



# ERIE COUNTY 2030 TRANSPORTATION PLAN



Adopted by Erie County Council  
October 21, 2008

# **Erie County 2030 Transportation Plan**

This Plan was prepared  
as a primary element to the  
Erie County Comprehensive Plan,  
per Article III, Section 301 (a) (3) of the  
Pennsylvania Municipalities Planning Code,  
Act 247 of 1968, as amended

Prepared by:

Erie County Department of Planning  
Orth-Rodgers & Associates, Inc.  
Urban Engineers of Erie, Inc.  
KMJ Consulting, Inc.  
Urbitran, Inc.

In cooperation with:

The Pennsylvania Department of Transportation  
The Erie MPO Technical and Coordinating Committees  
Local Municipal Officials

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and the County of Erie.

**Adopted October 21, 2008**

**Erie County Executive**

Mark A. DiVecchio

**Erie County Council**

Joseph F. Giles, Chair

Fiore Leone

Ronald Cleaver, Vice Chair

Carol J. Loll

Phil Fatica

David E. Mitchell

Kyle W. Foust

**Erie County Planning Commission Executive Board**

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Eric Legenzoff

Gerry E. Dahl, Vice Chair

Joseph Legnasky

Richard Allgeier

Carol J. Loll

Charles S. Casey

Rustin A. Peters

Jan Cornwell

## **THE ERIE COUNTY 2030 TRANSPORTATION PLAN**

In an effort to remain prepared for the progressive future of Erie County and to meet various legislative requirements, the Erie Area Transportation Study Metropolitan Planning Organization, with funding from the Federal Highway Administration (FHWA), Pennsylvania Department of Transportation (PENNDOT) and the County of Erie, has developed the Erie County 2030 (Long Range) Transportation Plan (2030 LRTP or Plan). The Plan analyzes the current land use, traffic patterns and operations of all transportation modes in the County and develops projections of the future land use, traffic patterns and mode operations to the year 2030. Based on these projections, recommendations have been prepared addressing the needed improvements to the existing transportation system.

The 2030 LRTP was developed in partnership with PENNDOT; the Erie Metropolitan Transit Authority (EMTA), Erie Municipal Airport Authority (EMAA), and Erie-Western PA Port Authority (EWPPA); the County of Erie; and in coordination with the City of Erie and City of Corry; Township and Borough municipal officials; area transportation and planning agencies; stakeholder organizations; and the residents of Erie County. This partnership and coordination has led to a transportation plan that incorporates Intermodal accessibility and enhanced mobility for the entire population as integral components of the highway planning process. The plan includes recommendations for improving the existing highway network, transit system, rail, air and port transportation, and bicycle/pedestrian facilities. The program of recommendations in the plan are confined to the expected available funding for the Erie region and contain only those projects that can be implemented using current revenues while the existing system is being adequately operated and maintained.

## **THE NEED FOR A REGIONAL PLAN**

The regional long-range plan is dictated by a number of factors, but is primarily regulated by federal legislation. The 2030 LRTP development is governed by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and the Clean Air Act Amendments (CAAA) of 1990, which set the minimum standards and requirements for regional plans and define conformity with clean air goals. These laws require a planning process that considers all transportation systems and the movement of both people and goods.

SAFETEA-LU lists eight planning factors that all metropolitan plans must address, and as such, they serve as a basic set of guidelines for the 2030 LRTP.

## SAFETEA-LU PLANNING FACTORS

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
2. Increase the safety of the transportation system for motorized and non-motorized users
3. Increase the security of the transportation system for motorized and non-motorized users
4. Increase the accessibility and mobility for people and for freight
5. 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
6. Enhance the integration and connectivity across and between modes, for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system

The Clean Air Act Amendments (CAAA) of 1990 mandate compliance with achieving designated air quality standard goals, as defined and enforced by the US Environmental Protection Agency (EPA). As a result, the Erie MPO has collaborated with EMTA as the responsible agencies to address clean air and mobility requirements. The Erie region is currently in air quality 'non-attainment' status; therefore, the 2030 LRTP plan recommendations must also be evaluated through an air quality conformity determination to assess impacts to the region's air quality and ensure that CAAA goals are being met.

The 2030 LRTP serves a number of purposes for Erie County. It provides a vision of the region's future growth and development; identifies deficiencies in capacity, safety and access in order to locate and implement future transportation facilities and services; and provides guidance and direction for municipal, county and state agencies to make infrastructure and development investments. The plan sets the foundation and priorities for the distribution of federal transportation funds, and specifically serves as the framework for the development of the region's Transportation Improvement Program (TIP), the capital and transit operating program of all federally funded transportation projects.

