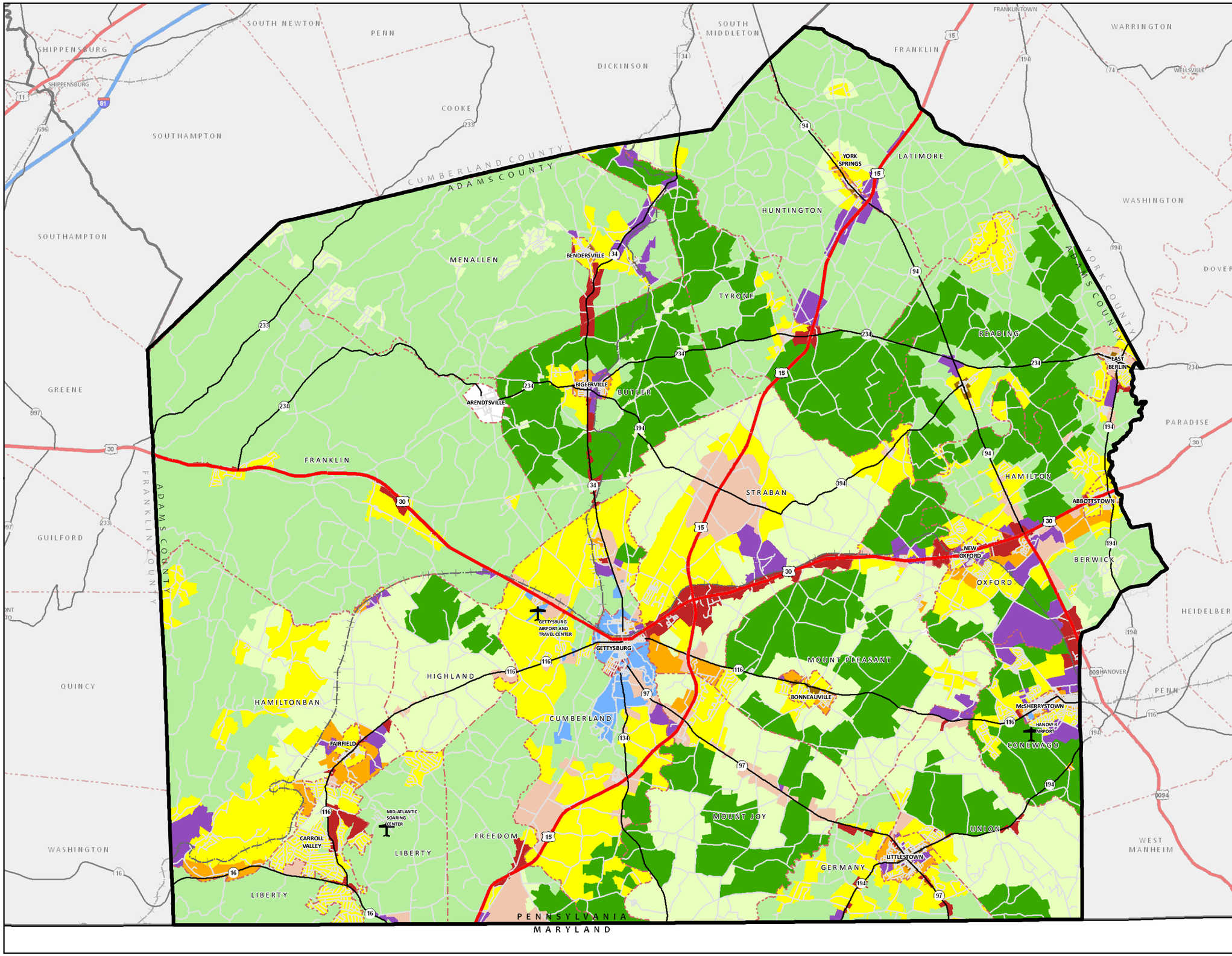
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 11
Composite Zoning



LEGEND

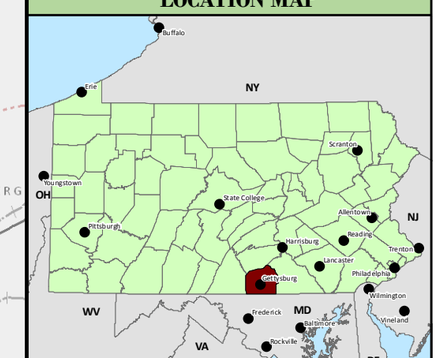
- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- State Roads
- National Highway System
- Township Roads

Zoning Types

- Agricultural Preservation
- Rural Conservation
- Low Density Residential
- Moderate Density Residential
- High Density Residential
- Mixed Use
- Village Core
- Commercial
- Employment-Industrial
- Institutional

The "Zoning Types" are not to be interpreted as municipal zoning districts. Please see the adopted zoning map for the actual zoning.

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, 2011 ACOPD Zoning

July 19, 2011

Scale (Feet)

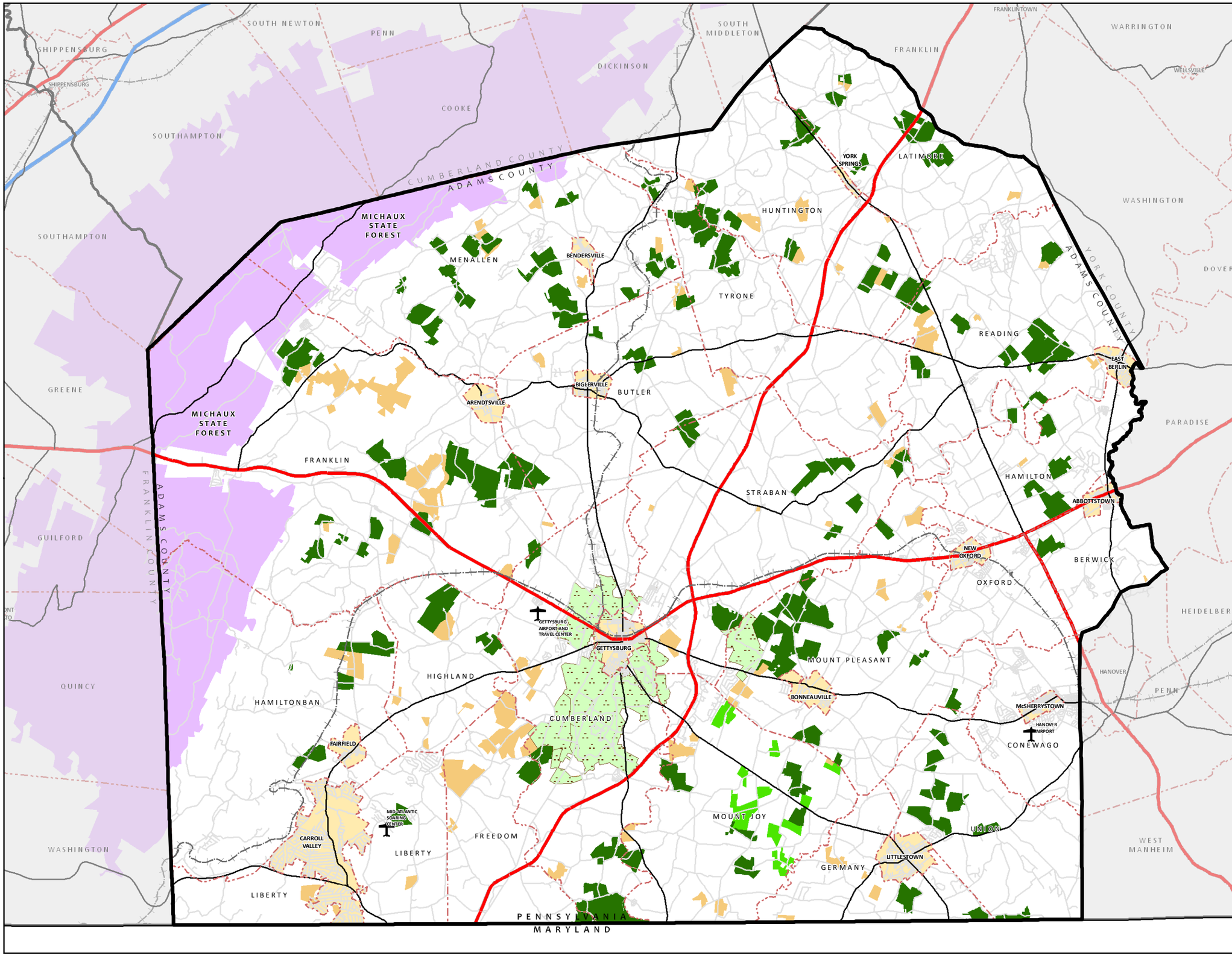
0 3,2506,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

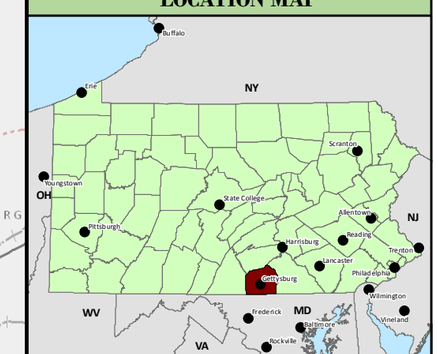
Map 12
Protected Lands



LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- State Roads
- National Highway System
- Township Roads
- State Forest
- Gettysburg National Military Park
- Preserved Farm - ACALPB
- Preserved Farm - Mount Joy
- Conserved Land - LCAC
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County 2005 GIS data, 2010 PENNDOT GIS layers, 2011 Adams County Agricultural Land Preservation Board, 2010 Land Conservancy of Adams County

July 19, 2011

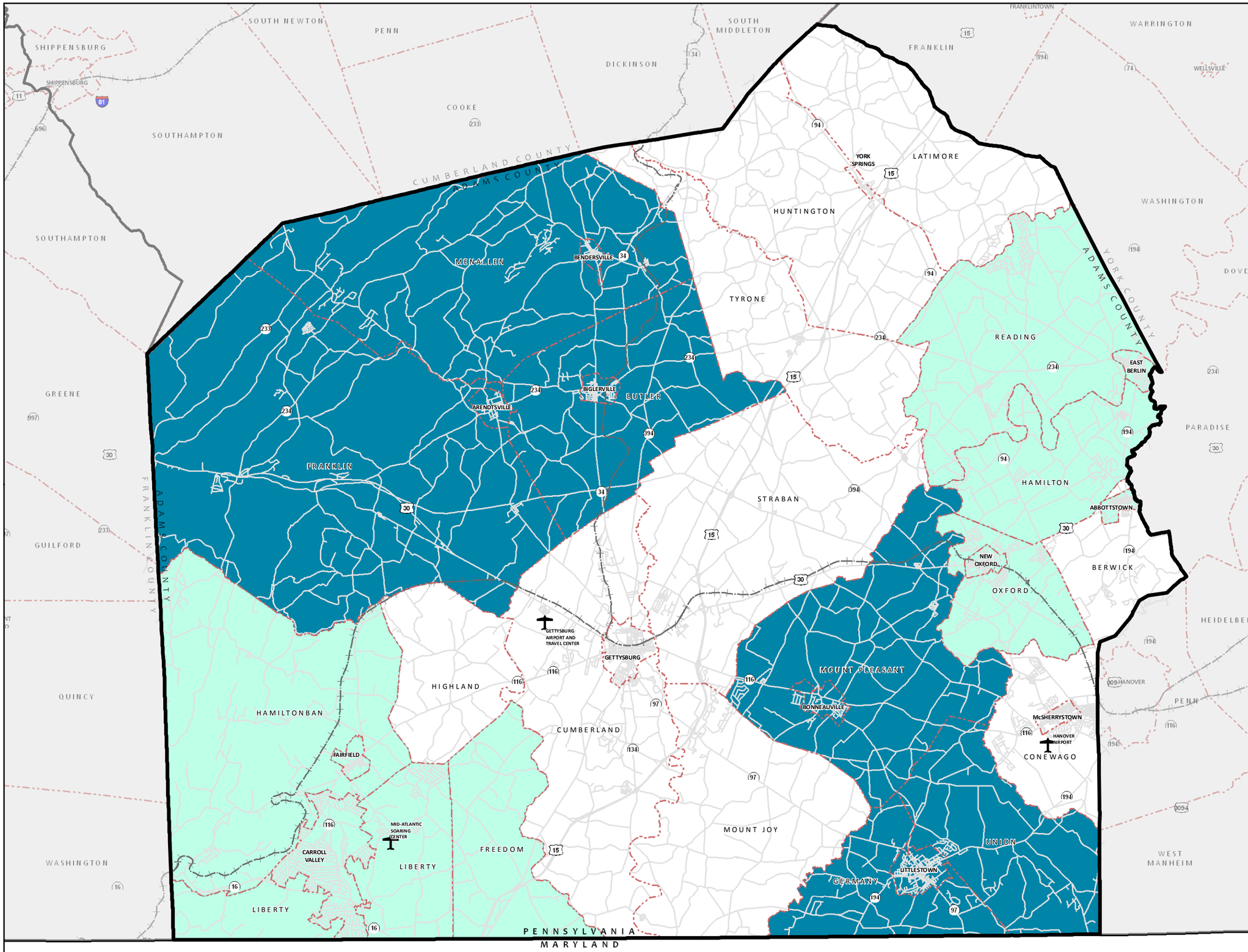
Scale (Feet)
0 3,250 6,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 13
Status of Joint Municipal Planning



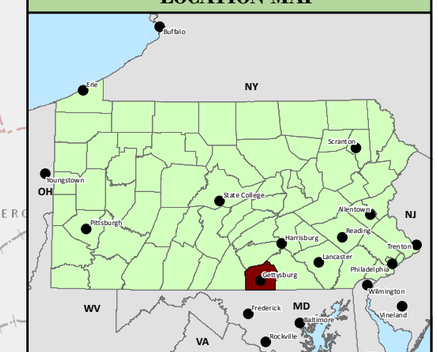
LEGEND

- Airports
- Adams County Boundary
- Municipal Boundaries
- Railroads
- Township Roads

Status of Joint Comprehensive Planning

- Multi-Municipal Comprehensive Plan Adopted
- Multi-Municipal Comprehensive Plan in Progress

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County 2005 GIS data, 2010 PENNDOT GIS layers, ACOPD

July 25, 2011

Scale (Feet)

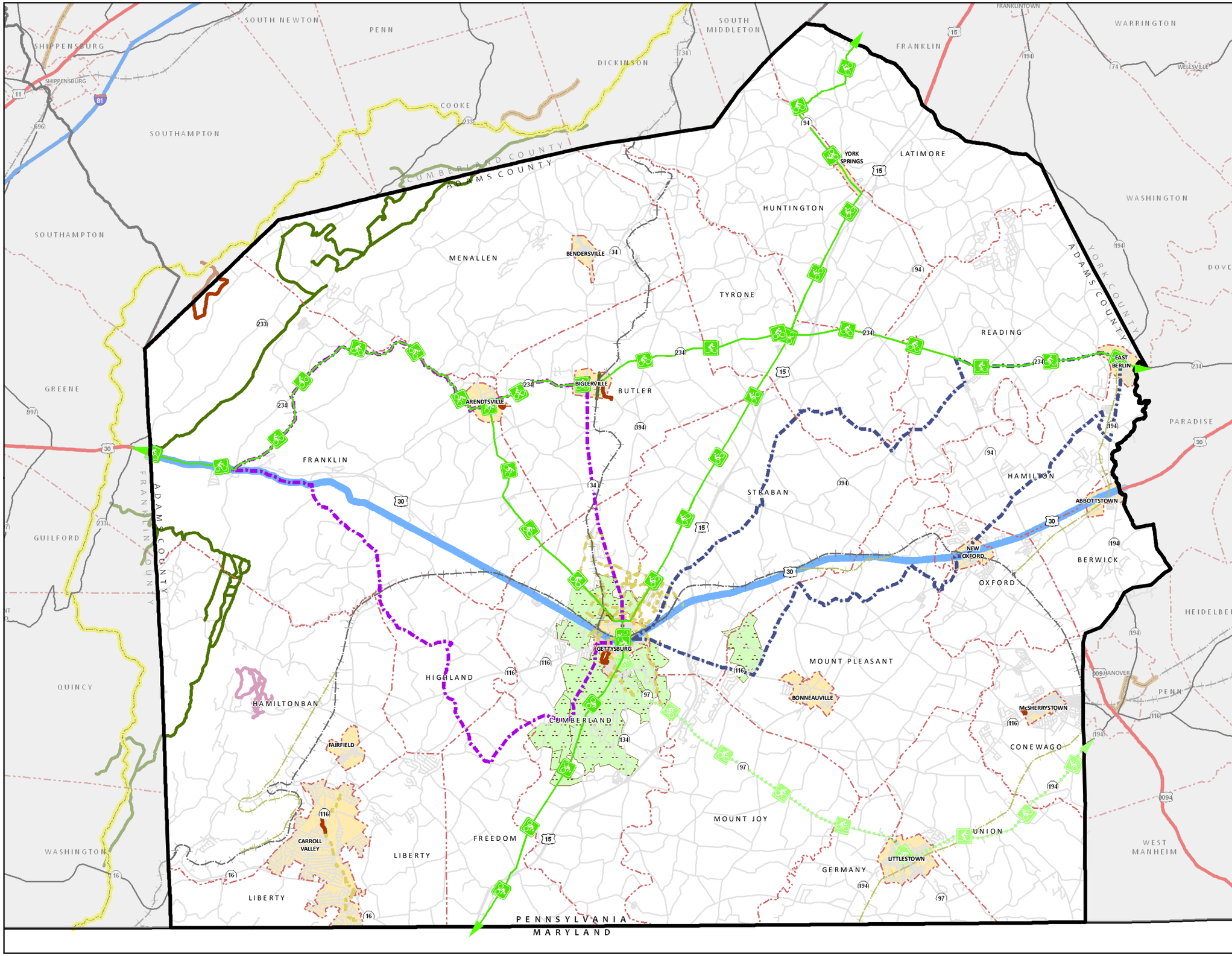
0 3,2506,500 13,000

N

Adams County Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

Map 14
Trails and Scenic Tours



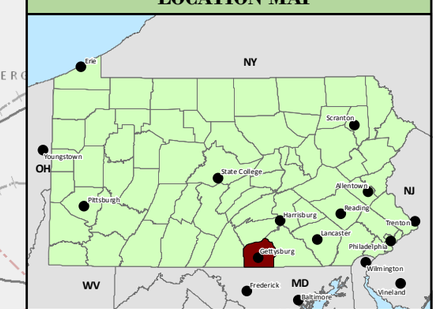
LEGEND

- Adams County Boundary
- Railroads
- Abandoned Rail Corridors
- Township Roads
- Municipal Boundaries
- State Bike Route
- State Bike Route Proposed
- Conewago Tour Line
- Scenic Valley Tour Line
- Lincoln Highway Heritage Corridor
- Michaux State Forest Trails
- Strawberry Hill Nature Preserve Trails
- Appalachian Trail
- Rails-to-Trails

Recreational Trails

- Existing
- Under Construction
- Proposed
- Gettysburg National Military Park
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:
Adams County GIS data, 2010 PENNDOT GIS layers, Adams County Greenways Plan - Adopted 2010, DCNR Rails-to-Trails, ACOPD

July 26, 2011

Scale (Feet)
0 3,250 6,500 13,000

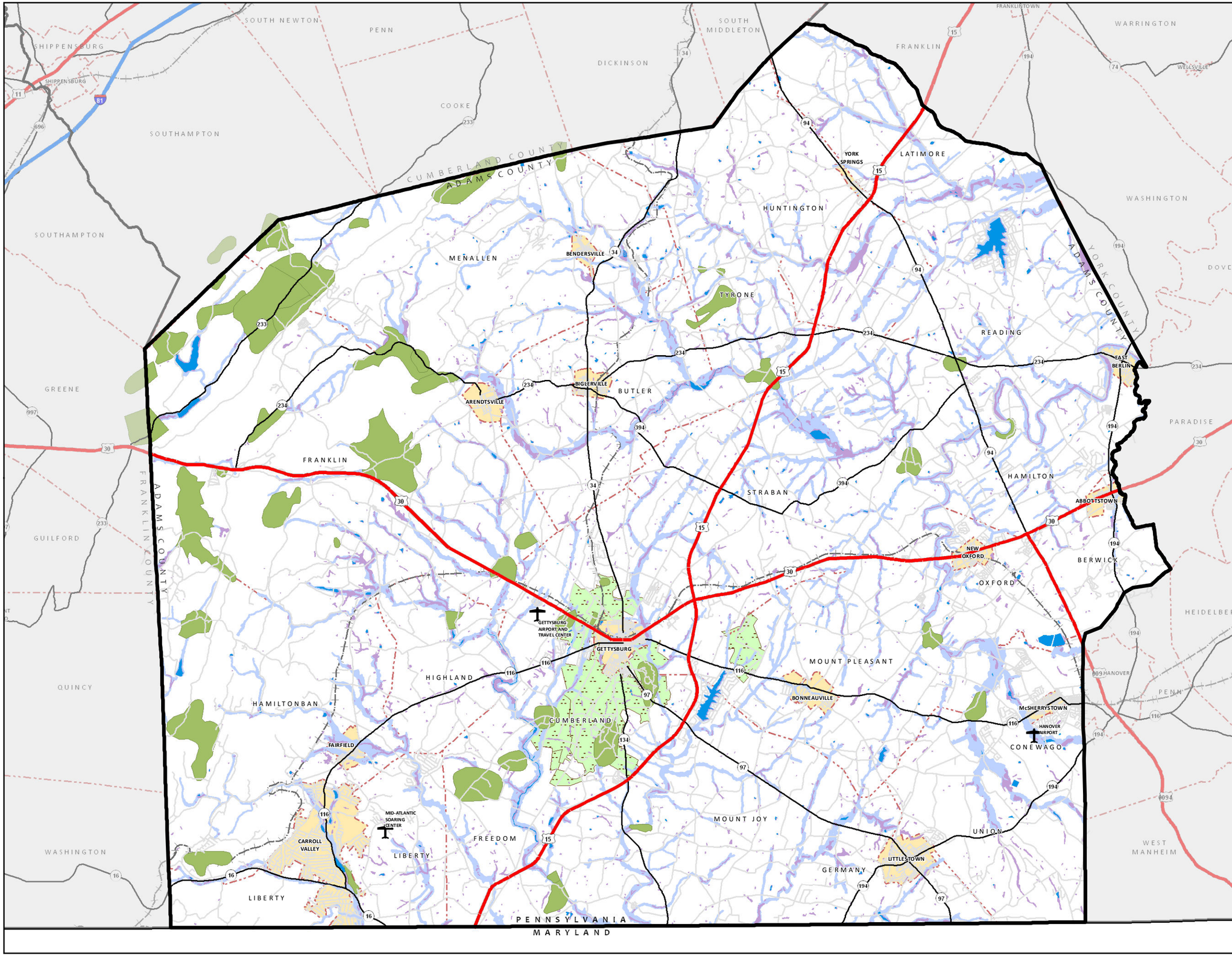
N

Adams County Long Range Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

MAP 15

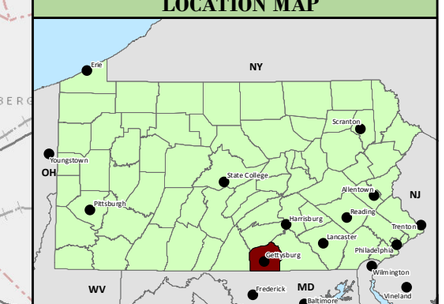
ENVIRONMENTAL CONSTRAINTS



LEGEND

- Airports
- Adams County Boundary
- Railroads
- Township Roads
- State Roads
- National Highway System
- Municipal Boundaries
- Water Body
- Floodplain (FEMA 2009)
- NWI Wetland
- Natural Areas Inventory Site
- Gettysburg National Military Park
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, 2009 FEMA, ACOPD

February 22, 2012

Scale (Feet)

0 3,250 6,500 13,000

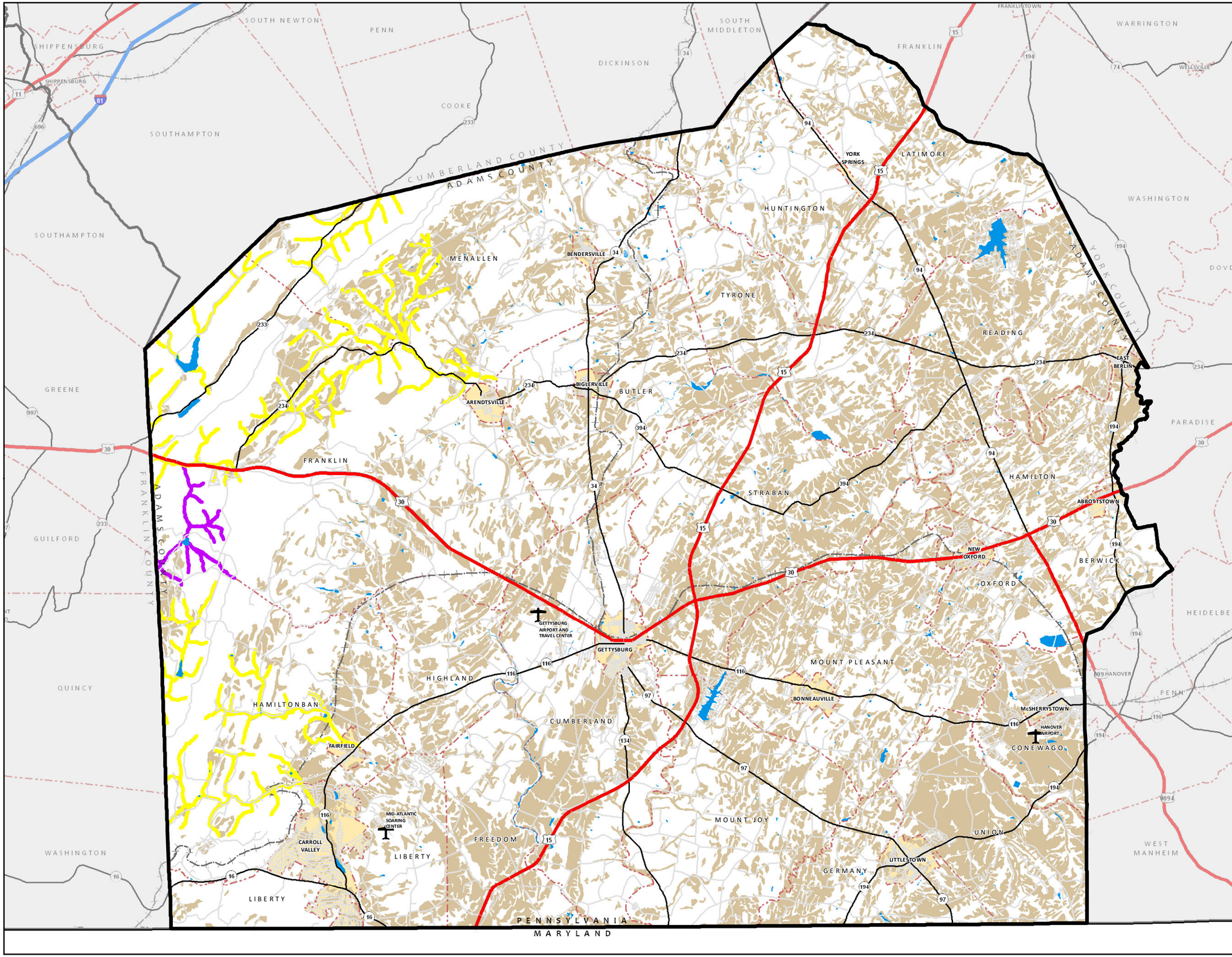
N

Adams County Long Range Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

MAP 16

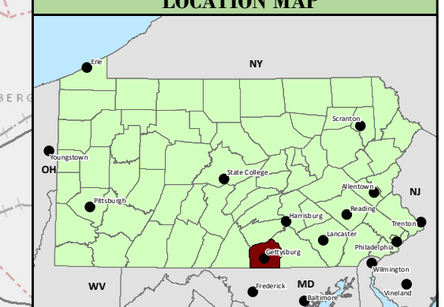
SOIL AND WATER QUALITY



LEGEND

- Airports
- Adams County Boundary
- Railroads
- Township Roads
- State Roads
- National Highway System
- Municipal Boundaries
- Exceptional Value Water
- High Quality Water
- Water Body
- Prime Farmland
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, 2009 FEMA, ACOPD

February 22, 2012

Scale (Feet)

0 3,250 6,500 13,000

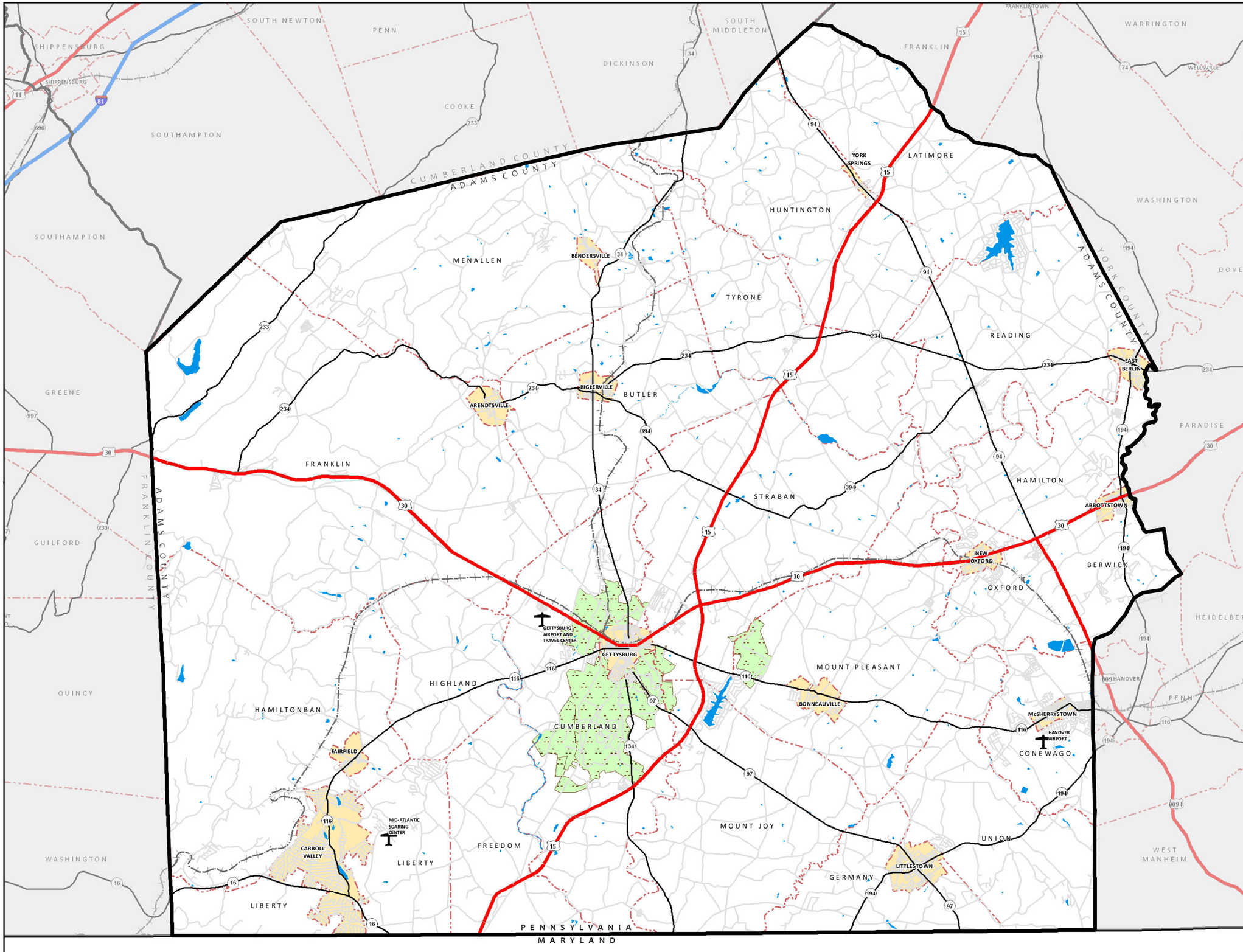
N

Adams County Long Range Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

MAP 17

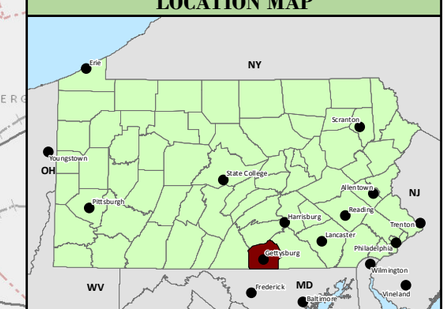
MONITORED ENVIRONMENTAL SITES



LEGEND

- Airports
- Adams County Boundary
- Railroads
- Township Roads
- State Roads
- National Highway System
- Municipal Boundaries
- Superfund National Priorities List Site
- Toxic Release Inventory
- Other EPA Monitored Site
- Water Body
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, 2011 EPA

February 23, 2012

Scale (Feet)

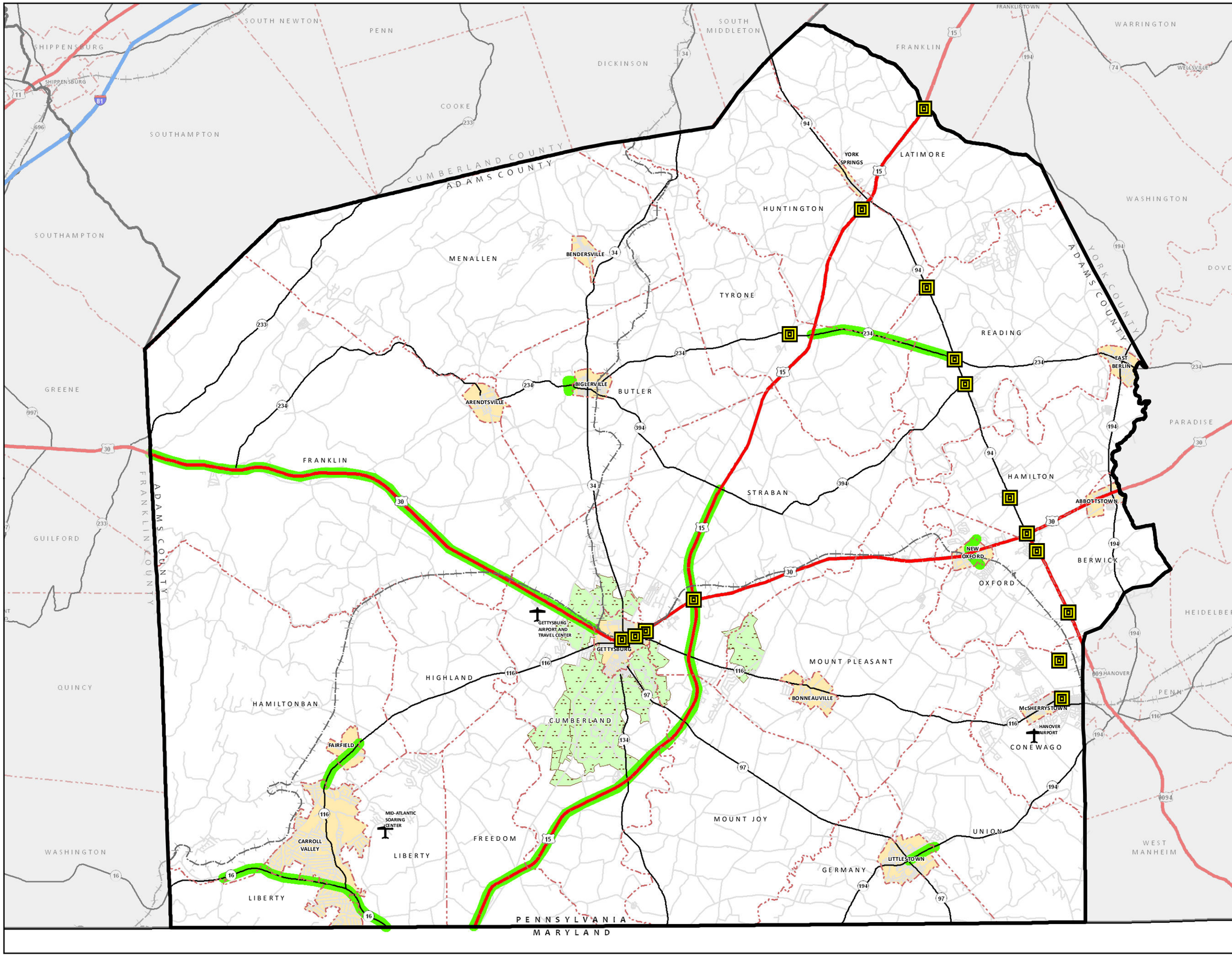
0 3,250 6,500 13,000

N

Adams County Long Range Transportation Plan

Adams County Board of Commissioners, Office of Planning and Development

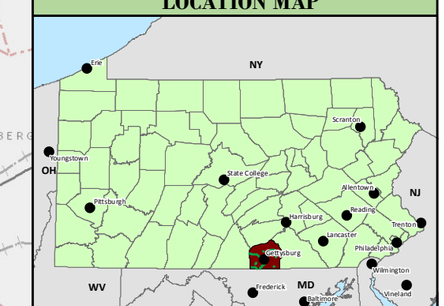
MAP 18
PROJECT LOCATIONS



LEGEND

- Project Location
- Resurfacing
- Airports
- Adams County Boundary
- Railroads
- State Roads
- National Highway System
- Township Roads
- Municipal Boundaries
- Gettysburg National Military Park
- Boroughs

LOCATION MAP



Gannett Fleming
Your Trusted Advisor Since 1915

Data Source:

Adams County GIS data, 2010 PENNDOT GIS layers, ACOPD

April 17, 2012

Scale (Feet)
0 3,250 6,500 13,000

N

APPENDIX H
Truck Origin-Destination Study

Adams County
Truck Origin-Destination Study Report

November 2005

Prepared for:
Adams County Office of Planning and Development

Prepared by:
Gannett Fleming, Inc.

TABLE OF CONTENTS

1. INTRODUCTION 1

2. SURVEY QUESTIONS AND LOCATIONS 2

2.1. METHODOLOGY 2
2.2. POSTCARD 2
2.3. SURVEY LOCATIONS 3

3. SURVEY RESPONSE 5

3.1. ORIGIN/DESTINATION RESULTS 6
3.2. TRIP FREQUENCY 18
3.3. CARGO 20

4. COMPARISON TO PRIOR STUDY 22

5. SUMMARY 24

1. INTRODUCTION

The Adams County, Pennsylvania Office of Planning and Development requested a truck origin-destination (O-D) study be conducted as a follow-up to a study conducted in 1991.

The purpose of this study is to gage the amount of truck traffic that travels through both Adams County and the Borough of Gettysburg. Another purpose is to compare the amount of truck traffic to past results to determine the amount of change in the past fourteen years. U.S. Route 15 is a major highway that was upgraded to four lanes to accommodate north-south traffic, but there are no major limited access highway corridors for east-west traffic. Several major roadways through the county pass through the Borough of Gettysburg. There are alternate roadways that are used to bypass Gettysburg, such as SR 234 through Biglerville and East Berlin.

As part of this survey, there were ten survey locations selected. A postcard was the mechanism selected as the method to obtain origin destination information. Trucks were given the survey cards. For the purposes of this study, a truck was considered to be anything the size of a typical parcel delivery truck or larger.

2. SURVEY QUESTIONS AND LOCATIONS

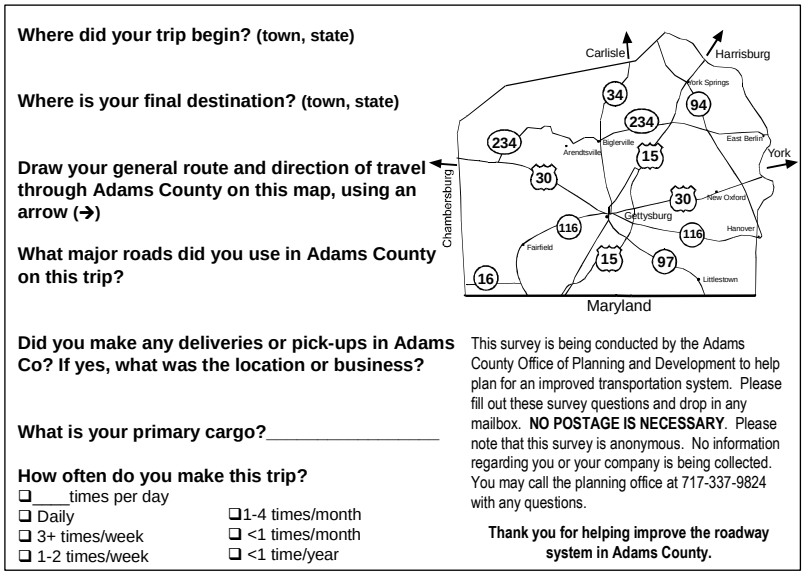
2.1. Methodology

The survey was conducted between 23 and 25 August, 2005. A follow-up survey occurred on 13 October, 2005 to reinforce earlier results. Truck traffic traveling these roadways at the time of the survey was stopped and approached by the survey team and given a postcard. The survey team attempted to survey as many trucks as possible for the two hours that the team was at each site. Some sites had fewer trucks than others, and some trucks did not stop to receive a card. In one day, three to four locations were surveyed.

The typical survey team consisted of two to three people in tandem. Appropriate signing and channelization was used to improve drivers' awareness of the study being conducted. All postcards were numbered, and the card numbers that were distributed at each site were recorded.

2.2. Postcard

A postcard was the method selected to obtain O-D data in order to minimize motorist delay and congestion. The postcard survey used for this study is shown to the right:



Where did your trip begin? (town, state)

Where is your final destination? (town, state)

Draw your general route and direction of travel through Adams County on this map, using an arrow (→)

What major roads did you use in Adams County on this trip?

Did you make any deliveries or pick-ups in Adams Co? If yes, what was the location or business?

What is your primary cargo?_____

How often do you make this trip?

❑____times per day
❑ Daily
❑ 3+ times/week
❑ 1-2 times/week
❑1-4 times/month
❑ <1 times/month
❑ <1 time/year

This survey is being conducted by the Adams County Office of Planning and Development to help plan for an improved transportation system. Please fill out these survey questions and drop in any mailbox. **NO POSTAGE IS NECESSARY**. Please note that this survey is anonymous. No information regarding you or your company is being collected. You may call the planning office at 717-337-9824 with any questions.

Thank you for helping improve the roadway system in Adams County.

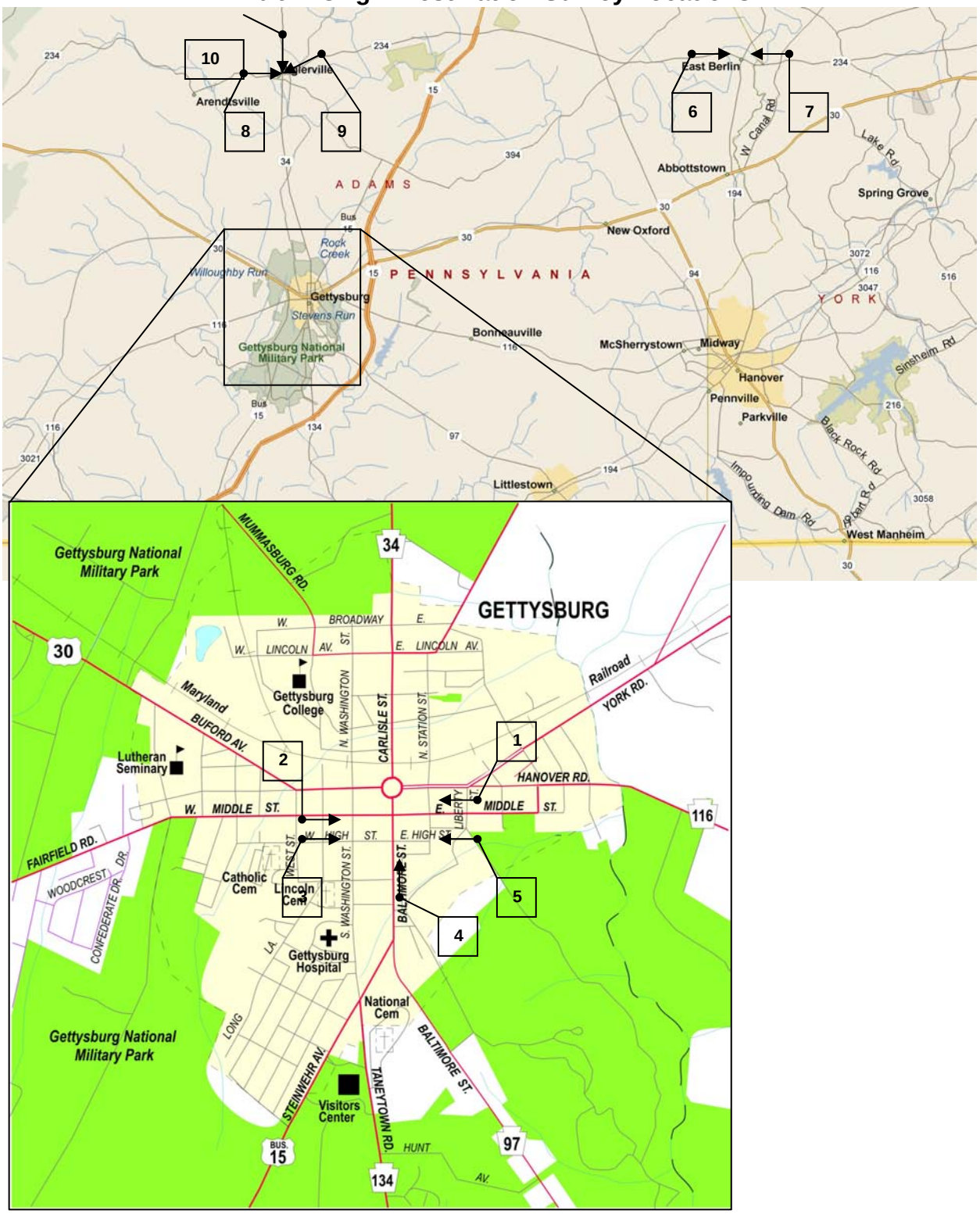
The majority of postcards that were returned had all of the information completed by drivers.

2.3. Survey Locations

The following locations, also shown in Exhibit 1, were selected for survey distribution.

1. SR 30 Westbound and SR 116 Westbound, Gettysburg Borough
2. SR 30 Eastbound, Gettysburg Borough
3. SR 116 Eastbound (Middle Street), Gettysburg Borough
4. Business 15 Northbound, Gettysburg Borough
5. Middle Street Westbound, Gettysburg Borough
6. SR 234 Eastbound, East Berlin Borough
7. SR 234 Westbound, East Berlin Borough
8. SR 234 Eastbound, Biglerville Borough
9. SR 234 Westbound, Biglerville Borough
10. SR 34 Southbound, Biglerville Borough

Exhibit 1. Origin Destination Survey Locations



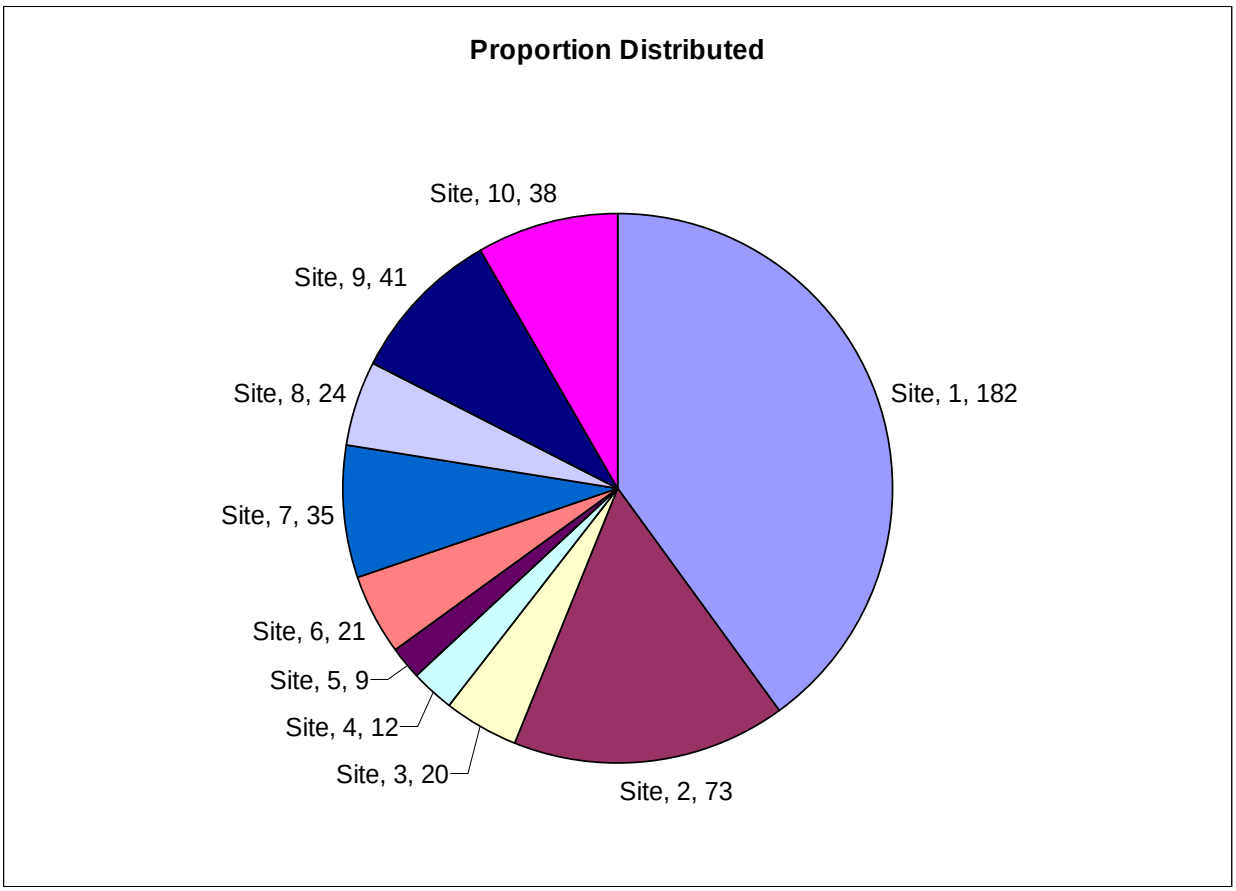
3. SURVEY RESPONSE

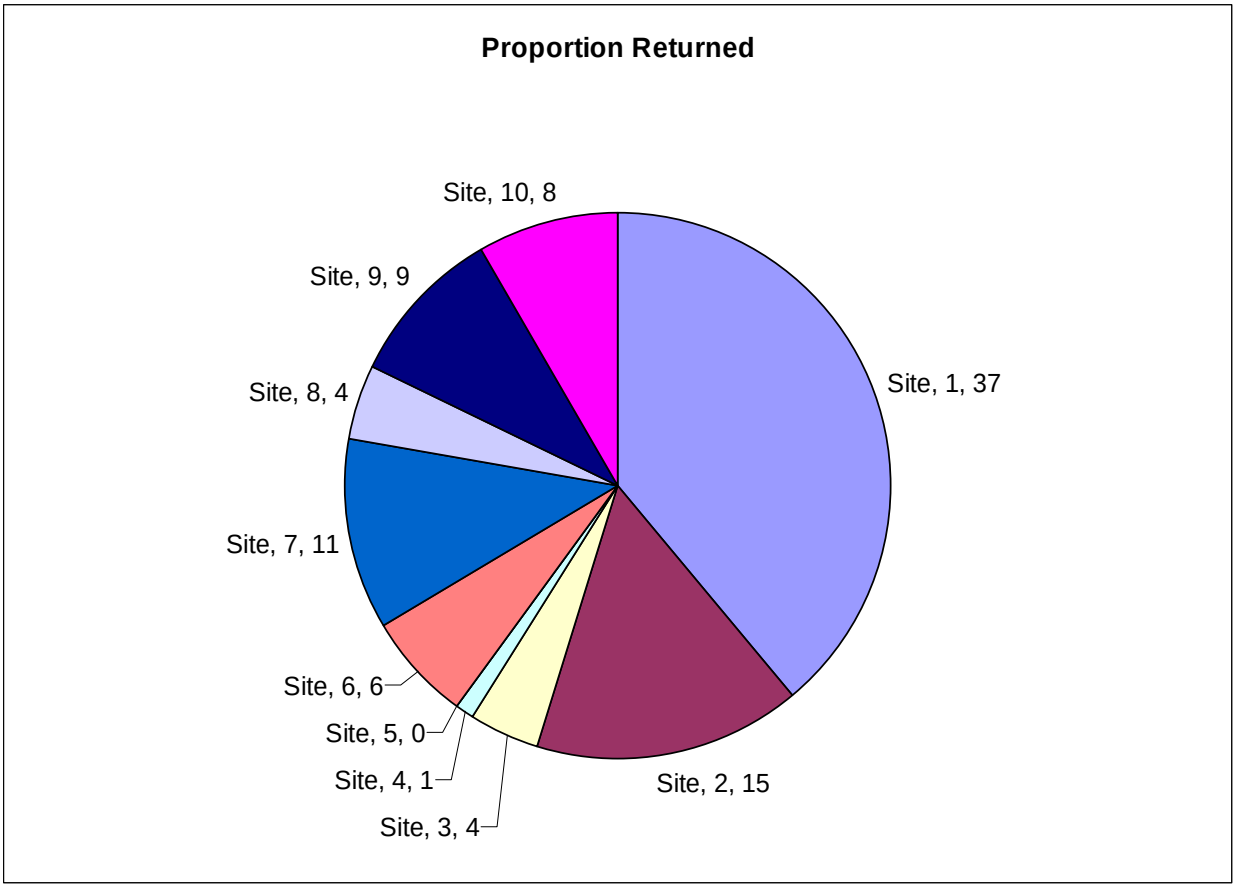
Exhibit 2 summarizes the total number of survey cards distributed and received. The number of cards distributed per site reflects the volume of trucks at each location.

Exhibit 2. Response Rate Summary

Site		Distributed	Returned	Response Rate
1	SR 30 WB	182	37	20%
2	SR 30 EB	73	15	21%
3	Middle Street EB	20	4	20%
4	Business 15 NB	12	1	8%
5	Middle Street WB	9	0	0%
6	SR 234, East Berlin, EB	21	6	**29%**
7	SR 234, East Berlin, WB	35	11	**31%**
8	SR 234 Biglerville, EB	24	4	17%
9	SR 234 Biglerville, WB	41	9	22%
10	SR 34 SB	38	8	21%
Overall		455	95	21%

Bold = Response rate exceeds 25 %, the lowest common response rate for this type of study.





The numbers distributed and returned reflect the amount of truck traffic at each site.

The response rates by site varied between 8 percent and 31 percent, not considering Site 5. Among all cards distributed, the overall response rate was 21 percent. The ***Manual of Transportation Engineering Studies***, published by the Institute of Transportation Engineers (ITE), suggests that a response rate for postcard surveys of 30 percent is excellent; 25 percent is the lowest common response rate, and a minimum of 20 percent is necessary to maintain accuracy. ITE also notes that through trucks tend not to have as high of a response rate.

3.1. Origin/Destination Results

In order to assess trip characteristics, trips were categorized into one of four trip types based on origins and destinations cited and locations of any deliveries or stops.

- **Through** – Traffic originated from a location outside of the county and was destined to a location outside of the county, and had no local stops.
- **To/From External to Local** – Traffic originated from a location outside of the county and was destined to a location within the county, or vice-versa.

- **Through with Local Stop** – Traffic originated from a location outside of the county and was destined to a location outside of the county, traveled through the county, and had a delivery within the county.