## THE ERIE MPO ROLE

The Federal Aid Highway Act of 1962 required that all urbanized areas having a population of 50,000 or more designate a single agency to administer federal transportation funds. The agencies that were established are called Metropolitan Planning Organizations (MPO). According to the federal law, the activities of an MPO must provide a continuing, cooperative and comprehensive (3-C) transportation planning process. The MPO has the primary role and responsibility in ensuring that the transportation planning process is being carried out in accordance with current federal and state regulations. The

primary planning responsibilities of the MPO include creating a Long Range (20 year) Transportation Plan, a shorter range (4 year) Transportation Improvement Program (TIP) and an annual Unified Planning Work Program (UPWP).

The Erie Area Transportation Study Metropolitan Planning Organization (Erie MPO) was established August 24, 1964 to guide the 3-C planning process in the urbanized area of Erie County surrounding the City of Erie. However, as growth expanded throughout the County, so did the need for coordinated transportation planning for the entire region. In 1978, the boundary of the planning jurisdiction of the Erie MPO was expanded to include the entire County of Erie.

The Erie MPO is comprised of representatives from municipalities and organizations throughout the Erie urban area and Erie County, as well as state and federal representation. The role of the Erie MPO Committee members is to provide representation for their municipality / organization in order to facilitate an integrated and informed decision-making process which incorporates all concerns and issues into the development of policies and actions. The Erie MPO planning and program management functions are administered by the Erie County Department of Planning (ECDP), which provides staff, technical and clerical support, and serves as the designated Erie MPO Secretary.

## **THE ERIE MPO VISION**

The vision for the transportation system in Erie County derived from the federal mandates, and involved input from a variety of persons and agencies with interest in transportation issues. The Erie MPO vision statement was crafted in 1993, forming the framework for the plan goals and objectives:

*“TO IMPROVE THE QUALITY OF LIFE FOR ALL RESIDENTS AND VISITORS OF ERIE COUNTY BY DEVELOPING, OPERATING AND MAINTAINING A SAFE, EFFICIENT, USER FRIENDLY, INTERMODAL TRANSPORTATION SYSTEM THAT ENHANCES MOBILITY, ECONOMIC VITALITY, AND IS INNOVATIVE, AFFORDABLE AND ENVIRONMENTALLY RESPONSIBLE.”*

## **REGIONAL GOALS AND OBJECTIVES**

The accompanying goals and objectives have been identified in an effort to accomplish the vision statement, and reflect the SAFETEA-LU planning factors and CAAA goals.

## **Goal 1**

Manage, maintain, and improve Erie County's transportation systems to meet the needs and requirements of people and goods movement in both urban and rural regions. Provide transportation choices where appropriate and feasible.

### **Objectives**

- 1A. Manage and operate safe, efficient, reliable transportation systems to move people and goods.
- 1B. Maintain systems and facilities on a life cycle basis, in a cost-effective manner, and in an operational condition.
- 1C. Support the development of intermodal connections and multimodal choices for passenger and freight transportation modes at the state, regional and local levels, and with other states and metropolitan areas.
- 1D. Promote the installation, operation and sharing of the best available technology among the public and private sectors.

## **Goal 2**

Manage, maintain, and improve a transportation system that preserves and reinforces environmental quality and livable communities. Provide access to Erie County's recreational, natural and historic/cultural resources.

### **Objectives**

- 2A. Promote transportation modes and practices which best achieve compliance with clean air, noise, and water quality standards, reduce congestion and promote energy efficiency.
- 2B. Cooperate with and support employer, community and public agency efforts to increase transportation operations that improve environmental quality.
- 2C. Plan, construct, operate and maintain transportation facilities in a manner which is compatible with the natural, scenic, historic and cultural resources of Erie County.
- 2D. Improve accessibility to transportation and provide equitable transportation service for all residents.
- 2E. Promote the incorporation of gateways, bikeways, and greenways concepts into infrastructure redevelopment projects throughout the county.

## **Goal 3**

Strengthen the planning, programming and decision-making processes, supported by performance-based management, monitoring, evaluation and reporting systems that are used cooperatively at the county and regional/state levels.

### **Objectives**

- 3A. Refine the existing planning and programming processes, procedures, roles and responsibilities consistent with SAFETEA-LU and the CAAA, and establish collaboration between the Policy Plan and the 12 Year Program, Statewide Transportation Improvement Program, Long Range Plans and Transportation Improvement Programs.
- 3B. Support informed decision-making through improved communications and responsive new planning and programming methods and techniques at the county, regional, and state levels.
- 3C. Institute improved accountability through a continuous cycle of management system monitoring, program evaluation, and feedback at the county and regional level.
- 3D. Streamline planning and project implementation processes.

## **Goal 4**

Provide efficient, accessible, and connected transportation systems, services, and facilities as an incentive to support positive economic development throughout Erie County.