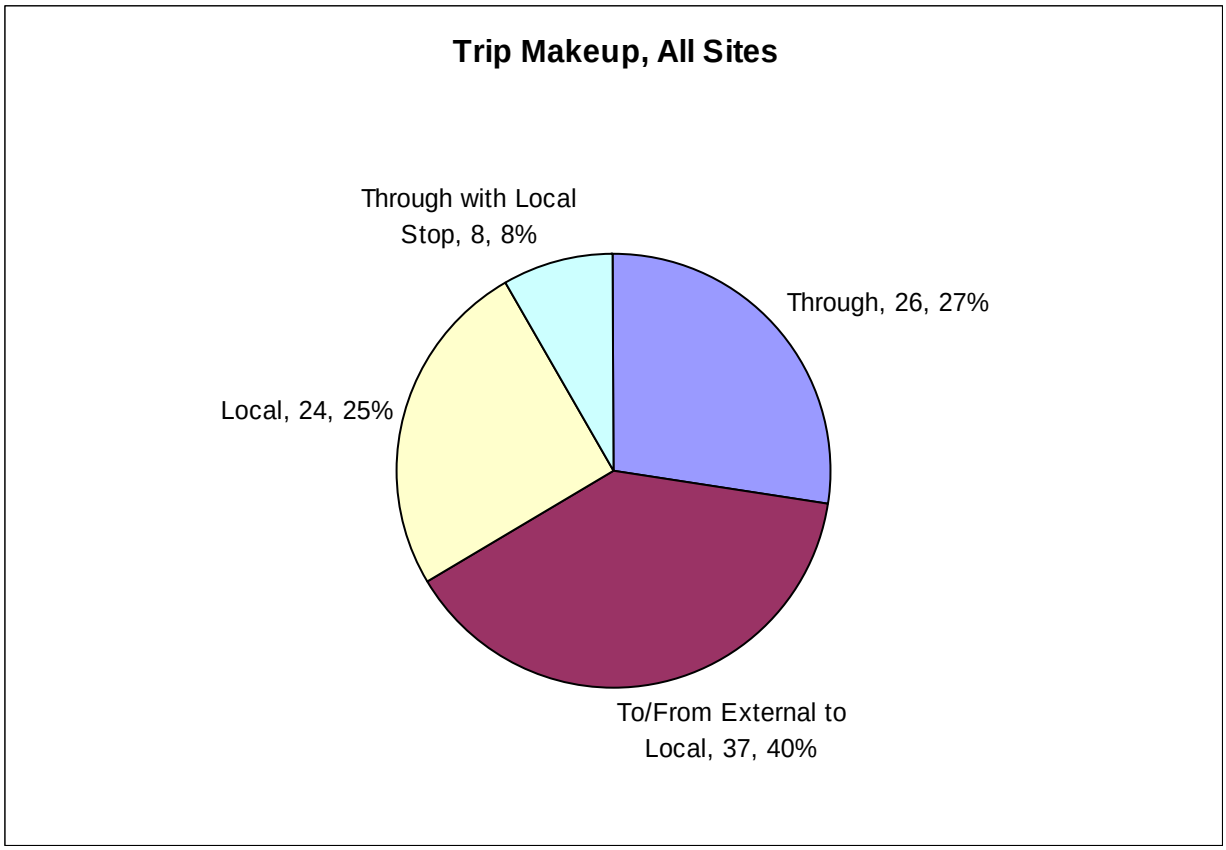
- **Local** – Traffic had both beginning and ending points within the county, did not leave the county, and had local stops.

If a trip started or ended outside of the county, with the ending point or starting point within the county, it was considered To/From External to Local. If a trip started outside of the county, had a delivery, and returned to approximately the same location it came from, it was considered to be a To/From External to Local. A trip starting outside of the county, having a delivery within the county, and had a destination in the direction opposite the origin was considered Through with Local Stop.

Each response was grouped into the closest fitting category depending on the nature of the responses.

Overall for all sites, Exhibit 3 summarizes the survey results.

Exhibit 3. Trip Makeup, All Sites

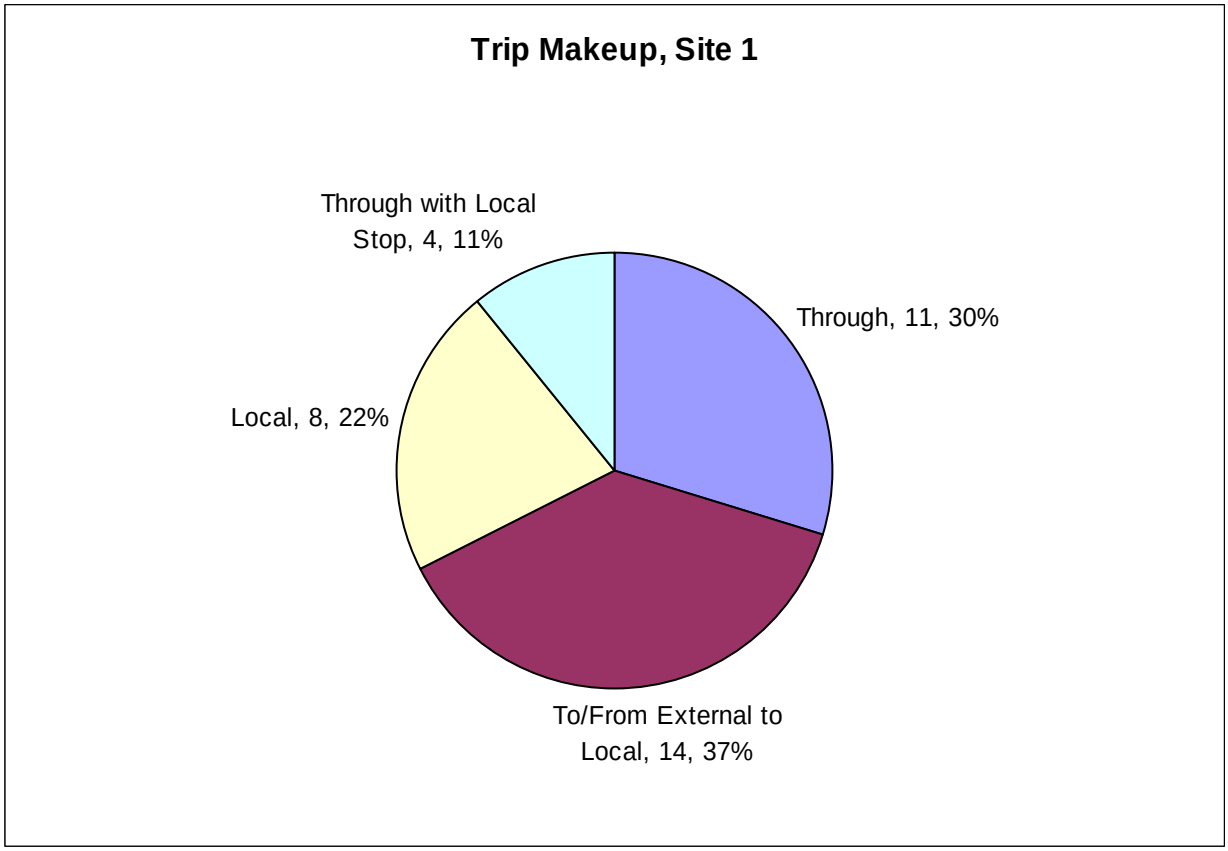


Based on the responses received, 37 percent are considered to be To/From External to Local, 29 percent are Local, 26 percent are considered Through, and eight percent are Through with Local Stop.

3.1.1. Site 1, SR 30 Westbound

At Site 1, 182 cards were distributed, and 37 cards were received. Cards were distributed at this site over two separate days in order to reinforce the results. Exhibit 4 contains the summary.

Exhibit 4. Trip Makeup, Site 1



At this site, 37 percent of survey responses were recorded for To/From External to Local, 30 percent of survey responses were Through trips, 22 percent were recorded for Local, and eleven percent were recorded for Through with Local Stop.

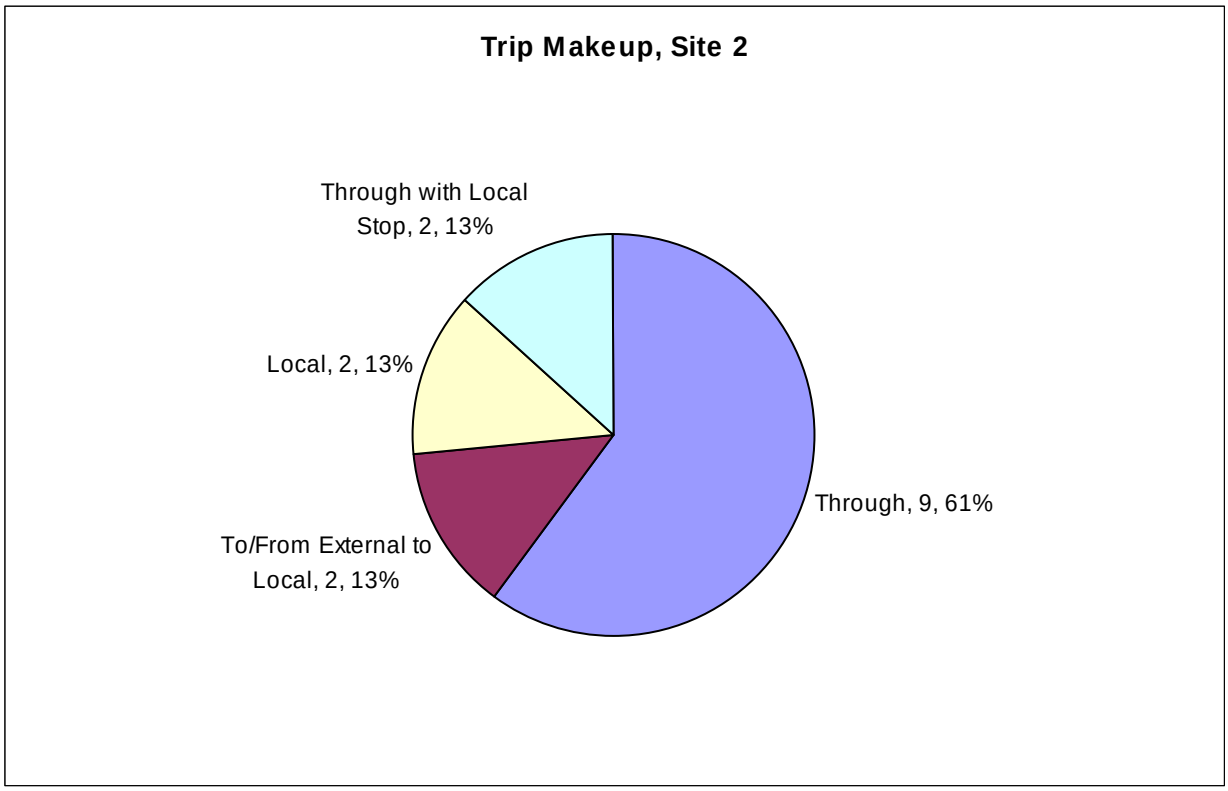
The O-D pairs and cargo for Through trips and To/From External to Local are summarized in the following table.

Through Trips			To/From External to Local		
Origin	Destination	Cargo	Origin	Destination	Cargo
Hanover	Washington, PA	Food	Chambersburg	Chambersburg	Paper
New Oxford	Shippensburg	Snack Foods	Mechanicsburg	Mechanicsburg	Paper
Fannetsburg	Spring Grove	paper/Wood	York	Gettysburg	Beer
York	Chambersburg		Hanover	Gettysburg	Cement
Hanover	Chambersburg		Cochranville	Fairfield	Hay
Hopwood	Windsor	Lumber	Lancaster	Gettysburg	Uniforms
York	Chambersburg	Wood	Gettysburg	Needmore, and return	Poultry feed
Ortanna	York	Asphalt Stone	Elverson	Gettysburg	Pizza Boxes
York	Little Orleans, MD	Empty	Millersville	Gettysburg	Produce
Rawlinsville	Charlotte, NC	Pumpkins	Lancaster	Gettysburg	Salt Water
York	Fletcher, NC	Cat litter	Hagerstown, MD	Hagerstown	Freight
			York	Gettysburg	Metal Parts
			York		Packages
			Gettysburg	Mercersburg	Feed Commodities

3.1.2. Site 2, SR 30 Eastbound

At Site 2, 73 cards were distributed over two separate days, and fifteen cards were received. Exhibit 5 contains the summary.

Exhibit 5. Trip Makeup, Site 2



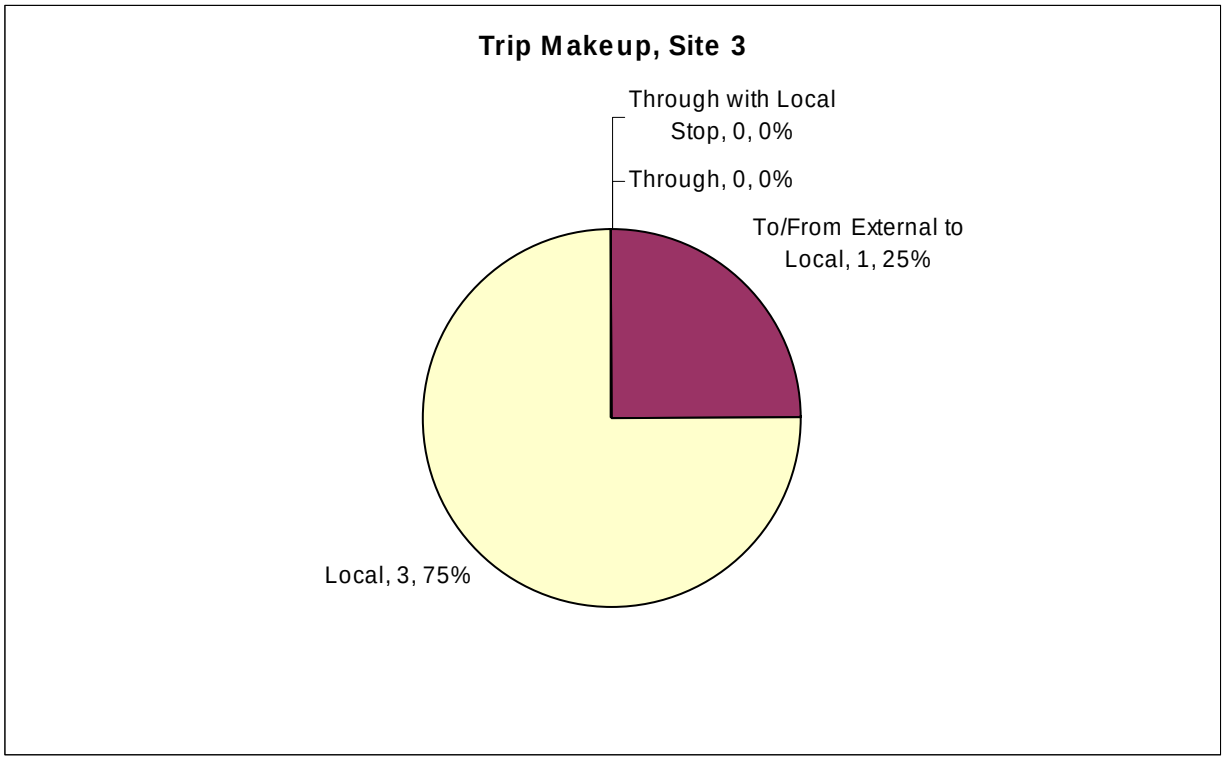
At Site 2, 61 percent or survey responses were considered to be Through trips; thirteen percent each were recorded for the remaining three categories. The O-D pairs and cargo for Through trips and To/From External to Local are summarized below.

Through Trips			To/From External to Local		
Origin	Destination	Cargo	Origin	Destination	Cargo
Shippensburg	Landover Md	Milk	Dallastown	Gettysburg	Precast Concrete
Harrisburg	Harrisburg	Heavy Equipment	Chambersburg	Littlestown	Trash
Chambersburg	Whitefront MD	Tractor			
Everett	Maryland	Snack Foods			
Waterfall	Crystal Spring	Paper/Wood			
Waterfall	Crystal Spring	Paper/Wood			
Chambersburg	Hanover	Stone			
Shippensburg	Westminister, MD	Animal feed			
Hagerstown	York	Freight			

3.1.3. Site 3, SR 116 (Middle Street) Eastbound

At Site 3, 20 cards were distributed, and four cards were received. Exhibit 6 contains the summary.

Exhibit 6. Trip Makeup, Site 3



At Site 3, 75 percent of responses were Local trips, and there were none recorded as Through trips. There was one To/from External to Local, which carried food.

3.1.4. Site 4, Business 15 Northbound

At Site 4, 12 cards were distributed, but only 1 was returned.

The response at this location was considered to be To/from External to Local. The trip was from Gettysburg to York County and carried Asphalt.

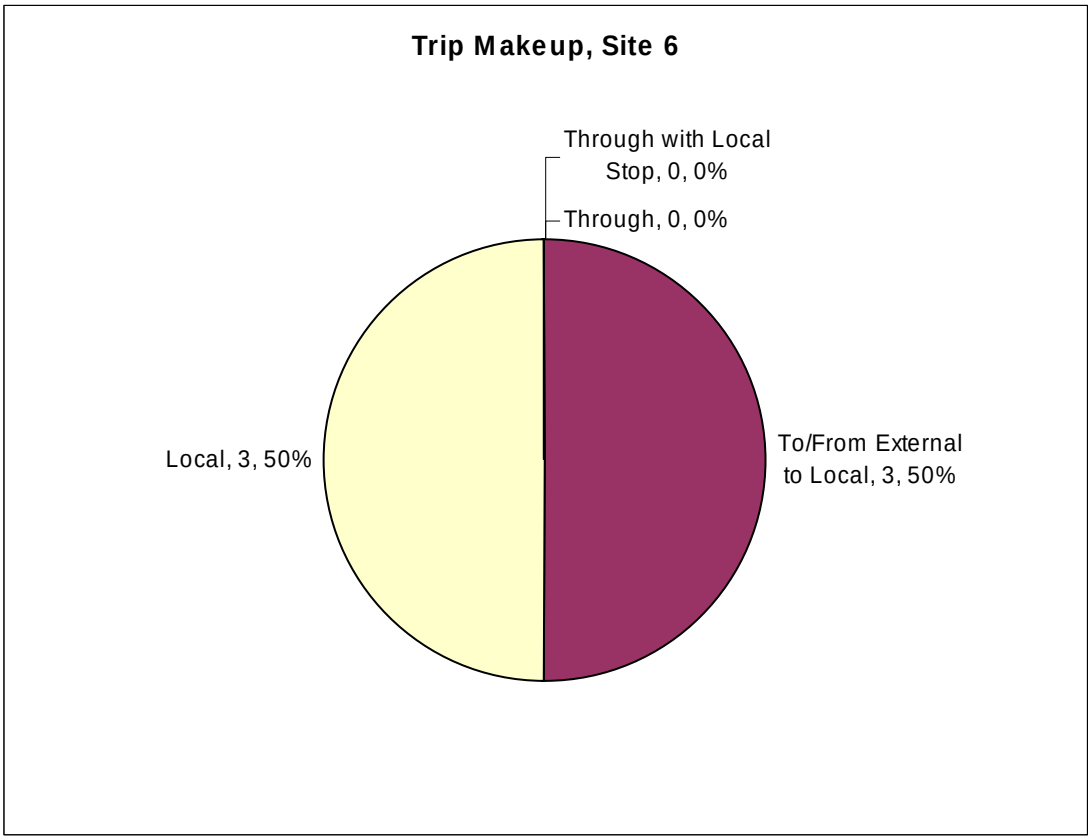
3.1.5. Site 5, Middle Street Westbound

At Site 5, nine cards were distributed, and none were returned. Consequently, no summary can be provided.

3.1.6. Site 6, SR 234 Eastbound, East Berlin Borough

At Site 6, 21 cards were distributed and six were returned. Exhibit 7 contains the summary.

Exhibit 7. Trip Makeup, Site 6



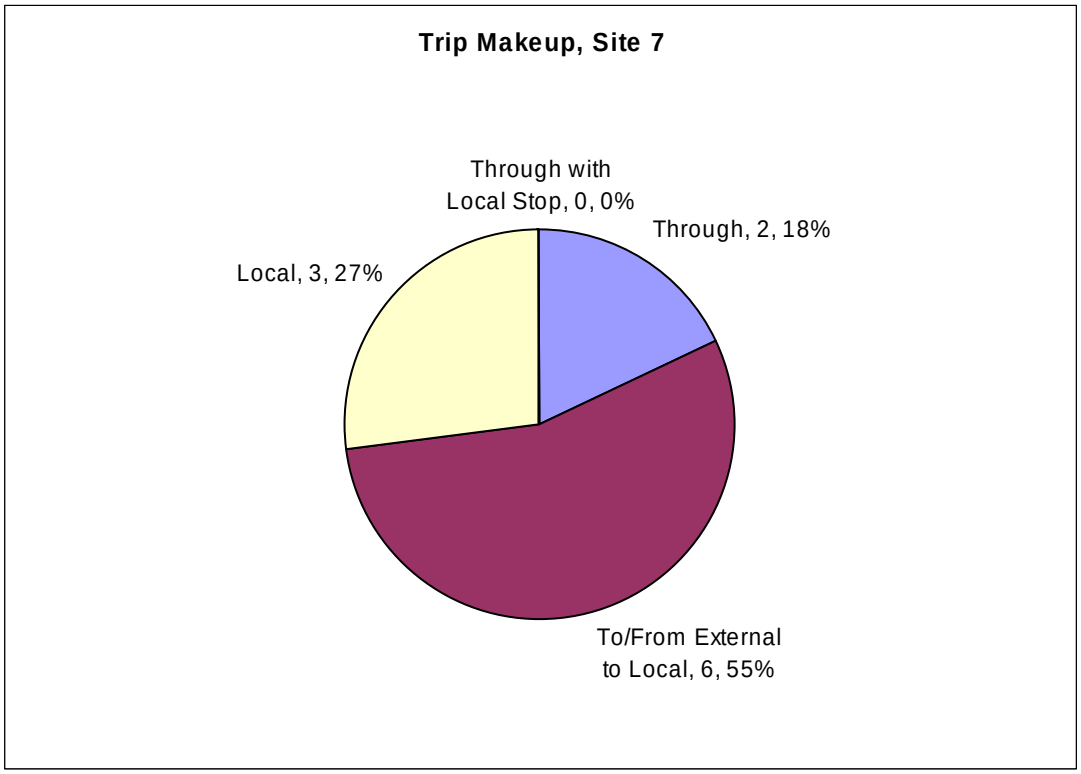
At this site, 50 percent of responses were considered to be Local, and 50 percent were considered to be To/From External to Local. The summary of To/From External to Local trips is provided.

To/From External to Local		
Origin	**Destination**	**Cargo**
Heidlersburg	Seven Valleys	Dead Chickens
Lemoyne	York	Truck Parts
Thomasville, PA	Gettysburg	Stone

3.1.7. Site 7, SR 234 Westbound, East Berlin Borough

At Site 7, 35 cards were distributed, and 11 were returned. Exhibit 8 contains the summary.

Exhibit 8. Trip Makeup, Site 7



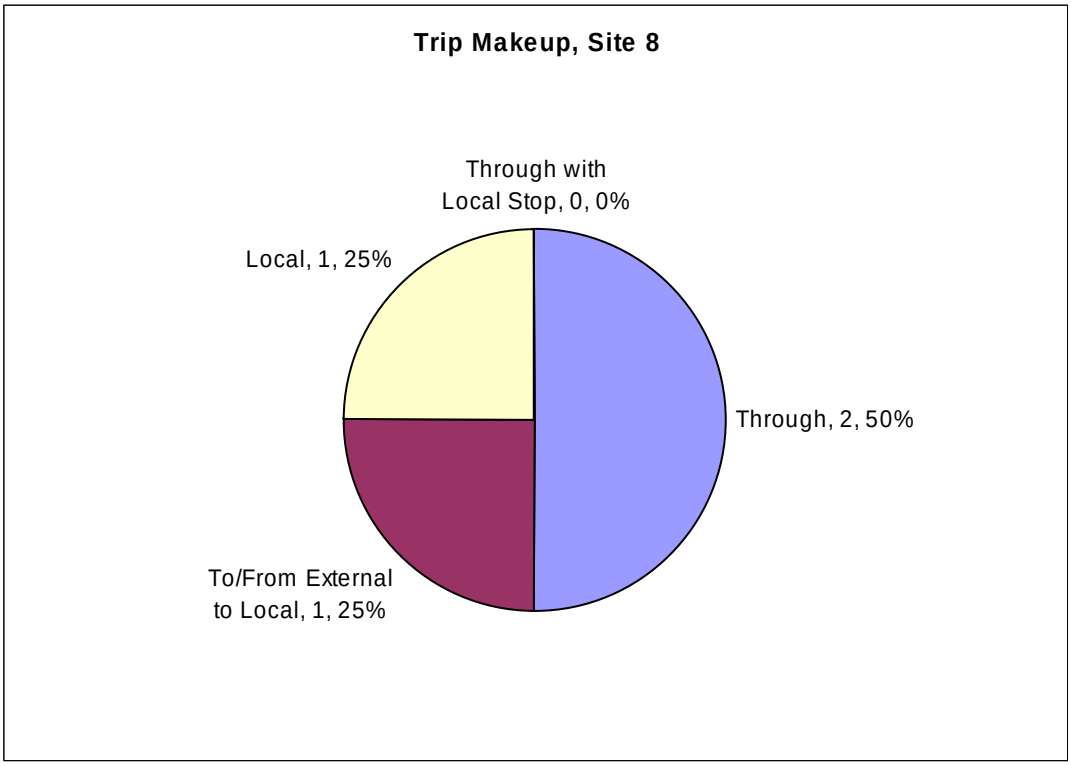
At Site 7, 55 percent of responses were considered to be To/From External to Local; 27 percent were considered to be Local; and eighteen percent considered to be Through trips. The O-D pairs and cargo for Through trips and To/From External to Local are summarized below.

Through Trips			To/From External to Local		
Origin	Destination	Cargo	Origin	Destination	Cargo
Shippensburg	Shippensburg	Logs	Havre De Grace, MD	Aspers, PA	Preforms
East Berlin	East Berlin	Blacktop	Biglerville	Biglerville	Cardboard
			York	Gettysburg	Construction Equipment
			Gettysburg	I 83	Cars
			Manchester, PA	Peach Glen, PA	Food Items
			Aspers	Wash DC	Agr. products

3.1.8. Site 8, SR 234 Eastbound, Biglerville

At Site 8, 24 cards were distributed, and four were received. Exhibit 9 contains the summary.

Exhibit 9. Trip Makeup, Site 8



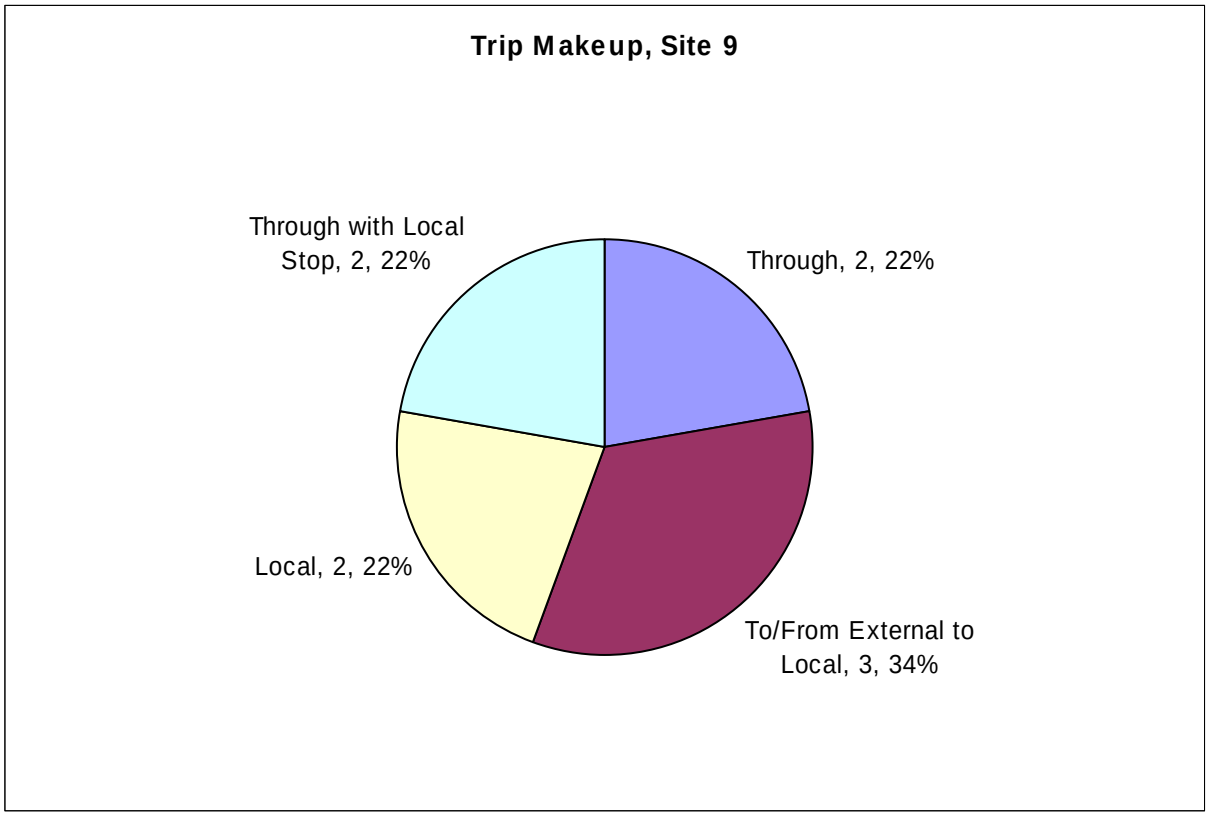
At this site, two responses were considered to be Through trips; one trip was To/From External to Local; and one was a Local trip. The O-D pairs and cargo for Through trips and To/From External to Local are summarized below.

Through Trips			To/From External to Local		
Origin	Destination	Cargo	Origin	Destination	Cargo
York	West Virginia	Lumber	Biglerville	Chambersburg	Boxes
Arendtsville	York	Wood/ Paper			

3.1.9. Site 9, SR 234 Westbound, Biglerville Borough

At Site 9, 41 cards were distributed and nine were returned. Exhibit 10 summarizes the results.

Exhibit 10. Trip Makeup, Site 9



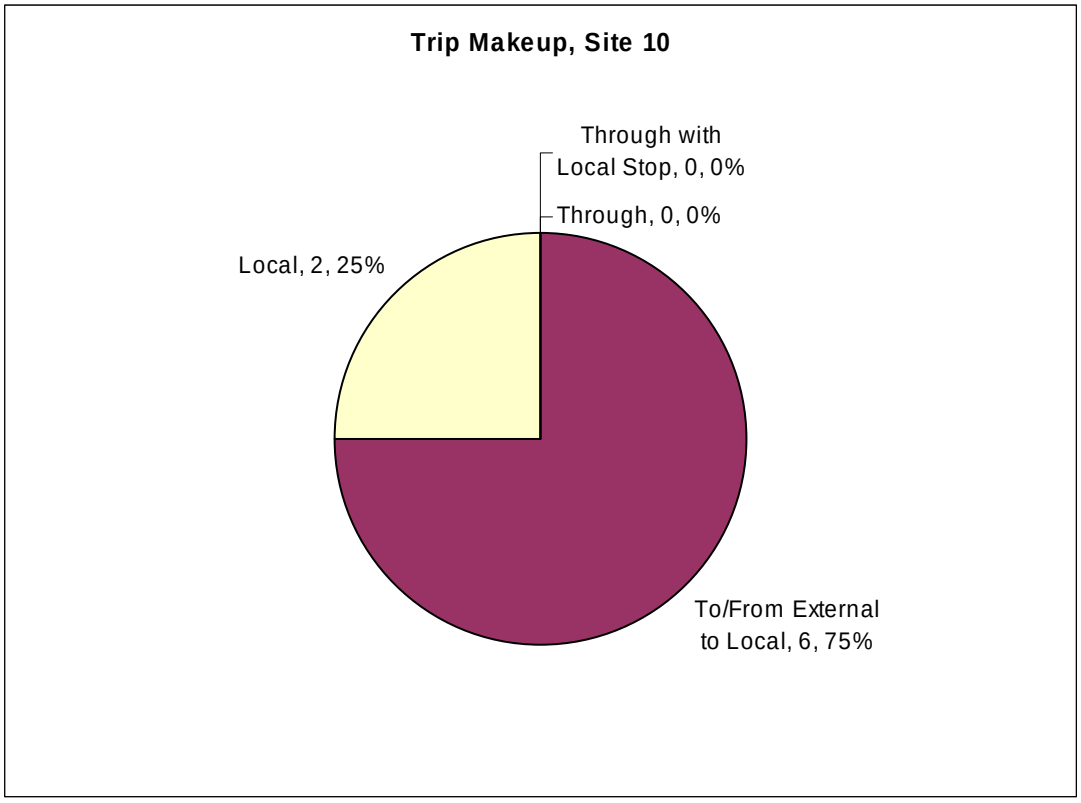
At Site 9, To/From External to Local had three responses, or 33 percent. The remaining responses were evenly distributed between Through, Local, and Through with Local Stop, at two or 22 percent each. The O-D pairs and cargo for Through trips and To/From External to Local are summarized below.

Through Trips			To/From External to Local		
Origin	Destination	Cargo	Origin	Destination	Cargo
Chambersburg	Chambersburg	Logs	Mechanicsburg	Aspers	Palettes
Waterfall, PA	Spring Grove, PA	Logs	Pittsburgh	Pittsburgh	Pallets
			Winchester VA	Chambersburg	Hardware

3.1.10. Site 10, SR 34 Southbound, Biglerville Borough

At Site 10, 38 cards were distributed, and eight were returned. Exhibit 11 summarizes the data for this site.

Exhibit 11. Trip Makeup, Site 10



Of the eight responses at this site, six, or 75 percent were To/From External to Local, and two, or 25 percent were Local trips. The To/From External to Local trips are summarized below.

To/From External to Local		
Origin	**Destination**	**Cargo**
Biglerville	West Virginia	Fruit products
Biglerville	Virginia	Pallets
York	Gardners, PA	Freight
Biglerville	Biglerville	Food Case goods
Cashtown	Cashtown	Fruit
Biglerville	Biglerville	Case Goods

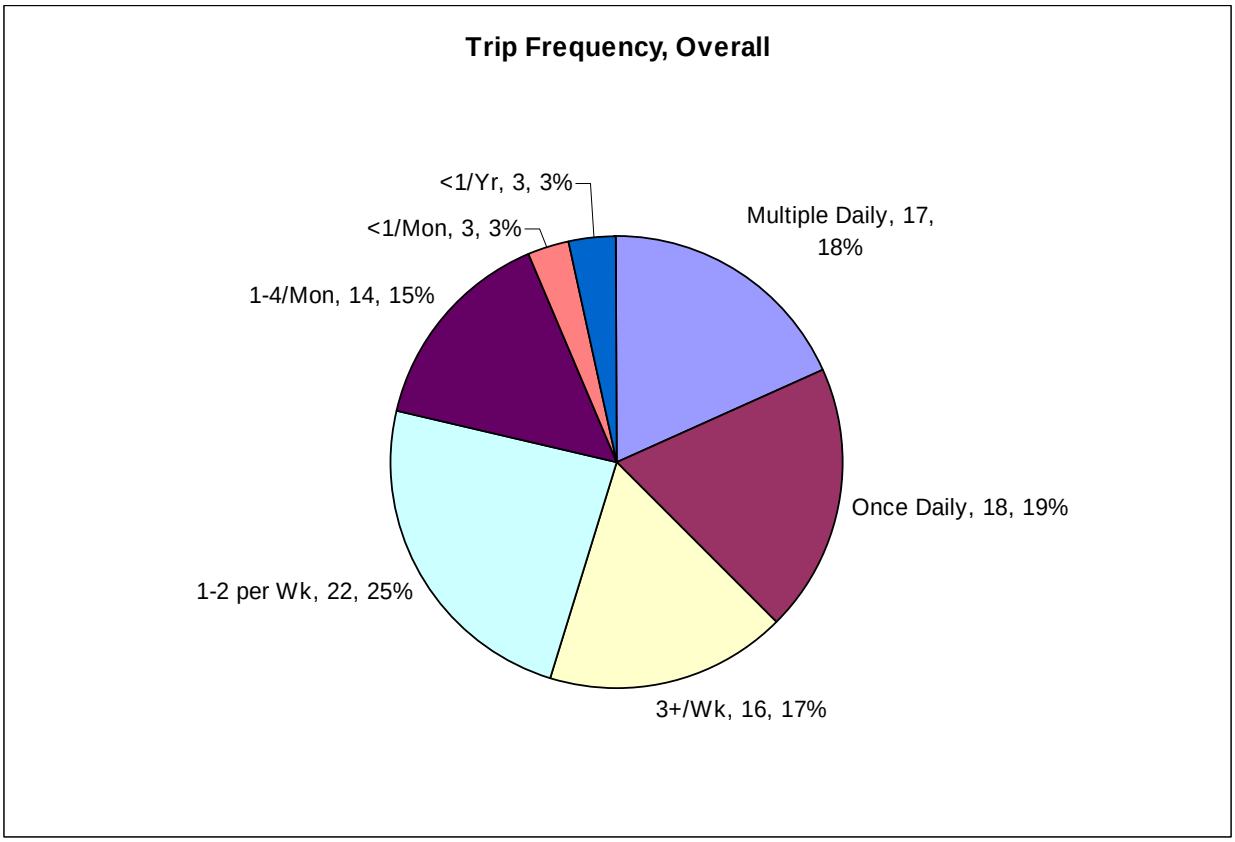
3.2. Trip Frequency

A question asked on the survey related to the frequency of the trip. The categories were:

- Multiple times per day
- Daily
- 3+ times per week
- 1-2 times per week
- 1-4 times per month
- <1 time per month
- <1 time per year

The responses for this question, the total for all sites, are shown in Exhibit 12.

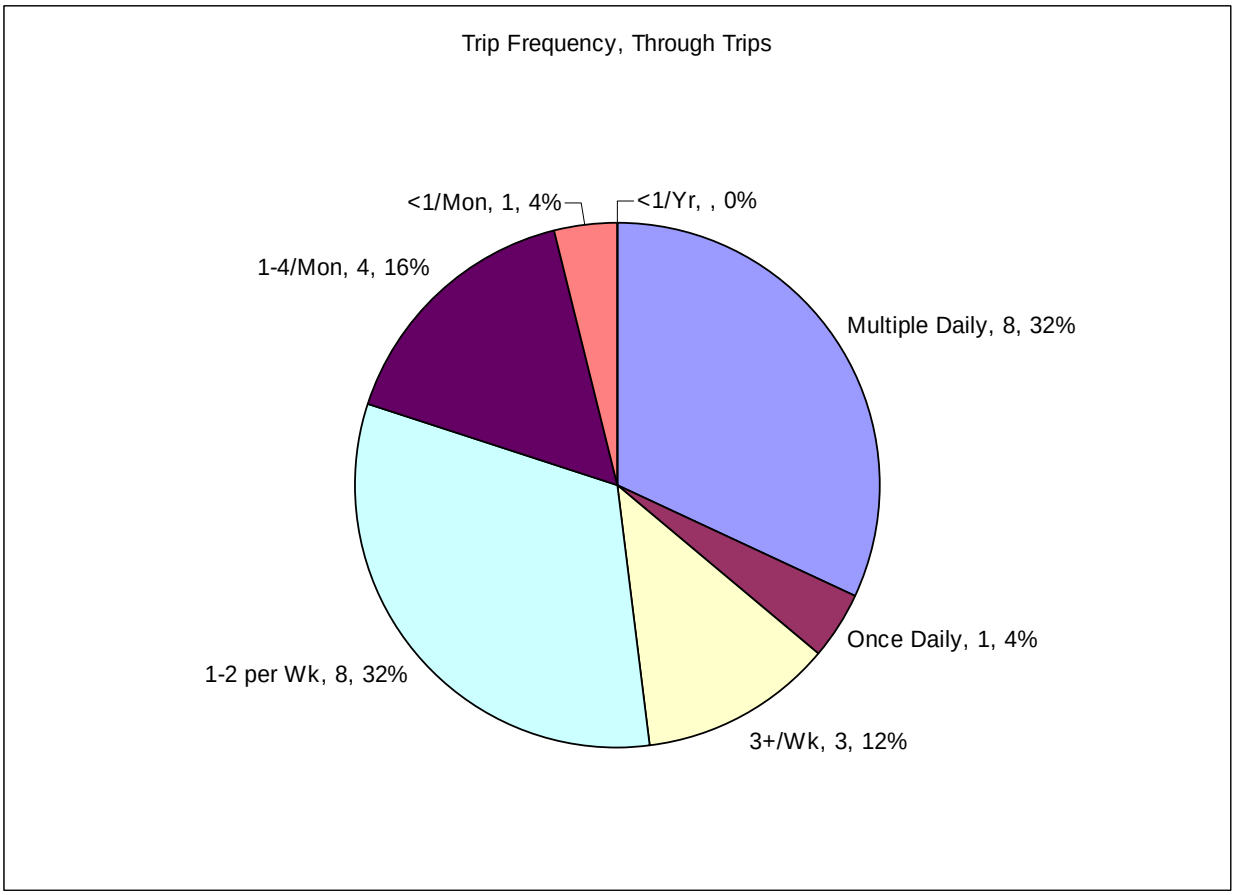
Exhibit 12. Overall Trip Frequency



Of all responses, the most frequent response was 1-2 times per week, having 29 percent of the responses. Once daily was next highest, with 19 percent of the responses.

The summary of the Through trips relative to frequency is also provided as Exhibit 13.

Exhibit 13. Trip Frequency, Through Trips



Of all responses, 32 percent reported a frequency of 1 to 2 times per week, and 32 percent reported multiple trips per day.

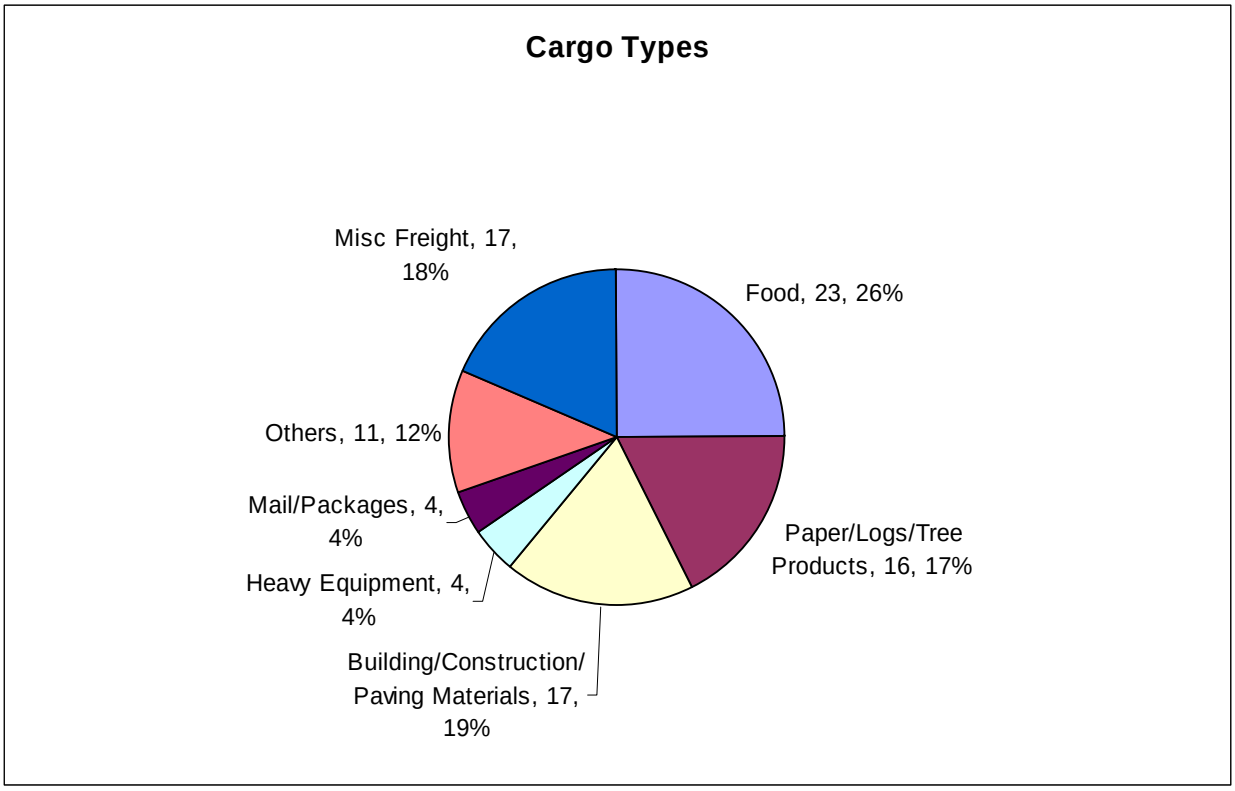
3.3. Cargo

The survey asked to identify the cargo that was being hauled through the county. Based on response types, several categories were developed. The responses were groups into one of seven different categories:

- Food Products
- Paper/Logs/Tree products
- Building/Construction/Paving materials
- Heavy Equipment
- Mail/Packages
- Miscellaneous Freight
- Others

The responses appear as Exhibit 14.

Exhibit 14. Cargo Types



The largest category is food, having 26 percent of responses. Building/construction/paving materials, miscellaneous freight, paper/logs/tree products, and building/construction/paving materials also had significant portions.

4. COMPARISON TO PREVIOUS STUDY

The 1991 study by the Adams County of Planning and Development was conducted on the four approaches to the square in Gettysburg. The survey had an overall response rate of 43 percent.

Key findings of the study include:

- Based on responses compiled for the 1991 study, 33 percent are considered to be Local trips, seven percent are considered to be To/From External to Local, and the remaining are Through trips, with or without a local stop.
- Of westbound traffic, 26 percent had an origin to the east, such as York or Lancaster. Twenty-three percent reported both a local origin and destination. Twenty-three percent also reported a destination to the south. Seventeen percent reported a destination to the west.
- Of eastbound traffic, 25 percent can be considered to be Local. Fifteen percent was reported for eastern origins; and another fifteen percent reported western origins. Thirty five percent reported destinations to the east.
- Sixty-seven percent of the northbound approach responses were Local trips.
- Forty-three percent of the southbound approach responses were local trips.

Trip characteristics for the two studies are compared in the table below.

	1991 Study			2005 Study		
Approach	Through Trips, with/without Adams Co Stop	Local Trips[1]	To/From External to Local[2]	Through Trips, with/without Adams Co Stop[3]	Local Trips	To/From External to Local
Overall	59%	33%	7%	35%	25%	40%
SR 30 Westbound	67%	23%	10%	41%	22%	37%
SR 30 Eastbound	68%	25%	7%	74%	13%	13%
Business 15 Northbound	33%	67%	0%			
SR 34/Business 15 Southbound	57%	43%	0%	0%	25%	75%
SR 234 Westbound[4]				30%	25%	45%
SR 234 Eastbound[4]				20%	40%	40%

1. Includes trips reporting both an Adams County origin and destination
2. Includes trips reporting either Adams County origin or destination, but not both
3. Includes both Through and Through with Local Stop
4. Includes both Biglerville and East Berlin sites combined

Key comparisons between the two studies include:

- Similar patterns can be seen with the trip nature for this study.
    - The amount of Local trips is comparable on SR 30, as well as overall for the both surveys.
    - Some sites had a decrease in Through traffic percentages.
    - There is a notable increase in the To/From External to Local trips.
    - Although the southbound surveys were distributed at different locations, there was considerably less through traffic. There was not a high enough of a response rate for northbound traffic to make an accurate comparison. One possible reason for low through traffic volumes northbound and southbound traffic is the presence of US Route 15 to remove traffic from Gettysburg borough.
- Cargo types are also similar. Large percentages of food, building/construction materials, and freight are present for both studies.
- The trip frequency also has similar responses. The responses of Daily or Multiple Daily is higher than the 1991 study found. The responses for 1-2 and 3+ times per week are also similar. A larger portion of responses indicated less than once per week with this study than the 1991 study.

Some possible reasons for differences in trip nature between the 1991 and 2005 studies may relate to lane use changes since 1991, such as more commercial developments, as well as the widening of US Route 15 from two lanes limited access to four lanes limited access. This may make both Adams County and the Borough of Gettysburg more accessible by truck traffic.

5. SUMMARY

The truck O-D survey conducted in August, 2005 resulted in 95 responses, or a 21 percent response rate averaged over the 10 sites which the cards were distributed. Overall, 27 percent of responses were considered to be Through traffic, while 25 percent of responses were considered to be Local trips. The remaining trips either originated from or were destined to locations outside of Adams County with a stop within the county.

Responses to this survey are similar to responses to the 1991 study. There are comparable Through trips along SR 30, and there are similarities between other categories on the questionnaire.

APPENDIX I

Adams County Travel Demand Model – Refinement and Scenario Evaluation Report

Adams County
Office of Planning and Development

Refinement of the Adams County Travel Demand Model and Evaluation of Development Scenarios

Prepared by:

Gannett Fleming

ISO 9001:2000 CERTIFIED

207 Senate Avenue

Camp Hill, PA 17011-2316

September 2008

TABLE OF CONTENTS

Acronyms and Definitions 3

I. Introduction 4

II. Socioeconomic Updates 5

A. Population 6

B. Employment 7

C. Households 7

III. Model Refinement 10

A. Refined TAZ Structure 11

B. Additional Network Detail 13

IV. Validation of the Travel Demand Model 18

A. Trip Generation 18

B. Trip Distribution 20

C. Traffic Assignment 23

V. Scenario Development and Testing 28

A. Policy Scenario 29

B. Market Scenario 29

VI. Summary of Results 37

A. County-Wide Summaries 37

B. Planning Areas Summaries 42

C. Corridor Level Summaries 53

VII. Truck Traffic and Freight Movement 90

Appendices 99

ACRONYMS AND DEFINITIONS

Throughout this document, several acronyms and terms are used – many of which are more common to traffic engineers or the modeling community. For the benefit of the readers of this document, definitions of those terms and acronyms are summarized as follows:

ADT:	Average Daily Traffic - Traffic along a specific roadway representing an average weekday.
Centroid connector	Within the highway network of the model, nodes representing individual traffic analysis zones (TAZs). Each TAZ typically has 2-4 centroid connectors.
CTPP	Census Transportation Planning Package
D-factor	Proportion of the peak hour travel in the peak direction
External Trips:	Vehicle trips with at least one end of the trip outside of the study area boundary.
Freeway:	Roadway with full controlled access
Functional classification:	The classification of roads based on their role in the overall system. The National Functional Classifications are Freeway, Arterial, Collectors and Local Roads.
HBO Trips:	Home-Based Other Trips - Trips originating at home with a destination other than work and trips originating other than the workplace with a destination of home.
HBW Trips:	Home-Based Work Trips ("Commuting Trips") - These two-way trips include the journey TO work and the journey FROM work.
HCM:	Highway Capacity Manual
HPMS:	Highway Performance Monitoring System
Intrazonal trips	Vehicle trips within the same zone. These trips are not captured within the model.
Interzonal trips	Vehicle trips between two zones
K-factor	Proportion of daily traffic occurring during the peak hour
Level of Service:	Measure of the usage of a particular roadway by vehicle speed, traffic flow and vehicle spacing.
Local streets:	Low traffic streets that typically run through neighborhoods.
Major arterial:	A main thoroughfare street, which carries a high volume of traffic.
NCHRP:	National Cooperative Highway Research Program
NHB Trips :	Non Home-Based Trips - Trips having an origin or destination other than home.
TAZ	Traffic analysis zone - A geographic area that identifies land uses and associated trips that is used for making land use projections and performing traffic modeling.
VMT:	Vehicle Miles of Travel - A system-level model output calculated by weighing the total vehicles on a roadway segment by the length of that segment. This is typically used for summarizing the entire system or summarizing against the different roadway classifications.

I. INTRODUCTION

FHWA defines scenario planning as "a process in which transportation professionals and citizens work together to analyze and shape the long-term future of their communities." The development of alternative futures, or context scenarios, can assist in identifying future transportation issues and opportunities based on different county-wide land use and transportation assumptions.

Context scenario planning offers the following benefits:

- Provides an analytical framework and process for understanding complex issues and early response to potential future changes;
- Includes tools and techniques to assess the impact of transportation and other public policy choices on a community;
- Offers the opportunity to recognize the impact of tradeoffs among competing goals;
- Yields an enhanced decision-making framework; and
- Helps ensure improved management of increasingly limited resources.

Rather than picking one definitive picture of the future and planning for that future, context scenario planning allows a region to consider various possibilities and identify policies that can adapt to changing circumstances. Scenarios are "stories" about future conditions that convey a range of possible outcomes. While context scenarios should not be considered to represent the projected actual future of Adams County, they do provide a quantitative factor to be considered through the LRTP and comprehensive community decision-making processes for addressing potential broad land use-transportation issues.

Context scenario planning is most effectively accomplished using travel demand modeling. In general, travel demand modeling attempts to quantitatively forecast the future amount of travel on the transportation system. Demand for transportation is created by the separation of urban activities (e.g. employment, shopping, recreation, etc.) which requires travel between destinations. The supply of transportation is represented by the service characteristics of highway and transit networks. Travel demand modeling uses computer software package to replicate the "real world" transportation system around us (roads, intersections, traffic control devices, congestion delays, use of a transit system, etc.). Once the computer model can accurately replicate the existing conditions of a study area, it can then be used to predict future travel patterns and demands based on changes in the transportation system (e.g., new roads, wider roads with more capacity, closed roads); changes in the land use (e.g., more residential development, a new industrial site, etc.); and changing demographics (more or less people in a specific area, access to a vehicle, etc.). By simulating the current roadway conditions and the travel demand on those roadways, deficiencies in the system can be identified.

However, travel demand models are most effectively used to identify broad effects on overall transportation system network performance based on the assumptions inherent in the context scenarios, not to evaluate individual roadway intersections or short, highway segments.

The analysis of context scenarios for Adams County allows for:

- Identification of broad changes in travel demand, effective capacity, and travel delay for the transportation network;
- Identification of locations or corridors that may experience increased travel demand, and potentially, associated travel delay;
- Recognition of whether existing and future land development patterns may necessitate transportation infrastructure improvements;
- Identification of locations or corridors which may encounter transportation issues under multiple future scenarios; and
- "Testing" of alternative solutions to issues identified through the analysis of various context scenarios.

As part of the update of the transportation element of the Adams County Comprehensive Plan and development of the Long Range Transportation Plan, the existing travel demand model (circa 2001) was updated and refined to better meet the needs of the county in testing various growth scenarios as part of this plan update. The existing model did not have sufficient geographic coverage and lacked the detail necessary to fully evaluate the countywide transportation network. The updates and refinements discussed in this document address the model's capabilities to forecast traffic growth over the approximately next twenty-five years. Analysis years include 2010, 2020 and 2035, and these forecasts represent average weekday travel. The model was used to evaluate the transportation effects of various land use scenarios and could assist decision-makers in directing growth in a way that utilizes existing infrastructure while identifying potential "hot spots".

Although the model is not considered to be an operation model, outputs from this tool can be used in conjunction with traffic simulation models (such as Synchro®) to look at the operation of specific intersections and what type of improvements might be necessary in order to obtain an adequate level of service and reduce congestion within the county.

II. SOCIOECONOMIC UPDATES

The socioeconomic inputs, commonly referred to as the demand-side of the model, is very important – especially in this effort since testing various future growth scenarios is the main purpose of this tool.

During Phase I of this project, it was determined that the existing model had many inconsistencies with actual land uses, and more accurate data sources for employment needed to be investigated. One of the most noteworthy enhancements to the model was the county's purchase of detailed third-party employment data. Not only did this data prove to be valuable in the development of the travel demand model, but it may also be of value to other county and municipal initiatives.

A. POPULATION

To develop the population component of the context scenarios, county population estimates and projections developed by ACOPD were used as the analysis data for the baseline and context scenarios. As a planning tool, the emphasis on the use of population projections in this application should be on determining the resultant implications of particular population levels, not on the potential accuracy of the timing involving when those population levels may be reached. Effectively, the planning process should focus on the transportation system effects at varying population levels, no matter when they happen to occur.

Table 2-1: *Total baseline population (2004)*

Planning Area	Population estimate
Northeast	15,237
Northwest	13,558
Southwest	9,644
Southeast	10,233
Central	29,190
East	21,394
TOTAL	99,256

In the Phase I update, population estimates were developed from the U.S. Census for the year 2000. In order to convert to TAZ, census data was obtained at the block level. This block-level data was further analyzed and a more refined TAZ equivalency was generated. The original TAZ population and household data was used as a control total and the block data from Census was used to split the old TAZ data between the new sub-divided TAZs. The data was then factored up to year 2004 (model validation year) based on the ACOPD population estimate for 2004 of 99,256 through a review of individual TAZs.

B. EMPLOYMENT

As mentioned previously, there were several issues with the employment data used in the existing model set. Employment data in certain zones was not consistent with actual employment. To determine an accurate summation and distribution of employment, the ACOPD obtained detailed employment and business data for the county through the Selectory® database program of Dun and Bradstreet, a source of global commercial and business information. This database provides detailed information on the 4,122 business enterprises identified in Adams County for the year 2007, including business classification, employees, sales, mailing address, and physical location.

Using the Selectory® information, it was estimated that county employment for the 2004 baseline condition was 29,892. This compared favorably with the 2004 employment estimate from the U.S. Census Bureau *(County Business Patterns 2004, Pennsylvania, issued June 2006)* which estimated Adams County employment at 27,983, excluding most government workers and self-employed individuals.

As the Selectory® information included locational data, each employment location was mapped to enable an accurate distribution of employment with the model TAZ structure (Figure 1-1). ACOPD performed an extensive review of the data to correct locational and employment number errors, and added several known employment centers which were not included in the base data.

The Selectory® data is spatially referenced by latitude and longitude and was brought into ArcGIS and converted to a shapefile. Following further examination, it was observed that some businesses were not in the correct location and some were missing altogether. After cleaning up these types of anomalies, a corrected total of 4,122 records were established. The data (Figure 1-2) included details of the employment such as: SIC/NAICS code, number of employees, revenues, business address, ownership, etc.

In order to refine the data to be input into the trip generation model, the data points were associated to the particular TAZ in which it was located. The trip generation model also incorporates trips rates based on the type of employment. The employment classifications were then summarized into service, retail, and other (Table 2-2).

Table 2-2: *Total baseline employment (2004)*

Planning Area	Retail employment	Service employment	Other employment	Total employment
Northeast	334	994	1,125	2,453
Northwest	278	1,174	2,286	3,738
Southwest	95	755	1,090	1,940
Southeast	277	779	1,134	2,190
Central	1,377	8,691	2,613	12,680
East	417	3,824	2,650	6,891
TOTAL	2,778	16,217	10,987	29,892

Figure 2-1: *Employment locations within Adams County derived from the Selectory® Dun and Bradstreet data, 2007*

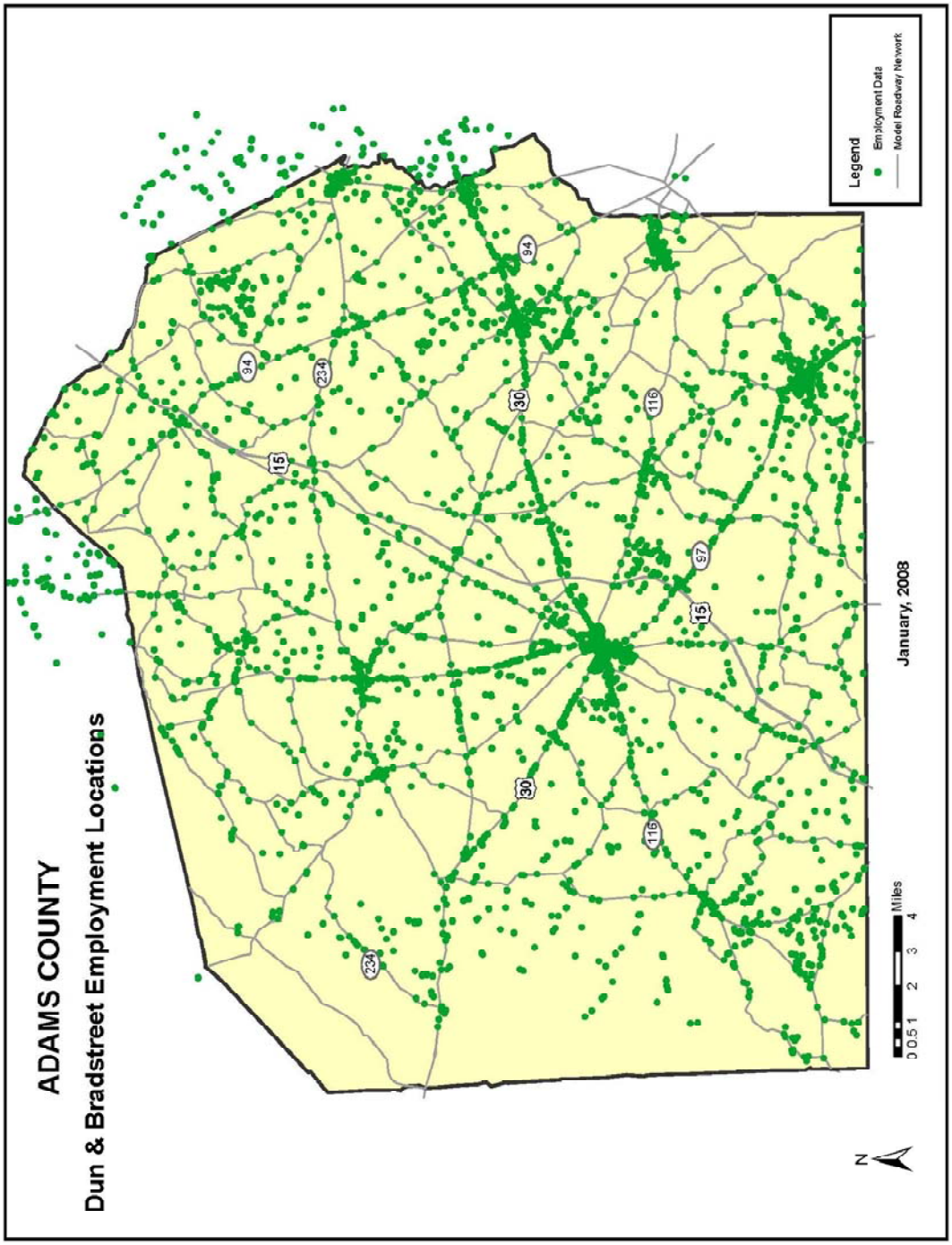
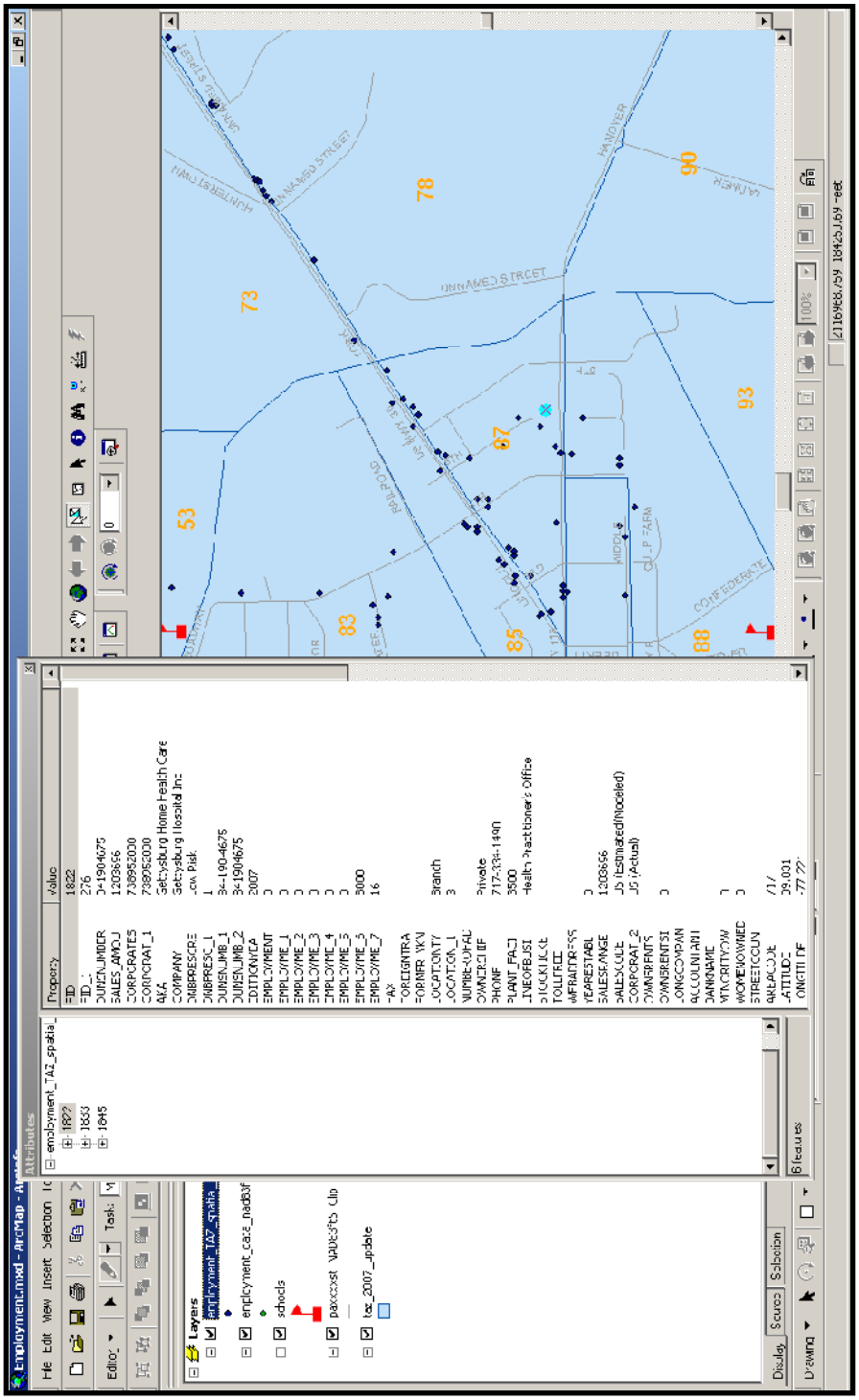


Figure 2-2: *Screen capture of Selectory® data and shapefile showing data attributes*



C. HOUSEHOLDS

Households were derived directly from population and as a result are directly proportional. This relationship is true for the baseline year and forecast years. The trip generation model requires households to be further broken down by household size (e.g., one person, two person, three person, four person, and five or more person households). The only data that was available at the time the model was being refined was that of the existing model set.

Table 2-3 illustrates the breakdown of households by household size for each of the Planning Areas. In the absence of additional data, household size data was considered to be reasonable as it compared with national averages and how it compared against itself.

Table 2-3: *Breakdown of baseline households by household size*

Planning Area	One-person household	Two-person household	Three-person household	Four-person household	Five or more person household	Total households
Northeast	927	1,967	1,012	974	604	5,483
Northwest	958	1,890	895	779	548	5,070
Southwest	636	1,351	654	593	302	3,537
Southeast	678	1,341	729	591	368	3,708
Central	2,808	3,870	1,683	1,452	932	10,744
East	1,724	2,779	1,423	1,207	670	7,803
TOTAL	7,731	13,198	6,397	5,595	3,424	36,344

III. MODEL REFINEMENT

During Phase I of this effort, the existing model was used to evaluate various growth scenarios as part of the update. It was recommended at the conclusion of Phase I that the model be revised and refined to better accommodate the goals of the county, while increasing the models' ability to produce reasonable forecasts. Due to time and budget constraints, the model was not completely overhauled, or converted to a more modern software package (the model is maintained in its original TranPLAN® format). Key updates were implemented based on the existing model's data and structure. Updates that were incorporated in this refinement included:

- Updated population and employment data
- Refined zone structure
- Improved roadway network
- Integration with PennDOTs Roadway Management System (RMS)
- Integration with Pennsylvania Statewide Travel Demand Model (PASM)
- Evaluated and updated external stations
- Re-validation of the model

During the development of the model, the new Gettysburg Visitor Center was completed and opened to the public. Although this new center is expected to affect traffic patterns, most of this traffic will occur during the weekends and off-peak hours.

A. REFINED TAZ STRUCTURE

INTERNAL ZONES

The original model was developed primarily for PennDOT's Comprehensive Roadway Improvement Study (CRIS) in Adams County, and based on the objectives of that study, did not fully represent the entire county in terms of zone structure and data development. Therefore, a primary objective of this study was to develop an equitable zone structure, along with providing additional detail – especially in those dense areas outside of the central portion of the county.

The original transportation analysis zone (TAZ) structure consisted of 123 internal zones and 12 external zones (zones 1-109 and 134-147 being the *internal* zones and zones 171-182 being the *external* zones). This structure was re-examined using ArcGIS, where block-level boundaries were overlaid from Census 2000 data along with municipal boundaries (Figure 3-1).

Using the boundaries from these data sources, thirty-five zones were re-evaluated and were split to form sixty-three additional zones. This zone splitting was done to better represent those more populated areas, as well as providing a more equitable overall representation of the county. The new TAZ structure (Figure 3-2) consists of 186 internal zones (expanded from 123) and 15 external zones (expanded from 12).

EXTERNAL ZONES

The existing model set included three trip tables associated with the external zones/stations. These include external to external trips (referred to as E-E trips, or Through Trips), external to internal trips (E-I Trips), and internal to external trips (I-E Trips). Typically in a model update, some type of external survey or cordon survey would be conducted to better understand the travel behaviors of those trips entering and exiting the county. Since this effort was beyond both the scope of this model refinement, the original trip tables were used and checked for reasonableness against readily available data sources, including the Pennsylvania Statewide Travel Demand Model.

Three additional external zones were also added: Route 94 (northern portion of county), Route 16 (western portion of county) and Route 116 (eastern portion of county).

The E-I and I-E trips were generated separately in trip generation using the existing model data. These trips were then fed into trip distribution and a separate origin-destination table was generated. This origin-destination table was modified for certain origin-destination pairs during validation and fed back into the model chain. The sum total of external trips was matched with average daily traffic data at the external stations.

Figure 3-1: *TAZ structure from original model*

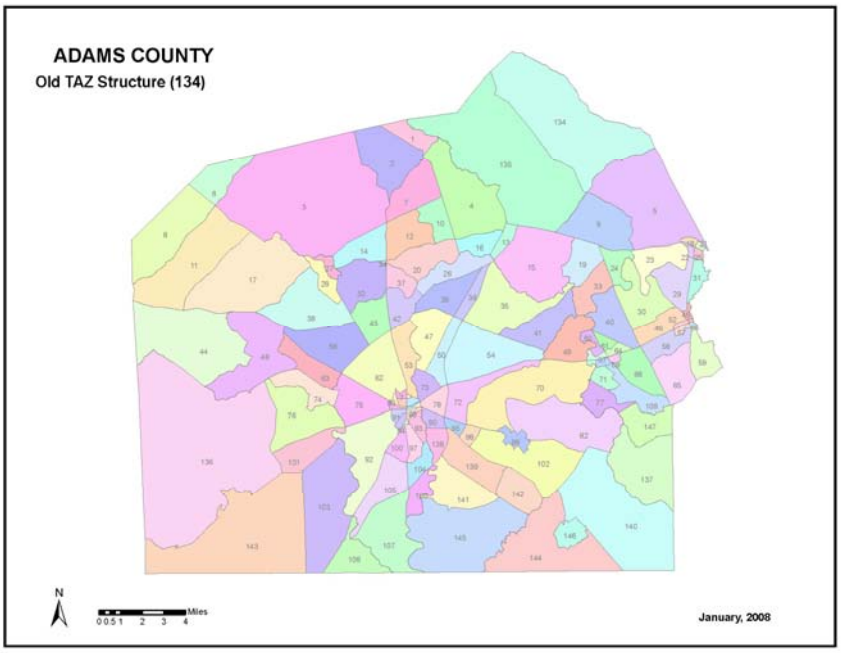
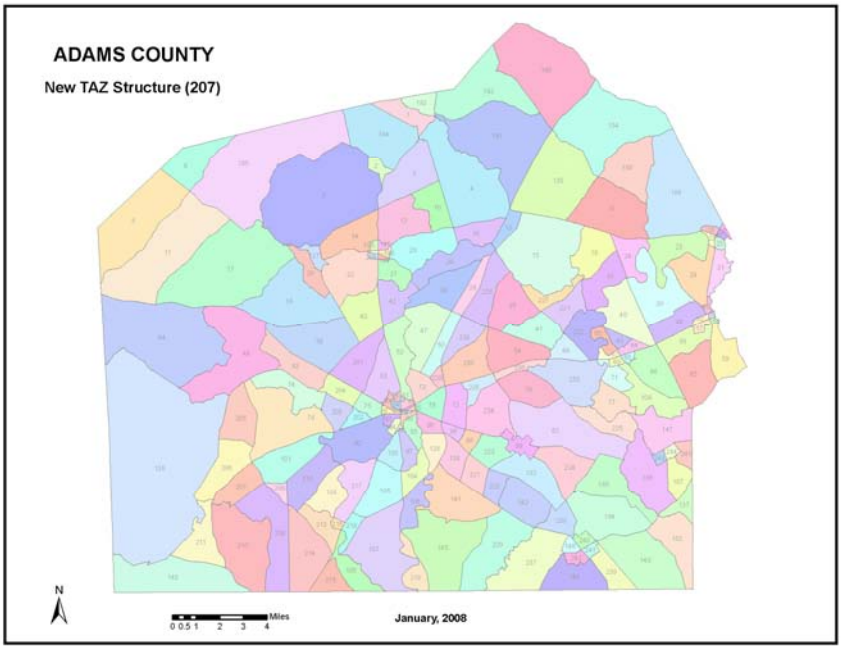


Figure 3-2: *TAZ structure in revised model*



B. ADDITIONAL NETWORK DETAIL

One of the key changes to improving the original modeled network was to add additional roadways, thus improving the detail of the roadway network analyzed. The PennDOT Roadway Management System (RMS) was used as a guide to provide data for those portions of the county that were lacking sufficient roadway coverage.

Approximately 700 new nodes were created and 1,500 new links were added (Figures 3-3, 3-4 and 3-5). The new roadways were added to match the geographic representation of the RMS network. Ensuring proper curvature of links and placement of nodes results in more precise path choices by making the each link distance more accurate.

One of the limitations of the TranPLAN® software platform is that the addition of new attributes cannot be written back to the network. In order to address this limitation, the network was exported from TranPLAN® and imported into CUBE Voyager®. Once imported, a network flag was created for each link to identify those links that were added. The flag that was established was (NEW_NET=1)

The new model network was lacking important attributes that the RMS system contains. This dataset lacked a common identifier with the RMS data. In GIS, a "conflation" process was used to bring in this data.

Essentially this means using the model network as the "geometric layer" and the RMS network as the "attribute layer" and spatially joining the two networks to bring the RMS attributes into the model network. This results in a network with new useful roadway attributes that can be used in the modeling chain. The overall network attributes are described in the Table 3-1.

The screen captures in Figures 3-6 and 3-7 compare the old network to the new network with the added RMS attributes. Some of the key attributes that were used in the model are functional class (FUN_CLASS), number of lanes (LANES), route number (ROUTENUM) and average annual daily traffic (AADT_RMS).

Figure 3-3: *Original model roadway network and external stations*

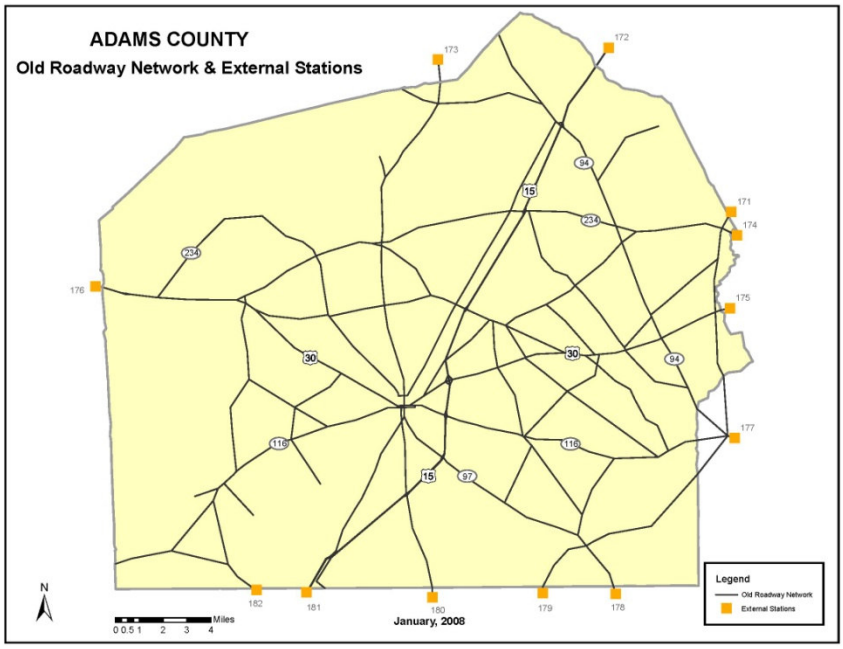


Figure 3-4: *Refined model roadway network and external stations*

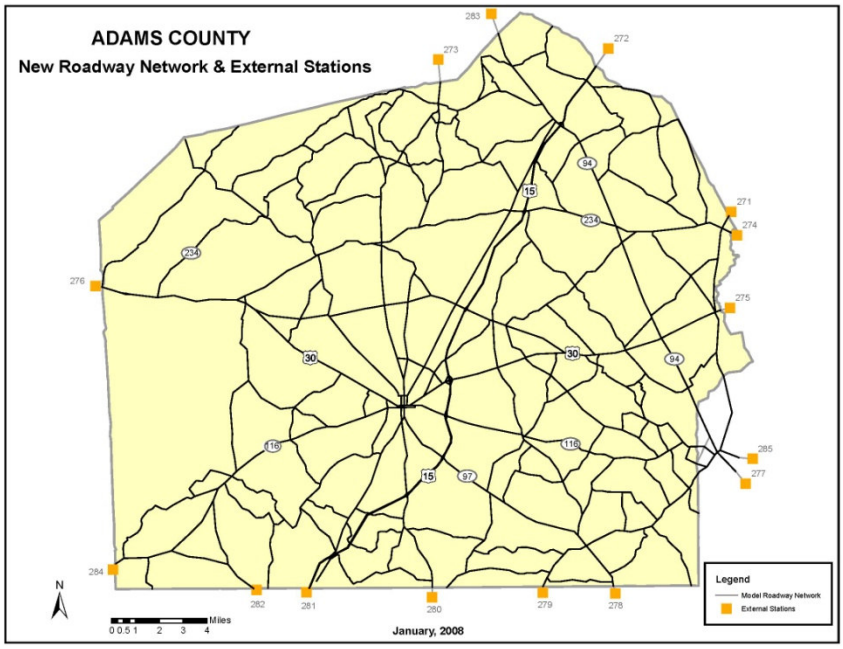


Figure 3-5: *Updated model roadway network highlighting (in red) those roadways added as port of the model refinement*

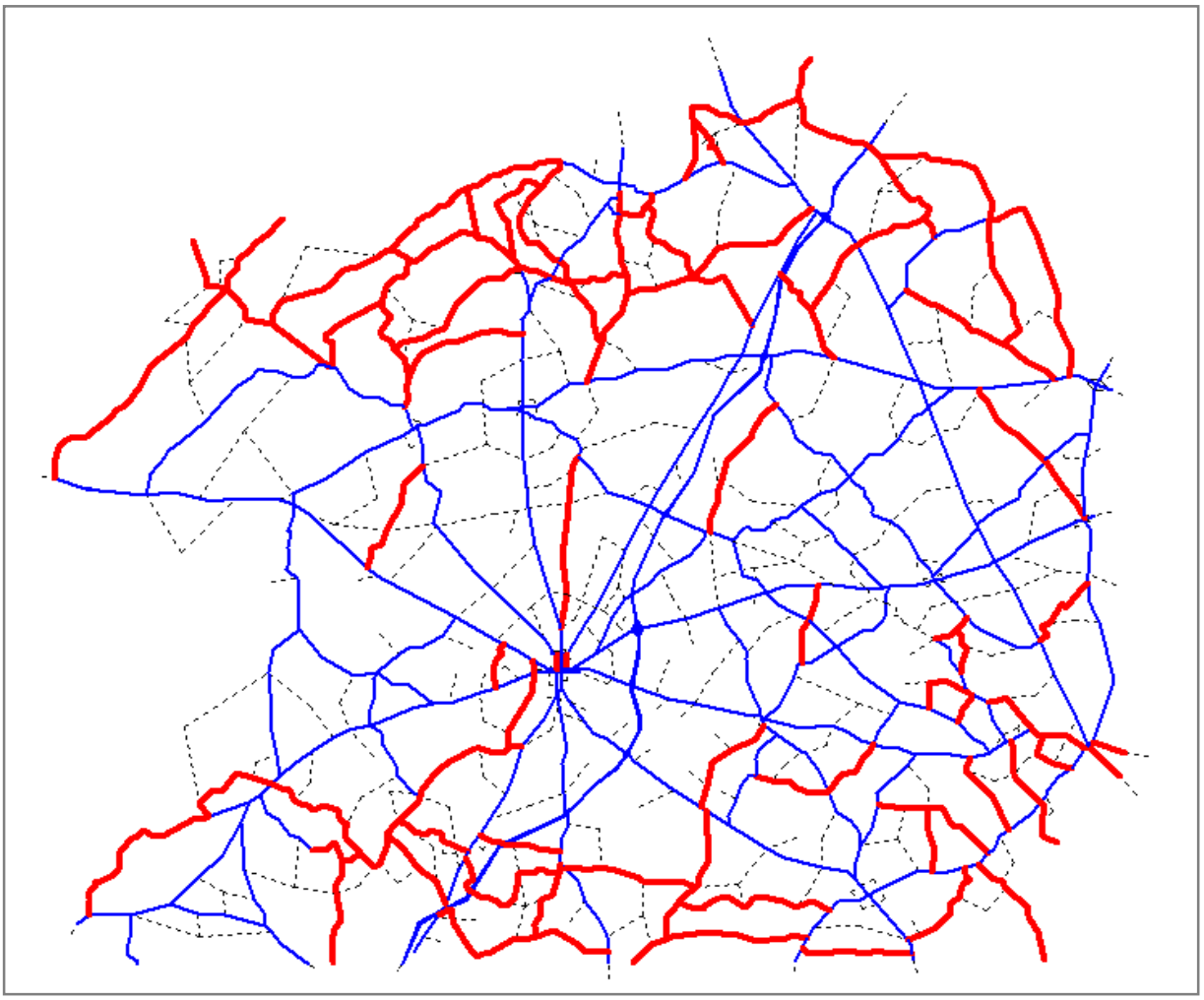


Table 3-1: *Description of network attributes linked into revised model*

Attribute	Source	Description
SCR_ID	Adams model	Screenline ID
K_FAC	PennDOT -RMS	K-factor from PennDOT
D_FAC	PennDOT -RMS	Directional factor from PennDOT
MSLINK	PennDOT -RMS	RMS unique identifier
FAC_TYPE	PennDOT -RMS	One-way or two-way facility
ROUTENUM	PennDOT -RMS	Traffic route number
DESCRIPTIO	PennDOT -RMS	Street name
TRK_RMS	PennDOT -RMS	Original truck percentage (2004)
LANES	PennDOT -RMS	Number of travel lanes
AADT_RMS	PennDOT -RMS	Average annual daily traffic
TRK_RMS	PennDOT -RMS	AADT in the RMS database (2004)
AUTO_RMS	PennDOT -RMS	AADT_AUTO in the RMS database (2004)
FUN_CLASS	PennDOT -RMS	RMS Functional class code
TMS_AADT	PennDOT TMS	AADT in the TMS database
TMS_TRK	PennDOT TMS	Truck percent in the TMS database
TOT_WIDTH	PennDOT Bridge	Total width of roadway (ft)
SUR-TYP	PennDOT Bridge	Pavement surface type
RMD_ID	PennDOT -RMS	RMS ID: County code + Route number
SEG_NO	PennDOT -RMS	Segment number
NEW_NET	Adams model	New network added
SEGMENT_ID	Adams model	Segment ID for smoothing purposes
SPEED	Adams model	Speed (mph)
DISTANCE	Adams model	Distance (hundredths of miles)
TIME1	Adams model	Time (hundredths of minutes)
CAPACITY	Adams model	Roadway capacity (per lane)
VOLPURP1	Adams model	Raw modeled volume
CGSTDTIME	Adams model	Congested time (hundredths of minutes)
TRK_PCT	PennDOT – RMS	Truck percentage in the RMS database (2004)
COUNT04_RMS	Adams model	AADT in the RMS database (2004)
ADJRATIO_TOT	Adams model	Adjustment ratio between RMS count and raw volume (VolPurp1)
ADJVALUE_TOT	Adams model	Adjustment volume between RMS count and raw volume (VolPurp1)
PCTVOL_TOT	Adams model	Adjusted volume from ratio method
ABSVOL_TOT	Adams model	Adjusted volume from difference method
AVGVOL_TOT	Adams model	Adjusted volume from average method
FILVOL_TOT	Adams model	Final filtered volume

Figure 3-6: *Initial network with limited link attributes*

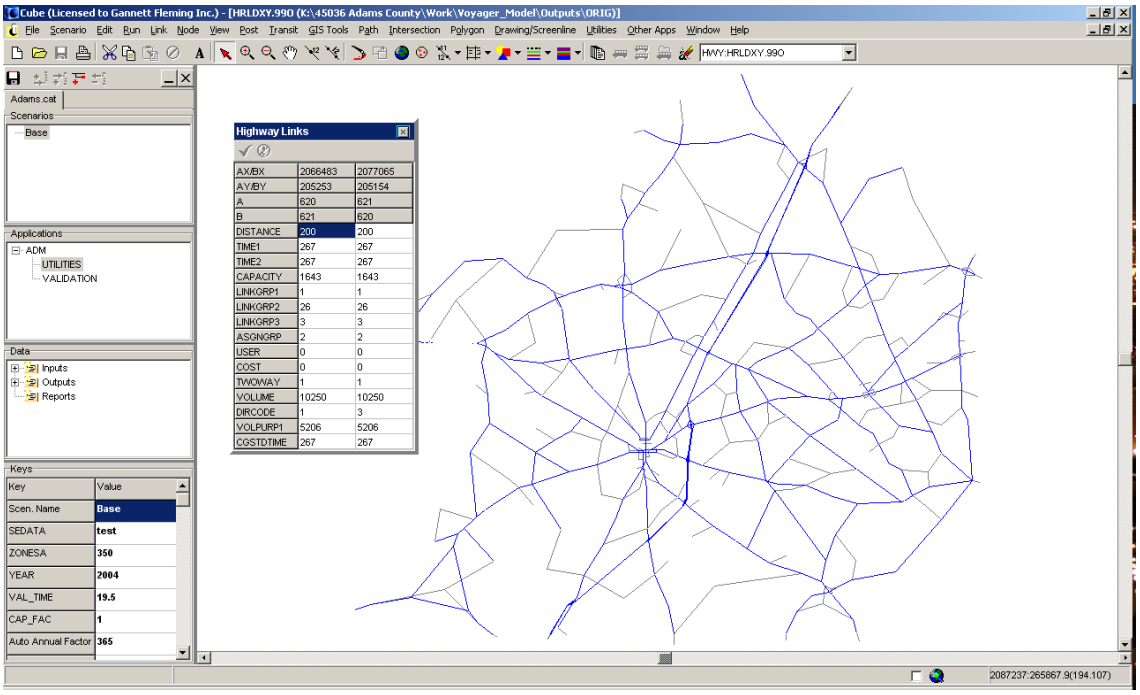
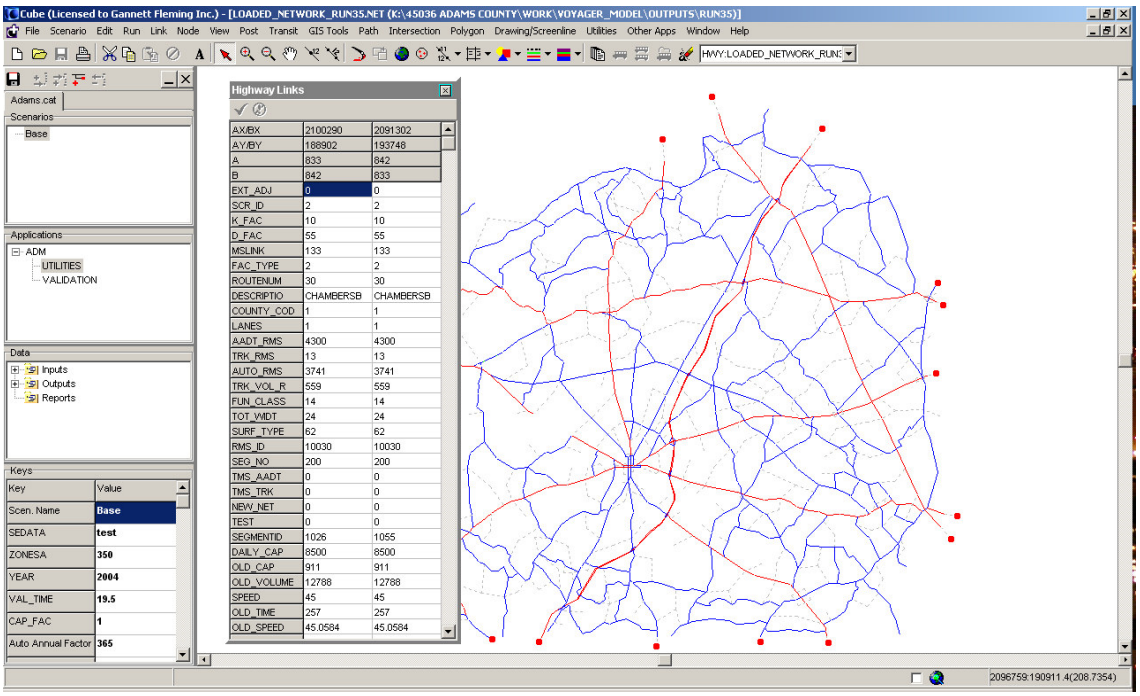


Figure 3-7: *Roadway network in Voyager, with RMS attributes added*



IV. VALIDATION OF THE TRAVEL DEMAND MODEL

Validation of the model was performed throughout the model development process. The level of validation varied, depending on data sources that were readily available. In some cases, model output was compared against data representing national averages, while in others it was comparing against statewide data and ultimately traffic volumes. The level of accepted error is documented as part of the Federal Highway Administration's modeling guidelines. These guidelines were used to determine the level of confidence of this long-range planning tool. This next section discusses the refinement of that module and how the outputs compared to these data sources. The model validation year was 2004, and the data used was adjusted when needed to represent 2004 conditions.

A. TRIP GENERATION

The trip generation module for the Adams County model was originally spreadsheet-based, and was considered to be somewhat cumbersome and allowed the potential for errors due to the multitude of linked pages and individual cell formulas. The module was converted to TRANPLAN format in order to be consistent with the rest of the model set. The breakdown of the inputs to the trip generation remained consistent in that total households are broken down into 1-5+ person households, and total employment is broken down into service, retail and other. Details of the TRANPLAN script are shown in Figure 4-1.

Trip rates (Trips/HH) were compared with the Pennsylvania Statewide Travel Demand Model and the National Household Travel Survey (NHTS) and calibrated accordingly (Table 4-1). This resulted in approximate daily trips of 51,400 for HBW (Home Based Work) trips, 155,700 for HBO (Home Based Other) and 81,800 trips for NHB (Non-Home Based) trips.

HBW trips were also compared with trips obtained from the Census Transportation Planning Package (CTPP). According to CTPP, HBW trips were found to be roughly 51,400. As part of the model calibration, the trip rates were slightly modified to reflect this.

Table 4-1: *Summary of daily trips by trip purpose*

Trip Purpose	Daily trips	Trip composition	Trips per household	*Comparison values* PA Model Trips per household	NHTS Trips per household
Home based work	51,439	17.8%	1.43	1.48	1.22
Home based other	155,684	53.9%	4.32	4.40	5.05
Non home-based	81,828	28.3%	2.27	2.33	3.09
TOTAL	288,951	8.02	8.02	8.21	9.36

Figure 4-1: *Trip Generation script added to the model set*

```
$TRIP GENERATION
$FILES
  OUTPUT FILE = GRVDATA, USER ID = $p&a.dat$
$HEADERS
  TRIP GENERATION -- Adams Co
    PURP1=HBW   PURP2=HBO   PURP3=NHB
$OPTIONS
  BALANCE PRODUCTIONS
  PRINT DATA
$PARAMETERS
  NUMBER OF ZONES = 285
  INDEPENDENT VARIABLE = 1, ID = Psn1HH
  INDEPENDENT VARIABLE = 2, ID = Psn2HH
  INDEPENDENT VARIABLE = 3, ID = Psn3HH
  INDEPENDENT VARIABLE = 4, ID = Psn4HH
  INDEPENDENT VARIABLE = 5, ID = Psn5HH
  INDEPENDENT VARIABLE = 6, ID = TOTALHH
  INDEPENDENT VARIABLE = 7, ID = RetEmp
  INDEPENDENT VARIABLE = 8, ID = SerEmp
  INDEPENDENT VARIABLE = 9, ID = OthEmp
  INDEPENDENT VARIABLE = 10, ID = TotEmp
  INDEPENDENT VARIABLE = 11, ID = HBWBrd
  INDEPENDENT VARIABLE = 12, ID = HBOBrd
~  IE trips separated in an IE trip table
~  INDEPENDENT VARIABLE = 13, ID = IEProd
~  INDEPENDENT VARIABLE = 14, ID = IEAttr
  PURPOSE = 1, ID = HBW
    PRODUCTION COEFFICIENTS = (1,0.53),(2,1.30),(3,1.65),(4,2.08),(5,2.39)
    ATTRACTION COEFFICIENTS = (10,1.45), (11,1.0)
  PURPOSE = 2, ID = HBO
    PRODUCTION COEFFICIENTS = (1,1.60),(2,3.40),(3,5.24),(4,7.19),(5,7.35)
    ATTRACTION COEFFICIENTS = (7,9.0), (8,1.7), (9,0.5), (6,0.9), (12,1.0)
  PURPOSE = 3, ID = NHB
    PRODUCTION COEFFICIENTS = (1,1.02), (2,1.93), (3,2.77), (4,3.34),(5,3.62)
    ATTRACTION COEFFICIENTS = (7,4.1), (8,1.2), (9,0.5), (6,0.5)
    PURPOSE = 4, ID = IE
~ IE trips separated in an IE trip table
~   PRODUCTION COEFFICIENTS = (13,1.0)
~   ATTRACTION COEFFICIENTS = (14,1.0)
$DATA
$INCLUDE SEcon_r6.04I
$END TP FUNCTION
```

B. TRIP DISTRIBUTION

Refinements to the Trip Distribution model primarily involved changes to trip lengths. Trip length comparisons were made between York County, Lancaster County, the Pennsylvania Statewide Travel Demand Model and the National Household Travel Survey (NHTS). These sources were evaluated (Table 4-2) as input trip lengths for the trip distribution model. Travel characteristics were assumed to be most comparable to York County, which is adjacent to Adams County. These trip lengths were used in the calibration of the model to develop the necessary friction factors.

Table 4-2: *Comparison of average trip length (travel time) by purpose used for model calibration*

Trip Purpose	Adams County model average trip length (min)	York County model average trip length (min)	Lancaster 2001 Travel Survey from York County model average trip length (min)	PA Model average trip length (min)	2001 NHTS average trip length (min)
Home based work	17.52	17.58	16.55	24.1	22.5
Home based other	13.47	15.86	14.88	16.0	16.4
Non home-based	11.91	14.06	12.67	14.6	15.7

Following the validation of the trip distribution model, summaries of the model output were also checked for reasonableness. In the absence of administering a specialized survey that can capture average trip lengths for each discrete purpose, the model outputs were summarized by purpose and length of trip (Table 4-3).

Table 4-3: *Summary of average trip length (travel time) by trip purpose*

Trip Purpose	Total trips	Total trip time (hours)	Average trip length (min)
Home based work	51,600	12,700	14.82
Home based other	156,100	37,100	14.26
Non home-based	82,100	18,200	13.27

Figures 4-2, 4-3 and 4-4 depict the generation distribution of the trip classes.

Figure 4-2: *Trip length distribution for Home-Based Work (HBW) trips*

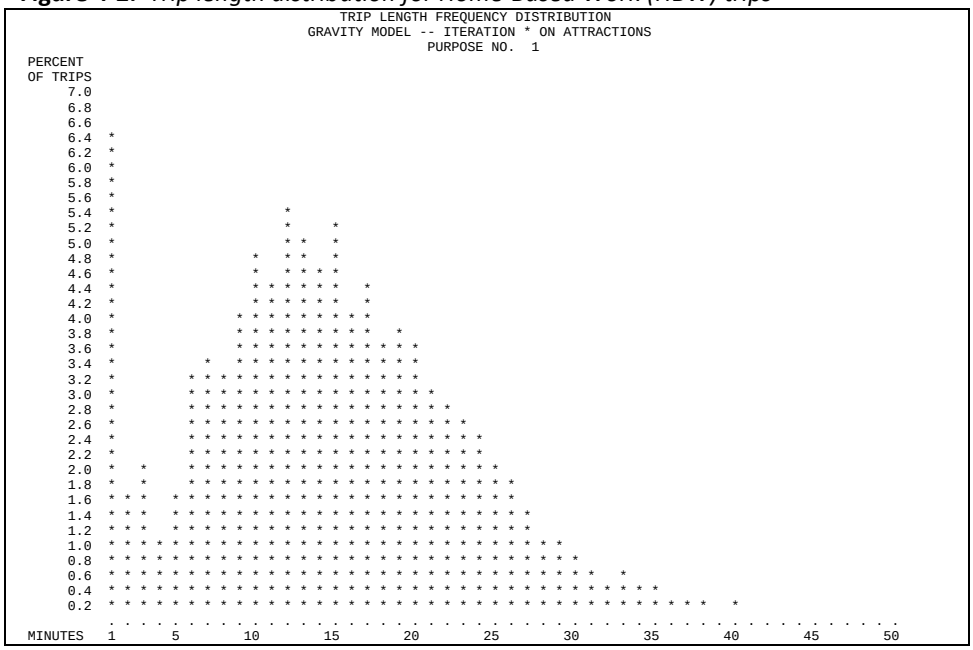


Figure 4-3: *Trip length distribution for Home-Based Other (HBO) trips*

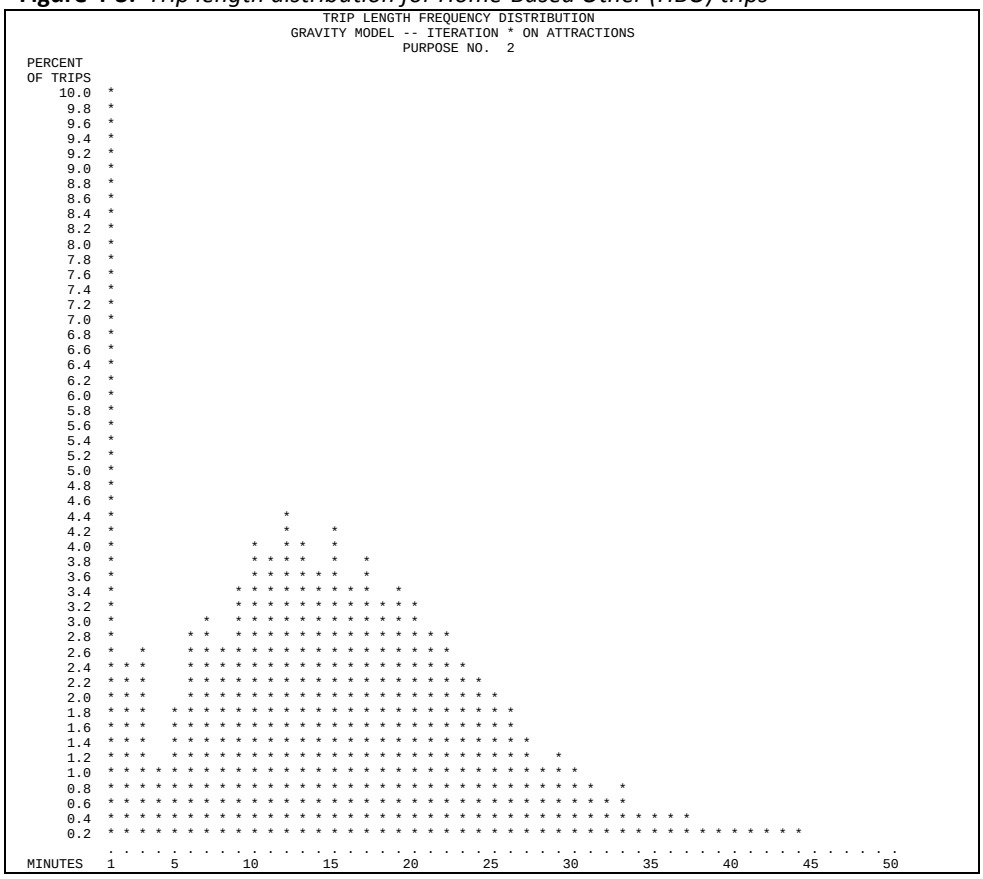
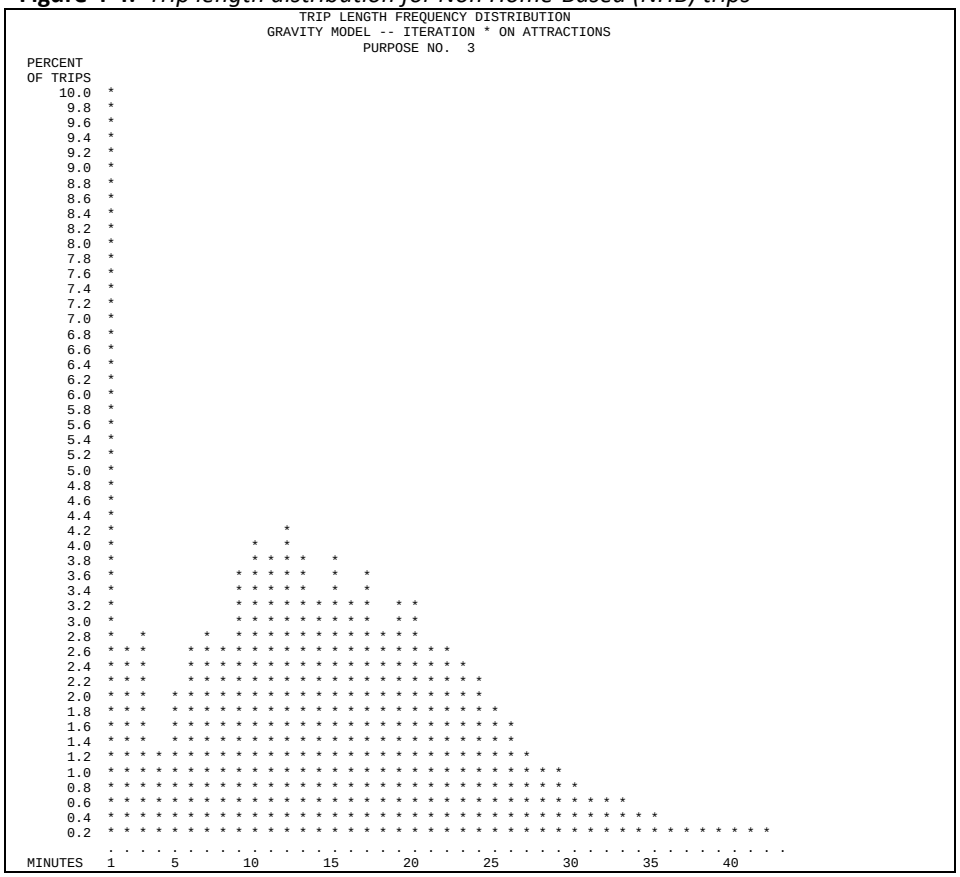


Figure 4-4: *Trip length distribution for Non Home-Based (NHB) trips*



C. TRAFFIC ASSIGNMENT

The capacities used in the original model represented hourly capacities. Since the refined model was validated against the RMS dataset, these capacities were converted to represent daily capacities. It was also decided to use the daily capacities from the speed-capacity lookup table that was used in the PA Statewide Model. This lookup table was refined somewhat to reflect conditions in Adams County, in which the majority of roads are of rural design generally with no defined or paved shoulder, which reduces overall average speeds. These refinements were slight, primarily reducing the rural free flow speeds by 5 to 10 mph in most cases. As shown in Table 4-4, a four-lane (2-lanes in each direction) principal arterial/interstate in a rural setting would have a capacity of 37,000 vehicles daily. Using network data such as the capacities from the statewide model aids in bringing the County model more in alignment with the statewide model.

Table 4-4: *Speed-capacity lookup table*

Functional classification code	Description	Free flow speed (mph)	Daily capacity (daily # of vehicles per lane)
1	Rural principal arterial – interstate	65	18,500
2	Rural principal arterial – other	55	15,500
6	Rural minor arterial	45	10,000
7	Rural major collector	40	8,500
8	Rural minor collector	40	8,250
9	Rural local	35	7,500
11	Urban principal arterial – interstate	55	19,000
12	Urban principal arterial – other freeways/expressways	55	15,000
14	Urban principal arterial – other	45	8,500
16	Urban minor arterial	40	8,000
17	Urban collector	35	7,500
19	Urban local	30	7,000
99	Ramps	30	99,999
20	Centroid connectors	15	15,000

The 2004 validation year model run summaries are shown in Table 4-5. A total of 281,100 trips were assigned to the network; of which 7.2% were intrazonal trips, while the remaining 92.8% of the trips were interzonal trips. The model cannot capture those vehicle trips that occur *within* a zone (intrazonal), only those trips that are from zone to another (interzonal) are captured within the model. With the refined zone structure, the model is capturing almost 93% of the traffic within the County. Although the intrazonal trips were accounted for during validation of the model, the model is not sensitive to these trips.

Table 4-5: *System-wide summary of trip assignment model*

Trips	
Trip type	Number of trips
Interzonal trips	260,800
Intrazonal trips	20,300
Total trips	281,100

Vehicle miles traveled (VMT)	
Total vehicle miles	2,740,500 miles
Total vehicle hours	76,400 hours
Average countywide speed	35.88 miles per hour

SCREENLINE ANALYSIS

Screenline analysis is a common approach used when performing model validation. Screen lines are established to evaluate the total modeled vehicles crossing the line compared that of ground counts. Within the screenlines, facility types were looked at individually and compared accordingly. This ensures the model is loading a reasonable number of vehicles on the freeway system, arterial roadway system, and collector roadways.

Six screenlines were used in the validation process. Screenline 1 is at the northern end of the County, screenline 2 is north of Gettysburg and screenline 3 is south of Gettysburg. Screenline 4 is west of Gettysburg and runs north to south across the county. Screenlines 5 and 6 also run north to south and are both located east of Gettysburg. The screenlines are shown graphically in Figure 4-5.

The screenline results (Figure 4-6) illustrate the overall volume to count comparisons at each of the screenlines. The summary of all of the screenlines combined together is a ratio of 0.99 - this means that on average the model is somewhat under simulating – but only by 1%.

Figure 4-5: *Screen line locations*

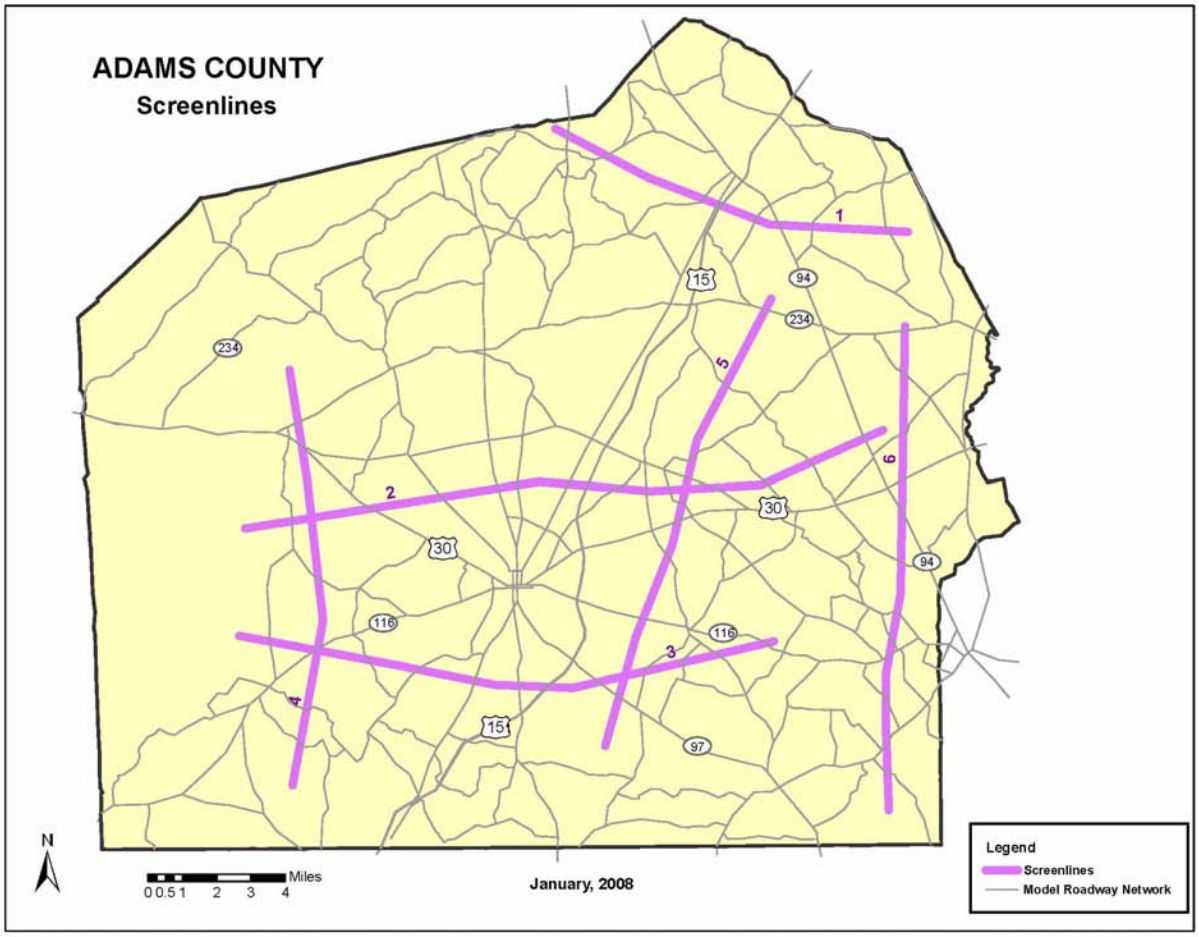


Figure 4-6: *Screenline summaries – volume to count ratios*

```
                    --------------- SCREENLINE V/C RATIO --------------------
********************** VOLUME AND COUNT RATIO SUMMARY **********************
Screenline =   1      : Tot Count =    28,031    Tot Vol =    30,554  V/C =  1.09 ,N= 12
Screenline =   2      : Tot Count =    64,299    Tot Vol =    69,618  V/C =  1.08 ,N= 26
Screenline =   3      : Tot Count =    84,877    Tot Vol =    77,772  V/C =  0.92 ,N= 26
Screenline =   4      : Tot Count =    21,209    Tot Vol =    22,760  V/C =  1.07 ,N= 8
Screenline =   5      : Tot Count =    43,096    Tot Vol =    47,660  V/C =  1.11 ,N= 12
Screenline =   6      : Tot Count =    82,145    Tot Vol =    71,888  V/C =  0.88 ,N= 20
Screenline = 1-6      : Tot Count =   323,657    Tot Vol =   320,252  V/C =  0.99 ,N= 104
```

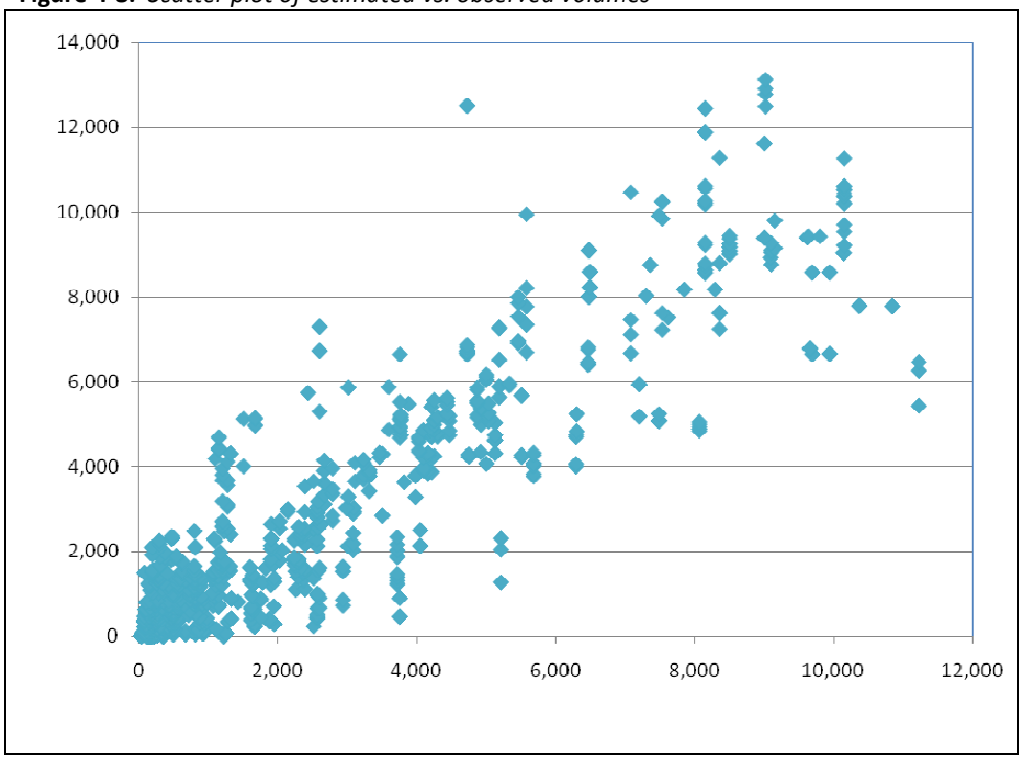
During validation, greater emphasis was placed on those more significant facilities, or those facilities having the greatest interest. Figure 4-7 illustrates the results of the volume to count ratios for these key facilities. Overall, the model slightly over simulated these facilities by 4%.

Figure 4-7: *Volume to Count ratio by facility type*

```
------------------- FACILITY V/C RATIO --------------------
********************** VOLUME AND COUNT RATIO SUMMARY BY FACILITY ************************
ROUTE =  30      : Tot Count =   838,886    Tot Vol =   909,852   V/C =  1.08  ,N= 112
ROUTE = 116      : Tot Count =   554,727    Tot Vol =   586,659   V/C =  1.06  ,N= 116
ROUTE =  15      : Tot Count =   526,109    Tot Vol =   509,814   V/C =  0.97  ,N= 61
ROUTE = 234      : Tot Count =   236,217    Tot Vol =   220,709   V/C =  0.93  ,N= 138
ROUTE =  94      : Tot Count =   285,332    Tot Vol =   287,019   V/C =  1.01  ,N= 58
ROUTE =  97      : Tot Count =   159,819    Tot Vol =   188,294   V/C =  1.18  ,N= 38
ALL ROUTES       : Tot Count = 2,601,090    Tot Vol = 2,702,347   V/C =  1.04  ,N= 523
```

The following scatter plot (Figure 4-8) is a graphical representation of estimated roadway traffic volumes (model results) as compared with observed volumes (RMS Data). This graph represents all facilities in the model.

Figure 4-8: *Scatter plot of estimated vs. observed volumes*



NCHRP VOLUME ADJUSTMENTS

The National Cooperative Highway Research Program Report 255 (NCHRP 255) recommends a procedure to refine output traffic volumes using count data (in this case the RMS count data). This technique was used to come up with a series of adjustment factors from the validated base year model that was then applied to the raw forecast year volumes. The three methods (ration, difference and average) resulted in three different volumes (Figures 4-9 and 4-10).

Figure 4-9: *Volume refinement equations*

```
Ratio Method:

  PCTVOL_TOT = Model Volume × Base Count / Base Volume

Difference Method:

  ABSVOL_TOT = Model Volume + (Base Count −Base Volume)

Average Method:

  AVGVOL_TOT = (Ratio Adjusted Volume + Difference Adjusted Volume)/2

  Where:

      Model Volume - The raw modeled volume, to be adjusted using NCHRP procedures

      Base Count -   The base year traffic count

      Base Volume -  The base year raw modeled volume.
                     When the base year model is to be adjusted,
                     Base Volume is identical to Model Volume.
```

Figure 4-10: *Variations on volume refinement equations*

```
Future Volume > Base_Count * 2.5   --> Use Difference Method

   Base_Count > Base_Volume * 1.5  --> Use Difference Method

  Base_Volume > Base_Count * 1.5   --> Use Difference Method
```

The counts and raw volumes were also filtered through a series of conditions to avoid extremely large or small adjustments in the forecasts. This methodology was adopted and modified from the *Fort Collins Regional Model*. It results in a fourth output volume called FILVOL_TOT. The conditions used are as follows:

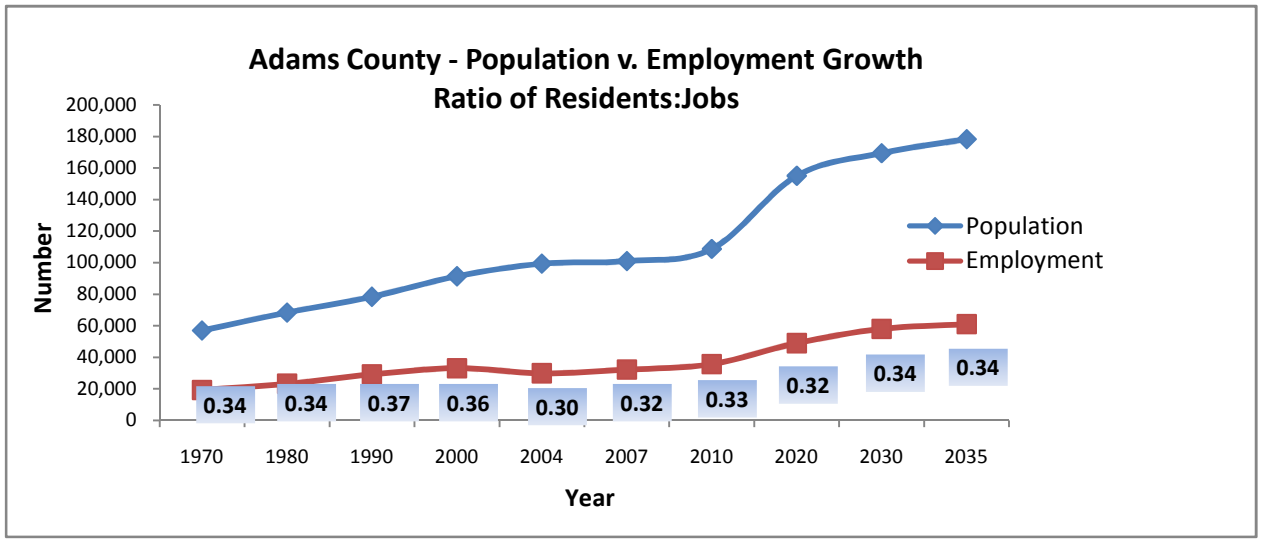
This filtered volume is used as final modeled volume. These adjustment factors that were developed from the 2004 validation were used to refine raw model volumes in the forecast year scenarios (2010, 2020, and 2035).

V. SCENARIO DEVELOPMENT AND TESTING

For the baseline condition, the 2004 ACOPD county population estimate was used, corresponding to a county population of 99,256. As these estimates were developed only to the municipal level, ACOPD staff analyzed each of the model TAZs to develop an accurate estimate of the distribution of the 2004 population estimate across the county.

The future context scenarios for 2010, 2020 and 2035 used ACOPD population projections developed in March 2008. For 2010, county population was projected to be 108,625 and for 2020 was projected to be 154,975. As the March 2008 ACOPD projections only extended to the year 2030 (with a low, medium and high projection developed due to the inherent uncertainty of projecting population trends beyond a twenty-year timeframe), the medium 2030 population projection of 178, 168 was used as the target population for the 2035 context scenario. As with the 2004 baseline condition, these analysis populations were distributed to the TAZ level based upon the assumptions of the various future context scenarios.

Figure 5-1: *Comparison of population and employment growth*



To determine future employment projections, an analysis of past and current population to employment ratios was used. Population to employment ratios in Adams County averaged approximately 0.34 jobs per resident between 1970 and 2004, based on somewhat inconsistent employment estimates. Historically in Adams County, employment increases have been closely tied to population trends, as the county has traditionally been viewed as a supplier of labor rather than a location for major employment centers, which are more concentrated in neighboring areas such as Hanover, York, Harrisburg and the Baltimore and Frederick, MD areas. Therefore, employment projections were developed based on the growth of county population and target population/employment ratios. Using this approach, employment for 2010 was estimated as 35,700, for 2020 employment was projected as 49,000, and for 2035 employment was projected to be 61,000. As employment tends to follow population growth in Adams County, employment growth

experiences its largest increase between 2020 and 2035, following the peak future population increase which occurs earlier between the years 2010 and 2020.

To analyze the performance of the transportation network under various future conditions, context scenarios were developed for three analysis years (or more precisely three population/employment contexts) – 2010, 2020 and 2035. For each of these analysis years, two specific contexts were defined – a Policy Context and a Market Context.

A. POLICY SCENARIO

The Policy Context consists of a distribution of future population and employment based largely on the existing zoning classifications of each municipality throughout the county. To determine a geographic distribution, a composite municipal zoning map was developed by ACOPD to identify areas of similar zoning independent of municipal boundaries. The TAZ structure of the travel demand model was then layered over this composite zoning to determine analysis zones estimated to accommodate either less or more population/employment growth based on underlying zoning. This method was applied for each of the 2010, 2020 and 2030 analysis years, considering qualitatively the ability of a particular TAZ to support additional growth based on zoning, easements, existing land use, and environmental features. Overall, the Policy Context was developed to show the performance of the transportation network under current zoning and, by association, the proposed future land use pattern adopted in the existing Adams County Comprehensive Plan. That future land use pattern targets growth to areas which possess adequate services and infrastructure to accommodate increased population and employment – predominantly in areas within or interconnected to established boroughs – with limited growth distributed to more rural, disconnected areas.

B. MARKET SCENARIO

The Market context scenario consists of a distribution of future population and employment based largely on the experience of ACOPD regarding current and expected development proposals and estimated future growth areas in reaction to dynamic market conditions. To determine a geographic distribution, current and expected development proposals were mapped, with the population implications of each determined based on the proposed number of dwelling units multiplied by a conservative ratio of 2.5 residents per unit. Additionally, ACOPD estimated the actual timing of each development proposal, thereby providing the opportunity to distribute market context population from a geographic and time perspective for each individual TAZ. The Market context scenario also included some "background" growth in areas expected to grow over the analysis timeframes, but the focus of larger than expected growth areas was related strictly to projected market conditions.

For both the Policy and Market context scenarios, changes in the location of employment was also identified and distributed. Employment changes also reflected known and expected commercial/business development, such as the new Gettysburg National Military Park Visitor's Center, proposed commercial development along the U.S. Route 30 corridor east of Gettysburg, and the closing of the Tyco Plant in East Berlin. However, the distributional differences between the Policy and Market context scenarios for future employment were not

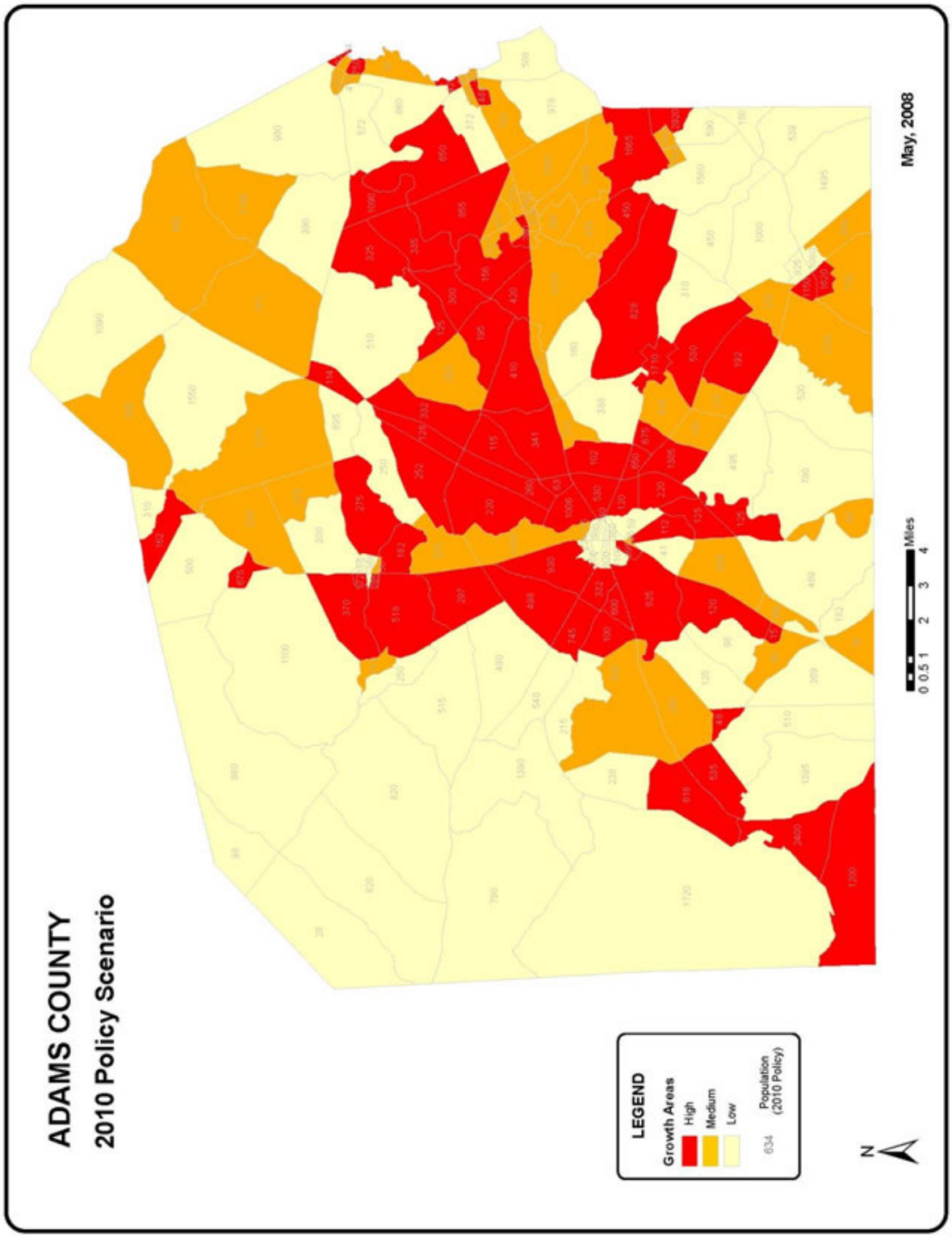
significantly different, in comparison to the population distribution, as much of the expected employment growth in the county from the market perspective is largely consistent with existing municipal zoning.

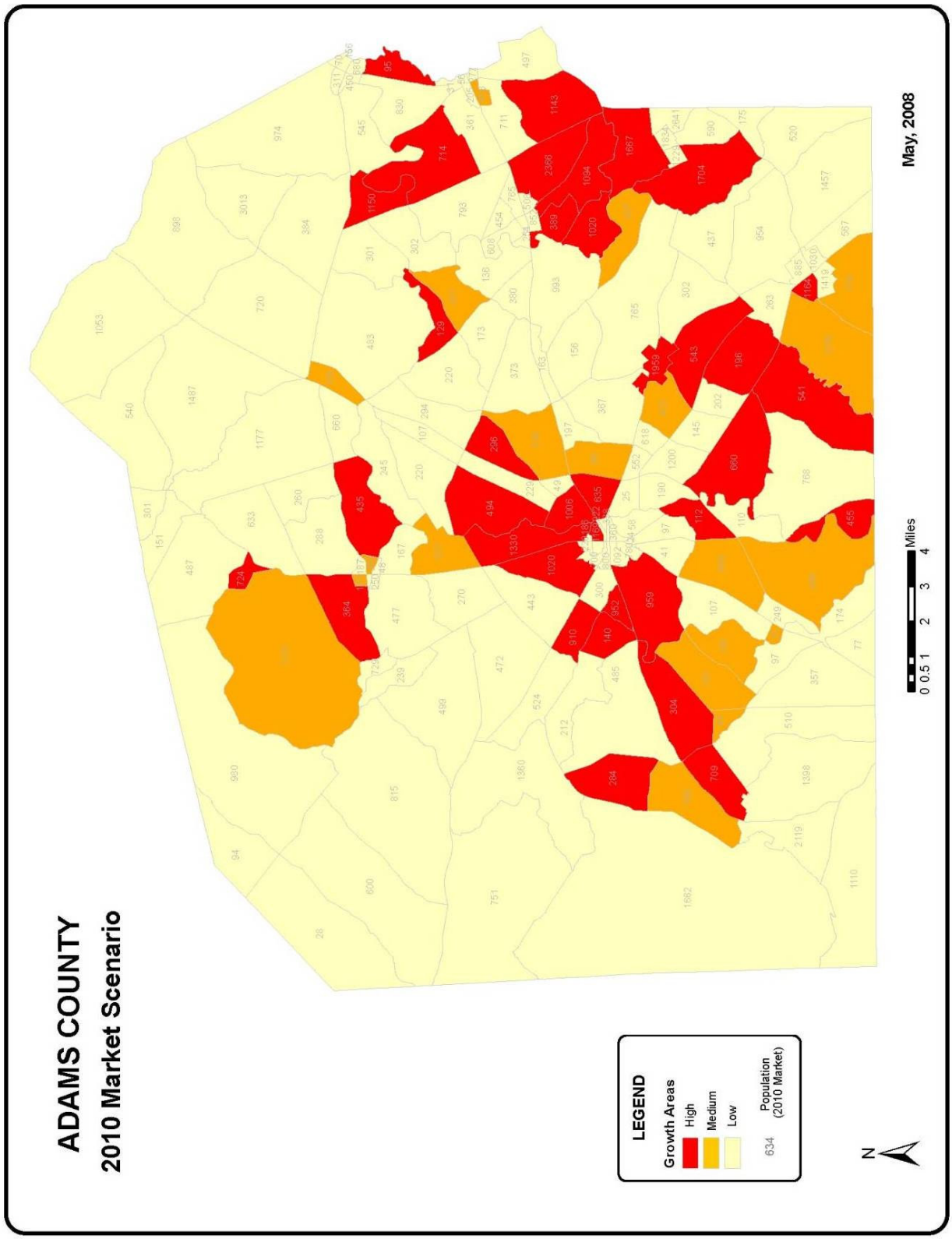
ZONAL MAPPING

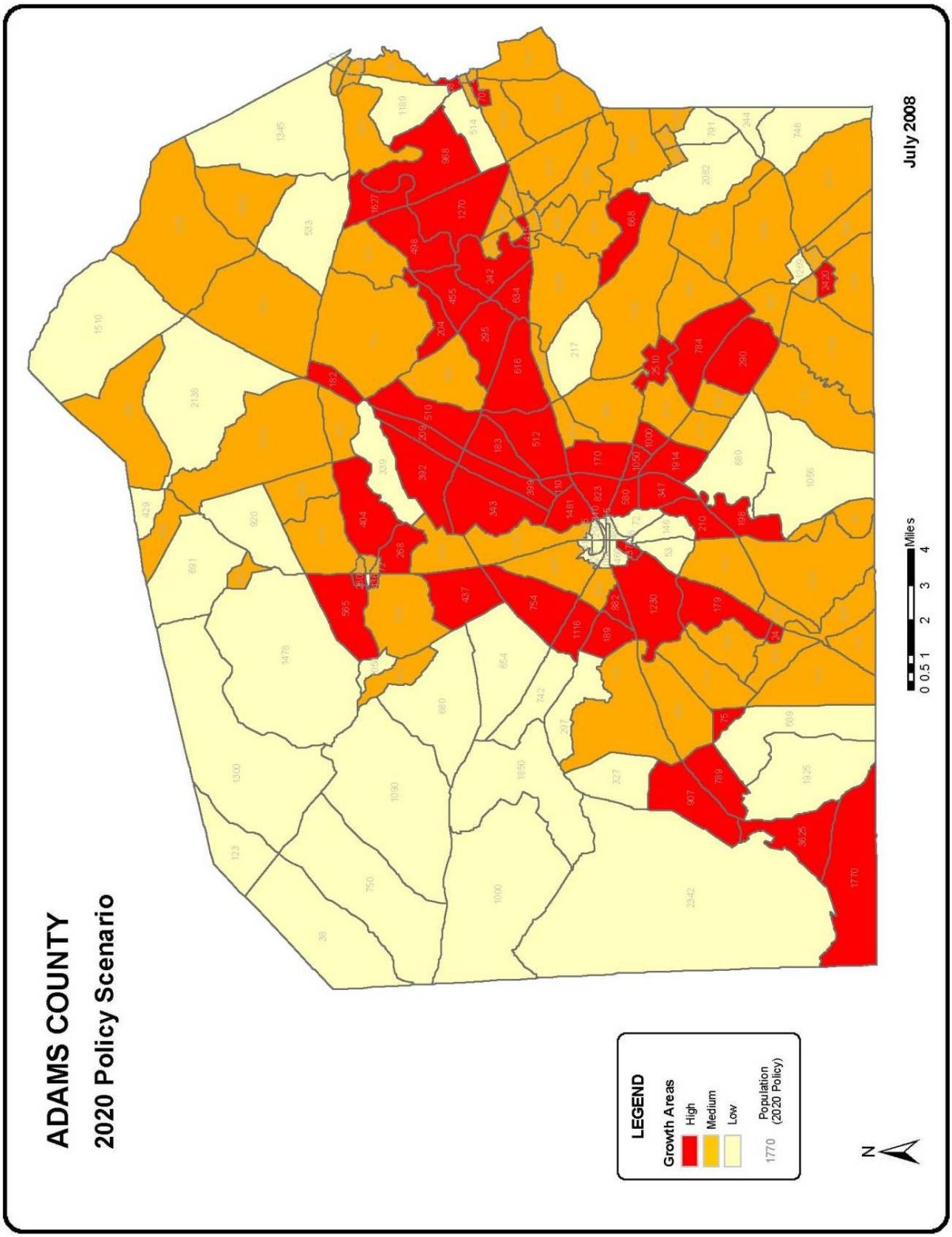
The following maps illustrate the main differences between the two the scenarios. These are the socioeconomic assumptions that are input into the travel demand model; which then analyzes the implications of these development patterns on the transportation system. These figures illustrate the relative distribution of future population, by TAZ, under the policy and market scenarios.

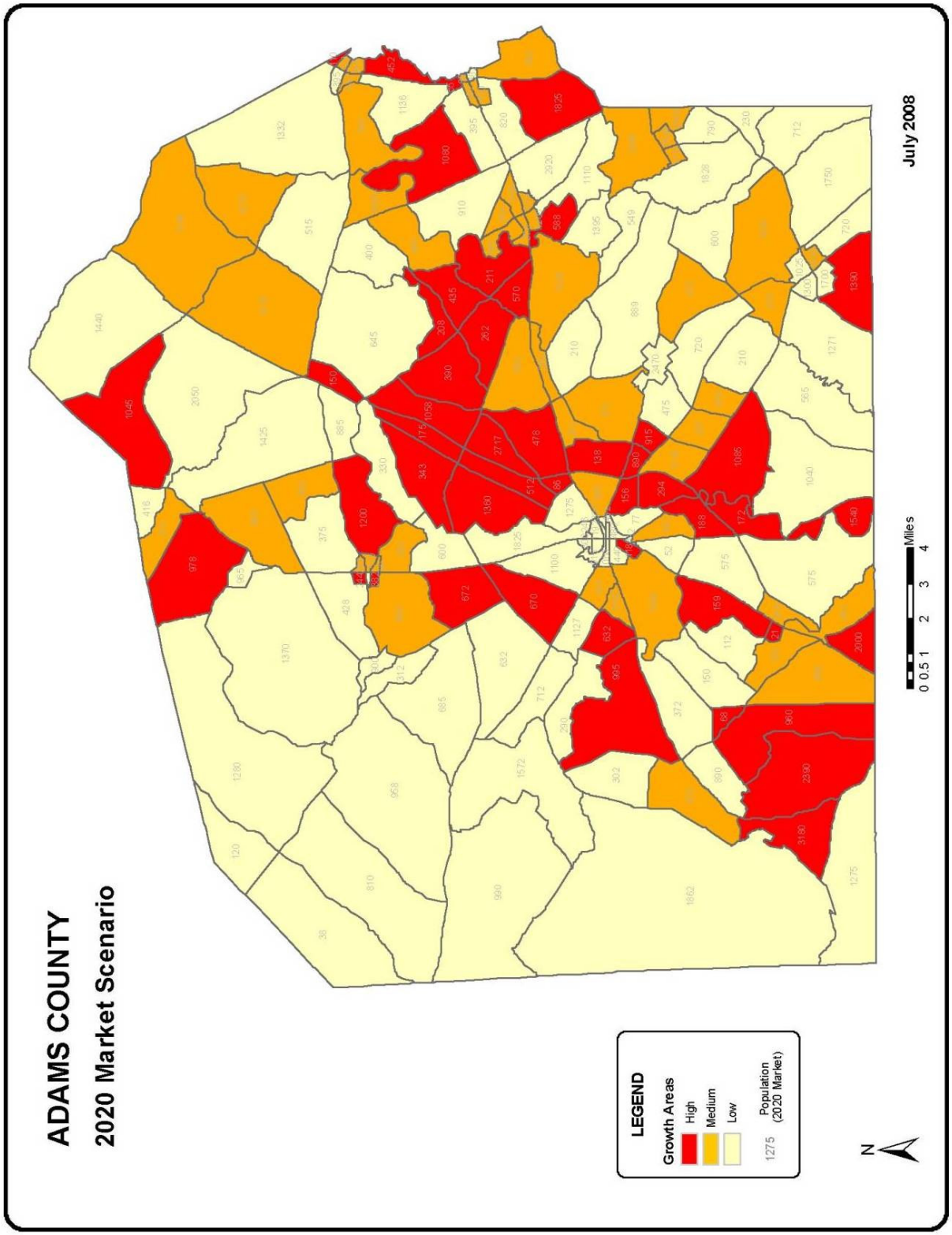
These maps include:

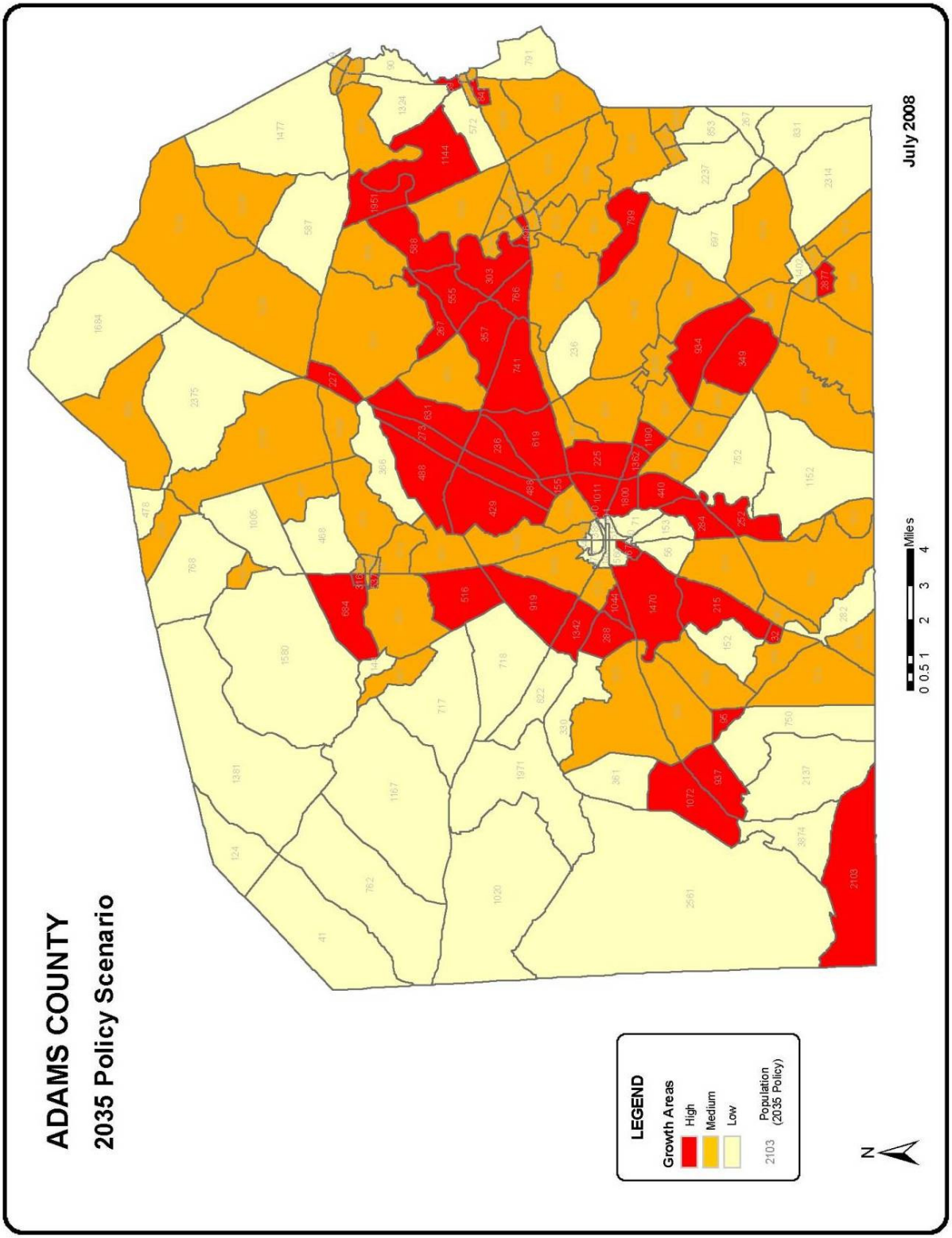
- Population assumptions for the 2010 Policy Scenario
- Population assumptions for the 2010 Market Scenario
- Population assumptions for the 2020 Policy Scenario
- Population assumptions for the 2020 Market Scenario
- Population assumptions for the 2035 Policy Scenario
- Population assumptions for the 2035 Market Scenario

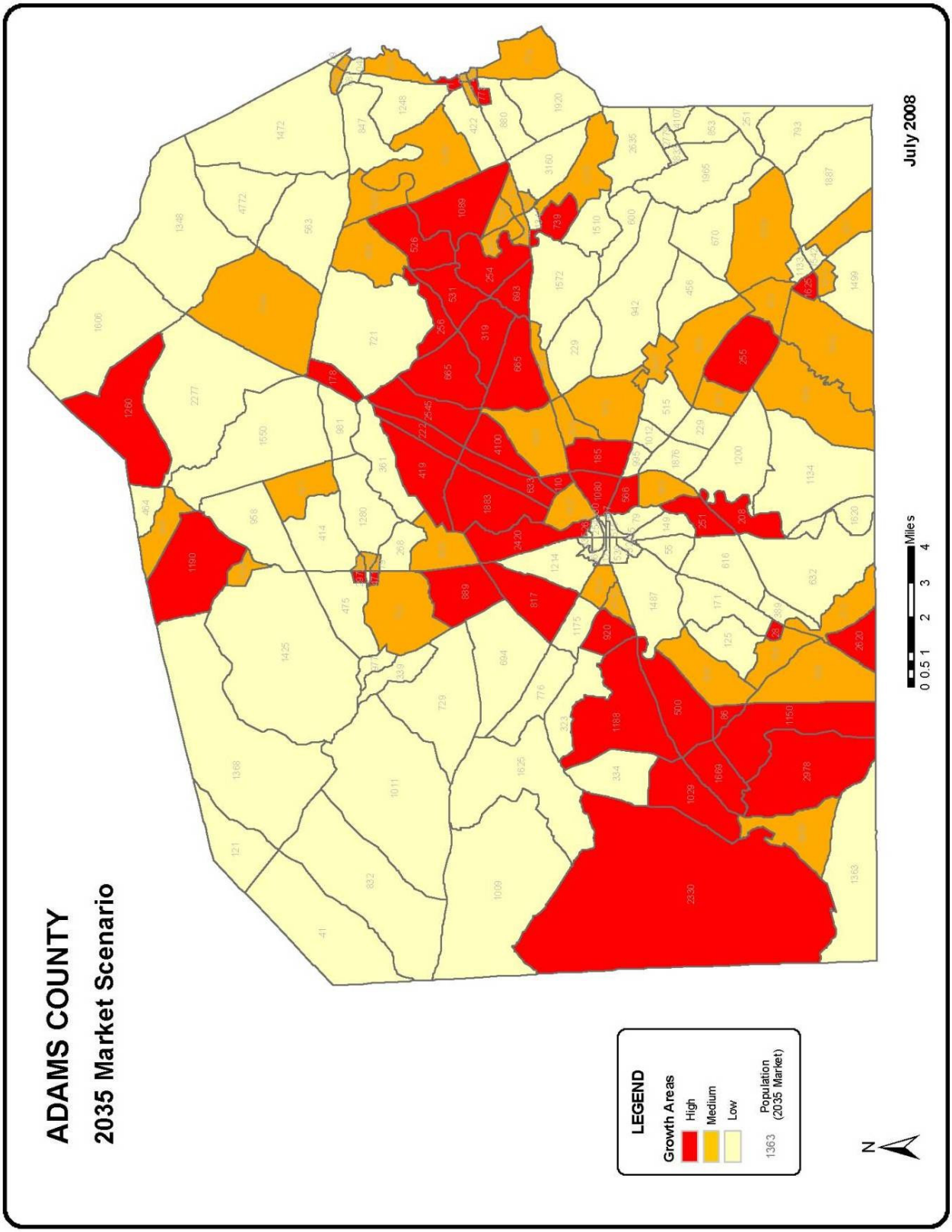

ADAMS COUNTY
2010 Policy Scenario
LEGEND
Growth Areas
High
Medium
Low
634 Population (2010 Policy)
N
0 0.5 1 2 3 4 Miles
May, 2008


ADAMS COUNTY
2010 Market Scenario
LEGEND
Growth Areas
High
Medium
Low
634 Population (2010 Market)
N
0 0.5 1 2 3 4 Miles
May, 2008


ADAMS COUNTY
2020 Policy Scenario
LEGEND
Growth Areas
High
Medium
Low
Population (2020 Policy)
1770
July 2008
0 0.5 1 2 3 4
Miles
N


ADAMS COUNTY
2020 Market Scenario
July 2008
LEGEND
Growth Areas
High
Medium
Low
1275 Population (2020 Market)
N
0 0.5 1 2 3 4
Miles


ADAMS COUNTY
2035 Policy Scenario
LEGEND
Growth Areas
High
Medium
Low
2103 Population (2035 Policy)
N
0 0.5 1 2 3 4
Miles
July 2008


ADAMS COUNTY
2035 Market Scenario
LEGEND
Growth Areas
High
Medium
Low
1363 Population (2035 Market)
N
0 0.5 1 2 3 4
Miles
July 2008

VI. SUMMARY OF RESULTS

Although analysis was performed for model years 2010, 2020 and 2035; focus has been placed on long-term changes for analysis year 2035. The model validation year (2004) was used as a pivoting point, with the two forecasting scenarios (policy and market) being analyzed mainly as a comparison against one another.

A. COUNTY-WIDE SUMMARIES

Overall, when evaluating the effects of the two growth scenarios at a County-wide level; the impacts appear to be quite marginal. This is evident in Figures 6-1 and 6-2 where daily traffic volumes and vehicle miles travelled are shown over time. From 2004 through 2035, average daily traffic within the County is expected to grow an average of 1.14% annually under the assumptions of the Policy Scenario and 1.22% annually under the Market Scenario.

Figure 6-1: *Comparison of average daily traffic volumes (ADT) by scenario*

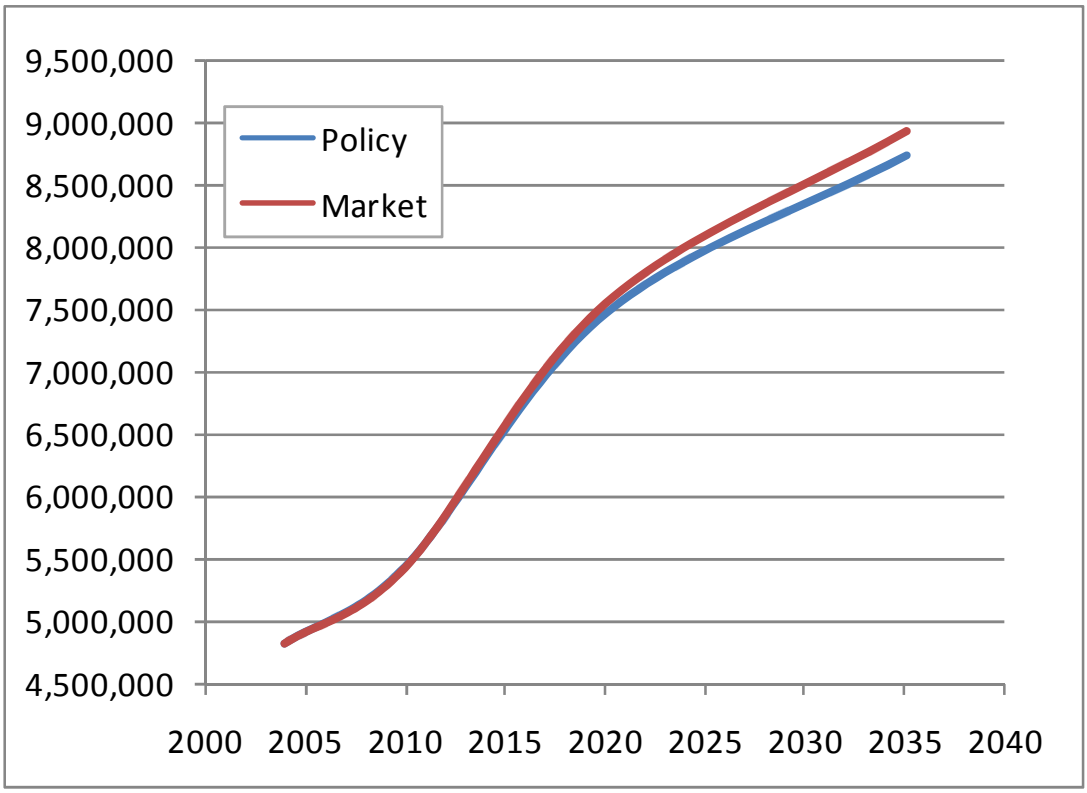
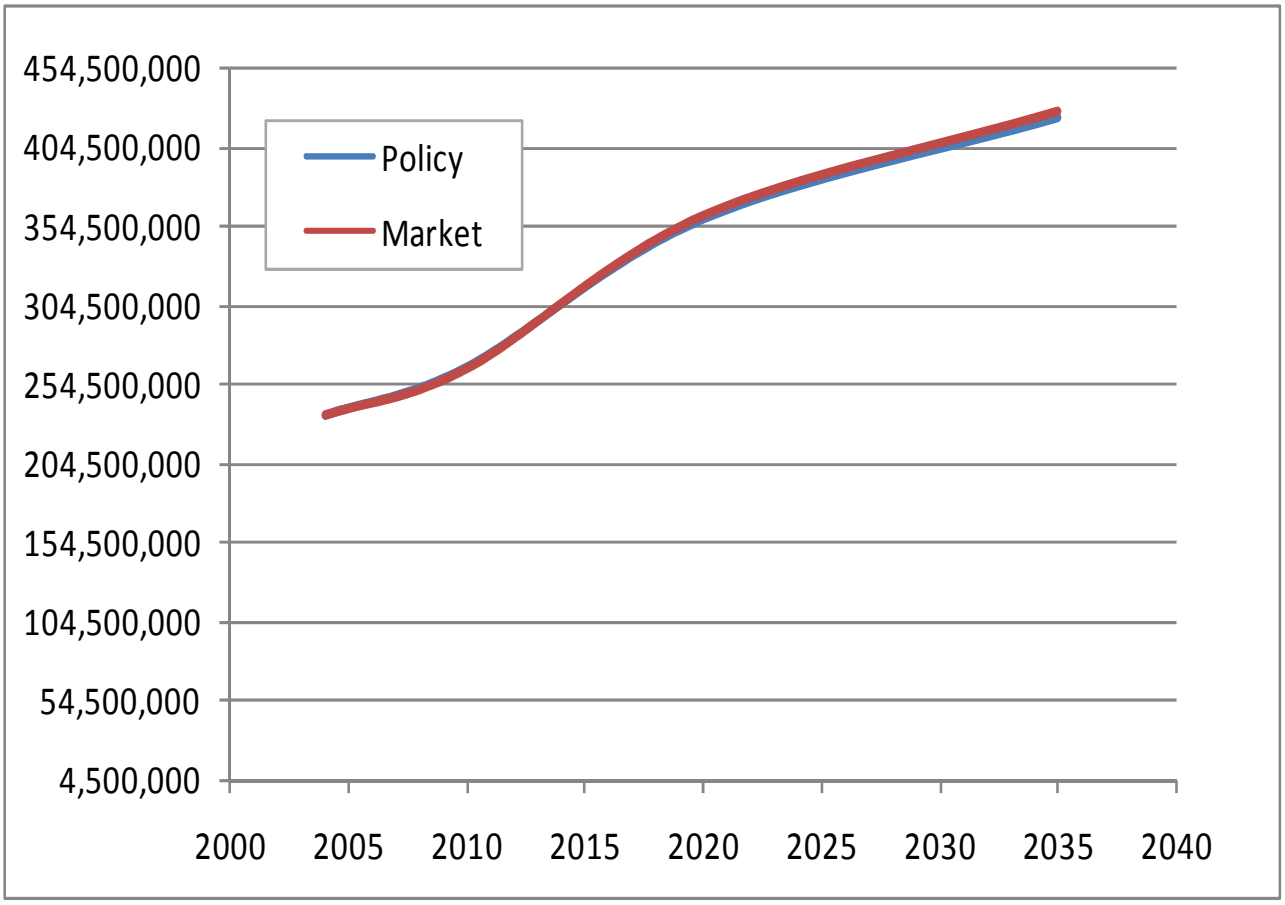
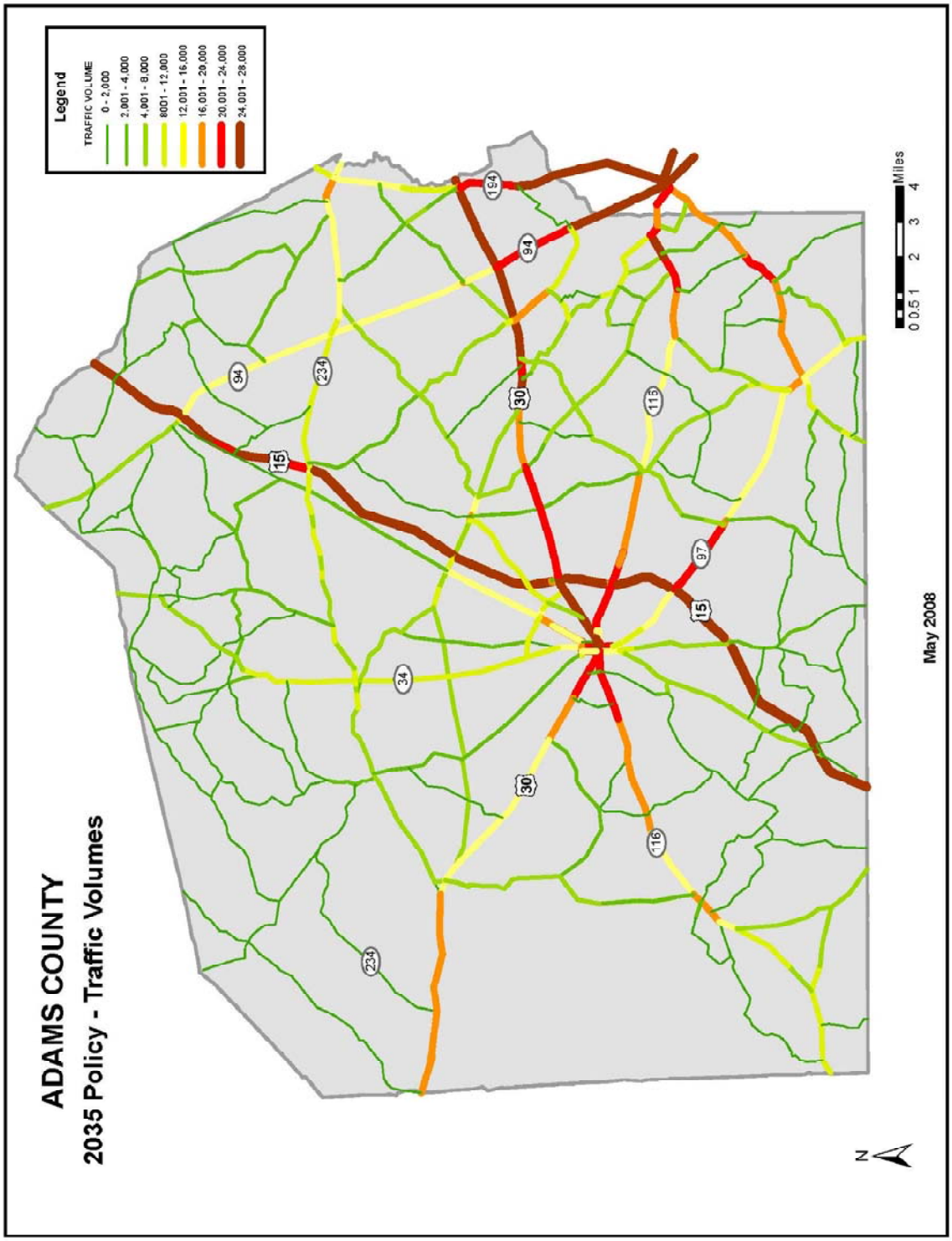


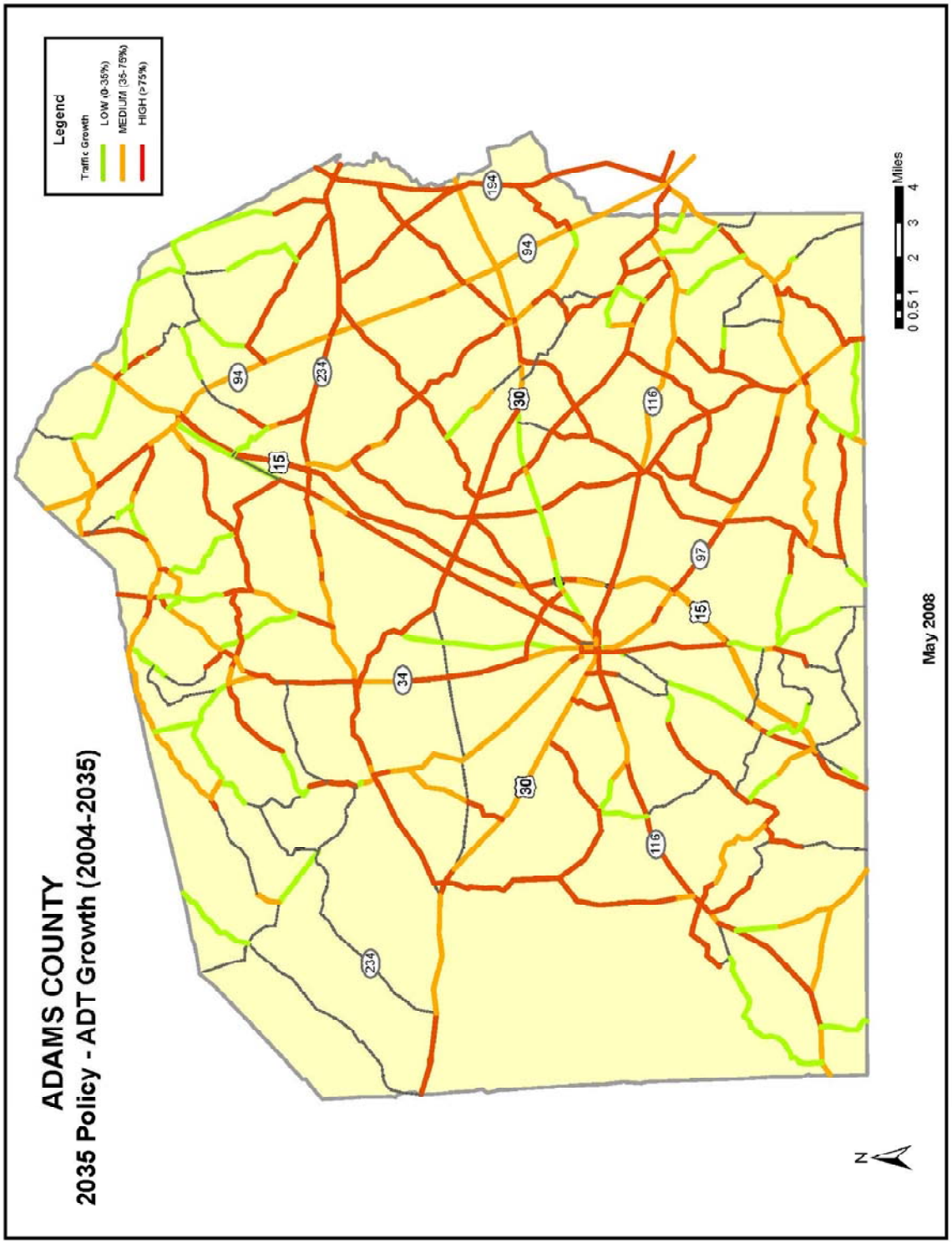
Figure 6-2: *Comparison of vehicle miles travelled (VMT) by scenario*

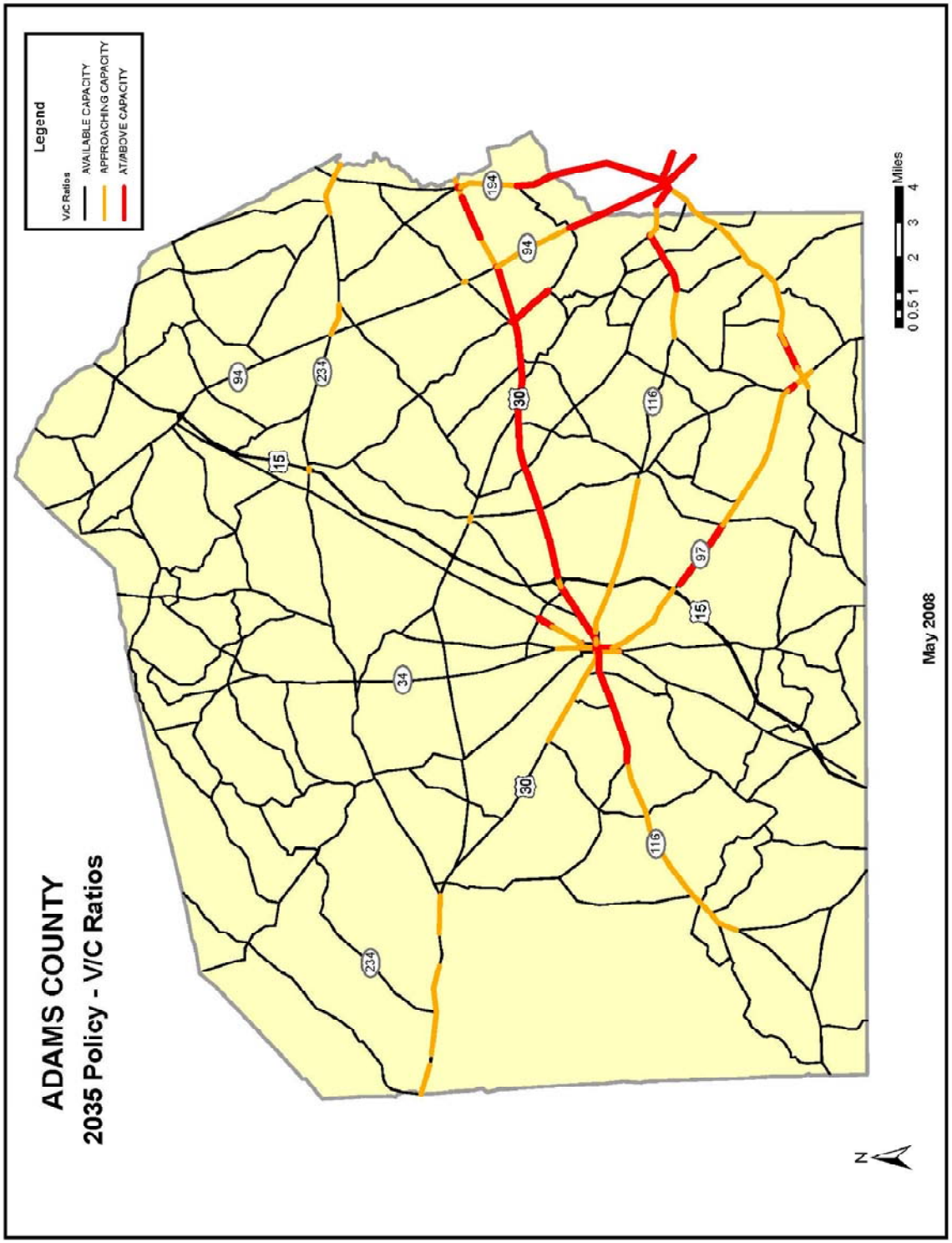


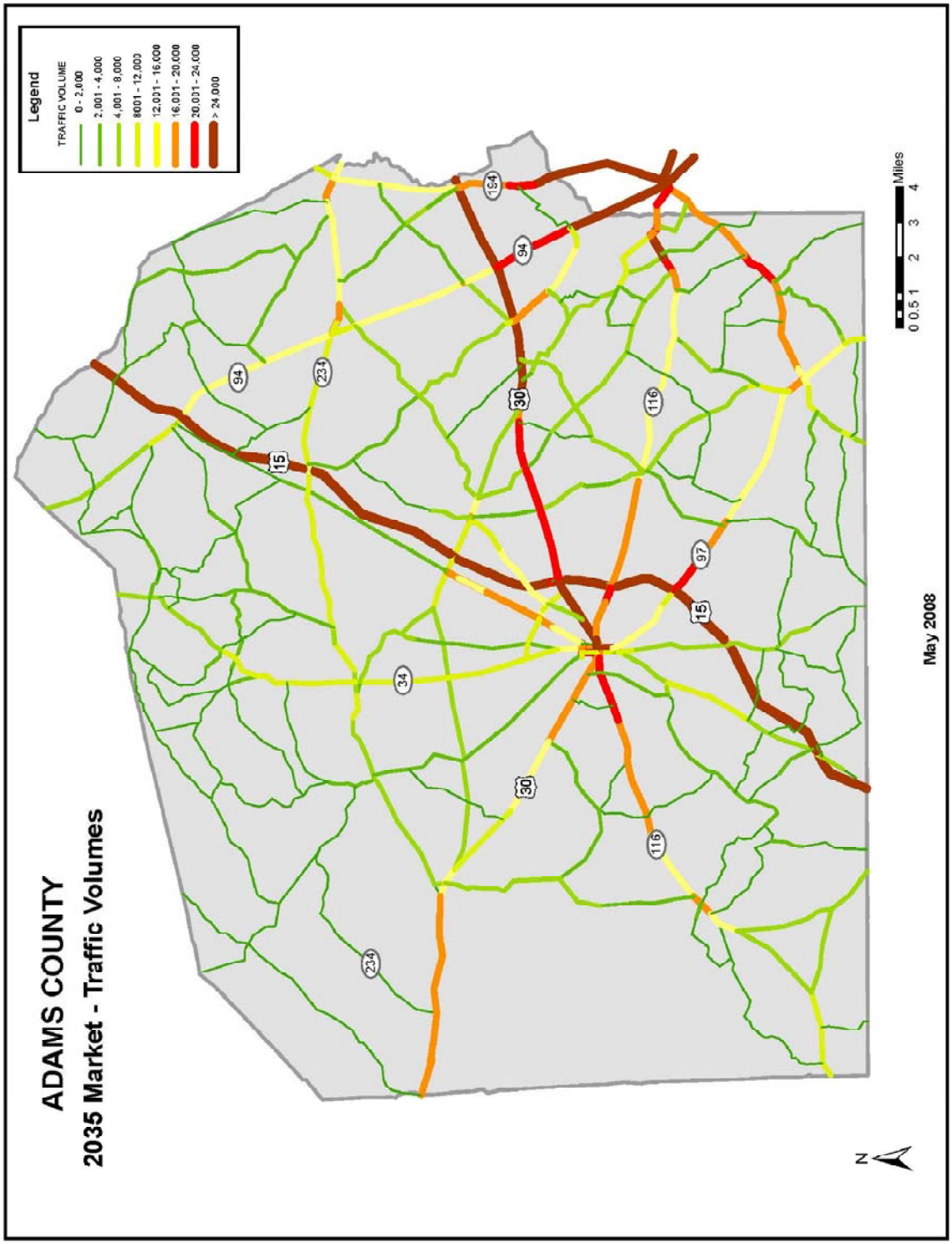
TRANSPORTATION SYSTEM MAPPING

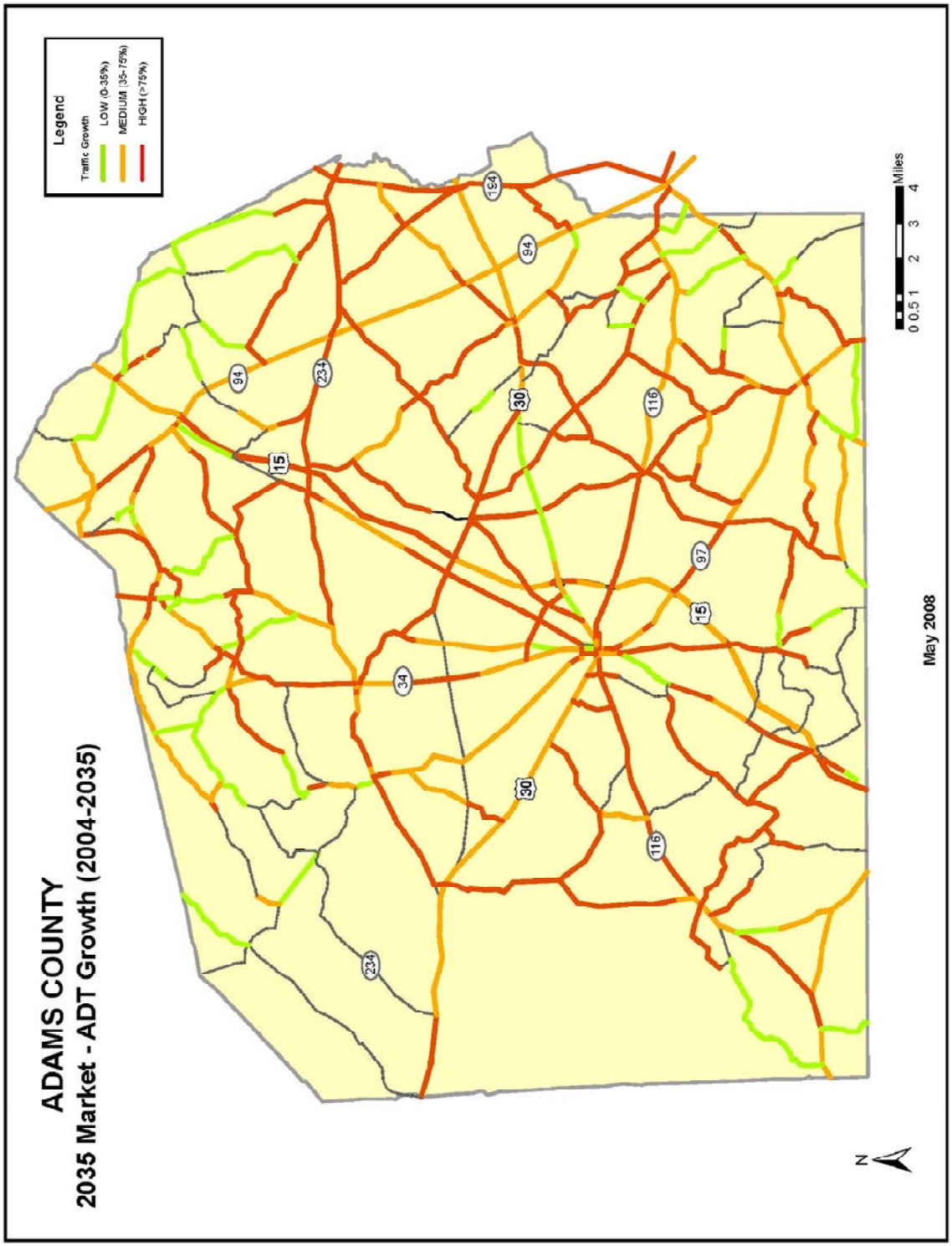
The following maps illustrate some of the impacts (ADT, growth in ADT, and V/C Ratios) on the overall county-wide transportation system under the Policy and Market scenarios for the 2035 analysis year. These maps highlight the impact for the out year only (2035), and do not include impact during the interim years.

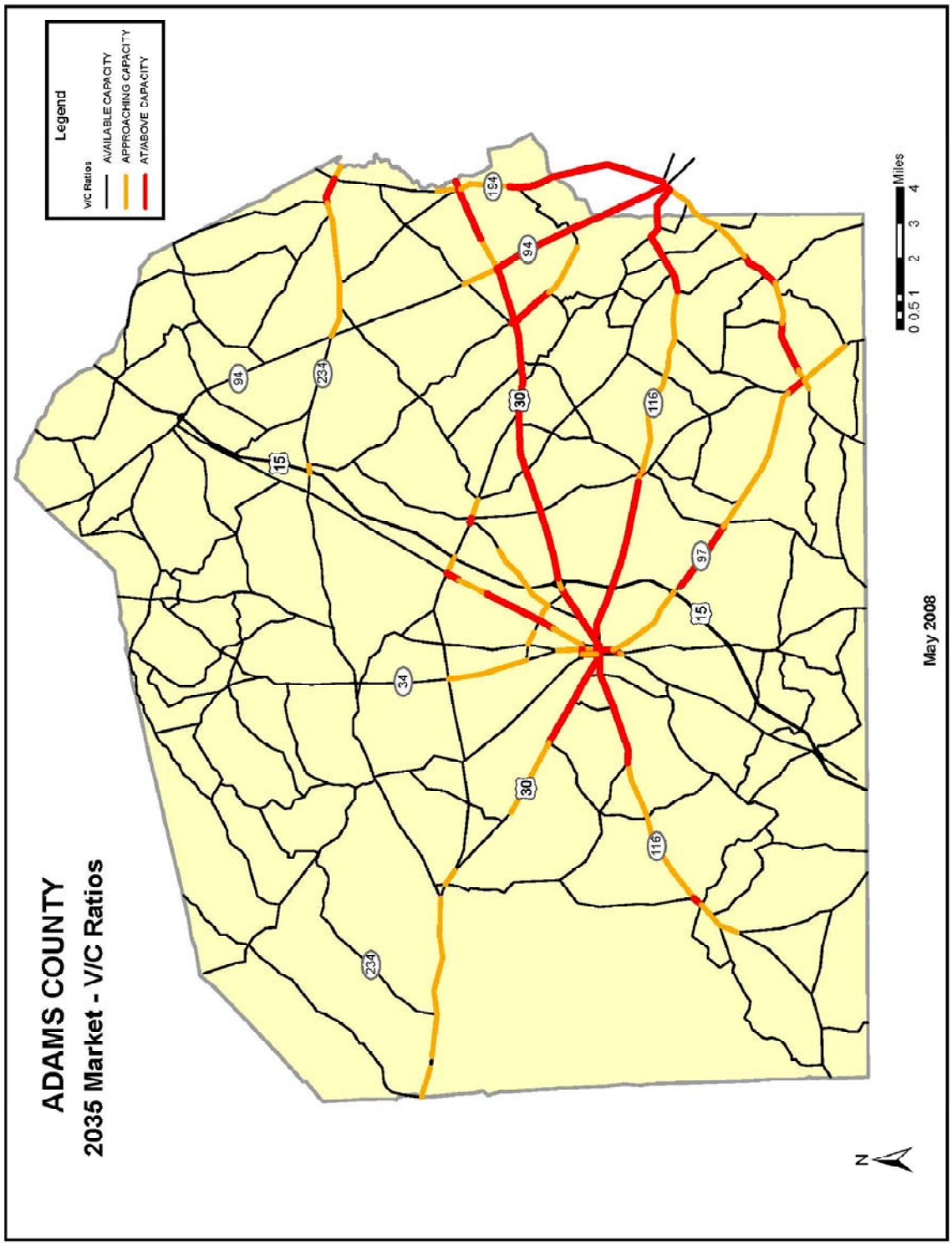

ADAMS COUNTY
2035 Policy - Traffic Volumes
Legend
TRAFFIC VOLUME
0 - 2,000
2,001 - 4,000
4,001 - 8,000
8001 - 12,000
12,001 - 16,000
16,001 - 20,000
20,001 - 24,000
24,001 - 28,000
15
94
234
30
34
194
113
97
116
0 0.5 1 2 3 4
Miles
May 2008
N


ADAMS COUNTY
2035 Policy - ADT Growth (2004-2035)
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
Miles
0 0.5 1 2 3 4
May 2008
N
154
94
234
30
116
15
97
34


ADAMS COUNTY
2035 Policy - V/C Ratios
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
Miles
0 0.5 1 2 3 4
May 2008
N
94
233
15
34
234
30
116
97
154


ADAMS COUNTY
2035 Market - Traffic Volumes
Legend
TRAFFIC VOLUME
0 - 2,000
2,001 - 4,000
4,001 - 8,000
8001 - 12,000
12,001 - 16,000
16,001 - 20,000
20,001 - 24,000
> 24,000
15
94
234
34
30
116
97
164
0 0.5 1 2 3 4
Miles
May 2008
N


ADAMS COUNTY
2035 Market - ADT Growth (2004-2035)
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
Miles
0 0.5 1 2 3 4
May 2008
N
15
30
34
94
97
116
134
234


ADAMS COUNTY
2035 Market - V/C Ratios
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
0 0.5 1 2 3 4
Miles
May 2008
N
94
234
15
34
30
116
97
154

B. PLANNING AREAS SUMMARIES

When evaluating the transportation implications of the scenarios tested (Policy Scenario and Market Scenario), the differences were obviously most subtle at the county-wide level and become more pronounced as the analysis becomes more refined at the county planning region level (Figure 6-3).

AVERAGE DAILY TRAFFIC SUMMARIES

Under the assumptions of the Policy Scenario, growth in daily traffic volumes (ADT) in 2020 ranged from 29.3 percent in the East planning area to 43.6 percent in the Central planning area (Figure 6-4). Between 2020 and 2035, the expected growth was more conservative, ranging from 15.2 percent in the Northwest planning area to 18.4 percent in the East planning area.

Overall growth is higher under the Market Scenario (Figure 6-5), ranging from 16 percent in the Northwest planning area to 19.4 percent in the Southeast and Central planning areas.

Figure 6-3: *Adams County Planning Areas*

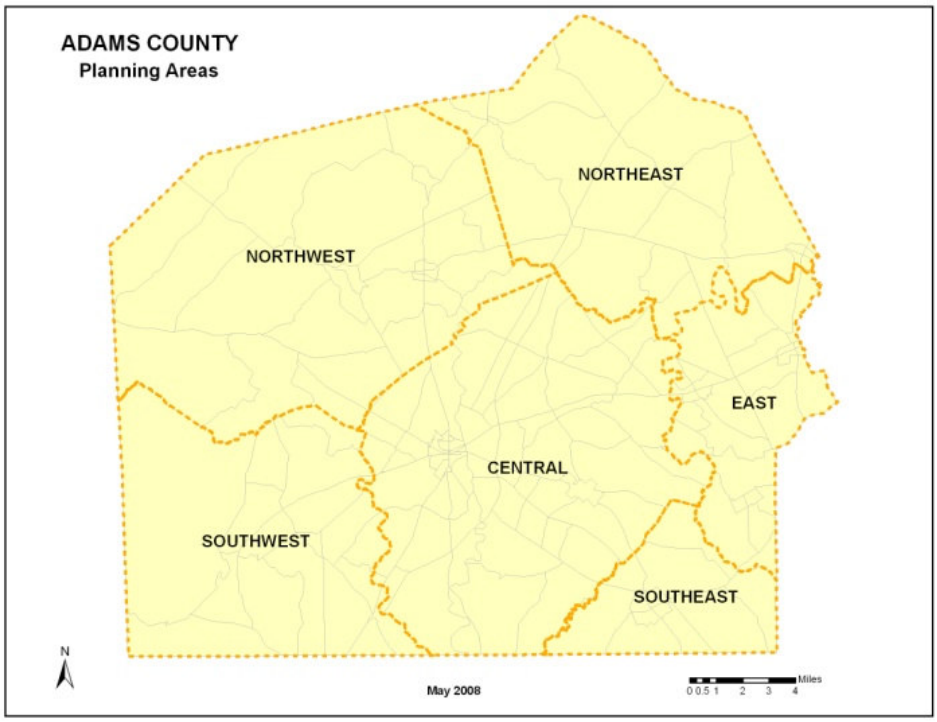


Figure 6-4: *Average Daily Traffic Volumes (ADT) over time for each planning area under the assumptions in the Policy Scenario*

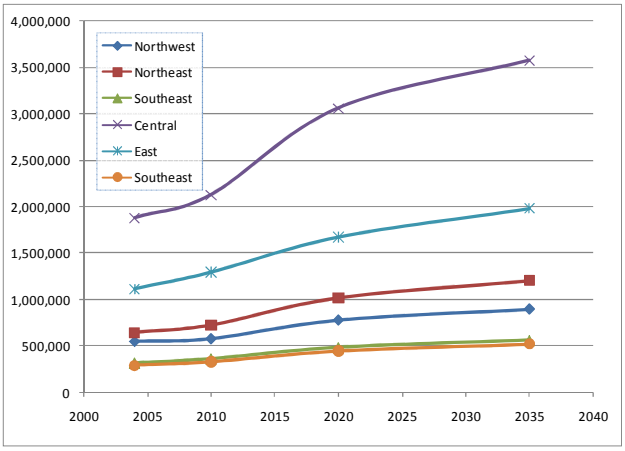
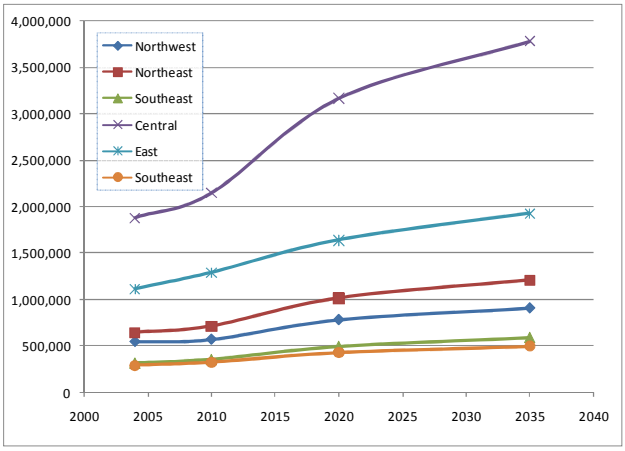


Figure 6-5: *Average Daily Traffic Volumes (ADT) over time for each planning area under the assumptions in the Market Scenario*



Growth in daily traffic volumes are most pronounced in 2020 for each of the planning areas, as shown in the following set of figures. The annual growth percentage in the Policy scenario ranges from 2.9 percent in the East planning area to 4.4 percent in the Central planning area. This growth tapers off to 1.0 percent to 1.2 percent in 2035.

Figure 6-5: *Comparison of traffic volumes Northwest Planning Area*

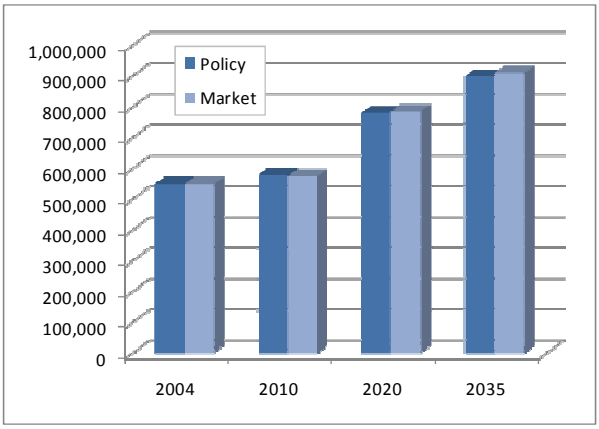


Figure 6-6: *Comparison of vehicle miles travelled Northwest Planning Area*

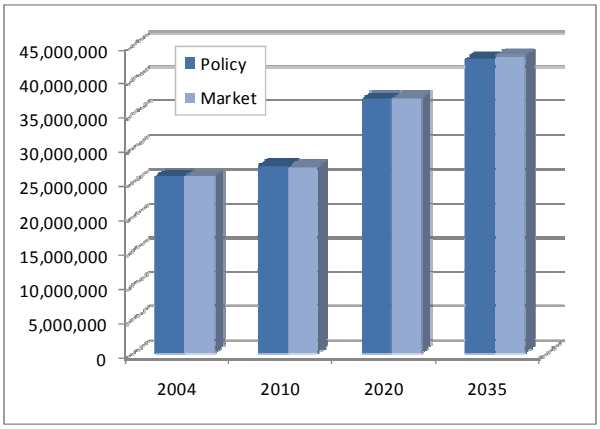


Figure 6-7: *Comparison of traffic volume Northeast Planning Area*

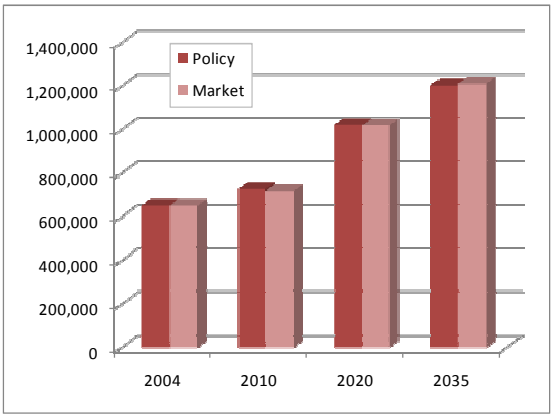


Figure 6-8: *Comparison of vehicle miles travelled Northeast Planning Area*

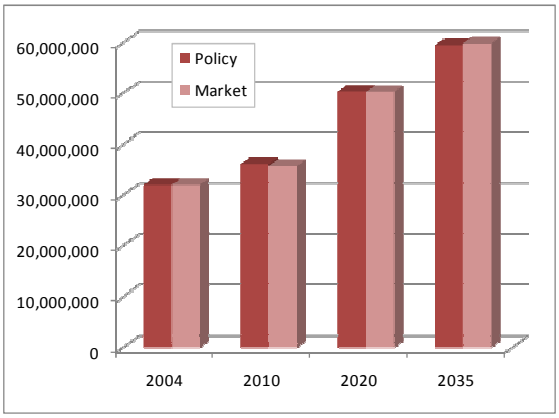


Figure 6-9: *Comparison of traffic volumes Southwest Planning Area*

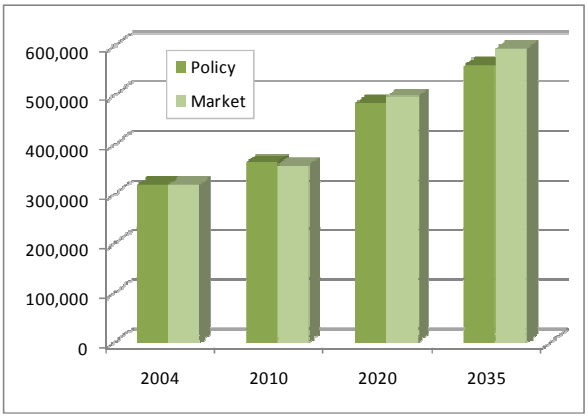


Figure 6-10: *Comparison of vehicle miles travelled Southwest Planning Area*

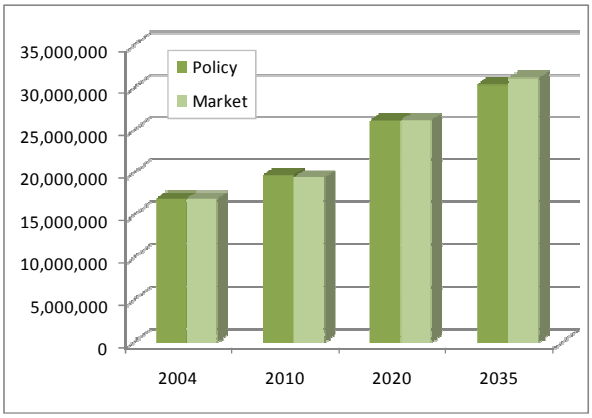


Figure 6-11: *Comparison of traffic volumes Central Planning Area*

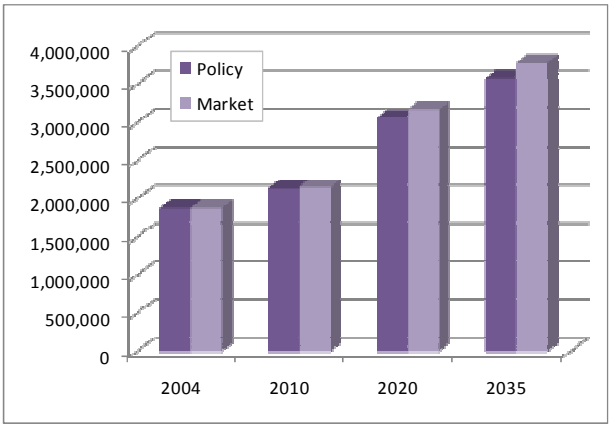


Figure 6-12: *Comparison of vehicle miles travelled Central Planning Area*

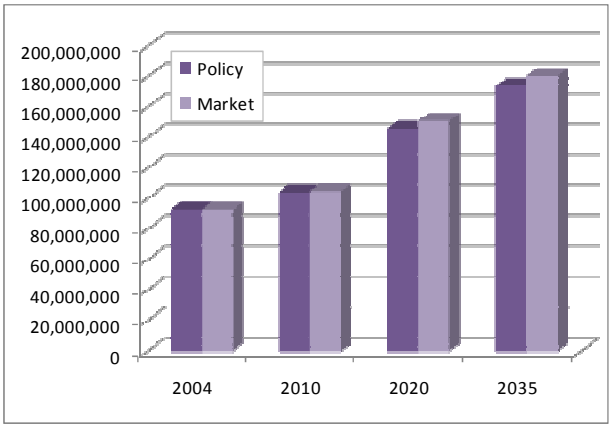


Figure 6-13: *Comparison of traffic volumes East Planning Area*

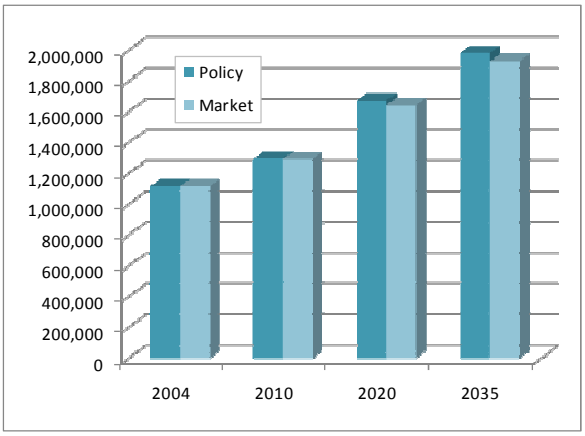


Figure 6-14: *Comparison of vehicle miles travelled East Planning Area*

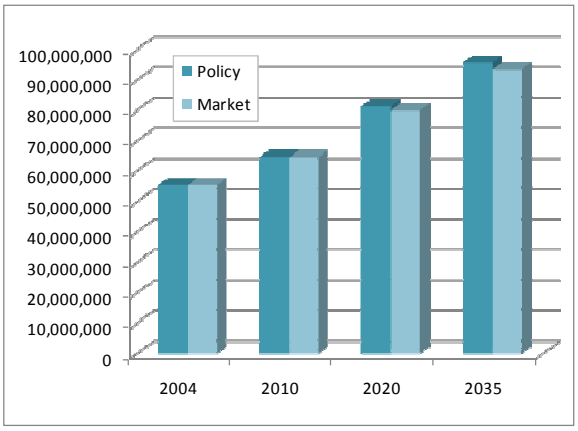


Figure 6-15: *Comparison of traffic volumes Southeast Planning Area*

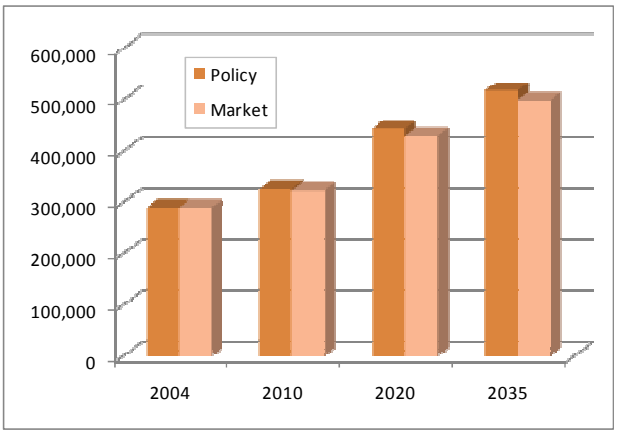
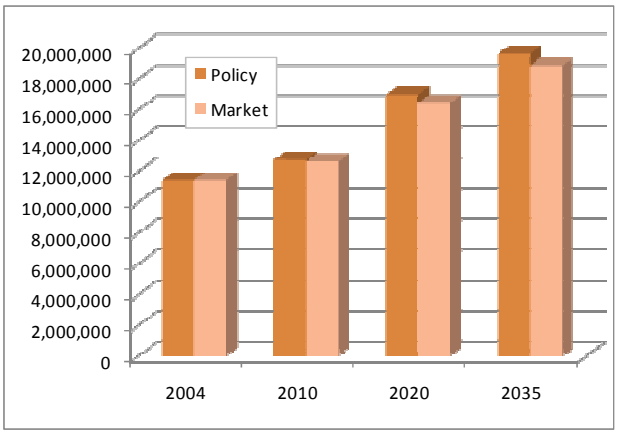


Figure 6-16: *Comparison of vehicle miles travelled Southeast Planning Area*



The Market Scenario represents slightly higher growth among all planning areas except the East and Southeast areas, where growth is slightly lower in the Market Scenario than in the Policy Scenario (Figures 6-17 and 6-18). Annual growth rates for 2020 in the Market Scenario range from 2.7 percent in the East planning area to 4.7 percent in the Central planning area. In 2035, the Market Scenario represents slightly higher annual growth among all of the planning areas, with growth rates ranging from 1.1 percent to 1.3 percent.

Figure 6-17: *Annual growth percentage in daily traffic volumes over time for each planning area under the assumptions in the Policy Scenario*

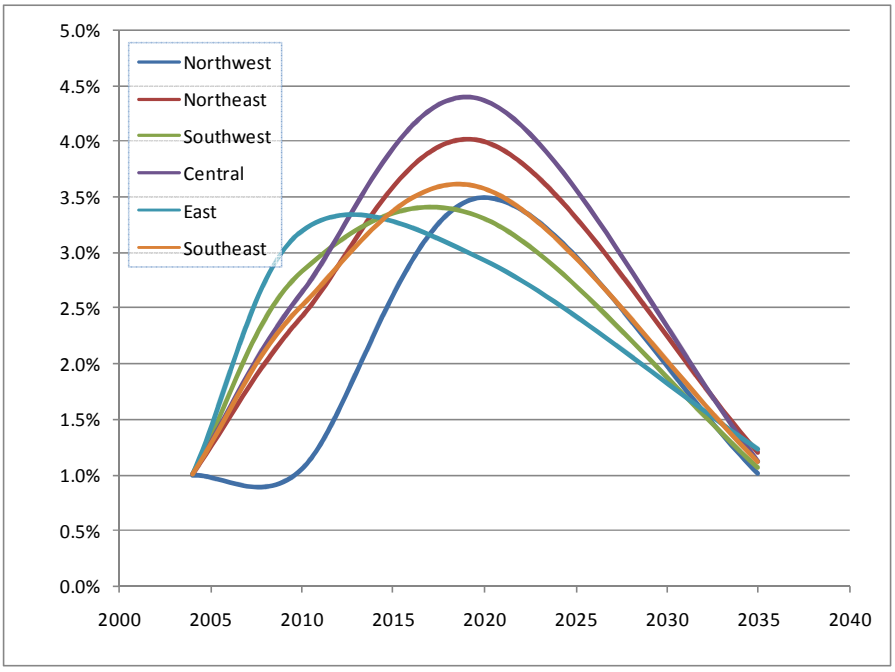


Figure 6-18: *Annual growth percentage in daily traffic volumes over time for each planning area under the assumptions in the Market Scenario*

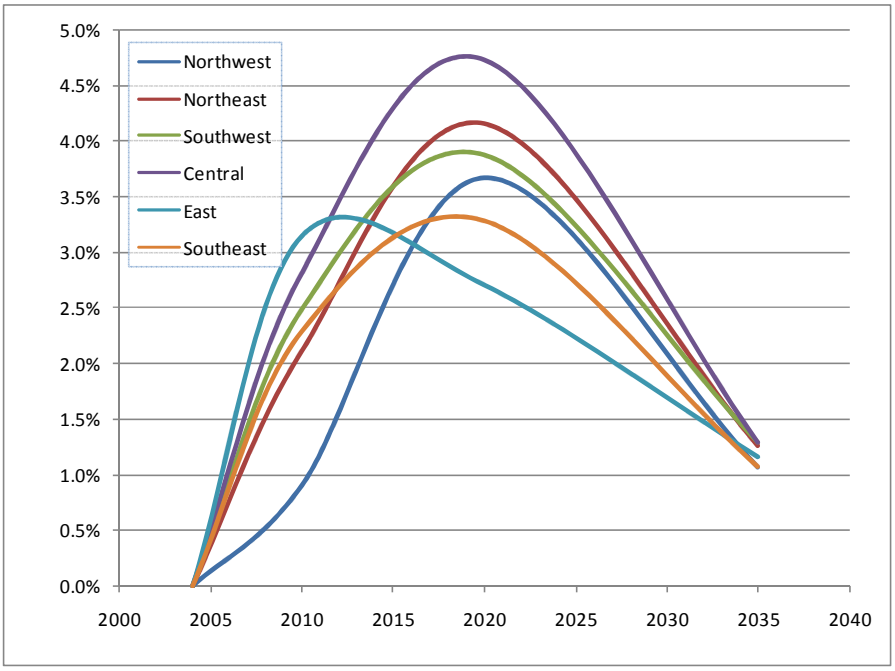
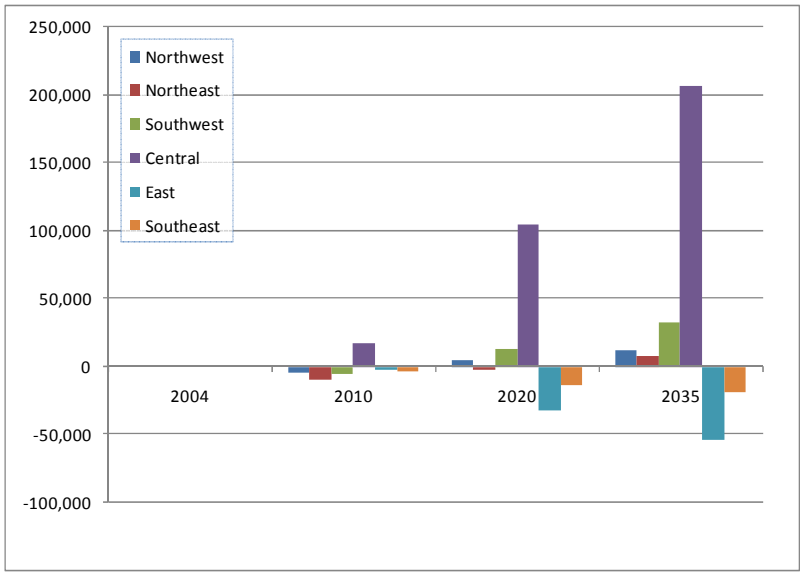


Figure 6-19 represents changes in growth when comparing the Market Scenario to the Policy Scenario. Although each planning area is anticipated grow throughout the forecast years, when comparing the scenarios against each other, there is less growth expected in the Market Scenario in the East and Southeast planning area than what is expected in the Policy Scenario. Average daily traffic in the East and Southeast is anticipated to reach 1,980,600 and 517,900 vehicle trips daily respectively in 2035 in the Policy Scenario. Under the assumptions of the Market Scenario, average daily traffic is

Figure 6-19: *Change in daily traffic volumes over time for each planning area comparing the Policy Scenario with the Market Scenario*



expected to be 1,927,300 and 499,400. This translates to just over than 53,000 (-2.7%) vehicles less in the Market Scenario and just over 18,000 (-3.6%) vehicles less in the Market scenario when compared to the Policy Scenario for the East and Southeast planning areas respectively.

VEHICLE MILES TRAVELLED (VMT) SUMMARIES

Under the assumptions of the Policy Scenario (Figure 6-20), growth in daily vehicle miles travelled (VMT) in 2020 was ranged from 25.7 percent in the East planning area to 40.0 percent in the Central planning area. Between 2020 and 2035, the expected growth was again more conservative, ranging from 15.6 percent in the Northwest planning area to 18.9 percent in the Central planning area.

Overall growth is higher under the Market Scenario (Figure 6-21), ranging from 16 percent in the Northwest planning area to 19.4 percent in the Southeast and Central planning areas.

Figure 6-20: *Average daily vehicle miles travelled (VMT) over time for each planning area under the assumptions in the Policy Scenario*

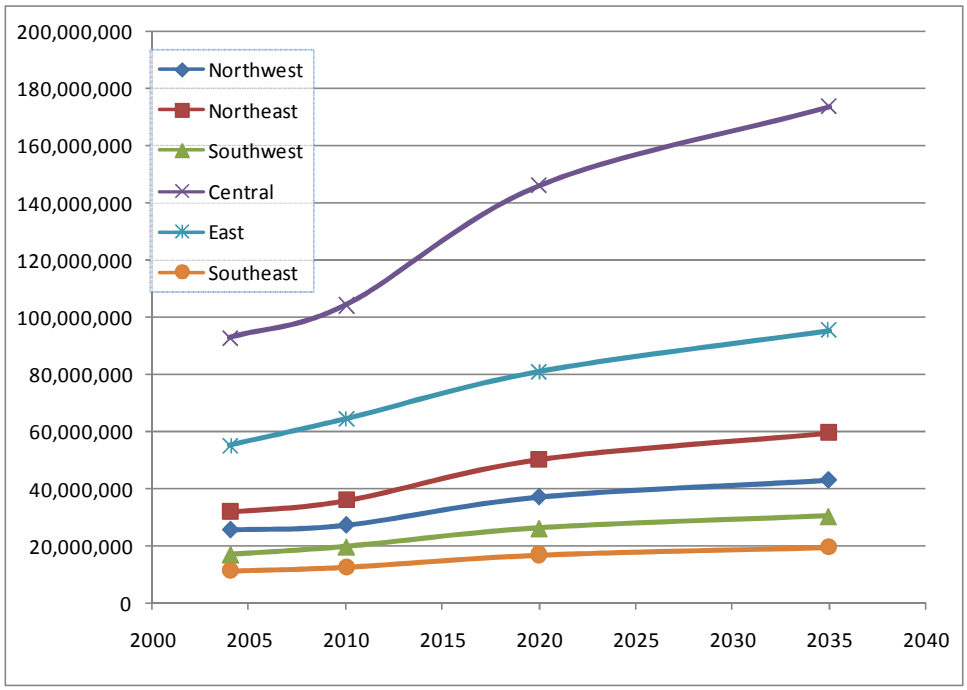
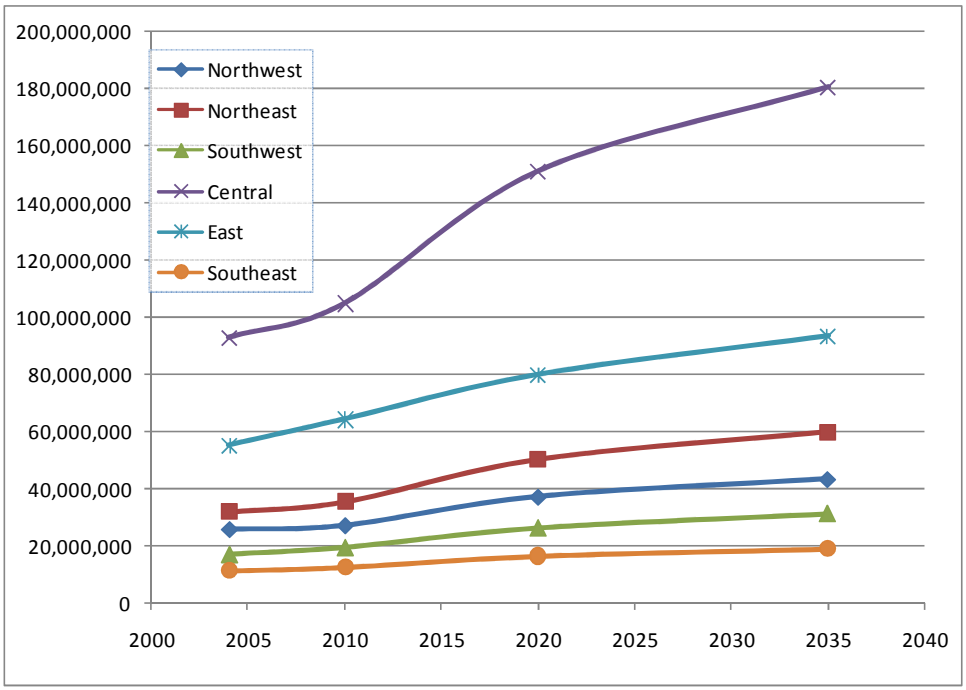


Figure 6-21: *Average daily vehicle miles travelled (VMT) over time for each planning area under the assumptions in the Market Scenario*



Similar to the traffic volumes, growth in daily vehicle miles of travel are most pronounced in 2020 for each of the planning areas. The annual growth percentage in the Policy scenario (Figure 6-22) ranges from 2.6 percent in the East planning area to 4.0 percent in the Northeast and Central planning areas. This growth tapers off to 1.0 percent to 1.3 percent in 2035.

The Market Scenario (Figure 6-23) represents slightly higher growth among all planning areas except the East and Southeast areas, where growth is slightly lower in the Market Scenario than in the Policy Scenario. Annual growth rates for 2020 in the Market Scenario range from 2.4 percent in the East planning area to 4.4 percent in the Central planning area.

In 2035, the Market Scenario represents slightly higher annual growth among all of the planning areas, with growth rates ranging from 1.0 percent to 1.3 percent.

Figure 6-22: *Annual growth percentage in daily vehicle miles travelled (VMT) over time for each planning area under the assumptions in the Policy Scenario*

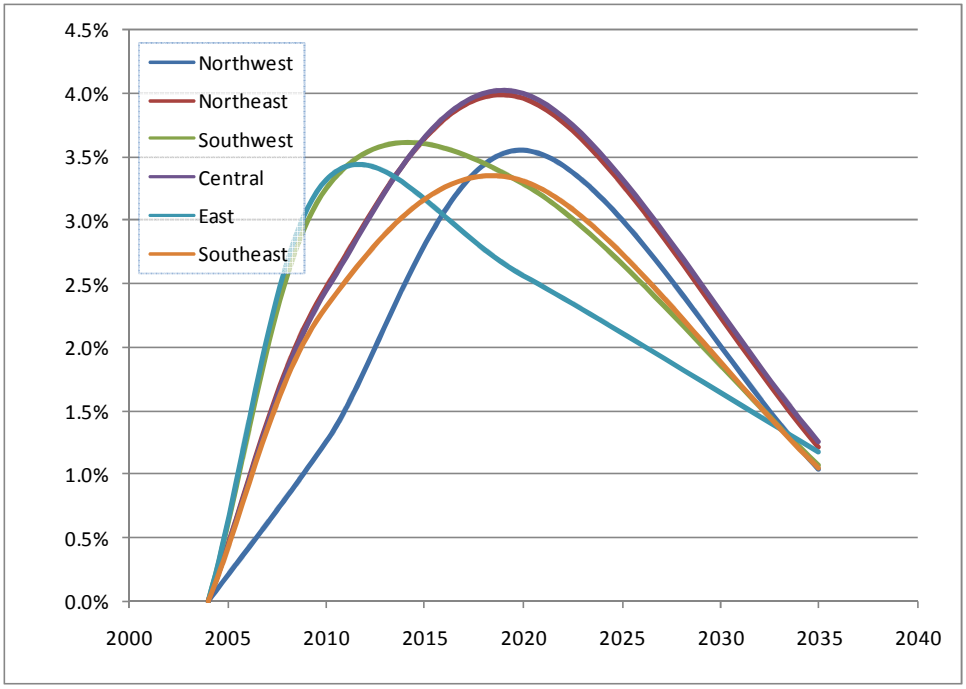


Figure 6-23: *Annual growth percentage in daily vehicle miles travelled (VMT) over time for each planning area under the assumptions in the Market Scenario*

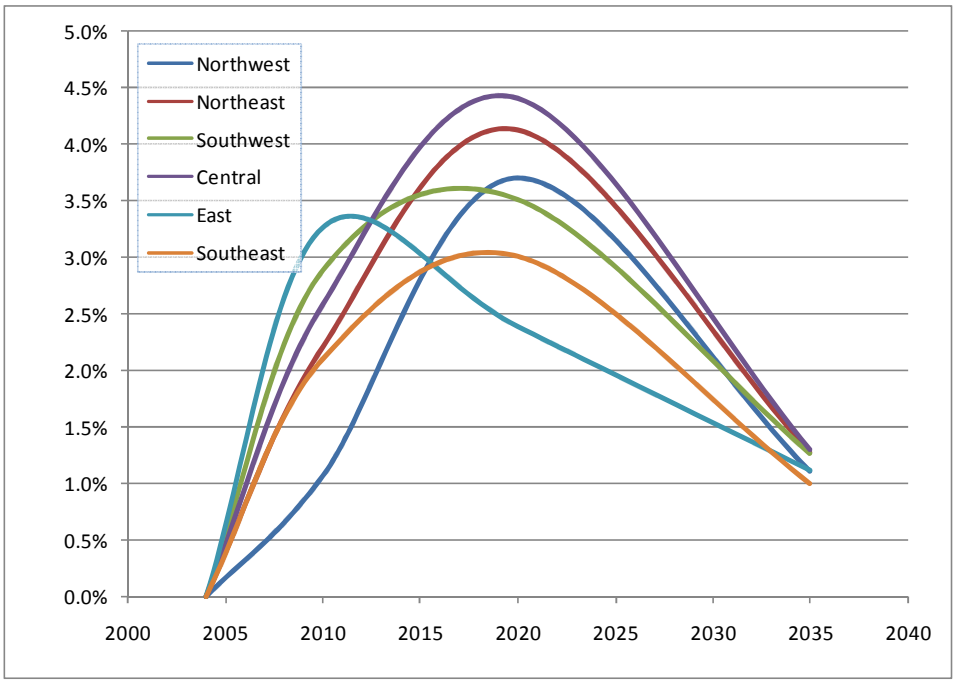
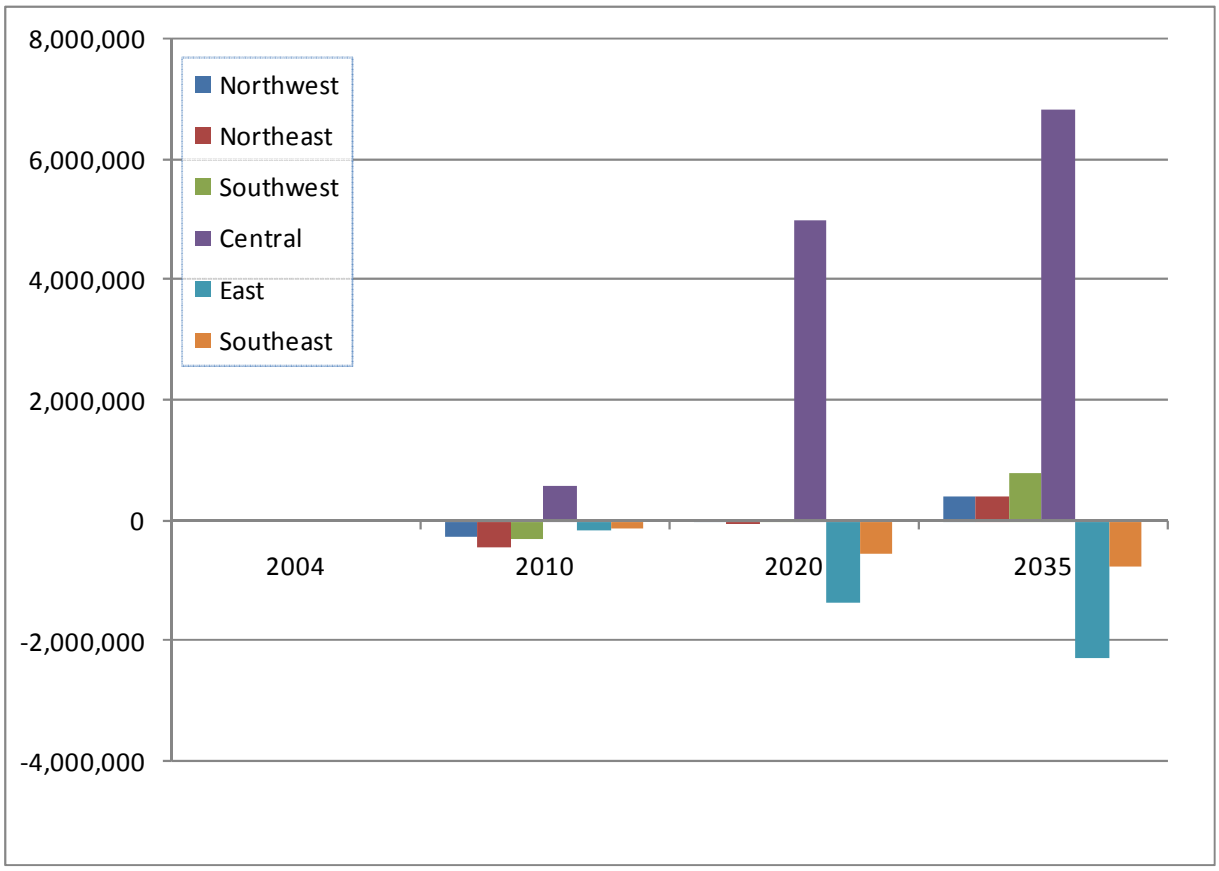


Figure 6-24 represents changes in growth when comparing the Market Scenario to the Policy Scenario. Although each planning area is anticipated grow throughout the forecast years, when comparing the scenarios against each other, there is less VMT growth expected in the Market Scenario in the East and Southeast planning area than what is expected in the Policy Scenario. Average vehicle miles travelled in the East and Southeast is anticipated to reach 95,604,000 and 19,642,000 vehicle trips daily respectively in 2035 in the Policy Scenario. Under the assumptions of the Market Scenario, average daily VMT is expected to be 93,318,000 and 18,880,000. This translated to just over than 2,285,600 (-2.4%) vehicles less in the Market Scenario and just over 761,600 (-3.9%) vehicles less in the Market scenario when compared to the Policy Scenario for the East and Southeast planning areas respectively.

Figure 6-24: *Change in daily vehicle miles travelled (VMT) over time for each planning area comparing the Policy Scenario with the Market Scenario*



When comparing the market and growth scenarios against the 2004 base (Tables 6-1 and 6-2), the market scenario produces less traffic on the county-wide transportation system. This is summarized by planning area and Table 6-3 illustrates the difference between these two scenarios regarding ADT.

Table 6-1: *Average daily traffic volume by planning area for the policy scenario*

POLICY	2004	2010	2020	2035
Northwest	549,100	578,100	779,800	898,700
Northeast	650,200	728,900	1,019,900	1,202,700
Southeast	319,400	364,500	484,700	561,700
Central	1,883,700	2,132,000	3,061,900	3,574,200
East	1,116,400	1,294,500	1,673,400	1,980,600
Southeast	290,400	327,000	443,900	517,900
Percent Growth				
Northwest	0.0%	5.3%	34.9%	15.2%
Northeast	0.0%	12.1%	39.9%	17.9%
Southeast	0.0%	14.1%	33.0%	15.9%
Central	0.0%	13.2%	43.6%	16.7%
East	0.0%	16.0%	29.3%	18.4%
Southeast	0.0%	12.6%	35.7%	16.7%
ANNUAL Percent Growth				
Northwest	0.0%	1.1%	3.5%	1.0%
Northeast	0.0%	2.4%	4.0%	1.2%
Southeast	0.0%	2.8%	3.3%	1.1%
Central	0.0%	2.6%	4.4%	1.1%
East	0.0%	3.2%	2.9%	1.2%
Southeast	0.0%	2.5%	3.6%	1.1%

Table 6-2: *Average daily traffic volume by planning area for the market scenario*

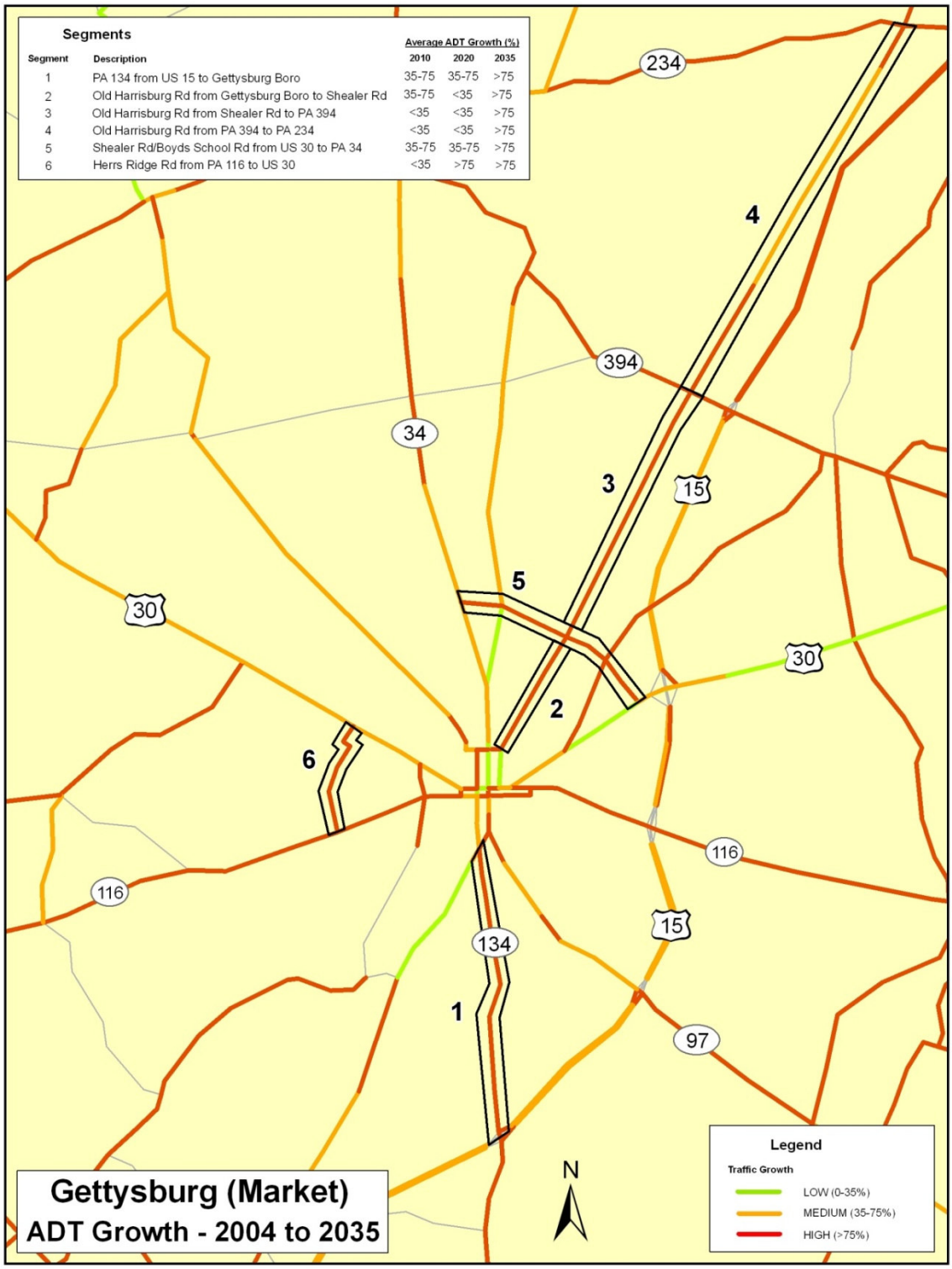
MARKET	2004	2010	2020	2035
Northwest	549,100	574,000	784,700	910,600
Northeast	650,200	719,000	1,018,100	1,210,900
Southeast	319,400	359,100	498,100	594,600
Central	1,883,700	2,149,200	3,166,600	3,780,800
East	1,116,400	1,292,000	1,641,400	1,927,300
Southeast	290,400	323,700	430,100	499,400
Percent Growth				
Northwest	0	4.5%	36.7%	16.0%
Northeast	0	10.6%	41.6%	18.9%
Southeast	0	12.4%	38.7%	19.4%
Central	0	14.1%	47.3%	19.4%
East	0	15.7%	27.0%	17.4%
Southeast	0	11.5%	32.9%	16.1%
ANNUAL Percent Growth				
Northwest	0	0.9%	3.7%	1.1%
Northeast	0	2.1%	4.2%	1.3%
Southeast	0	2.5%	3.9%	1.3%
Central	0	2.8%	4.7%	1.3%
East	0	3.1%	2.7%	1.2%
Southeast	0	2.3%	3.3%	1.1%

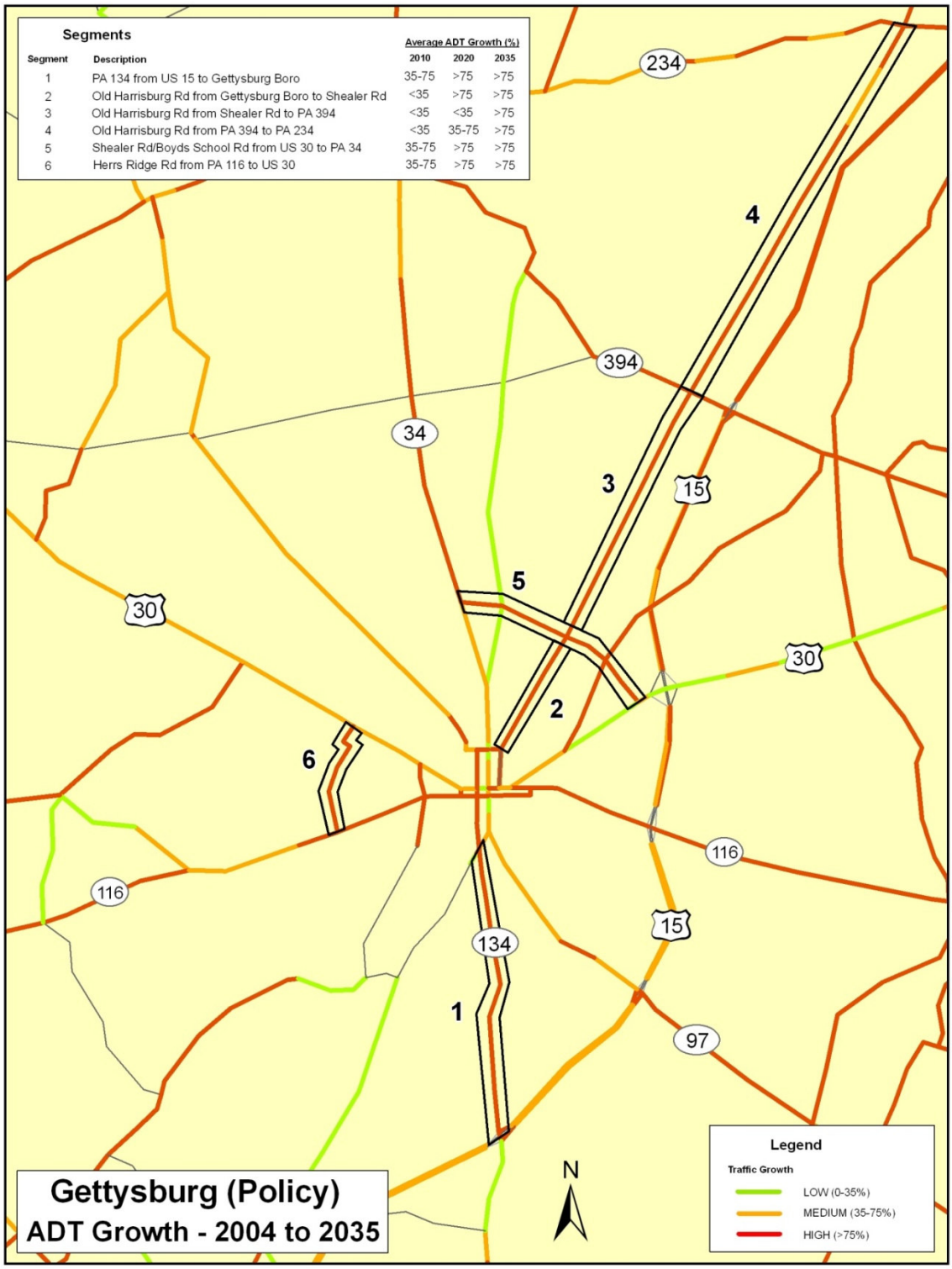
Table 6-3: *Difference in daily traffic volumes by market scenario vs. policy scenario*

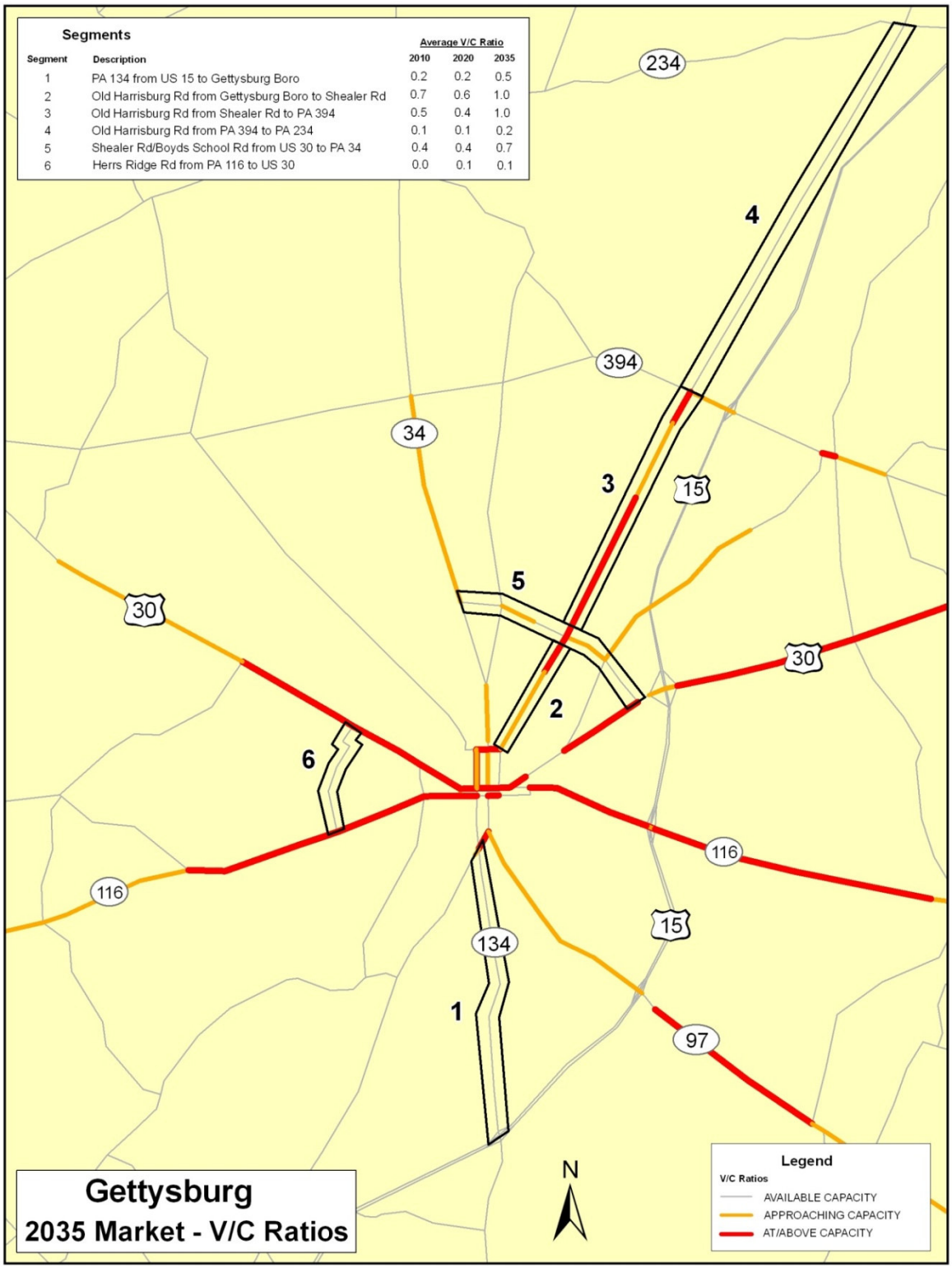
Volume Difference MARKET vs POLICY	2004	2010	2020	2035
Northwest	0	(4,100)	4,900	11,900
Northeast	0	(9,900)	(1,800)	8,200
Southeast	0	(5,400)	13,400	32,900
Central	0	17,200	104,700	206,600
East	0	(2,500)	(32,000)	(53,300)
Southeast	0	(3,300)	(13,800)	(18,500)

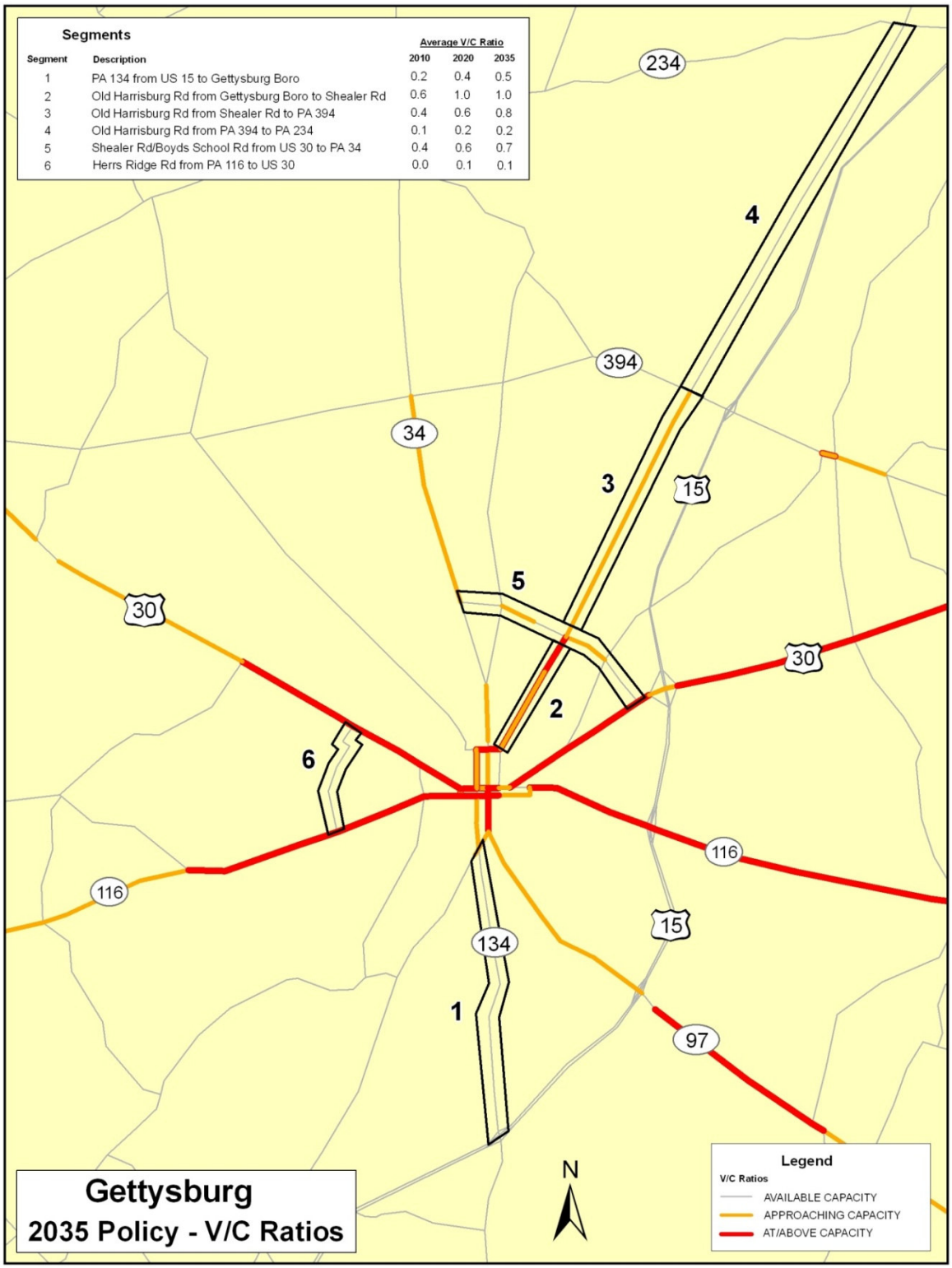
C. CORRIDOR-LEVEL SUMMARIES

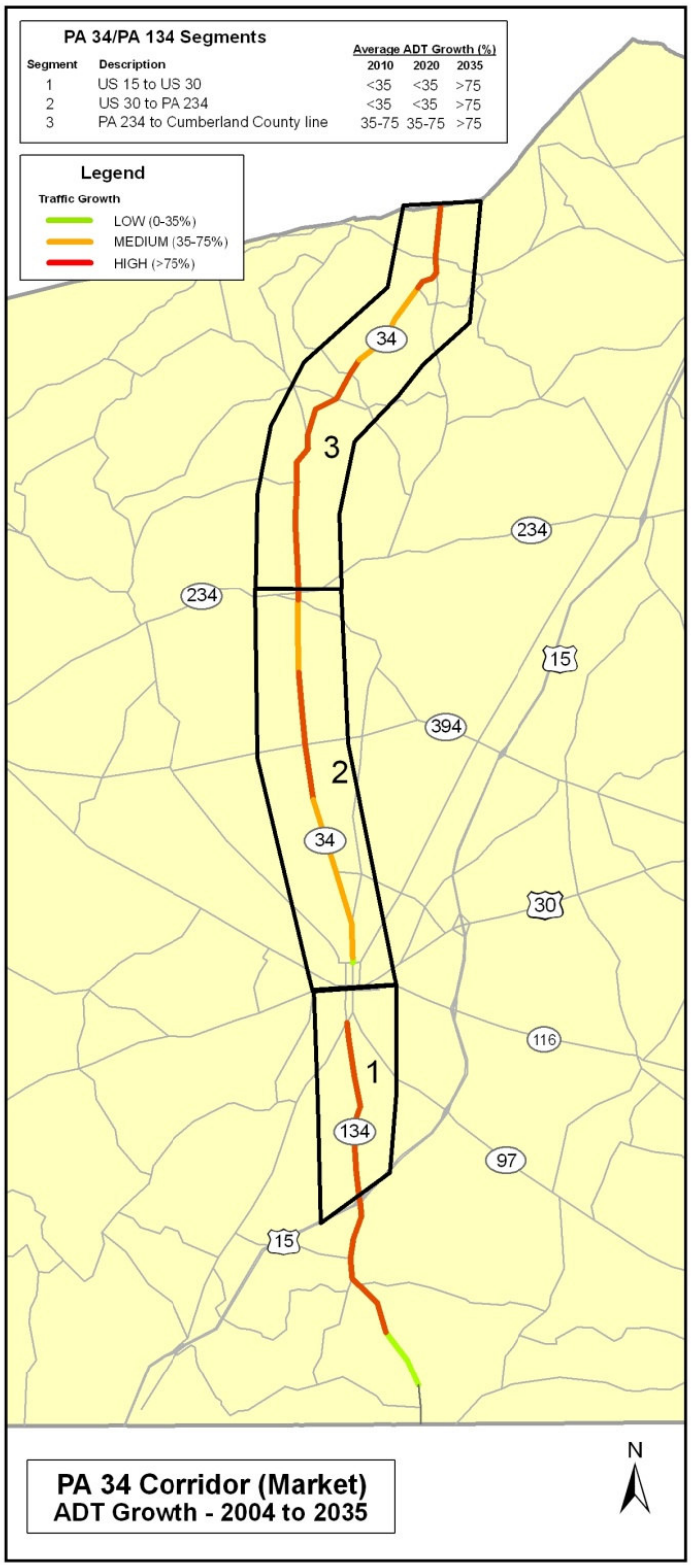
The following maps highlight specific corridors of interest in Adams County with respect to future transportation needs. Each set of corridor maps provides information on ADT growth and V/C ratio changes – results for 2035 are graphically shown on the map and the context of changes from 2010 to 2035 is provided in the data table for each scenario.

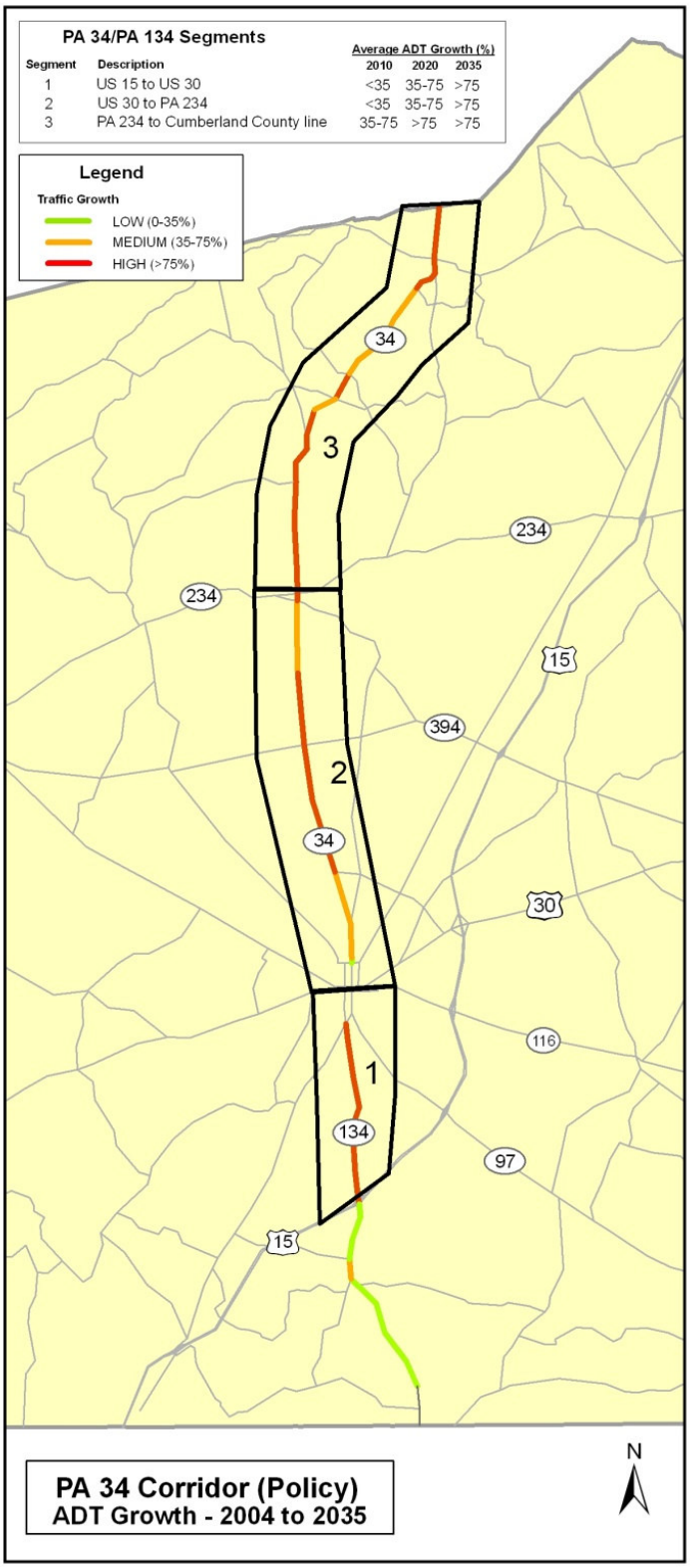

Segments
Average ADT Growth (%)
Segment Description 2010 2020 2035
1 PA 134 from US 15 to Gettysburg Boro 35-75 35-75 >75
2 Old Harrisburg Rd from Gettysburg Boro to Shealer Rd 35-75 <35 >75
3 Old Harrisburg Rd from Shealer Rd to PA 394 <35 <35 >75
4 Old Harrisburg Rd from PA 394 to PA 234 <35 <35 >75
5 Shealer Rd/Boyds School Rd from US 30 to PA 34 35-75 35-75 >75
6 Herrs Ridge Rd from PA 116 to US 30 <35 >75 >75
234
394
34
15
30
116
134
97
1
2
3
4
5
6
N
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
Gettysburg (Market)
ADT Growth - 2004 to 2035

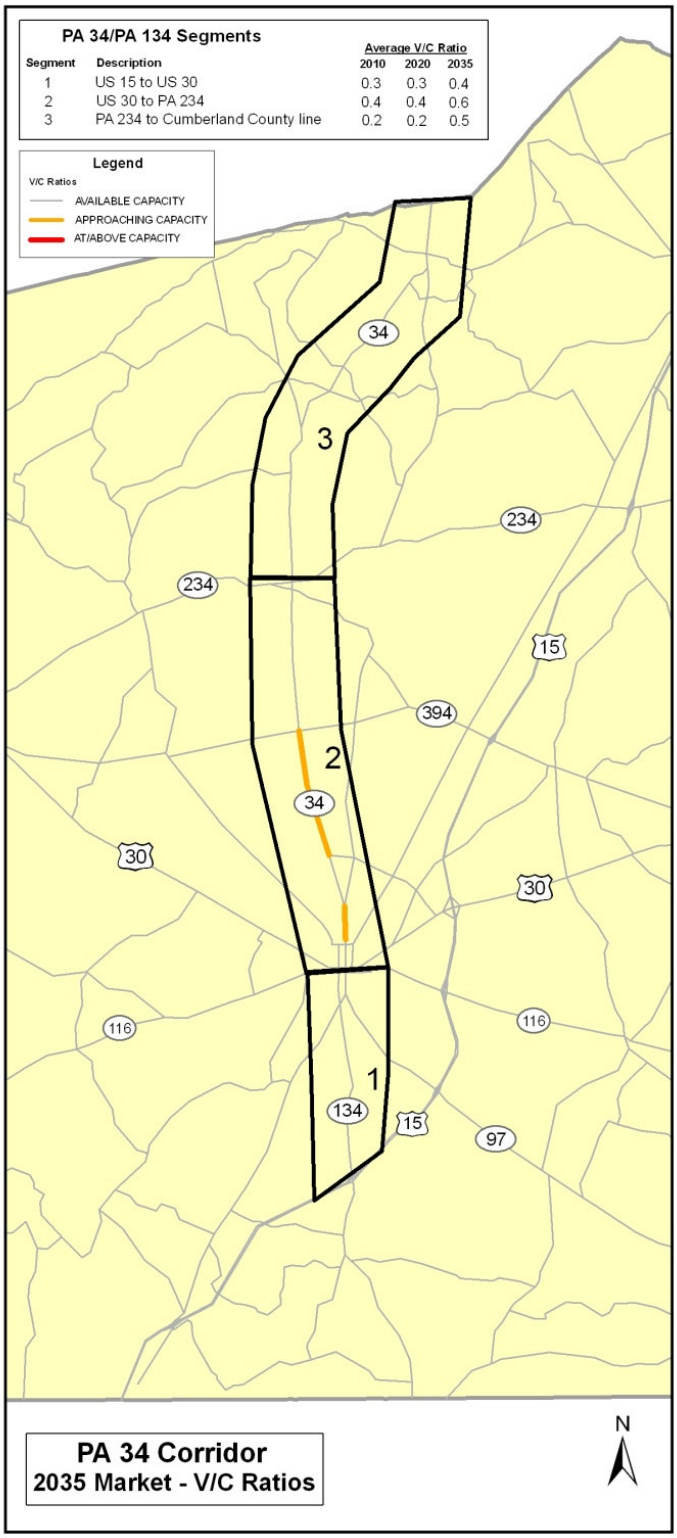

Segments
Average ADT Growth (%)
Segment Description 2010 2020 2035
1 PA 134 from US 15 to Gettysburg Boro 35-75 >75 >75
2 Old Harrisburg Rd from Gettysburg Boro to Shealer Rd <35 >75 >75
3 Old Harrisburg Rd from Shealer Rd to PA 394 <35 <35 >75
4 Old Harrisburg Rd from PA 394 to PA 234 <35 35-75 >75
5 Shealer Rd/Boyds School Rd from US 30 to PA 34 35-75 >75 >75
6 Herrs Ridge Rd from PA 116 to US 30 35-75 >75 >75
234
394
34
15
30
116
134
97
1
2
3
4
5
6
N
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
Gettysburg (Policy)
ADT Growth - 2004 to 2035

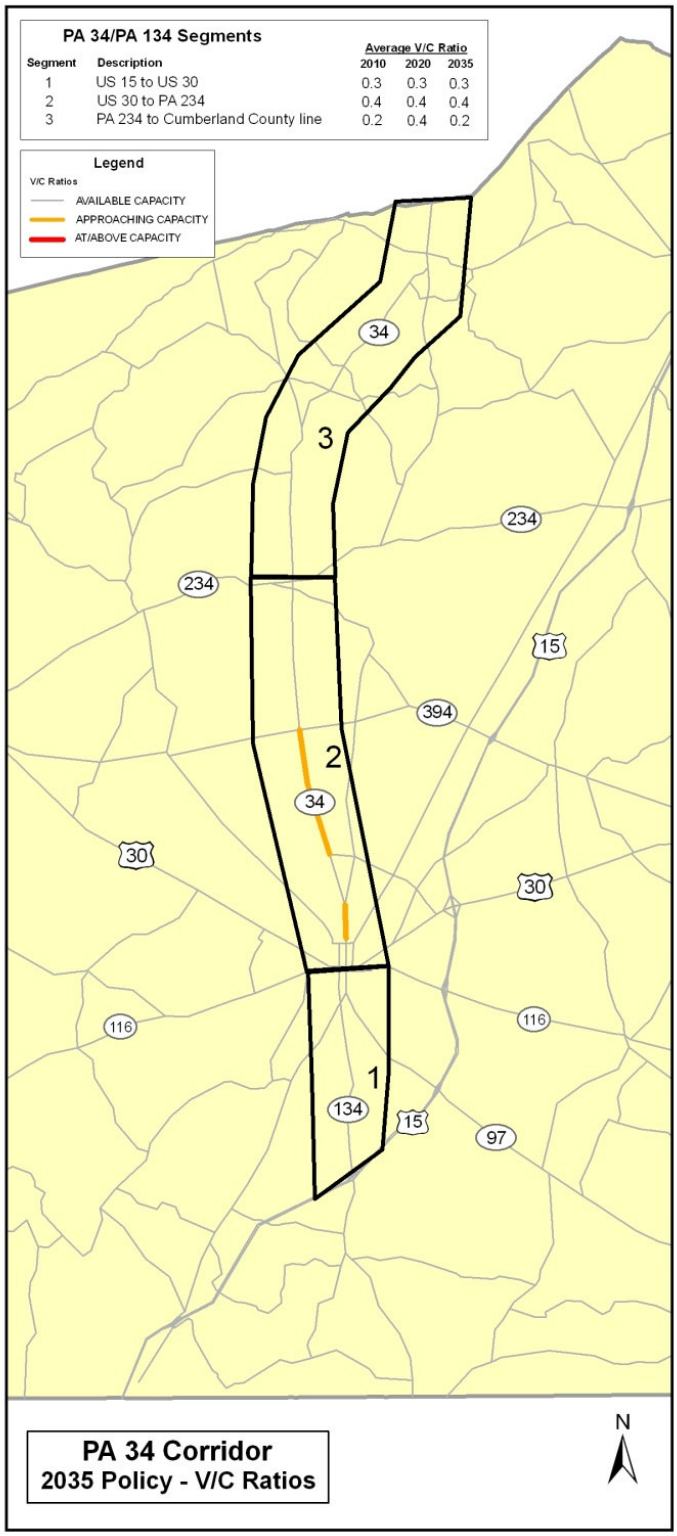

Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 PA 134 from US 15 to Gettysburg Boro 0.2 0.2 0.5
2 Old Harrisburg Rd from Gettysburg Boro to Shealer Rd 0.7 0.6 1.0
3 Old Harrisburg Rd from Shealer Rd to PA 394 0.5 0.4 1.0
4 Old Harrisburg Rd from PA 394 to PA 234 0.1 0.1 0.2
5 Shealer Rd/Boyds School Rd from US 30 to PA 34 0.4 0.4 0.7
6 Herrs Ridge Rd from PA 116 to US 30 0.0 0.1 0.1
234
394
34
15
30
116
134
97
1
2
3
4
5
6
N
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
Gettysburg
2035 Market - V/C Ratios

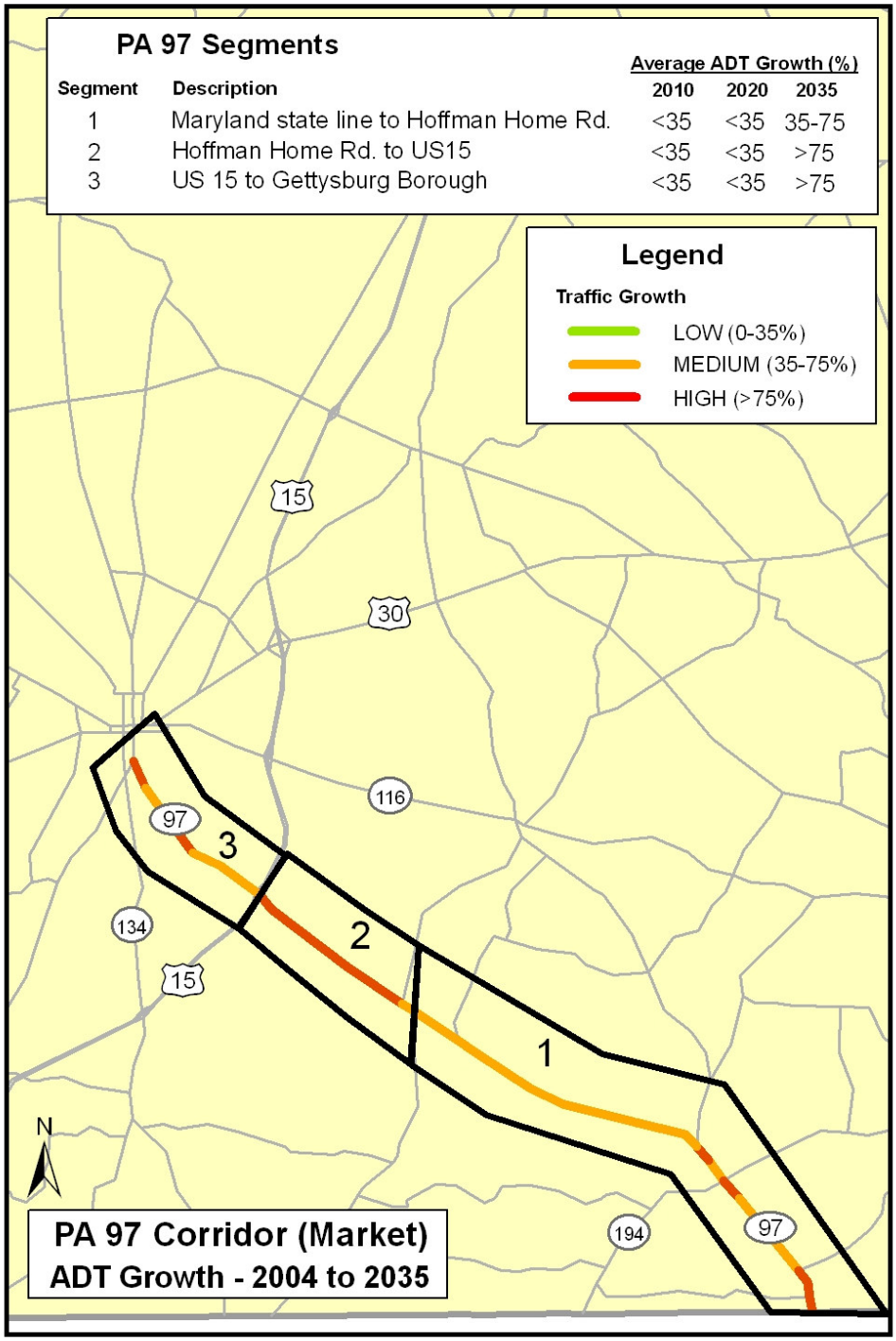

Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 PA 134 from US 15 to Gettysburg Boro 0.2 0.4 0.5
2 Old Harrisburg Rd from Gettysburg Boro to Shealer Rd 0.6 1.0 1.0
3 Old Harrisburg Rd from Shealer Rd to PA 394 0.4 0.6 0.8
4 Old Harrisburg Rd from PA 394 to PA 234 0.1 0.2 0.2
5 Shealer Rd/Boyds School Rd from US 30 to PA 34 0.4 0.6 0.7
6 Herrs Ridge Rd from PA 116 to US 30 0.0 0.1 0.1
234
394
34
15
30
116
134
97
1
2
3
4
5
6
N
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
Gettysburg
2035 Policy - V/C Ratios

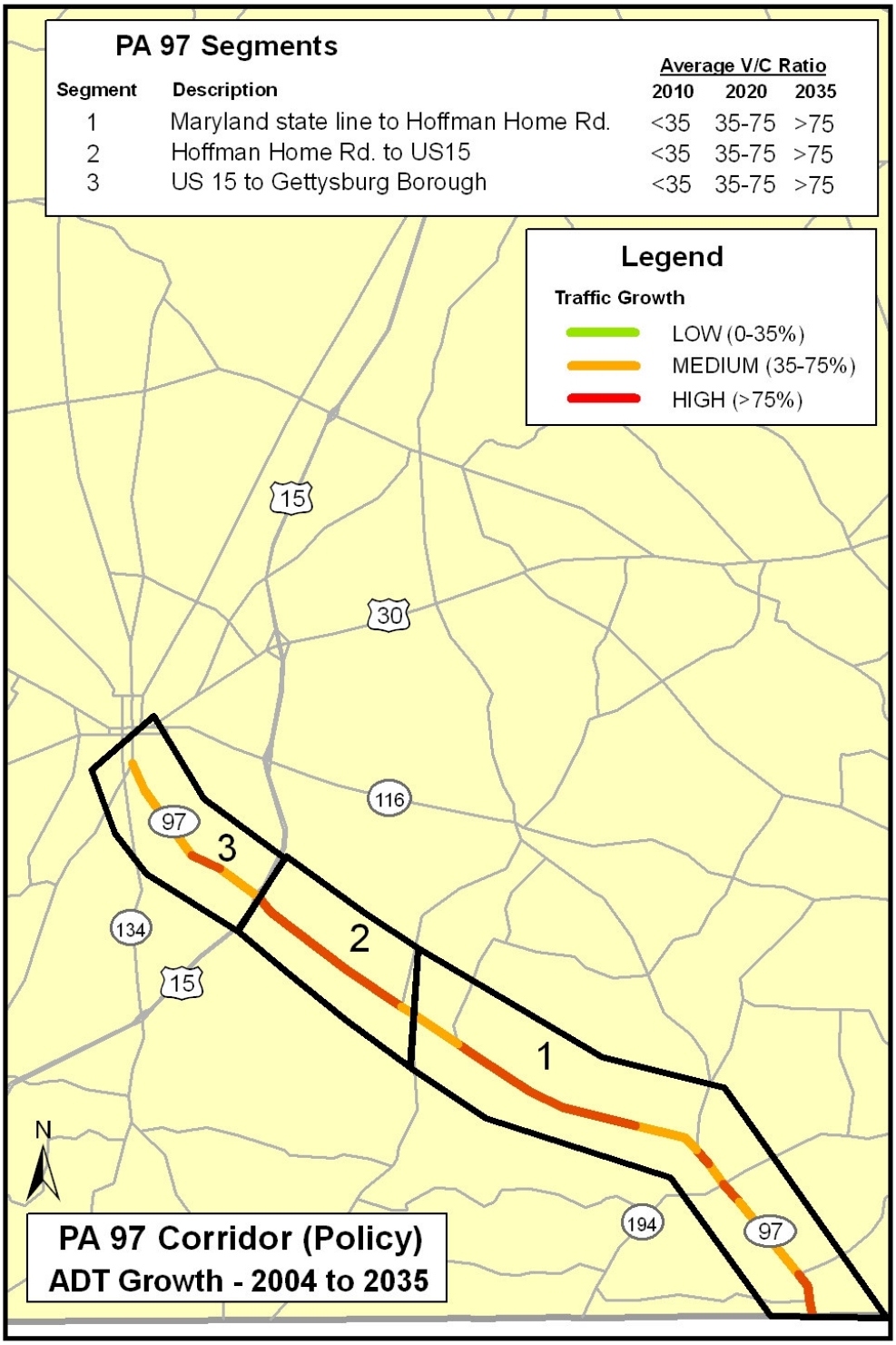

PA 34/PA 134 Segments
Average ADT Growth (%)
Segment Description 2010 2020 2035
1 US 15 to US 30 <35 <35 >75
2 US 30 to PA 234 <35 <35 >75
3 PA 234 to Cumberland County line 35-75 35-75 >75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
34
3
234
234
15
394
2
34
30
116
1
134
97
15
N
PA 34 Corridor (Market)
ADT Growth - 2004 to 2035

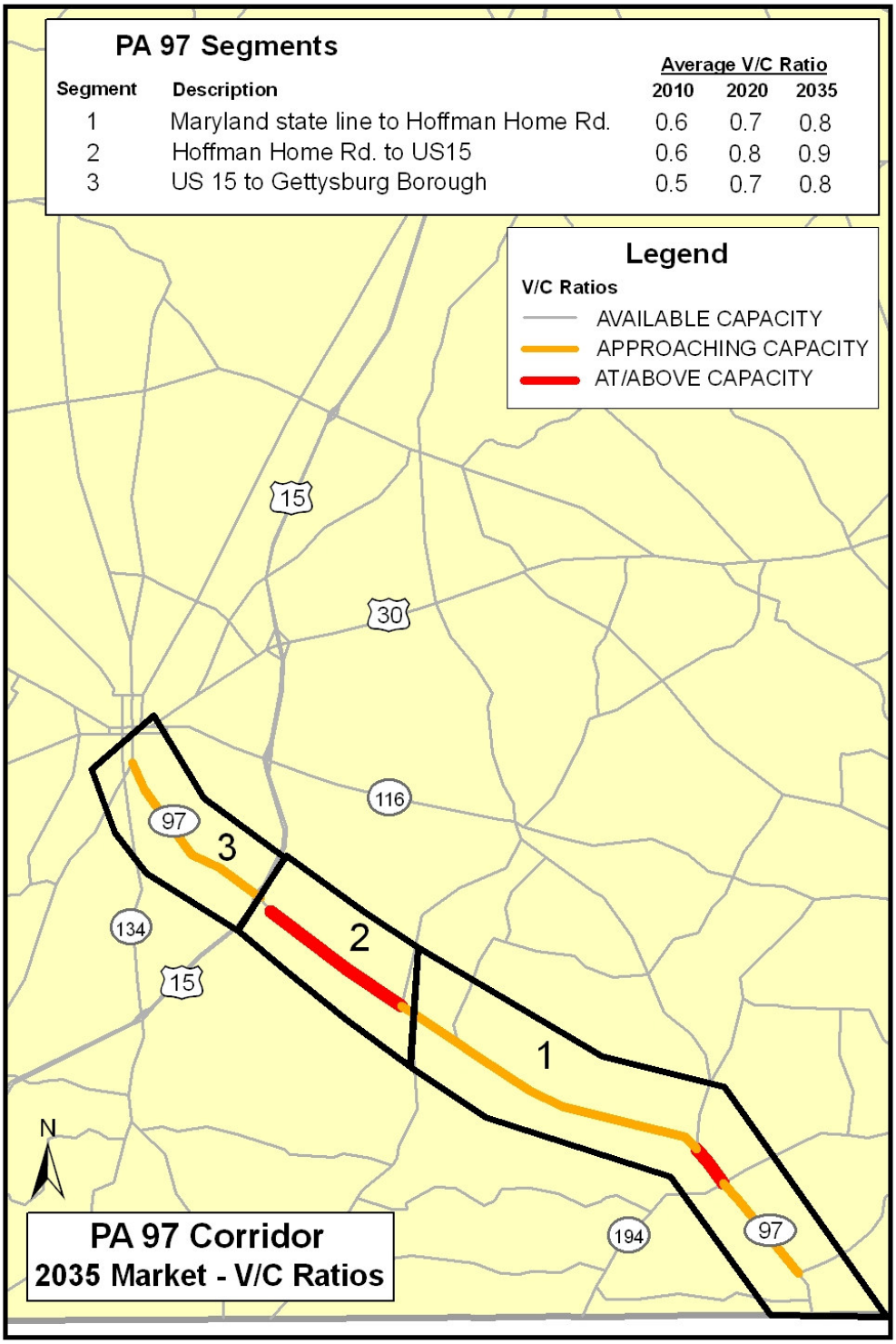

PA 34/PA 134 Segments
Average ADT Growth (%)
Segment Description 2010 2020 2035
1 US 15 to US 30 <35 35-75 >75
2 US 30 to PA 234 <35 35-75 >75
3 PA 234 to Cumberland County line 35-75 >75 >75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
34
3
234
234
15
394
2
34
30
116
1
134
97
15
N
PA 34 Corridor (Policy)
ADT Growth - 2004 to 2035

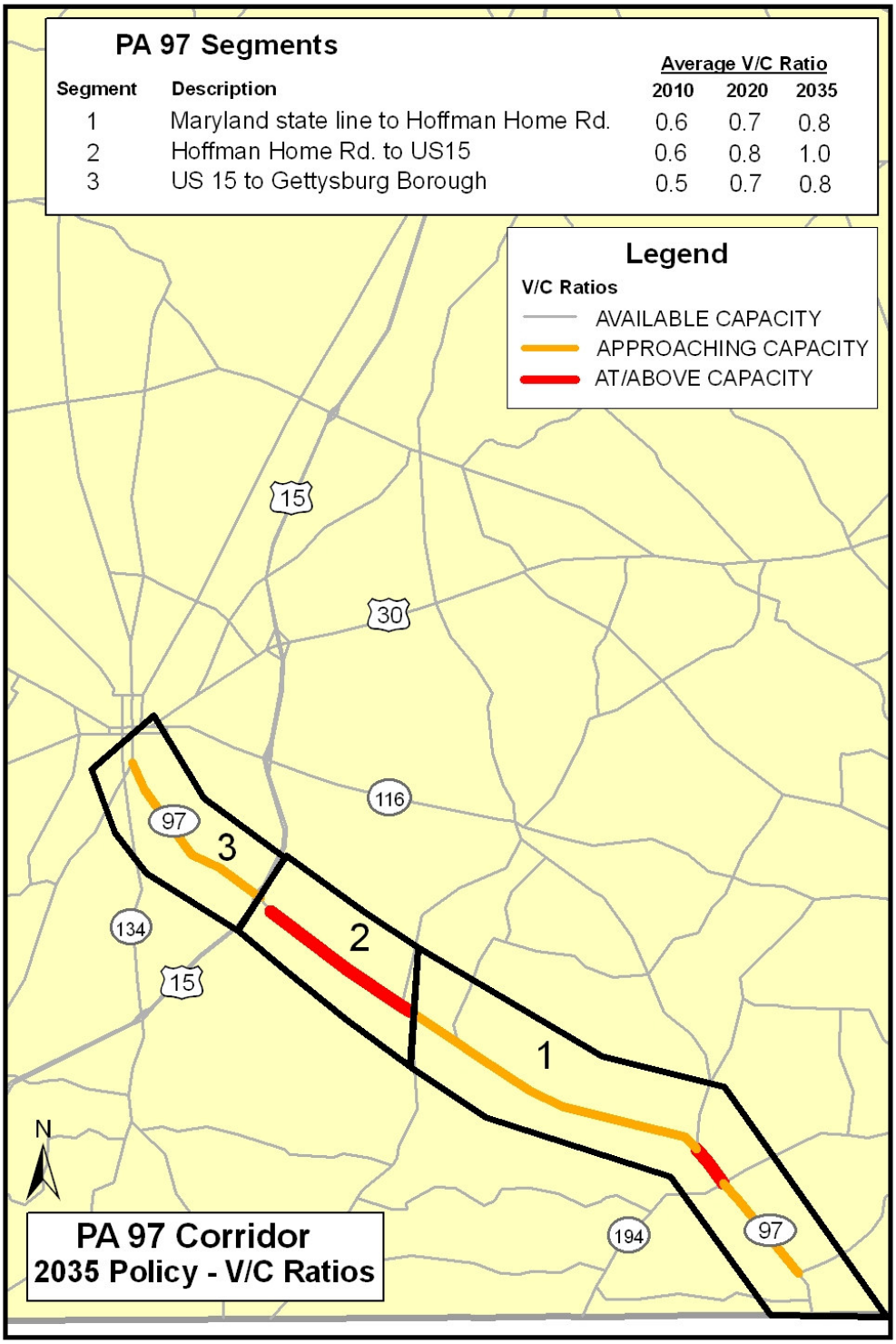

PA 34/PA 134 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 US 15 to US 30 0.3 0.3 0.4
2 US 30 to PA 234 0.4 0.4 0.6
3 PA 234 to Cumberland County line 0.2 0.2 0.5
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
34
3
234
234
15
394
2
34
30
30
116
116
1
134
15
97
PA 34 Corridor
2035 Market - V/C Ratios
N

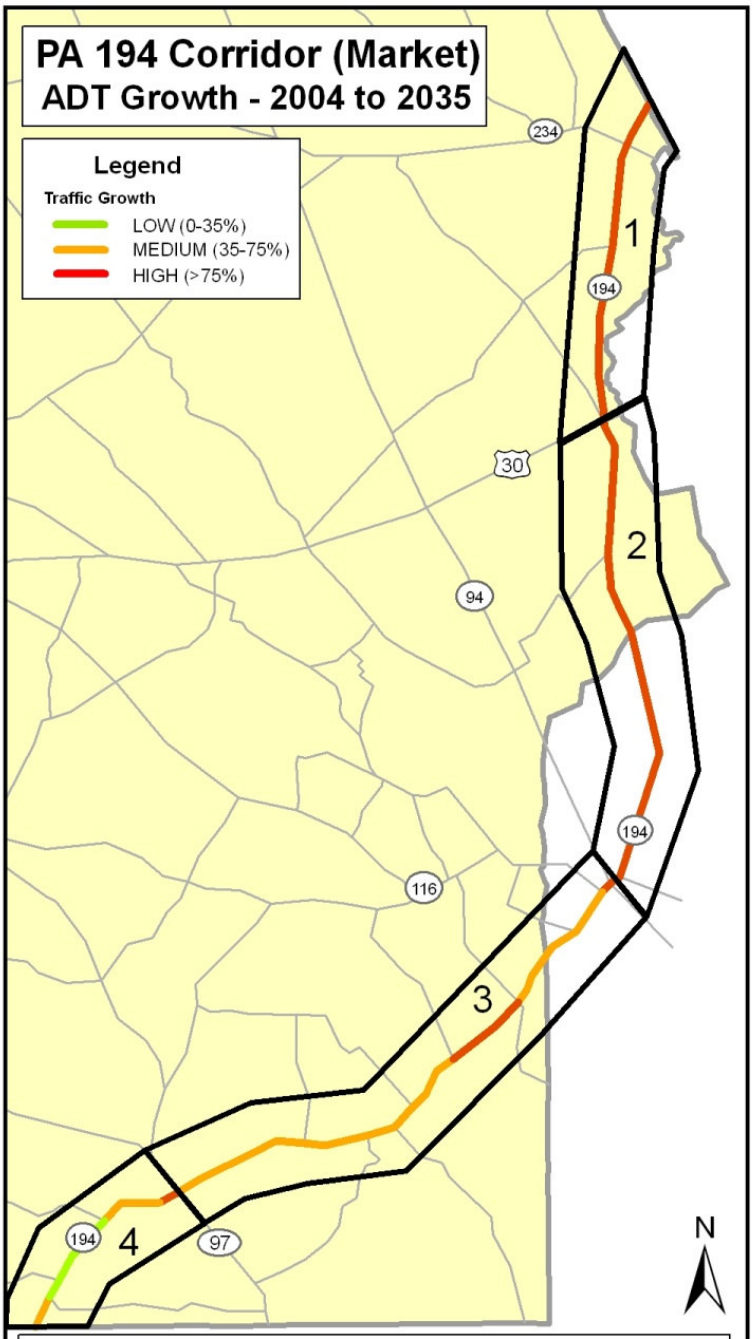

PA 34/PA 134 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 US 15 to US 30 0.3 0.3 0.3
2 US 30 to PA 234 0.4 0.4 0.4
3 PA 234 to Cumberland County line 0.2 0.4 0.2
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
34
3
234
234
15
394
2
34
30
30
116
116
1
134
15
97
N
PA 34 Corridor
2035 Policy - V/C Ratios


PA 97 Segments
Average ADT Growth (%)
Segment Description 2010 2020 2035
1 Maryland state line to Hoffman Home Rd. <35 <35 35-75
2 Hoffman Home Rd. to US15 <35 <35 >75
3 US 15 to Gettysburg Borough <35 <35 >75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
15
30
116
97
134
194
1
2
3
N
PA 97 Corridor (Market)
ADT Growth - 2004 to 2035


PA 97 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 Maryland state line to Hoffman Home Rd. <35 35-75 >75
2 Hoffman Home Rd. to US15 <35 35-75 >75
3 US 15 to Gettysburg Borough <35 35-75 >75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
15
30
116
97
134
15
194
97
1
2
3
N
PA 97 Corridor (Policy)
ADT Growth - 2004 to 2035

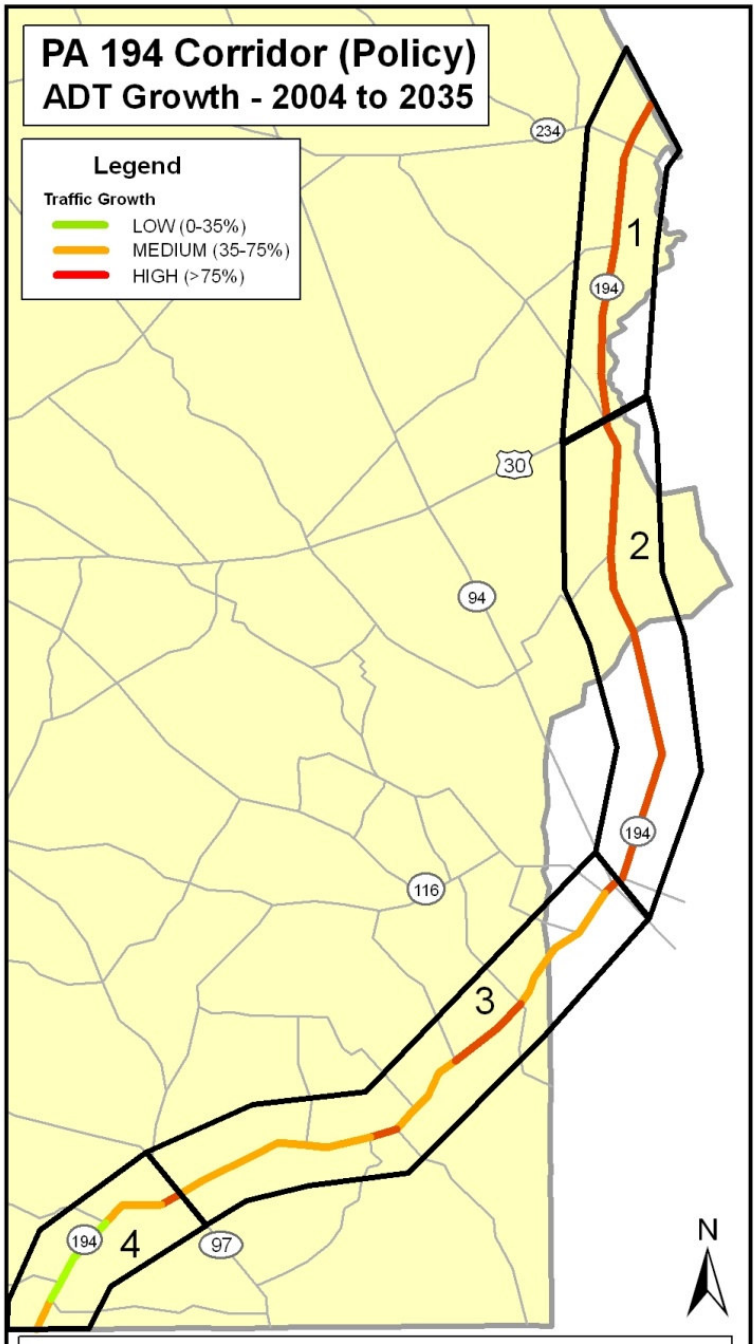

PA 97 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 Maryland state line to Hoffman Home Rd. 0.6 0.7 0.8
2 Hoffman Home Rd. to US15 0.6 0.8 0.9
3 US 15 to Gettysburg Borough 0.5 0.7 0.8
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
15
30
116
97
134
15
194
97
1
2
3
N
PA 97 Corridor
2035 Market - V/C Ratios


PA 97 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 Maryland state line to Hoffman Home Rd. 0.6 0.7 0.8
2 Hoffman Home Rd. to US15 0.6 0.8 1.0
3 US 15 to Gettysburg Borough 0.5 0.7 0.8
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
15
30
116
97
134
15
194
97
1
2
3
N
PA 97 Corridor
2035 Policy - V/C Ratios



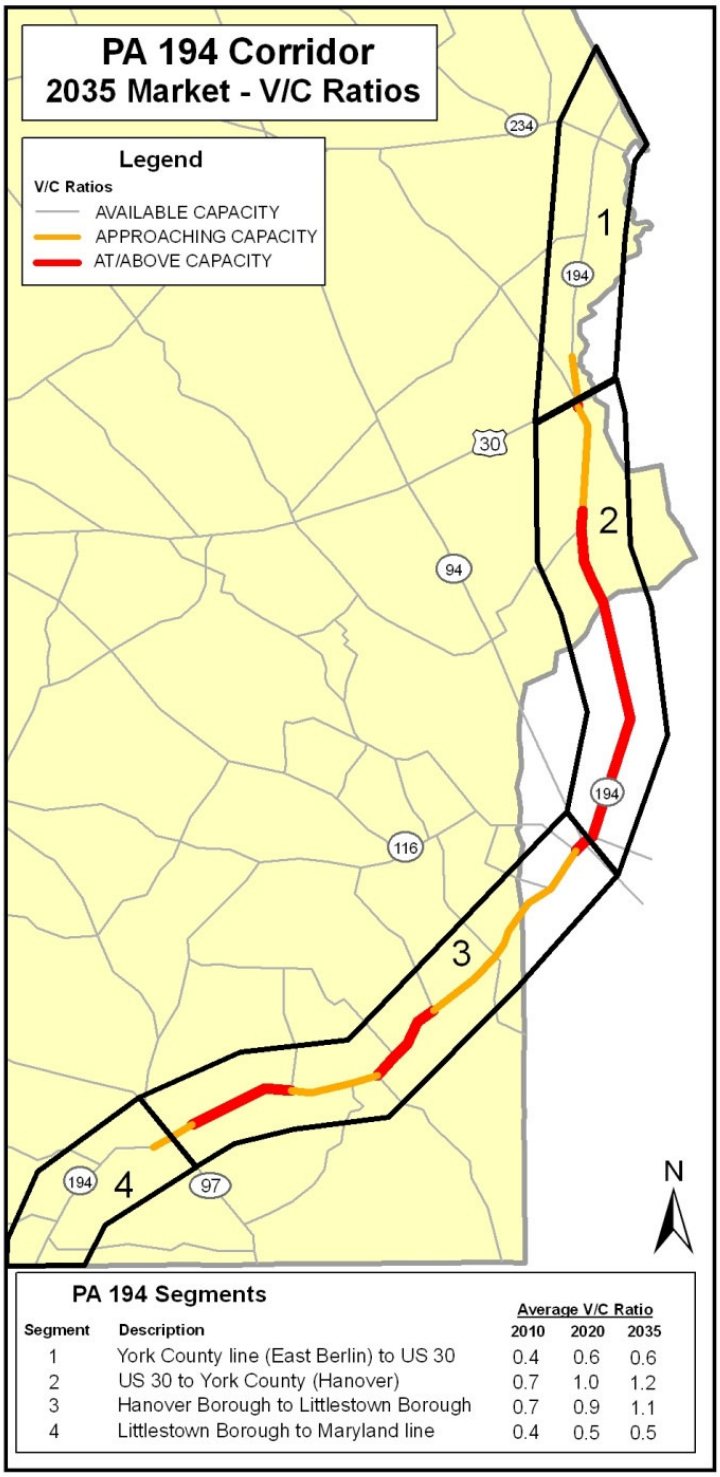
PA 194 Segments

Segment	Description	Average ADT Growth (%) 2010	2020	2035
1	York County line (East Berlin) to US 30	<35	<35	>75
2	US 30 to York County (Hanover)	<35	<35	>75
3	Hanover Borough to Littlestown Borough	<35	<35	35-75
4	Littlestown Borough to Maryland line	<35	<35	35-75



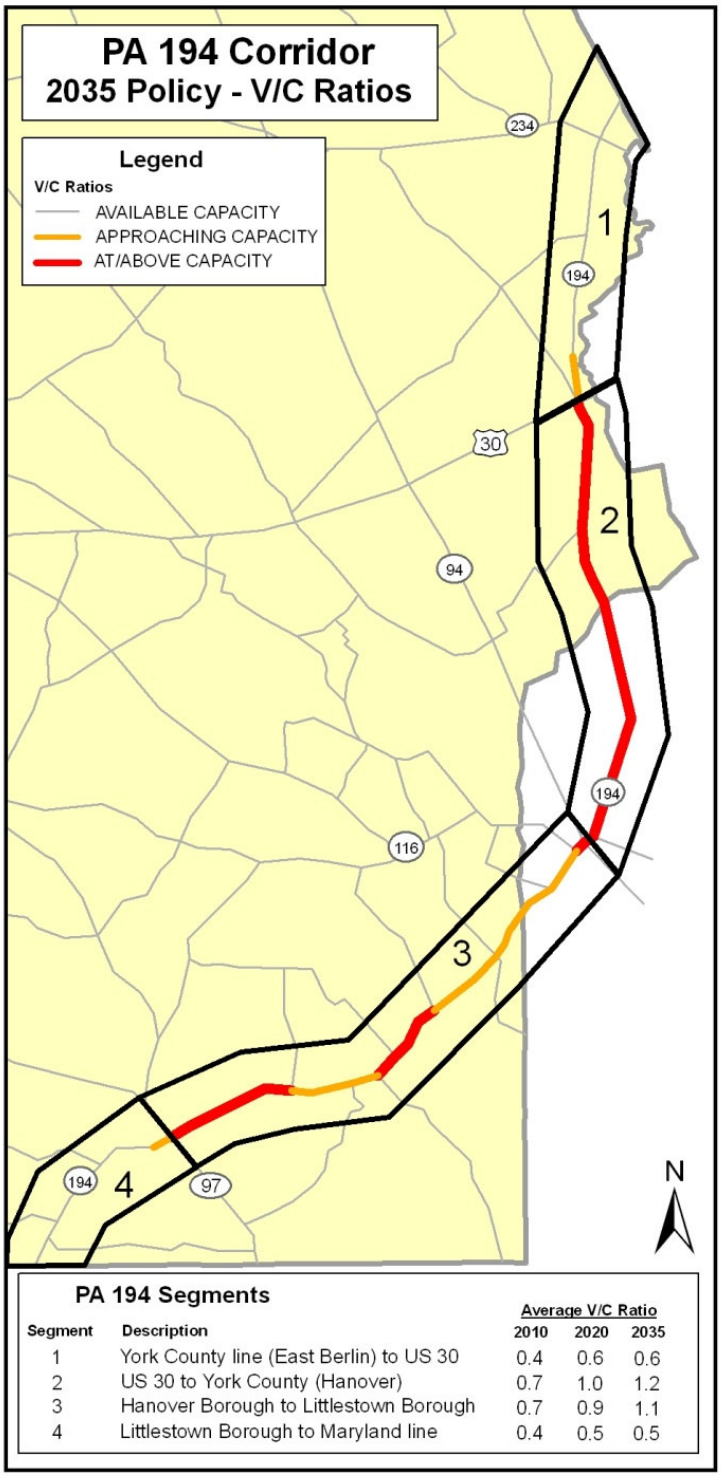
PA 194 Segments

Segment	Description	Average ADT Growth (%) 2010	2020	2035
1	York County line (East Berlin) to US 30	<35	35-75	>75
2	US 30 to York County (Hanover)	<35	35-75	>75
3	Hanover Borough to Littlestown Borough	<35	35-75	35-75
4	Littlestown Borough to Maryland line	<35	35-75	35-75



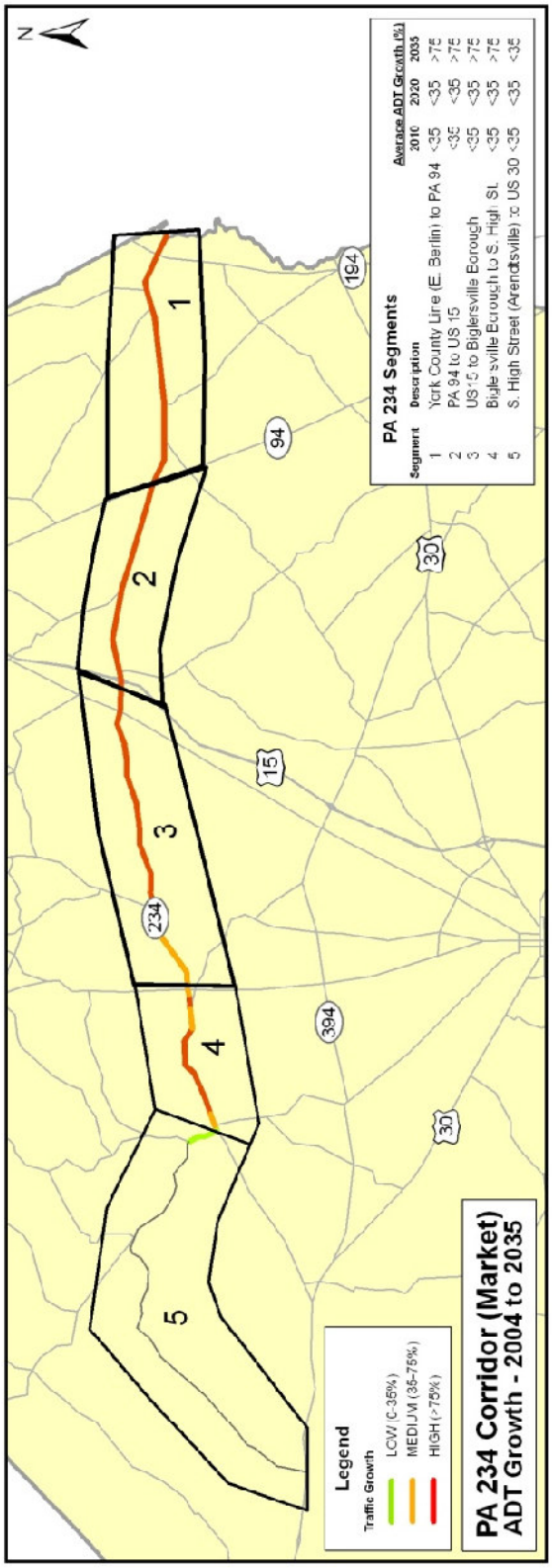
PA 194 Segments

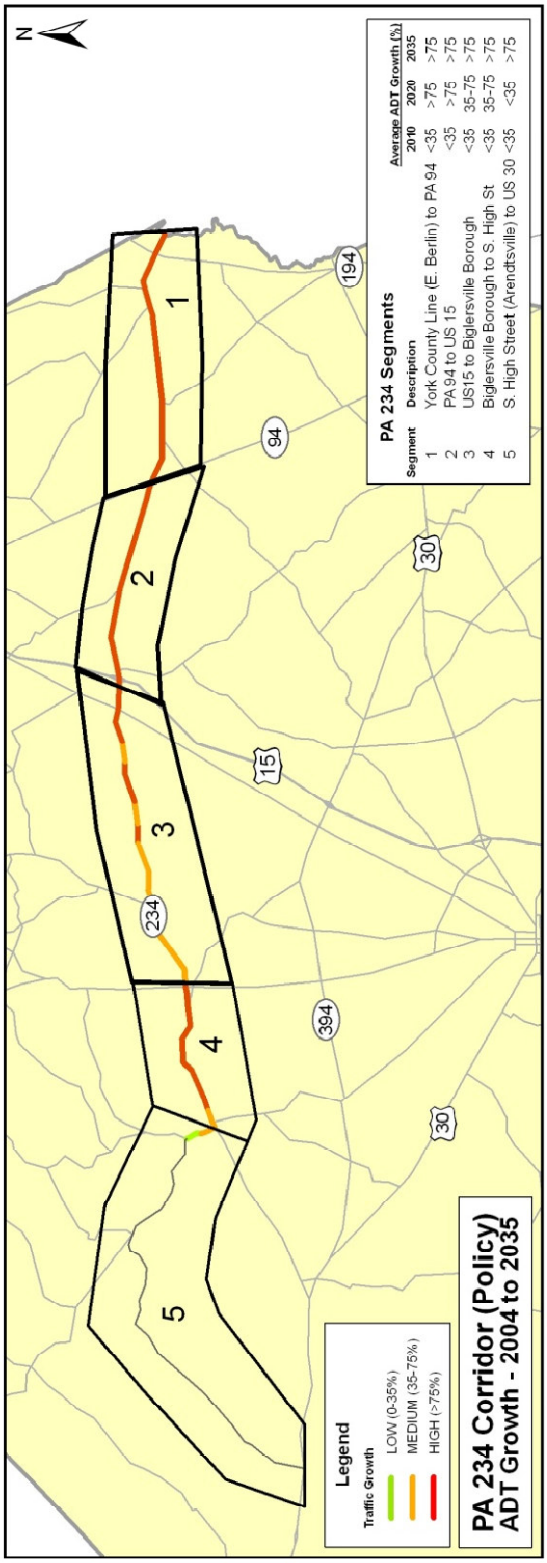
Segment	Description	Average V/C Ratio 2010	2020	2035
1	York County line (East Berlin) to US 30	0.4	0.6	0.6
2	US 30 to York County (Hanover)	0.7	1.0	1.2
3	Hanover Borough to Littlestown Borough	0.7	0.9	1.1
4	Littlestown Borough to Maryland line	0.4	0.5	0.5

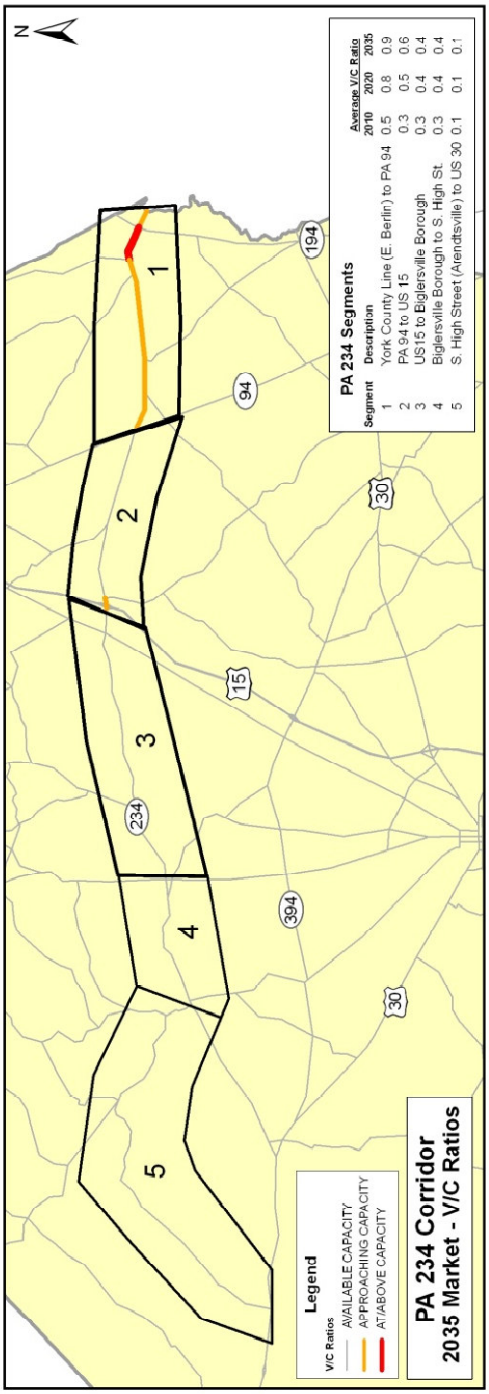


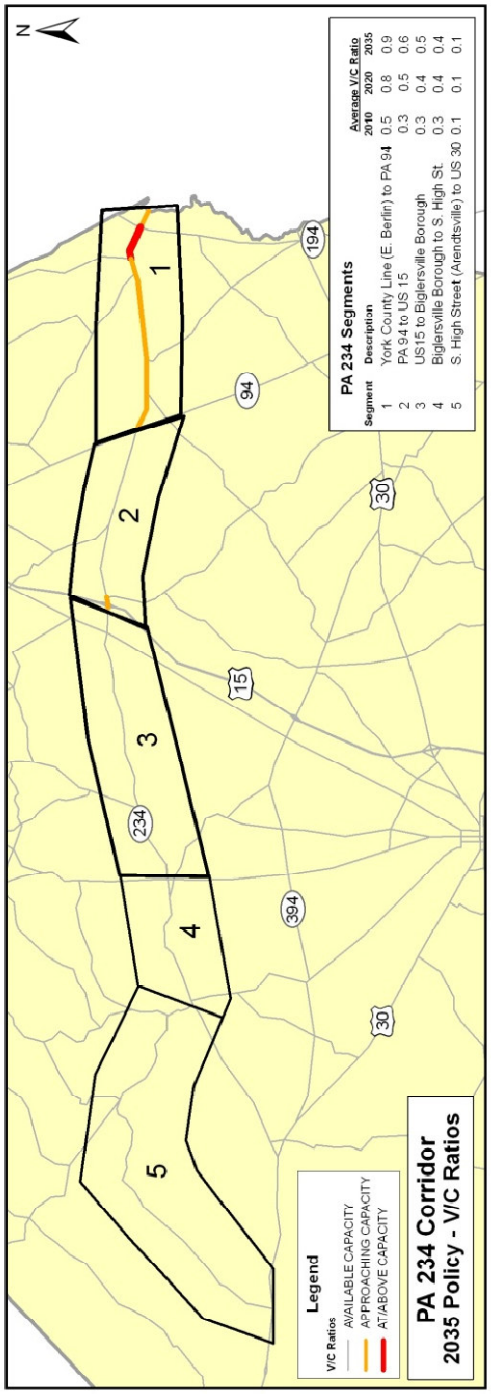
PA 194 Segments

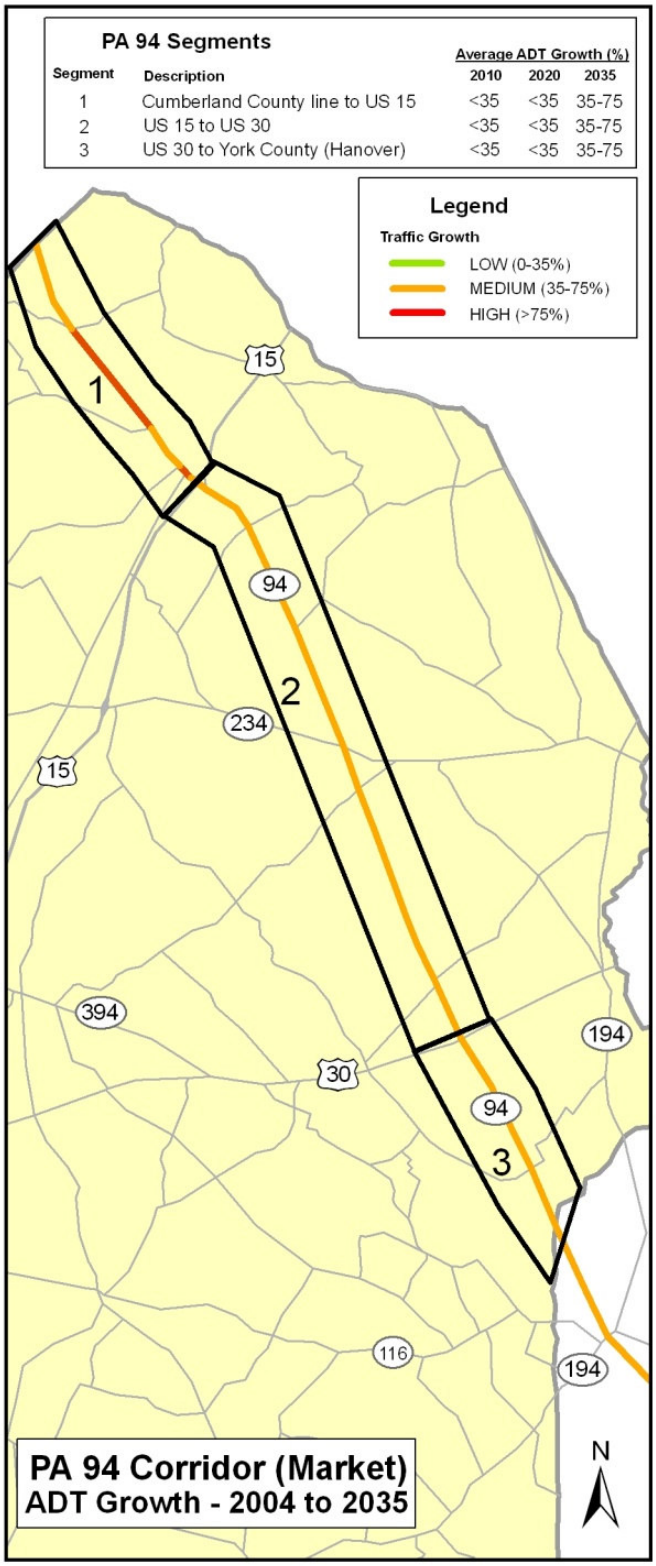
Segment	Description	Average V/C Ratio 2010	2020	2035
1	York County line (East Berlin) to US 30	0.4	0.6	0.6
2	US 30 to York County (Hanover)	0.7	1.0	1.2
3	Hanover Borough to Littlestown Borough	0.7	0.9	1.1
4	Littlestown Borough to Maryland line	0.4	0.5	0.5

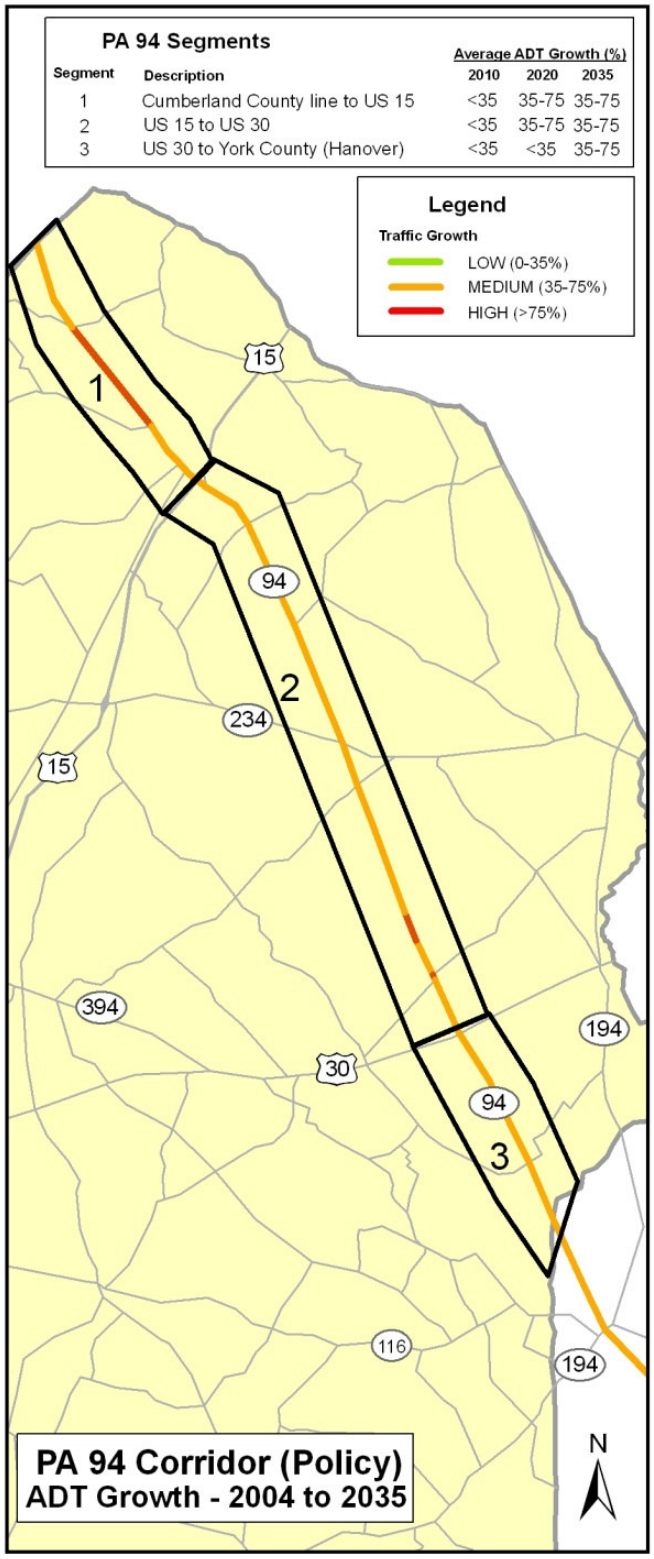

PA 234 Corridor (Market)
ADT Growth - 2004 to 2035
Legend
Traffic Growth
LOW (<35%)
MEDIUM (35-75%)
HIGH (>75%)
1
2
3
4
5
234
94
15
30
394
194
N
PA 234 Segments
Segment
Description
Average ADT Growth (%)
2010
2020
2035
1 York County Line (E. Berlin) to PA 94 <35 <35 >75
2 PA 94 to US 15 <35 <35 >75
3 US 15 to Biglerville Borough <35 <35 >75
4 Biglerville Borough to S. High St. <35 <35 >75
5 S. High Street (Arendtsville) to US 30 <35 <35 <35

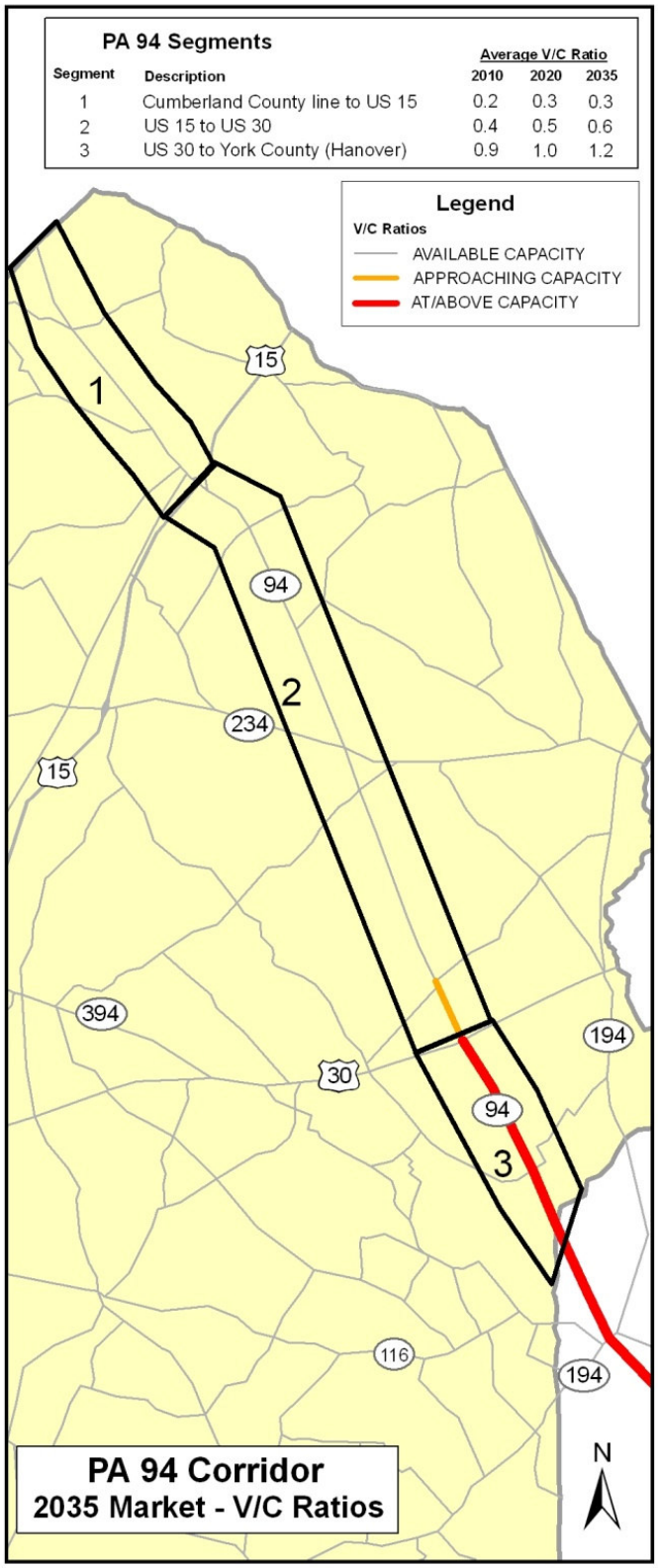

N
1
2
3
4
5
234
194
94
15
394
30
30
PA 234 Segments
Segment Description Average ADT Growth (%) 2010 2020 2035
1 York County Line (E. Berlin) to PA 94 <35 >75 >75
2 PA 94 to US 15 <35 >75 >75
3 US15 to Biglersville Borough <35 35-75 >75
4 Biglersville Borough to S. High St <35 35-75 >75
5 S. High Street (Arendtsville) to US 30 <35 <35 >75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
PA 234 Corridor (Policy)
ADT Growth - 2004 to 2035

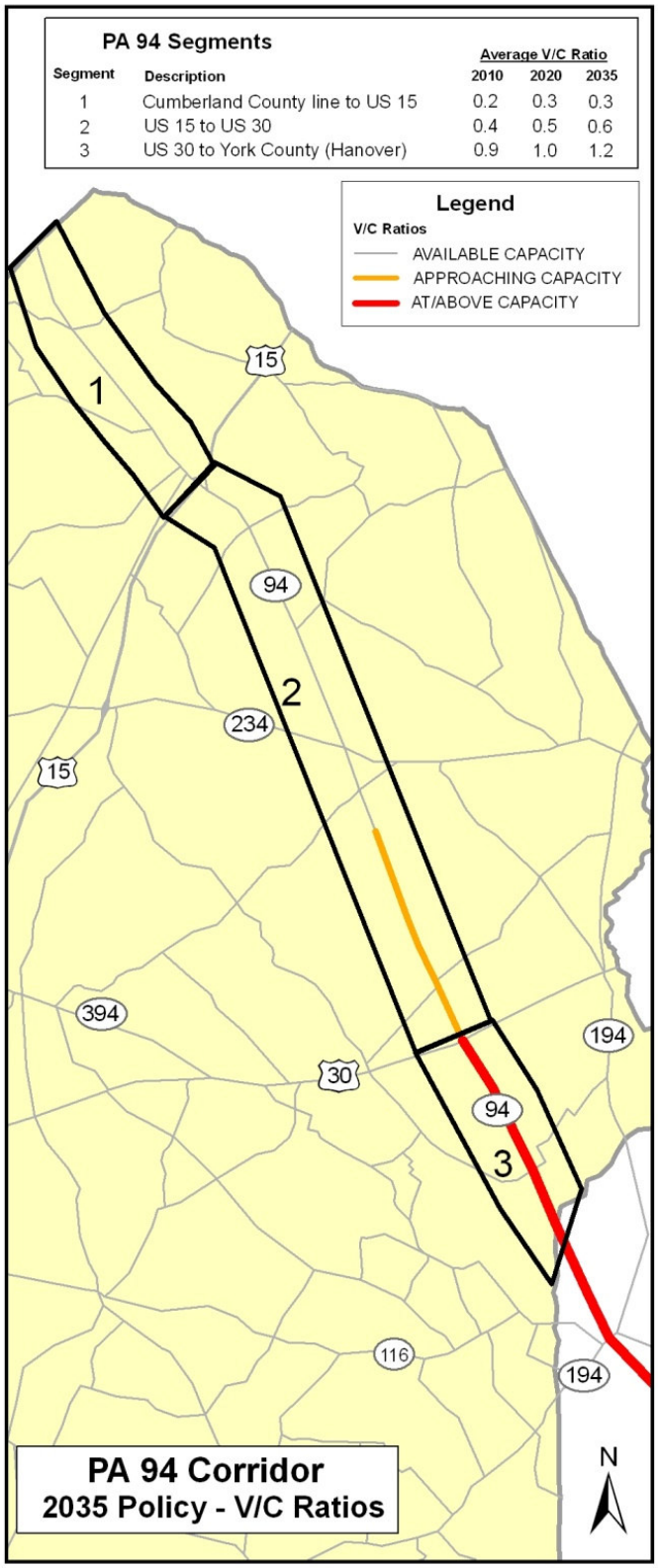

N
1
2
3
4
5
194
94
30
15
234
394
30
PA 234 Segments
Segment Description Average V/C Ratio
2010 2020 2035
1 York County Line (E. Berlin) to PA 94 0.5 0.8 0.9
2 PA 94 to US 15 0.3 0.5 0.6
3 US15 to Biglersville Borough 0.3 0.4 0.4
4 Biglersville Borough to S. High St. 0.3 0.4 0.4
5 S. High Street (Arendtsville) to US 30 0.1 0.1 0.1
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
PA 234 Corridor
2035 Market - V/C Ratios

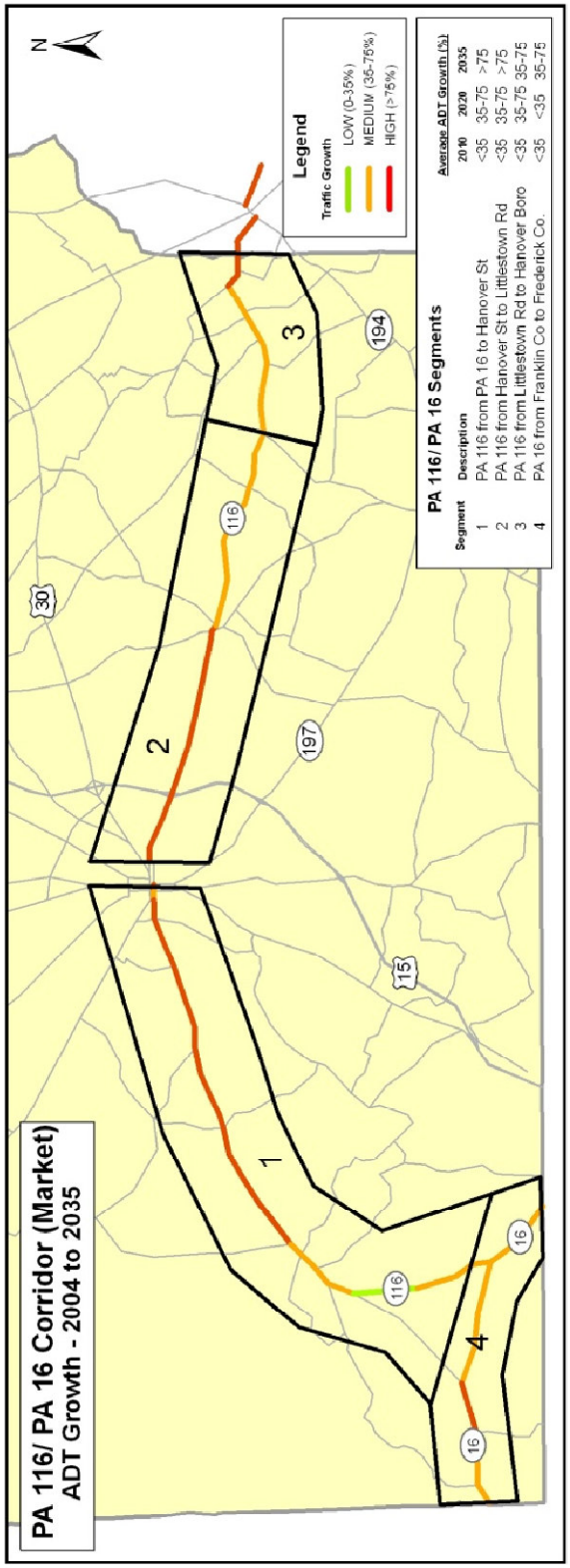

N
1
2
3
4
5
234
94
15
394
30
194
30
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
PA 234 Corridor
2035 Policy - V/C Ratios
PA 234 Segments
Segment Description
1 York County Line (E. Berlin) to PA 94
2 PA 94 to US 15
3 US15 to Biglersville Borough
4 Biglersville Borough to S. High St.
5 S. High Street (Arendtsville) to US 30
Average V/C Ratio
2010 2020 2035
0.5 0.8 0.9
0.3 0.5 0.6
0.3 0.4 0.5
0.3 0.4 0.4
0.1 0.1 0.1

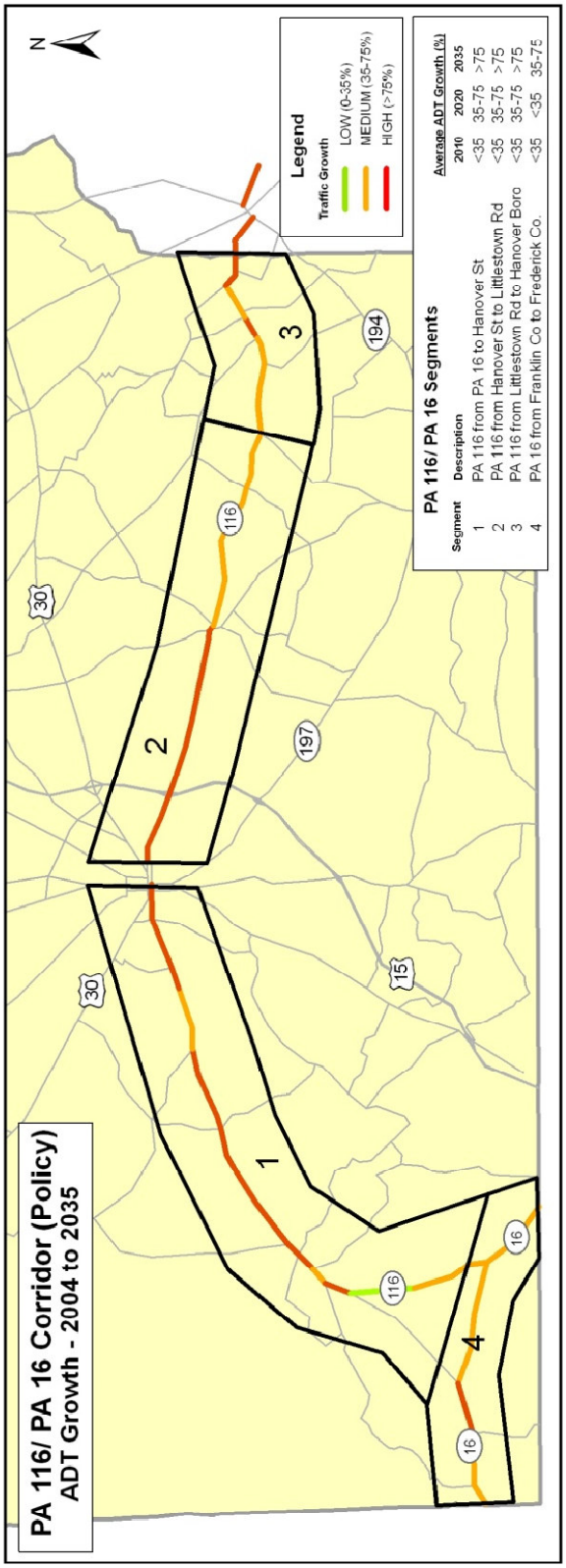

PA 94 Segments
Segment
Description
Average ADT Growth (%)
2010
2020
2035
1
Cumberland County line to US 15
<35
<35
35-75
2
US 15 to US 30
<35
<35
35-75
3
US 30 to York County (Hanover)
<35
<35
35-75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
1
2
3
15
94
234
15
394
30
94
194
116
194
N
PA 94 Corridor (Market)
ADT Growth - 2004 to 2035

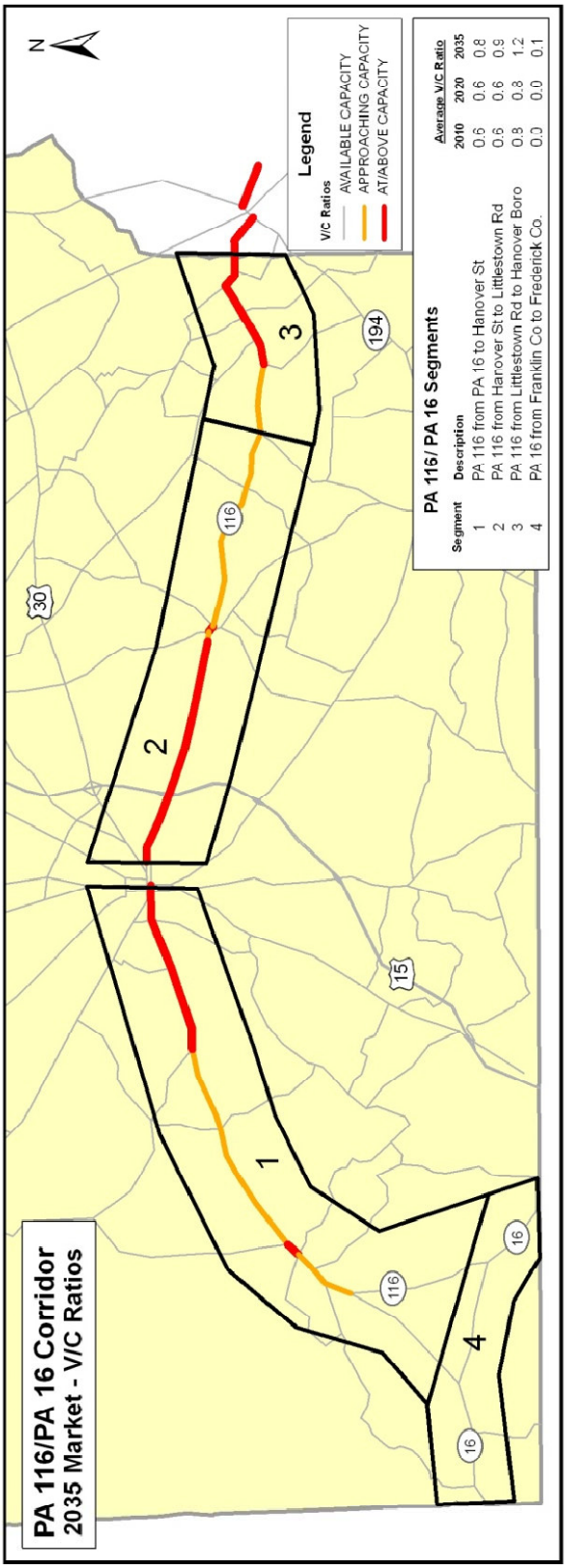

PA 94 Segments
Segment
Description
Average ADT Growth (%)
2010
2020
2035
1 Cumberland County line to US 15 <35 35-75 35-75
2 US 15 to US 30 <35 35-75 35-75
3 US 30 to York County (Hanover) <35 <35 35-75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
1
2
3
15
94
234
394
30
194
116
N
PA 94 Corridor (Policy)
ADT Growth - 2004 to 2035

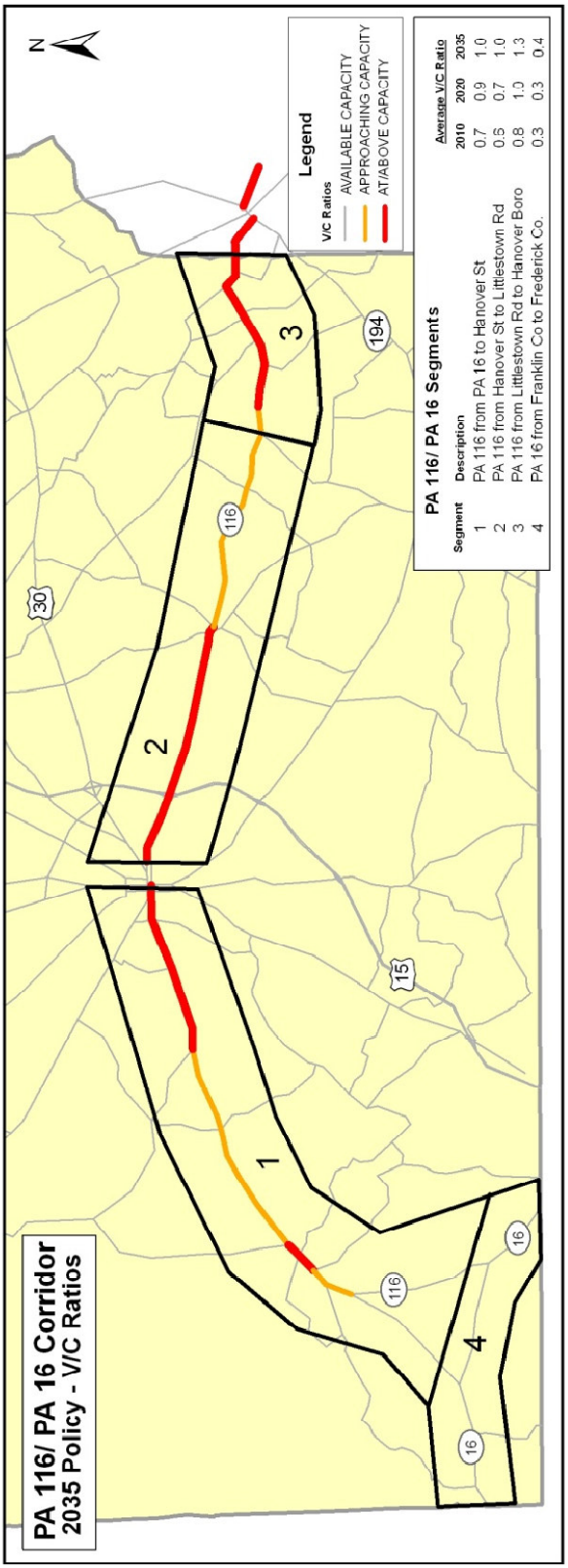

PA 94 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 Cumberland County line to US 15 0.2 0.3 0.3
2 US 15 to US 30 0.4 0.5 0.6
3 US 30 to York County (Hanover) 0.9 1.0 1.2
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
1
2
3
15
94
234
15
394
30
94
194
116
194
N
PA 94 Corridor
2035 Market - V/C Ratios

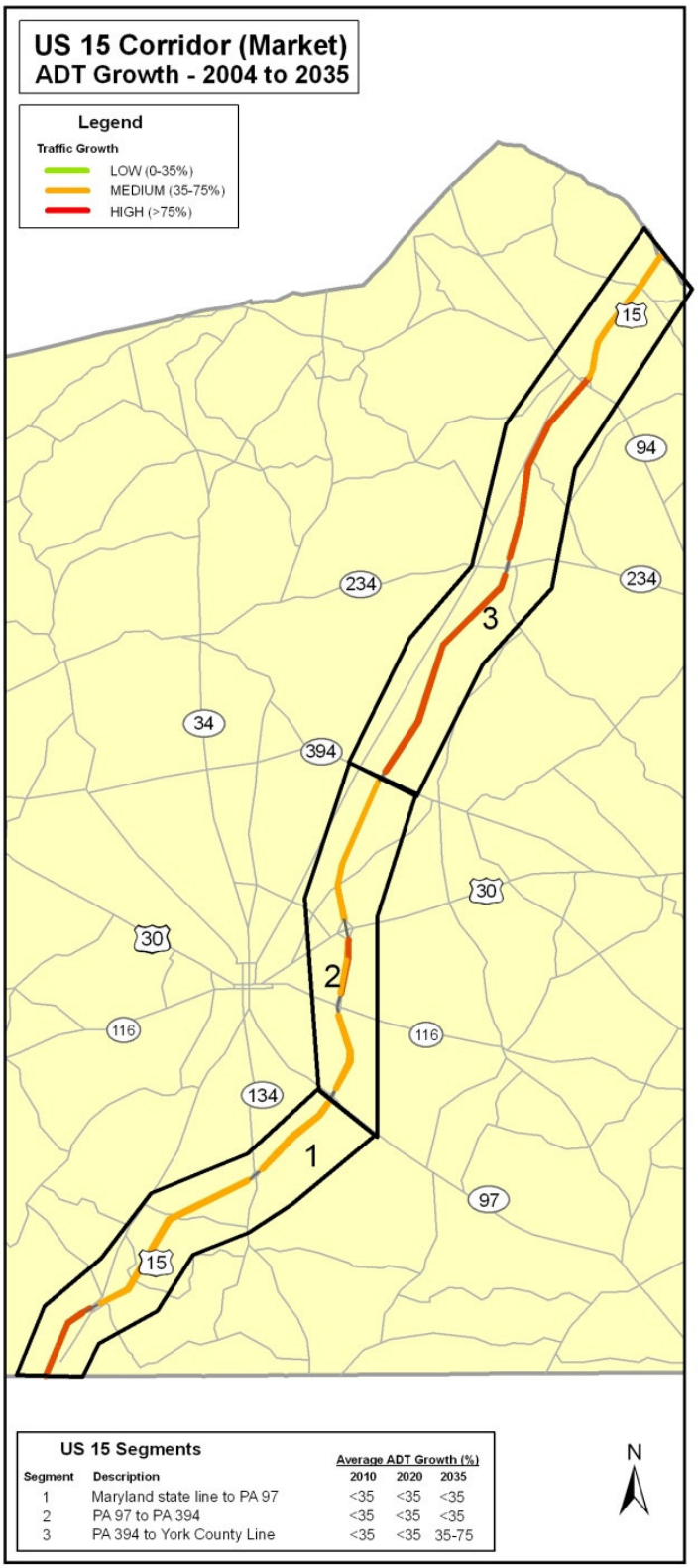

PA 94 Segments
Average V/C Ratio
Segment Description 2010 2020 2035
1 Cumberland County line to US 15 0.2 0.3 0.3
2 US 15 to US 30 0.4 0.5 0.6
3 US 30 to York County (Hanover) 0.9 1.0 1.2
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
1
2
3
15
94
234
15
394
30
94
194
116
194
N
PA 94 Corridor
2035 Policy - V/C Ratios


PA 116/ PA 16 Corridor (Market)
ADT Growth - 2004 to 2035
N
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
PA 116/ PA 16 Segments
Segment Description Average ADT Growth (%) 2010 2020 2035
1 PA 116 from PA 16 to Hanover St <35 35-75 >75
2 PA 116 from Hanover St to Littlestown Rd <35 35-75 >75
3 PA 116 from Littlestown Rd to Hanover Boro <35 35-75 35-75
4 PA 16 from Franklin Co to Frederick Co. <35 <35 35-75
1
2
3
4
116
16
30
15
194
197


PA 116/ PA 16 Corridor (Policy)
ADT Growth - 2004 to 2035
N
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
PA 116/ PA 16 Segments
Segment Description Average ADT Growth (%) 2010 2020 2035
1 PA 116 from PA 16 to Hanover St <35 35-75 >75
2 PA 116 from Hanover St to Littlestown Rd <35 35-75 >75
3 PA 116 from Littlestown Rd to Hanover Boro <35 35-75 >75
4 PA 16 from Franklin Co to Frederick Co. <35 <35 35-75
1
2
3
4
30
30
116
116
197
194
15
16
16

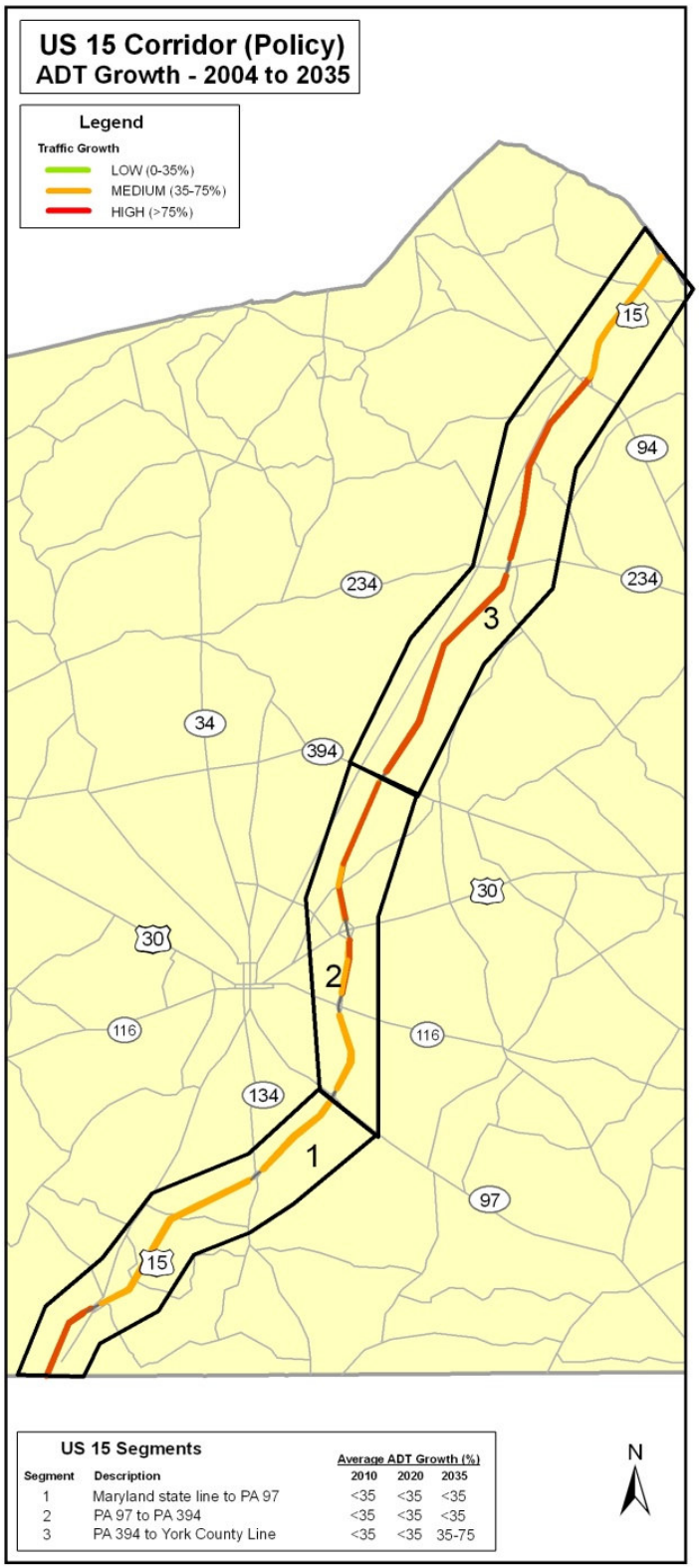

PA 116/PA 16 Corridor
2035 Market - V/C Ratios
N
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
PA 116/ PA 16 Segments
Segment Description Average V/C Ratio
2010 2020 2035
1 PA 116 from PA 16 to Hanover St 0.6 0.6 0.8
2 PA 116 from Hanover St to Littlestown Rd 0.6 0.6 0.9
3 PA 116 from Littlestown Rd to Hanover Boro 0.8 0.8 1.2
4 PA 16 from Franklin Co to Frederick Co. 0.0 0.0 0.1
1
2
3
4
116
30
15
194
16


PA 116/ PA 16 Corridor
2035 Policy - V/C Ratios
N
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
PA 116/ PA 16 Segments
Segment Description Average V/C Ratio
2010 2020 2035
1 PA 116 from PA 16 to Hanover St 0.7 0.9 1.0
2 PA 116 from Hanover St to Littlestown Rd 0.5 0.7 1.0
3 PA 116 from Littlestown Rd to Hanover Boro 0.8 1.0 1.3
4 PA 16 from Franklin Co to Frederick Co. 0.3 0.3 0.4
1
2
3
4
30
15
194
116
16



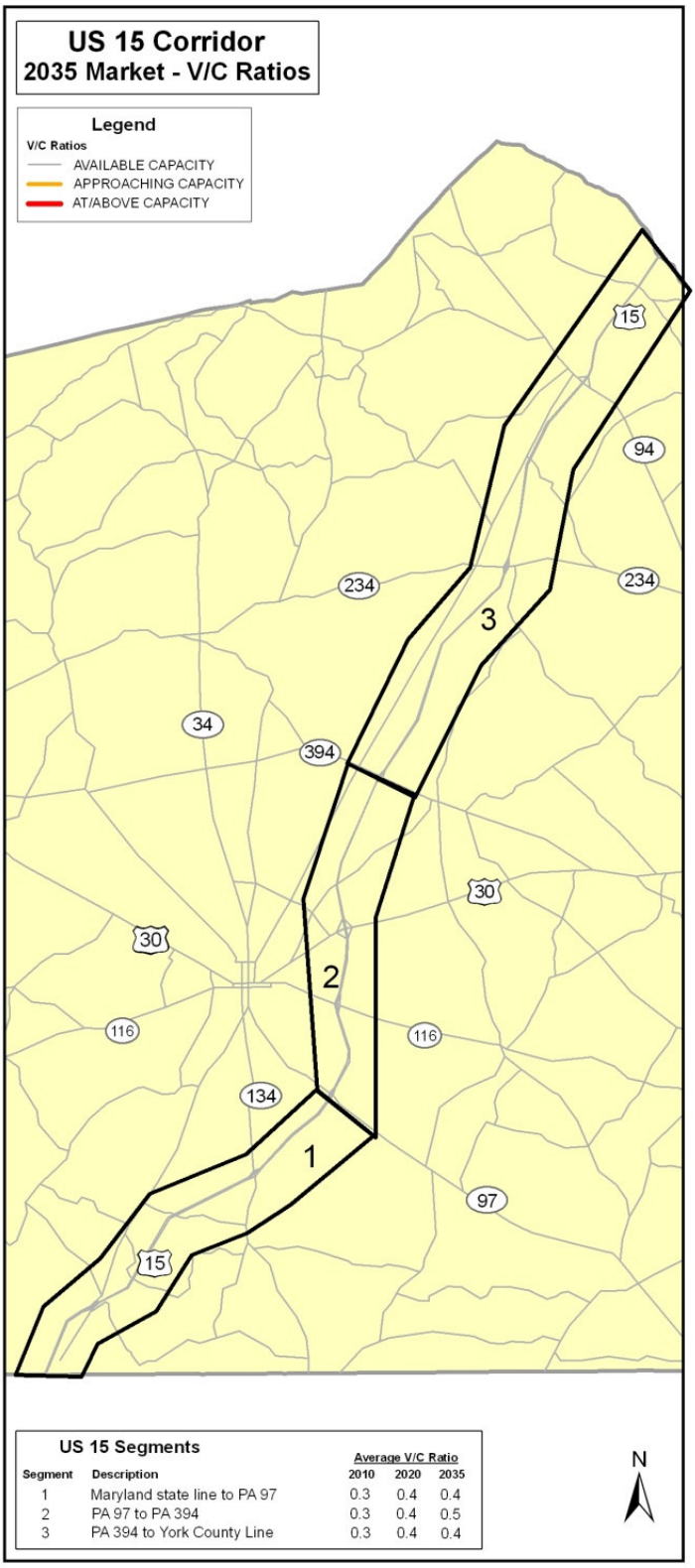
US 15 Segments

Segment	Description	Average ADT Growth (%) 2010	2020	2035
1	Maryland state line to PA 97	<35	<35	<35
2	PA 97 to PA 394	<35	<35	<35
3	PA 394 to York County Line	<35	<35	35-75



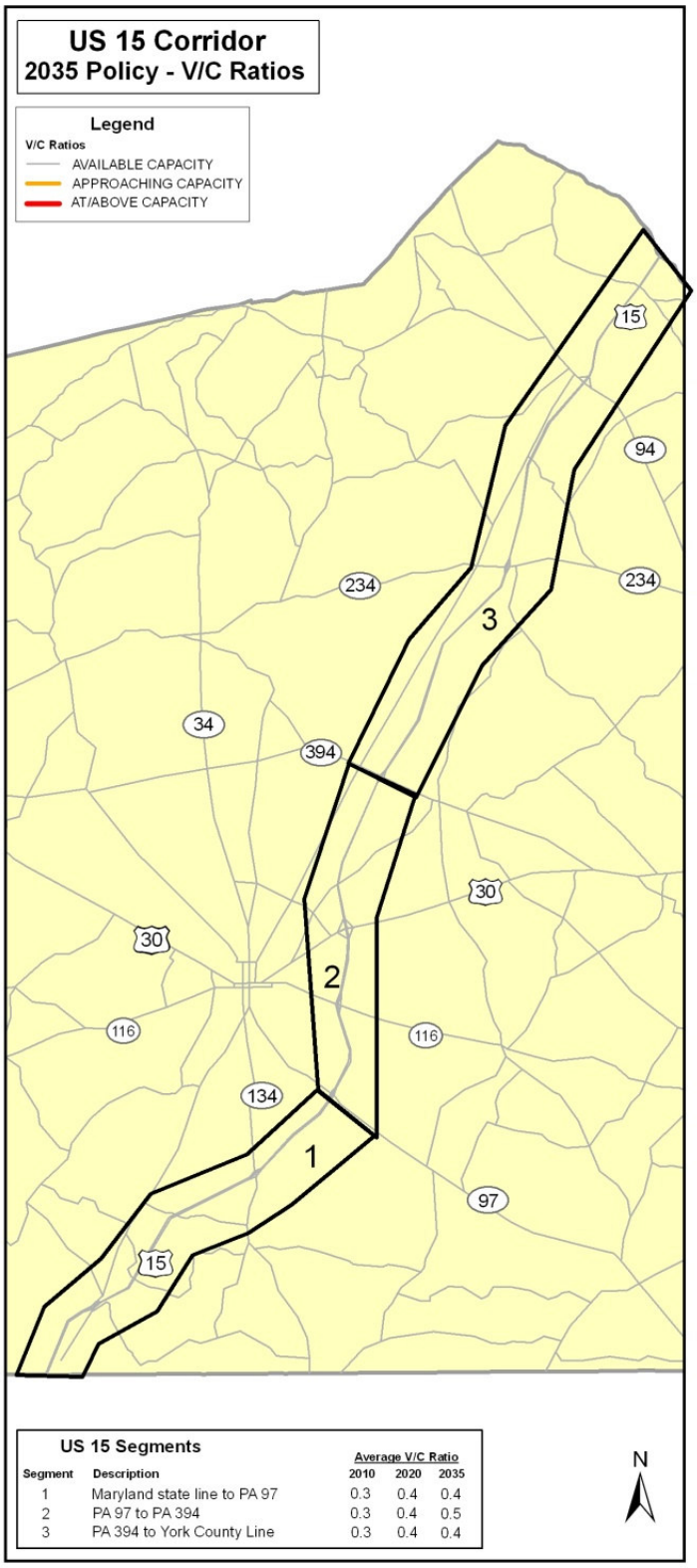
US 15 Segments

Segment	Description	Average ADT Growth (%) 2010	2020	2035
1	Maryland state line to PA 97	<35	<35	<35
2	PA 97 to PA 394	<35	<35	<35
3	PA 394 to York County Line	<35	<35	35-75



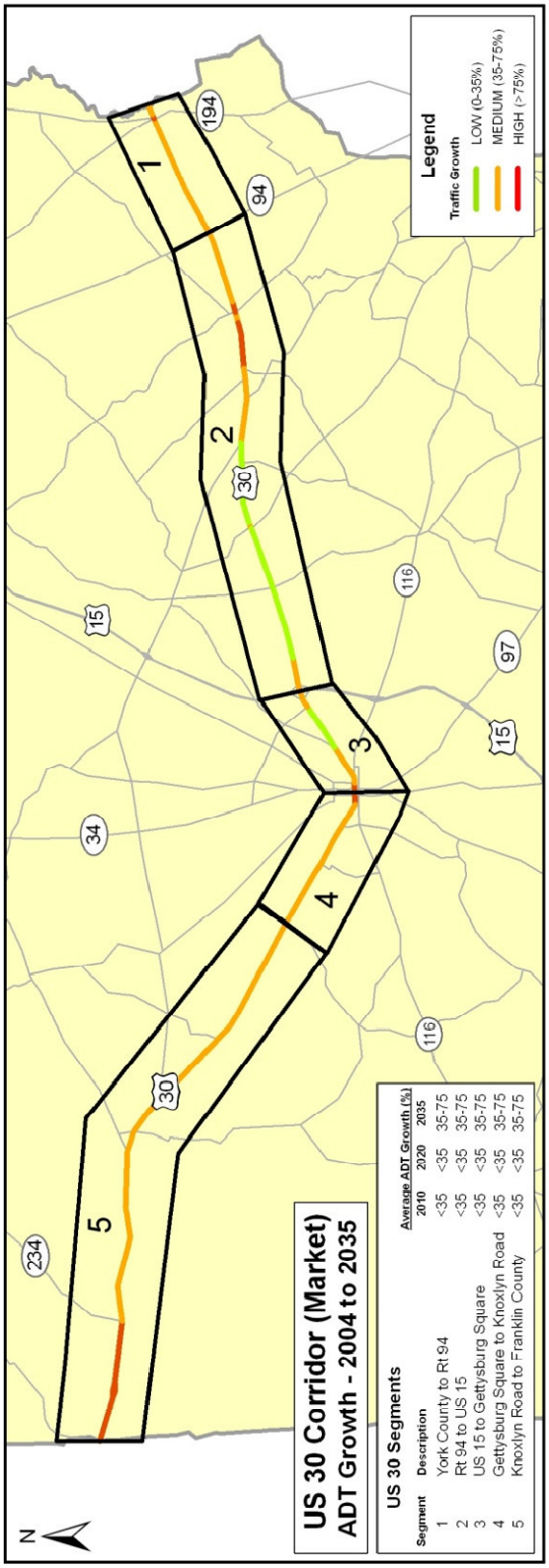
US 15 Segments

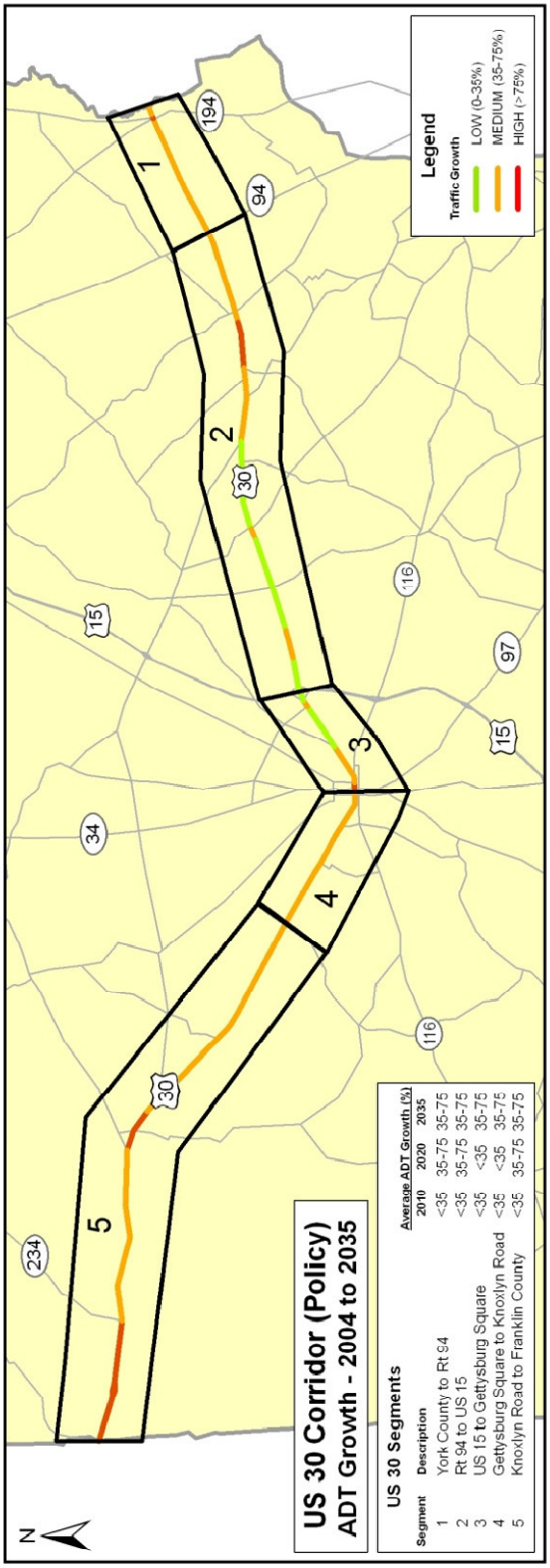
Segment	Description	Average V/C Ratio 2010	2020	2035
1	Maryland state line to PA 97	0.3	0.4	0.4
2	PA 97 to PA 394	0.3	0.4	0.5
3	PA 394 to York County Line	0.3	0.4	0.4

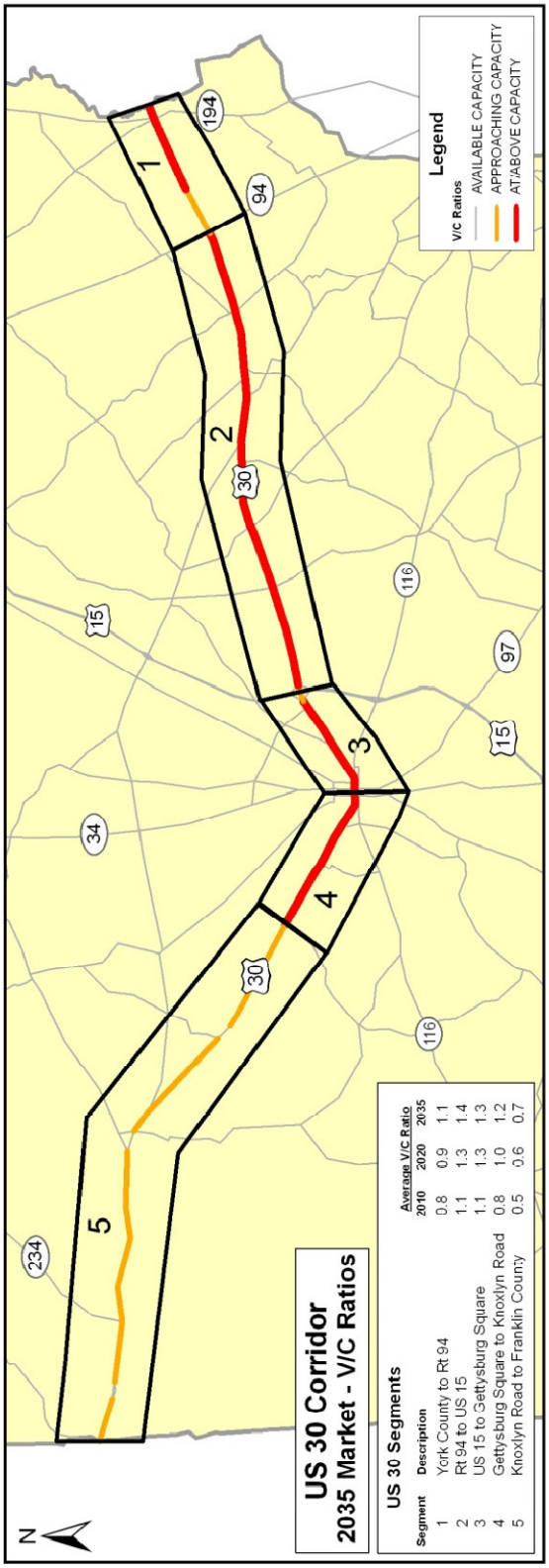


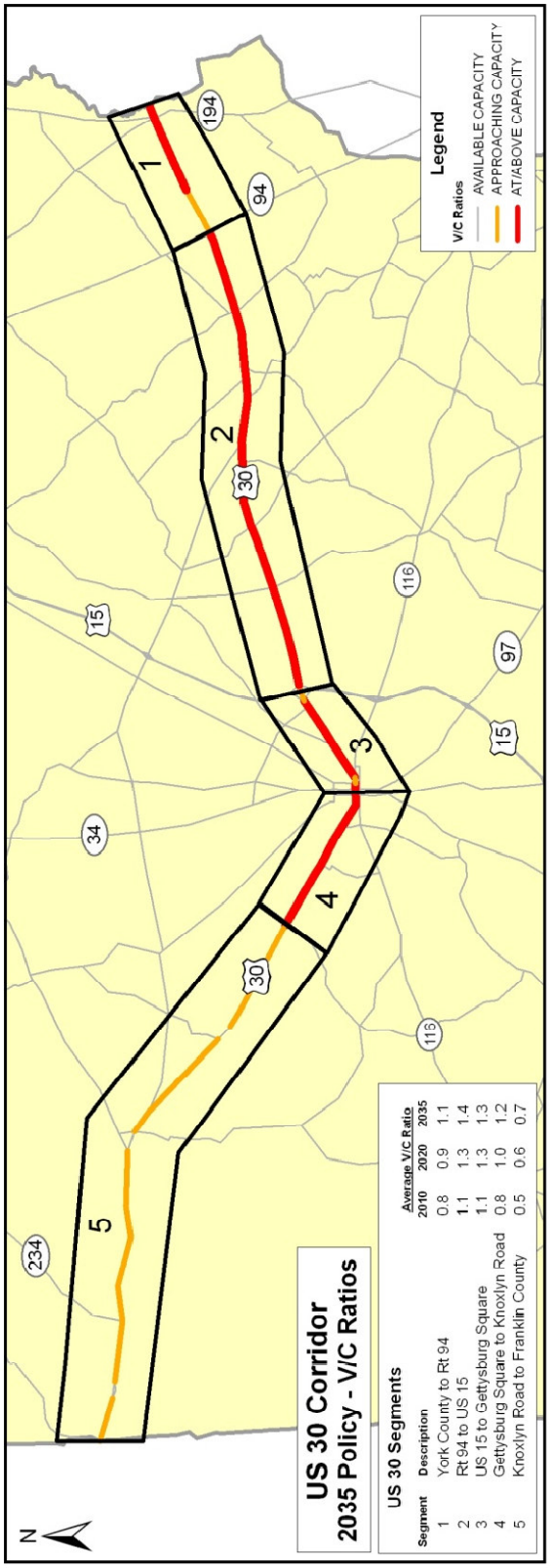
US 15 Segments

Segment	Description	Average V/C Ratio 2010	2020	2035
1	Maryland state line to PA 97	0.3	0.4	0.4
2	PA 97 to PA 394	0.3	0.4	0.5
3	PA 394 to York County Line	0.3	0.4	0.4


N
US 30 Corridor (Market)
ADT Growth - 2004 to 2035
US 30 Segments
Segment Description Average ADT Growth (%) 2010 2020 2035
1 York County to Rt 94 <35 <35 35-75
2 Rt 94 to US 15 <35 <35 35-75
3 US 15 to Gettysburg Square <35 <35 35-75
4 Gettysburg Square to Knoxlyn Road <35 <35 35-75
5 Knoxlyn Road to Franklin County <35 <35 35-75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
1
2
3
4
5
194
94
30
116
15
97
34
234


N
US 30 Corridor (Policy)
ADT Growth - 2004 to 2035
US 30 Segments
Segment Description Average ADT Growth (%) 2010 2020 2035
1 York County to Rt 94 <35 35-75 35-75
2 Rt 94 to US 15 <35 35-75 35-75
3 US 15 to Gettysburg Square <35 <35 35-75
4 Gettysburg Square to Knoxlyn Road <35 <35 35-75
5 Knoxlyn Road to Franklin County <35 35-75 35-75
Legend
Traffic Growth
LOW (0-35%)
MEDIUM (35-75%)
HIGH (>75%)
1
2
3
4
5
194
94
30
15
116
97
34
234

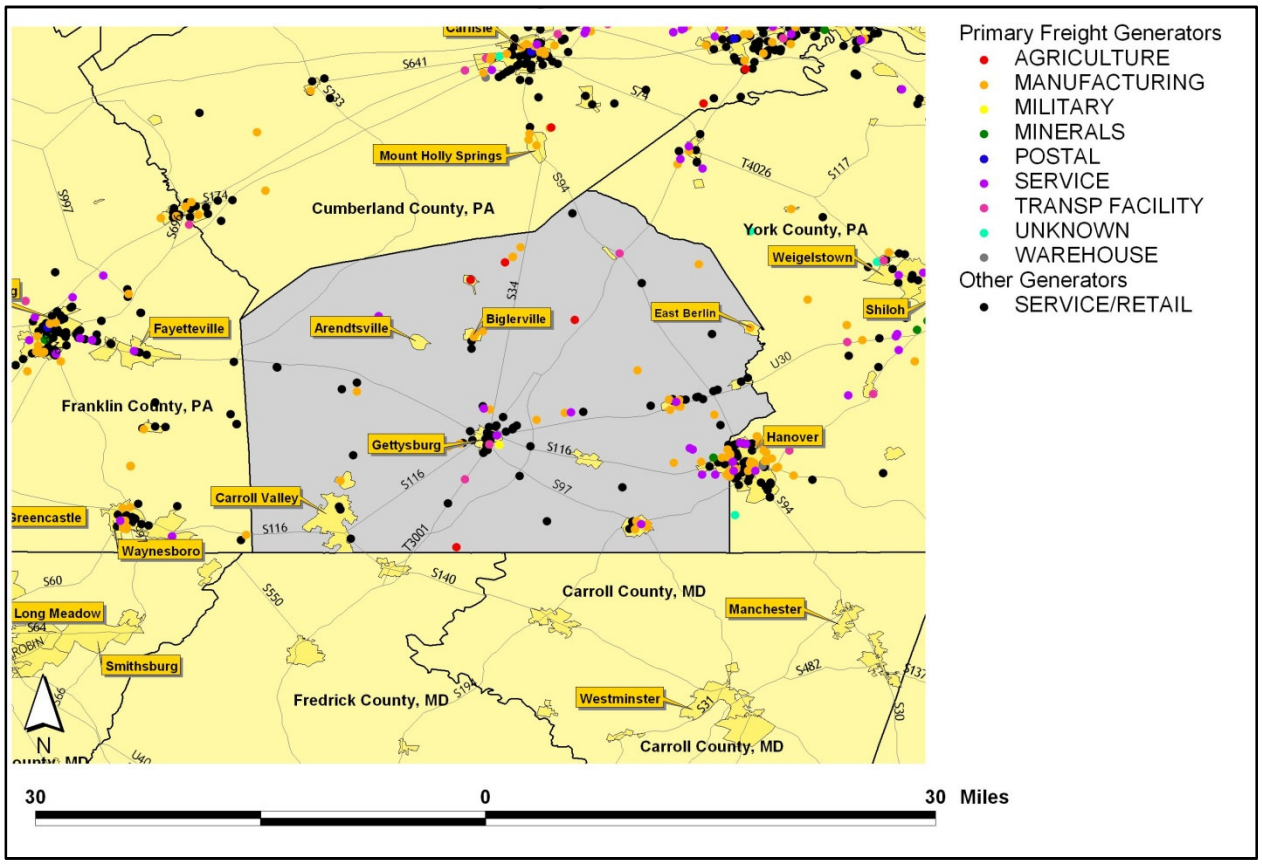

N
US 30 Corridor
2035 Market - V/C Ratios
US 30 Segments
Segment Description Average V/C Ratio
2010 2020 2035
1 York County to Rt 94 0.8 0.9 1.1
2 Rt 94 to US 15 1.1 1.3 1.4
3 US 15 to Gettysburg Square 1.1 1.3 1.3
4 Gettysburg Square to Knoxlyn Road 0.8 1.0 1.2
5 Knoxlyn Road to Franklin County 0.5 0.6 0.7
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
1
2
3
4
5
194
94
30
116
97
15
115
34
234


N
US 30 Corridor
2035 Policy - V/C Ratios
US 30 Segments
Segment Description Average V/C Ratio 2010 2020 2035
1 York County to Rt 94 0.8 0.9 1.1
2 Rt 94 to US 15 1.1 1.3 1.4
3 US 15 to Gettysburg Square 1.1 1.3 1.3
4 Gettysburg Square to Knoxlyn Road 0.8 1.0 1.2
5 Knoxlyn Road to Franklin County 0.5 0.6 0.7
Legend
V/C Ratios
AVAILABLE CAPACITY
APPROACHING CAPACITY
AT/ABOVE CAPACITY
1
2
3
4
5
194
94
30
116
97
15
34
234

VII. TRUCK TRAFFIC AND FREIGHT MOVEMENT

Much work has been done at state and regional levels to address important goods movement issues, including completion of the Harrisburg Area Transportation Study (HATS) organization South Central Pennsylvania Regional Goods Movement Study and the development of PennDOT's Statewide Travel Demand and Freight Models. As the region and state continues to develop its goods movement initiatives, the integrity of county-wide and local processes must be maintained while informing the larger state and national goods movement picture. This section describes the nature and movement of freight (Figure 7-1) as it applies to Adams County and its potential impact in the future.

Figure 7-1: *Primary freight truck generators in Adams County and surrounding areas*



Goods movement is critical for the growth and vitality of the manufacturing, service/retail, and all other industries that serve as Adams County's economic engine. A total of 7.5 million tons worth an estimated $11.7 billion originate from or are destined for the county each year. Adams County goods are primarily generated by businesses and the population of Gettysburg and the Hanover area. Other regional service, agricultural, and manufacturing clusters in northern and eastern portions of the county round out the freight moved to, from, and throughout the Adams County.

Adams County is a net exporter of goods meaning that it ships more than it receives in terms of total tonnage (Figure 7-2). The primary outbound movement from the county is nonmetallic minerals, where the Adams receives more farm products than any other commodity (Figure 7-3). The minerals extracted and shipped from Adams County include basalt, limestone, and traprock. The farm products imported (Figure 7-3) include raw materials for manufacturing and agriculture such as cotton and feed as well as consumer products such as fresh vegetables and grains.

Figure 7-2: *Adams County Long-Haul Tonnage by Type, 2003*

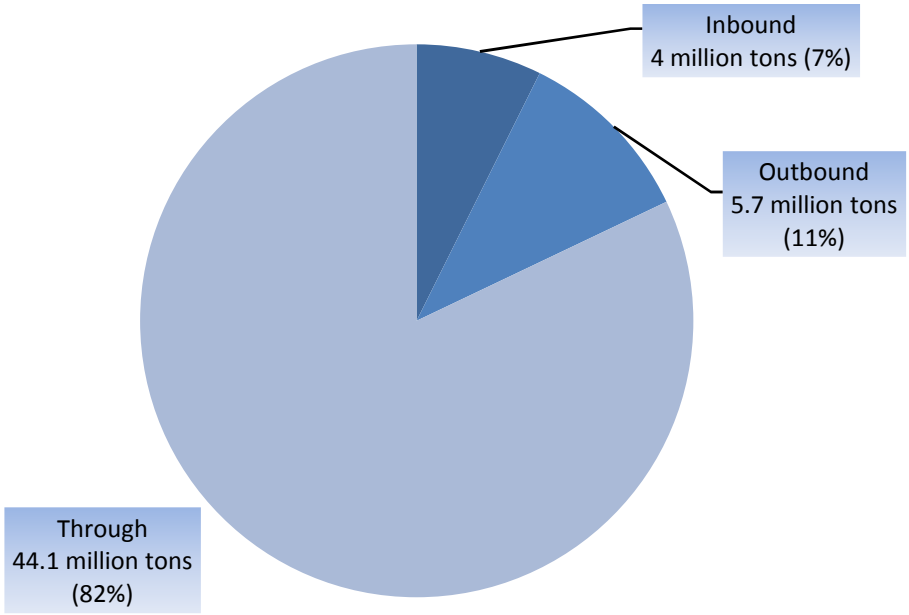
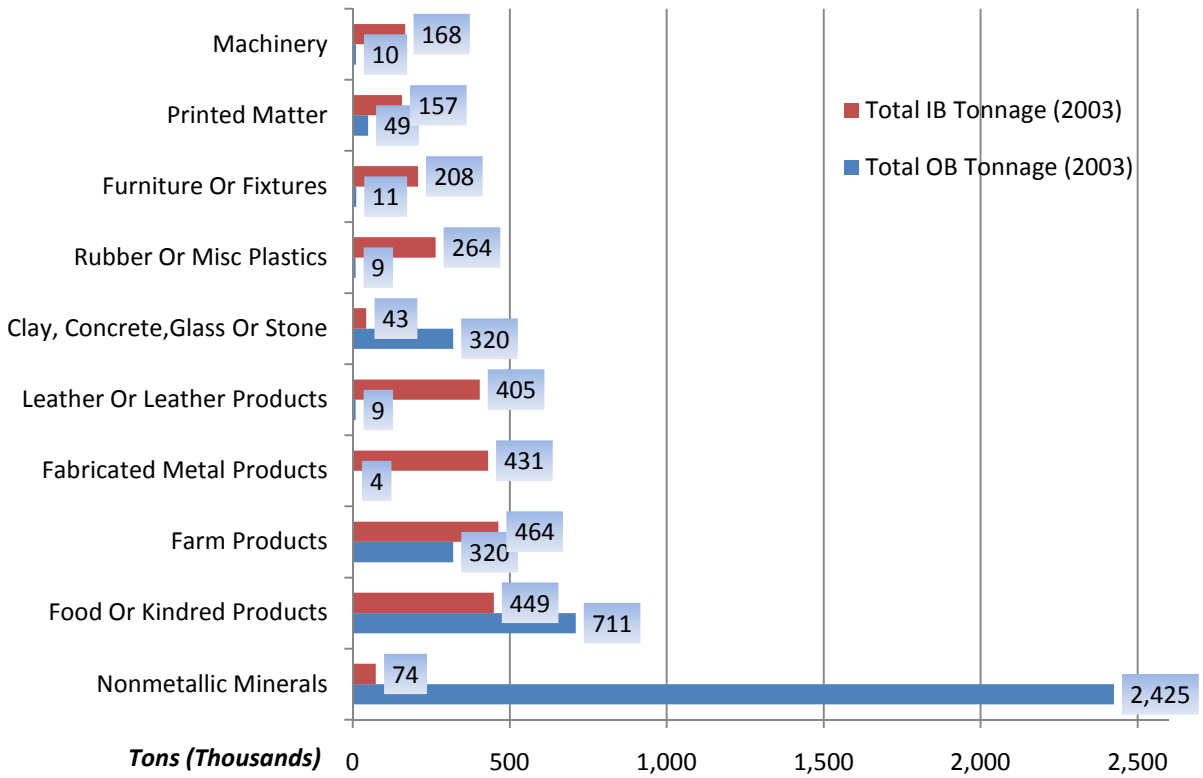


Figure 7-3: *Top 10 Commodities Inbound and Outbound by Total Tonnage (2003)*



In terms of value, the goods flowing into the county are two and a half times more valuable than those outbound. This is a result of the more valuable consumer products being shipped in from elsewhere compared to the primarily lesser value raw materials generated within Adams County and destined for other regions throughout the country.

Eighty-five percent of all goods movements in the county are through, meaning that they have no origin or destination in Adams. Though they do not contribute to the county's economy, they do have a significant impact on transportation congestion and infrastructure capacity and condition.

Most single origin inbound movements (Figures 7-4 and 7-5) originate within 500 miles of Adams County with the regions in and around Philadelphia, Washington, DC, and New York topping the list. The values of these goods are generally in line with the total tonnage. Outbound movements (Figures 7-6 and 7-7) are destined for similar trading partners with Washington, DC, State College, and New York being the primary destinations in terms of total tonnage.

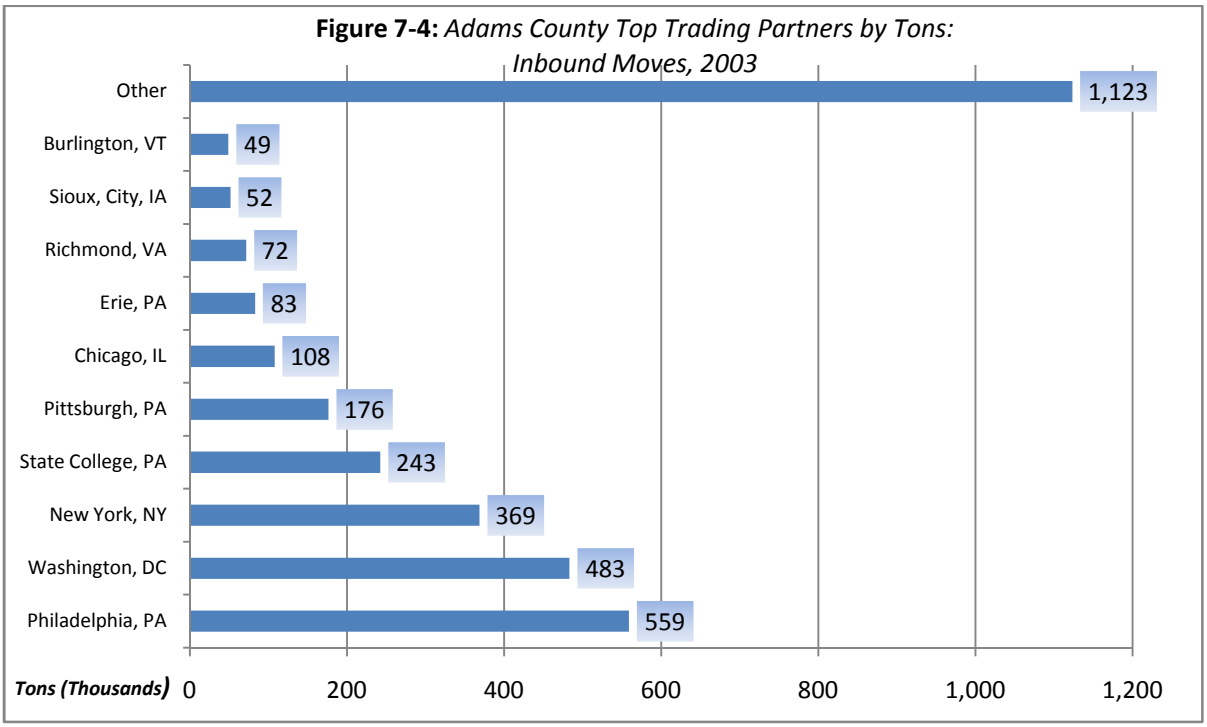


Figure 7-4: *Adams County Top Trading Partners by Tons: Inbound Moves, 2003*

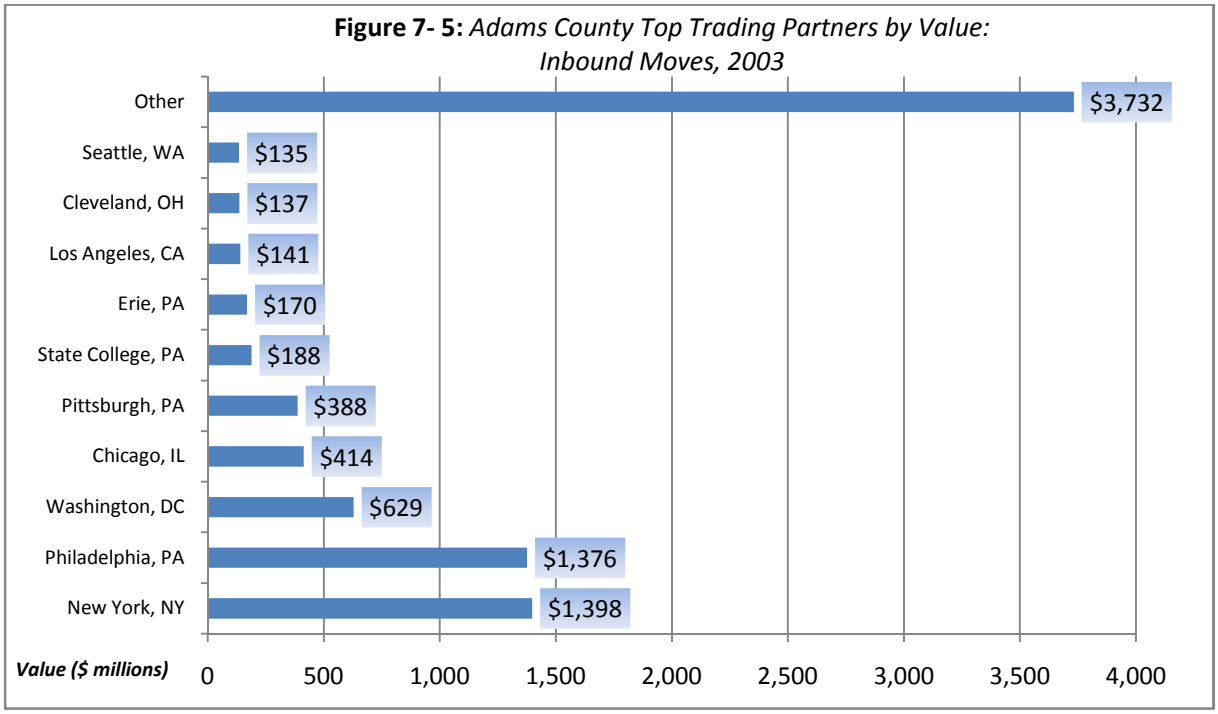


Figure 7- 5: *Adams County Top Trading Partners by Value: Inbound Moves, 2003*

Figure 7-6: *Adams County Top Trading Partners by Tonnage: Outbound Moves, 2003*

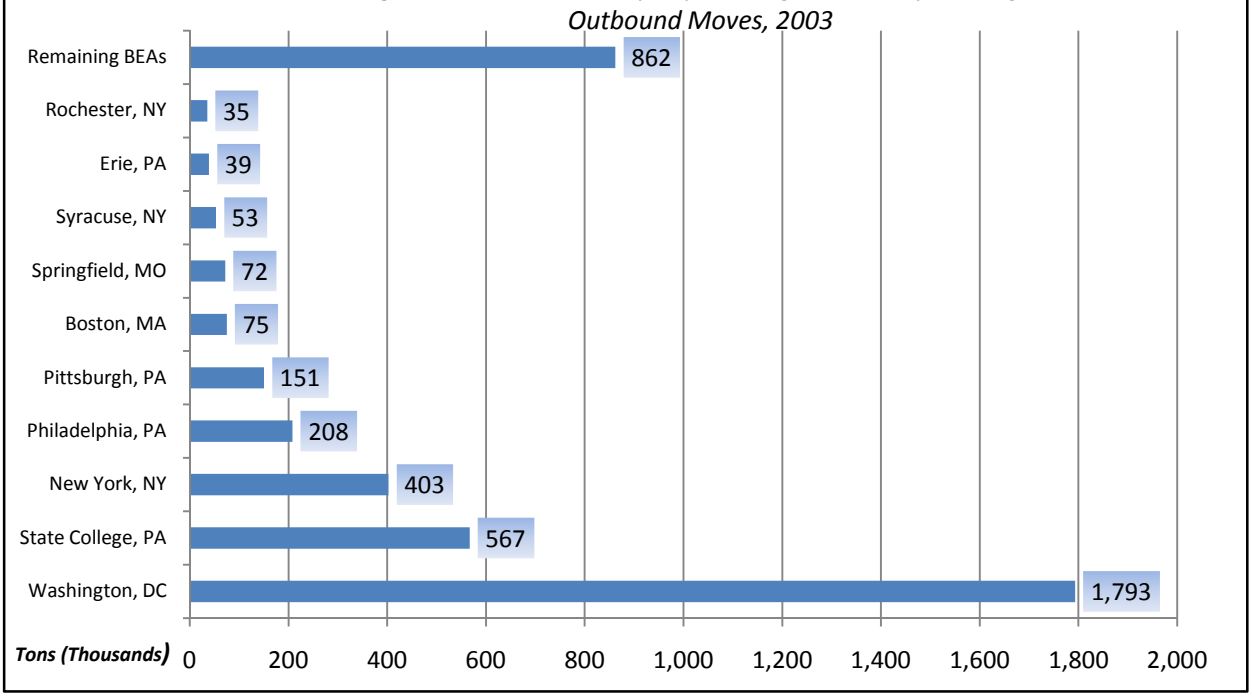
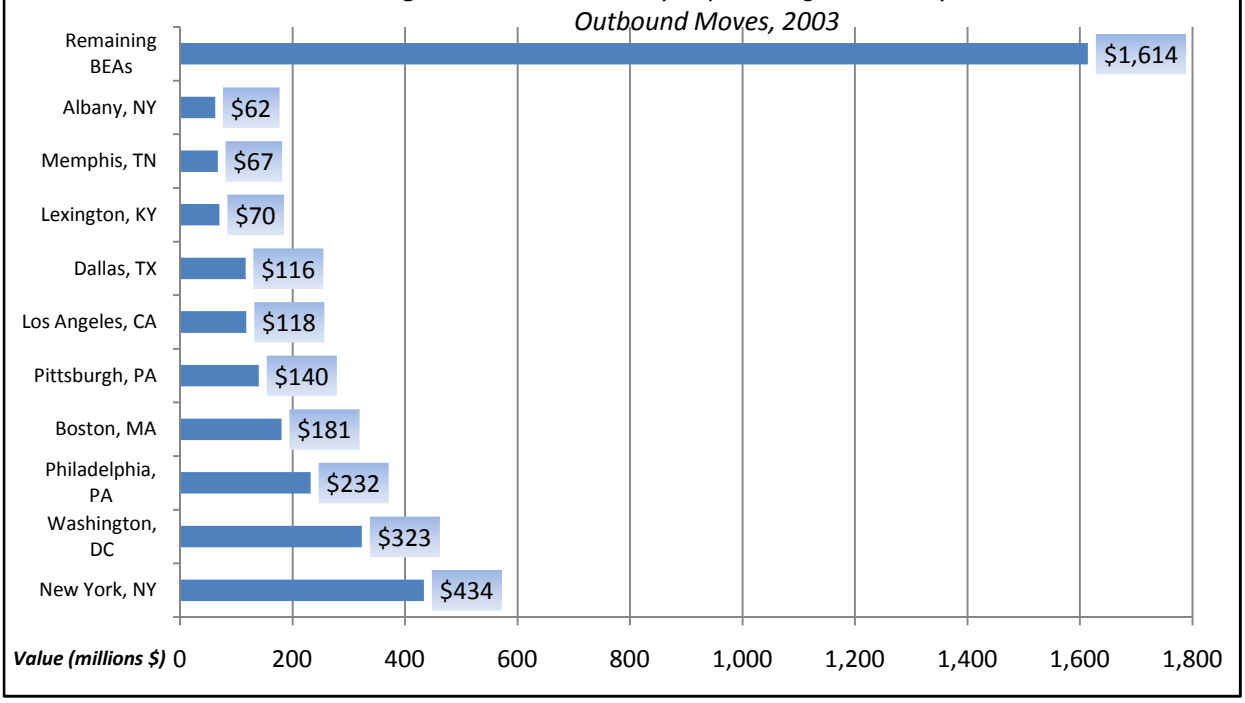


Figure 7-7: *Adams County Top Trading Partners by Value: Outbound Moves, 2003*



As expected, due to the size and extent of the road and rail transportation infrastructure in the county, trucks are the primary conveyance of goods to, from, and through the county. The growth in goods movements are expected to be accommodated by trucks (Figures 7-8 and 7-9) with rail movements remaining relatively steady to the year 2030.

Figure 7-8: *Average Daily Long-Haul Trucks in Adams County*

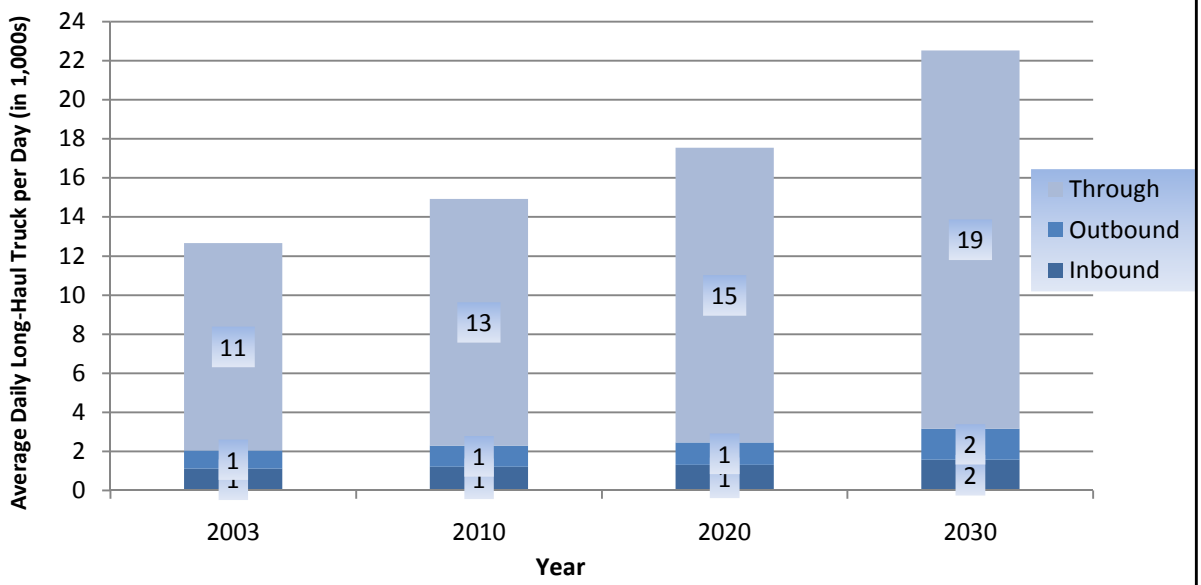
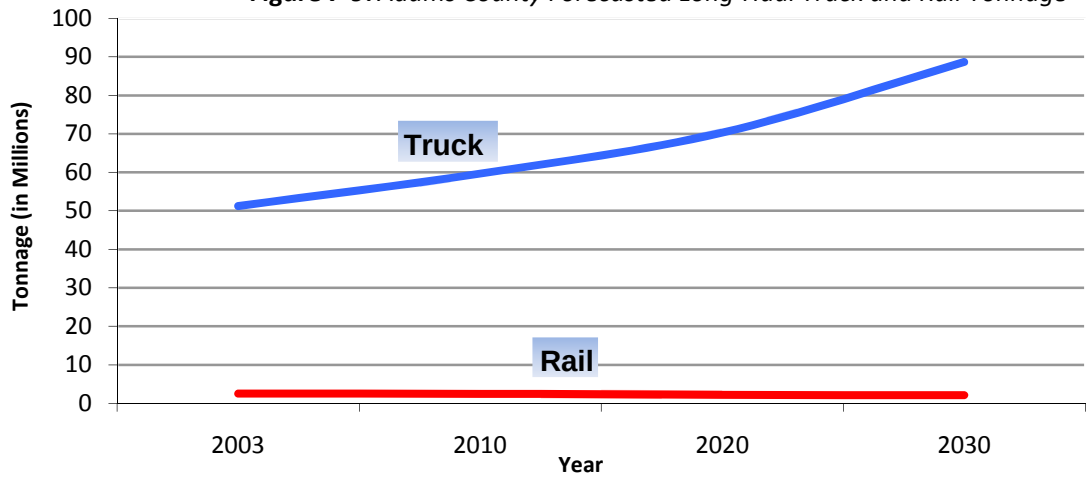


Figure 7-9: *Adams County Forecasted Long-Haul Truck and Rail Tonnage*



As expected the current routes for this traffic are US 15 and US 30, with local routes serving as collectors for longer movements. These roadways are expected to continue to handle this traffic to the year 2030 and beyond.

Freight movement is critical to the economy of the county and is a significant consideration in land use, transportation, and site planning. The implications for the county and its transportation system include but are not limited to:

- Air quality
- Congestion Management
- Economic Development
- Environmental Justice
- Highway Access
- Infrastructure Improvements and Design
- Land Use
- Smart Growth
- Truck Routes

Future planning efforts at the regional, county, or local level should consider these implications as it relates to freight movement to ensure sustainable development throughout the county.

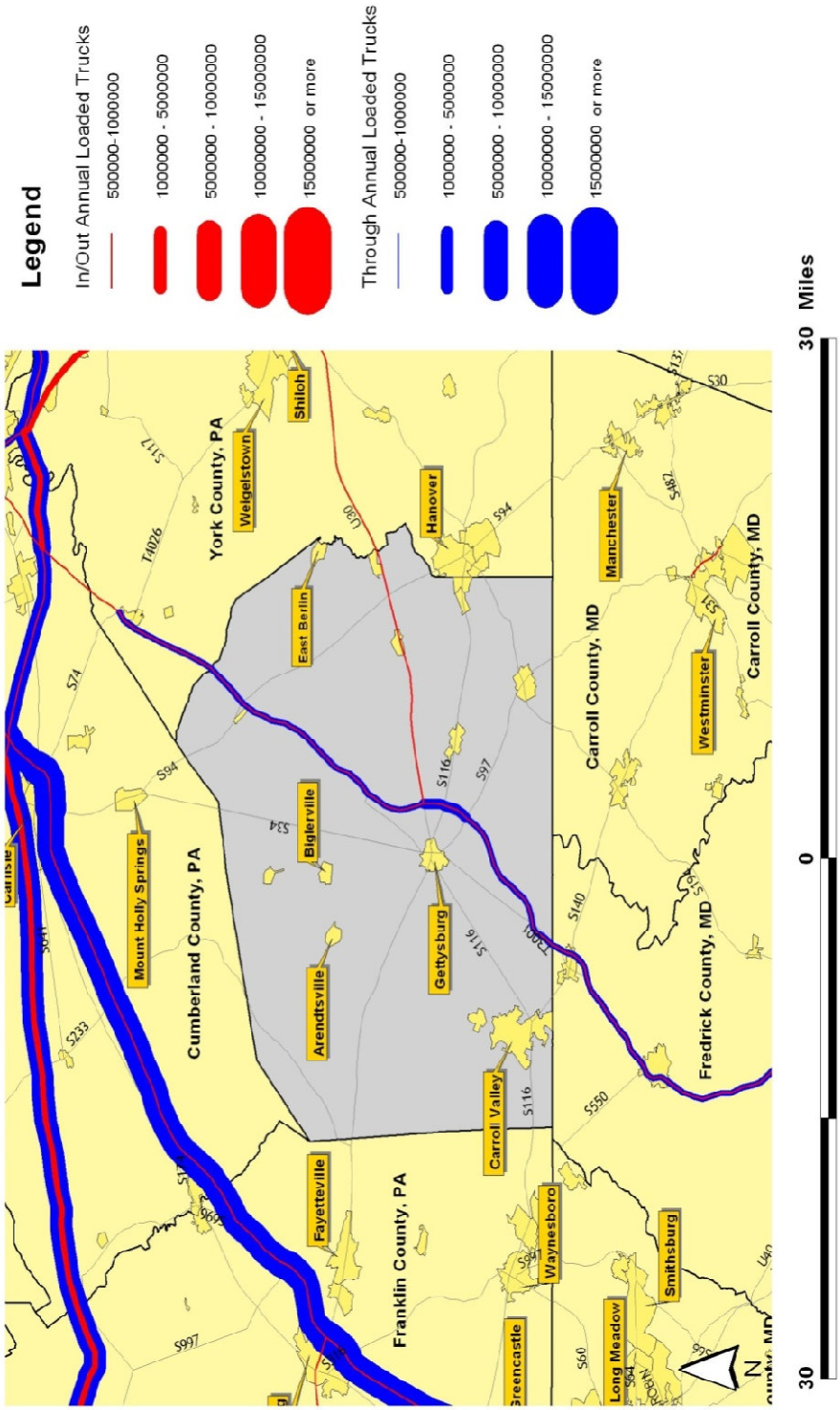
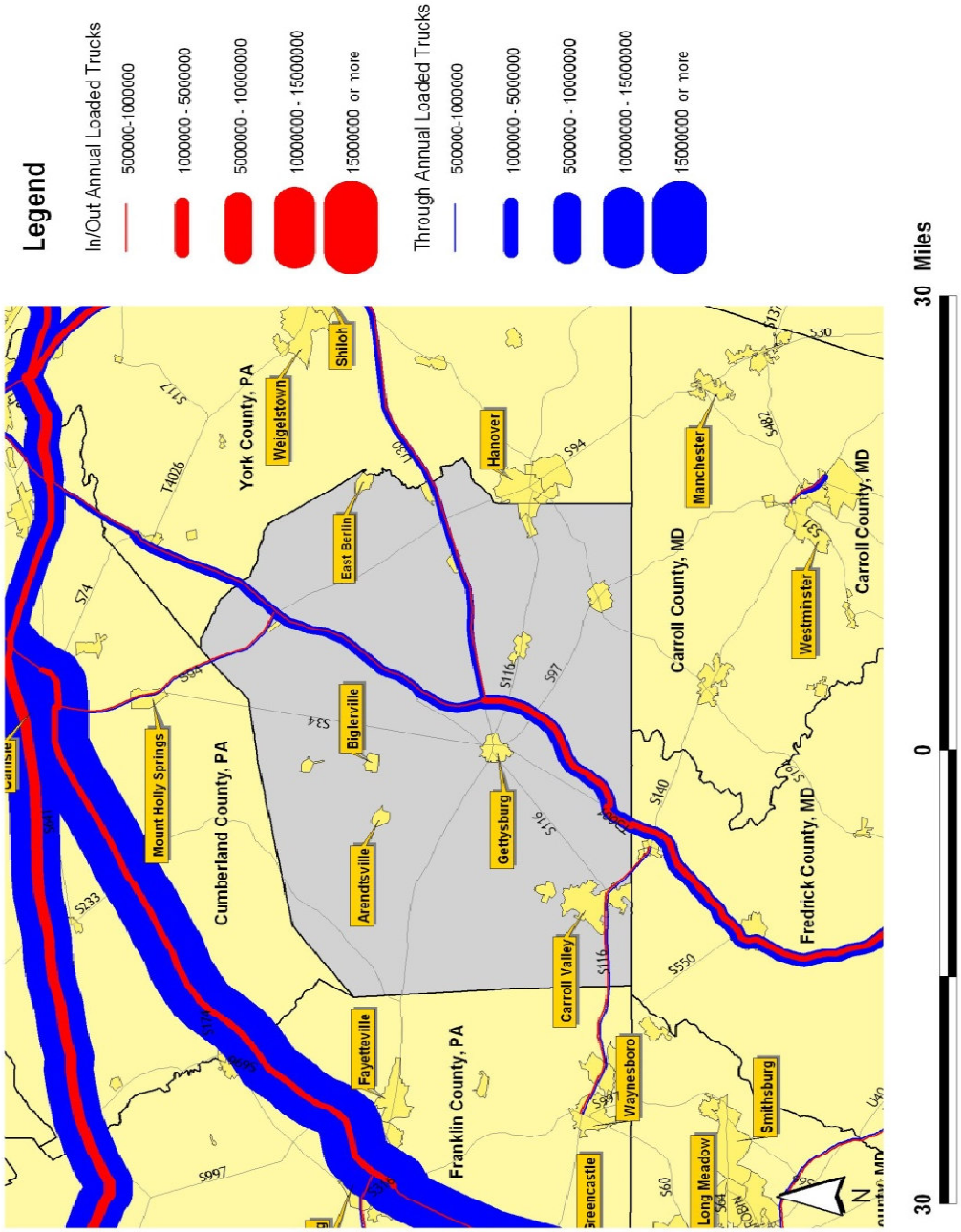


Figure 7-10: *Adams County 2003 Countywide truck movements by roadway corridor*

Figure 7-11: *Adams County 2030 Countywide truck movements by roadway corridor*



II. APPENDICES

Table 1: Average daily traffic volume by planning area for the policy scenario

POLICY				
	2004	**2010**	**2020**	**2035**
Northwest	549,100	578,100	779,800	898,700
Northeast	650,200	728,900	1,019,900	1,202,700
Southeast	319,400	364,500	484,700	561,700
Central	1,883,700	2,132,000	3,061,900	3,574,200
East	1,116,400	1,294,500	1,673,400	1,980,600
Southeast	290,400	327,000	443,900	517,900
Percent Growth				
Northwest	0.0%	5.3%	34.9%	15.2%
Northeast	0.0%	12.1%	39.9%	17.9%
Southeast	0.0%	14.1%	33.0%	15.9%
Central	0.0%	13.2%	43.6%	16.7%
East	0.0%	16.0%	29.3%	18.4%
Southeast	0.0%	12.6%	35.7%	16.7%
ANNUAL Percent Growth				
Northwest	0.0%	1.1%	3.5%	1.0%
Northeast	0.0%	2.4%	4.0%	1.2%
Southeast	0.0%	2.8%	3.3%	1.1%
Central	0.0%	2.6%	4.4%	1.1%
East	0.0%	3.2%	2.9%	1.2%
Southeast	0.0%	2.5%	3.6%	1.1%

Table 2: Average daily traffic volume by planning area for the market scenario

MARKET				
	2004	**2010**	**2020**	**2035**
Northwest	549,100	574,000	784,700	910,600
Northeast	650,200	719,000	1,018,100	1,210,900
Southeast	319,400	359,100	498,100	594,600
Central	1,883,700	2,149,200	3,166,600	3,780,800
East	1,116,400	1,292,000	1,641,400	1,927,300
Southeast	290,400	323,700	430,100	499,400
Percent Growth				
Northwest	0	4.5%	36.7%	16.0%
Northeast	0	10.6%	41.6%	18.9%
Southeast	0	12.4%	38.7%	19.4%
Central	0	14.1%	47.3%	19.4%
East	0	15.7%	27.0%	17.4%
Southeast	0	11.5%	32.9%	16.1%
ANNUAL Percent Growth				
Northwest	0	0.9%	3.7%	1.1%
Northeast	0	2.1%	4.2%	1.3%
Southeast	0	2.5%	3.9%	1.3%
Central	0	2.8%	4.7%	1.3%
East	0	3.1%	2.7%	1.2%
Southeast	0	2.3%	3.3%	1.1%

Table 3: Difference in daily traffic volumes by market scenario vs. policy scenario

Volume Difference MARKET vs POLICY				
	2004	**2010**	**2020**	**2035**
Northwest	0	(4,100)	4,900	11,900
Northeast	0	(9,900)	(1,800)	8,200
Southeast	0	(5,400)	13,400	32,900
Central	0	17,200	104,700	206,600
East	0	(2,500)	(32,000)	(53,300)
Southeast	0	(3,300)	(13,800)	(18,500)

Table 4: Average daily vehicle miles travelled by planning area for the policy scenario

POLICY				
	2004	**2010**	**2020**	**2035**
Northwest	25,805,800	27,431,800	37,190,200	43,007,000
Northeast	32,040,800	36,007,400	50,281,000	59,445,900
Southeast	16,957,600	19,711,800	26,185,900	30,392,900
Central	92,933,900	104,325,300	146,102,800	173,706,900
East	55,454,800	64,661,800	81,253,800	95,604,400
Southeast	11,432,000	12,756,500	16,973,800	19,642,100
Percent Growth				
Northwest	0.0%	6.3%	35.6%	15.6%
Northeast	0.0%	12.4%	39.6%	18.2%
Southeast	0.0%	16.2%	32.8%	16.1%
Central	0.0%	12.3%	40.0%	18.9%
East	0.0%	16.6%	25.7%	17.7%
Southeast	0.0%	11.6%	33.1%	15.7%
ANNUAL Percent Growth				
Northwest	0.0%	1.3%	3.6%	1.0%
Northeast	0.0%	2.5%	4.0%	1.2%
Southeast	0.0%	3.2%	3.3%	1.1%
Central	0.0%	2.5%	4.0%	1.3%
East	0.0%	3.3%	2.6%	1.2%
Southeast	0.0%	2.3%	3.3%	1.0%

Table 5: Average daily vehicle miles travelled by planning area for the market scenario

MARKET	2004	2010	2020	2035
Northwest	25,805,800	27,183,200	37,231,200	43,421,100
Northeast	32,040,800	35,575,500	50,237,100	59,845,700
Southeast	16,957,600	19,402,100	26,209,300	31,183,800
Central	92,933,900	104,923,700	151,085,500	180,527,900
East	55,454,800	64,508,600	79,917,200	93,318,800
Southeast	11,432,000	12,630,900	16,423,400	18,880,500
Percent Growth				
Northwest	0.0%	5.3%	37.0%	16.6%
Northeast	0.0%	11.0%	41.2%	19.1%
Southeast	0.0%	14.4%	35.1%	19.0%
Central	0.0%	12.9%	44.0%	19.5%
East	0.0%	16.3%	23.9%	16.8%
Southeast	0.0%	10.5%	30.0%	15.0%
ANNUAL Percent Growth				
Northwest	0.0%	1.1%	3.7%	1.1%
Northeast	0.0%	2.2%	4.1%	1.3%
Southeast	0.0%	2.9%	3.5%	1.3%
Central	0.0%	2.6%	4.4%	1.3%
East	0.0%	3.3%	2.4%	1.1%
Southeast	0.0%	2.1%	3.0%	1.0%

Table 6: Difference in daily vehicle miles travelled by market scenario vs. policy scenario

DIFFERENCE MARKET vs POLICY				
	2004	**2010**	**2020**	**2035**
Northwest	-	(248,600)	41,000	414,100
Northeast	0	(431,900)	(43,900)	399,800
Southeast	0	(309,700)	23,400	790,900
Central	0	598,400	4,982,700	6,821,000
East	0	(153,200)	(1,336,600)	(2,285,600)
Southeast	0	(125,600)	(550,400)	(761,600)