### **Objectives**

- 4A. Promote and coordinate access and intermodal improvements which support specific employment generating opportunities, consistent with local, regional, and statewide economic and environmental land use policy.
- 4B. Identify strategic system improvements for all modes of transportation that increase the productivity and competitiveness of Erie County industries.
- 4C. Improve the management, streamline regulation, and extend operational coordination across all modes of the county's transportation systems to enhance the safety and productivity of shipping and distribution.
- 4D. Identify transportation initiatives that support tourism and recreational opportunities for the residents of Erie County and its visitors.

## **COORDINATED PLANNING INITIATIVES**

The Erie County 2030 Transportation Plan must be coordinated with statewide, regional and local planning initiatives. These planning initiatives were reviewed and considered while developing the LRTP to ensure consistency.

### **State Level**

At the State level, the Pennsylvania Department of Transportation has developed its Long Range Transportation Plan, called Pennsylvania Mobility Plan. 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.

Also on the State level, PENNDOT developed the Comprehensive Strategic Highway Safety Improvement Plan with the goal of reducing highway-related fatalities. The plan takes a comprehensive approach by not only identifying specific roadway locations that could be eligible for targeted SAFETEA-LU funded programs, but also presents strategies for changing how planners, designers and road users think and carry out their respective responsibilities.

### **County Level**

The Erie County Planning Department and the Erie MPO are responsible for all transportation-related planning in the County. The Erie County Comprehensive Plan, portions of which have been adopted as of the effective date of this plan, includes a land use plan, a housing plan, a community facilities and utilities plan, and a historic and natural resources plan. When adopted, the LRTP becomes an element of the Erie County Comprehensive Plan.

All elements of the Comprehensive Plan are being developed in a manner that each element is coordinated and complementary of each other. The Erie County 2030 Transportation Plan made use of the demographic data and projected land use and development patterns identified in the Community Facilities and Land Use Plans.

The LRTP also coordinated closely with the County's economic development initiatives, in particular, the Keystone Opportunity Zones (KOZ). The Plan considered access to and mobility around the zones when identifying projects. The objective was to insure that each KOZ has the transportation infrastructure to succeed.

## **Local Level**

At the local level, each municipal government adopts a Comprehensive Plan. These municipal plans provide an insight into local issues and initiatives that are of concern to municipal officials. These plans cover the same elements as the County Comprehensive Plan except from a local perspective. Each municipal comprehensive plan in place in Erie County was reviewed for initiatives and needs affected by the regional transportation system.

## INTRODUCTION

The transportation network in Erie County has undergone many transitions in accommodating the movement of people and goods over time, and the development of an efficient intermodal system is the result. The intermodal characteristic of Erie's transportation system reflects each mode's dominance in transportation over time. Erie's unique geographic location afforded strategic transportation advantages throughout these transitions, and is the primary reason that Erie continues to serve as the transportation hub for the region. Following is a discussion of the initial development of the transportation infrastructure in Erie County, and a description of the existing facilities serving the region today.

## EVOLUTION OF TRANSPORTATION IN ERIE

In the 19<sup>th</sup> Century, the Great Lakes became the single most important transportation system in the United States, linking the natural resources and agricultural lands of the Midwest with the industrial east coast and Europe. The only natural harbor on the south shore of Lake Erie, created by the Presque Isle peninsula, set the stage for the growth of Erie, Pennsylvania.

### Water

This natural Great Lakes harbor, and its access to the Mississippi River system, by a relatively short portage to French Creek near Waterford, was the catalyst for the rise of Erie as a vital transportation hub by the early 1800's. The early salt trade was the first primary activity through the harbor, with Erie being the central transfer point from the Great Lakes inland. The Erie harbor also played an important role in the early shipbuilding industry, and, after the War of 1812, the federal government dredged and improved the harbor significantly.

In 1844, the Erie Extension Canal, connecting the Erie harbor to Pittsburgh, was completed. The canal system eased overland transportation difficulties and spurred further economic growth and development of Erie as an important transportation center. This link in the Pennsylvania Canal system remained in use until 1871, when the Elk Creek Aqueduct collapsed, by which time the railroads had superseded it as the more efficient overland mode of travel.

Passenger service on the Great Lakes was prevalent in Erie throughout the nineteenth century. Several steamer ships were launched from Erie in the 1830's and 40's, accommodating up to 250 cabin passengers. The Erie and Western Transportation Company, known as the Anchor Line, established in 1866 with its terminal at the foot of Holland Street and a passenger fleet of fourteen vessels by 1871,

provided weekly service in the latter 19<sup>th</sup> century to ports such as Cleveland, Detroit, Port Huron, and Sault Ste. Marie, with connections to Lake Superior, Milwaukee, and Chicago.

The Erie & Port Dover Ferry offered regular (twice daily) passenger ferry service to Port Dover, Ontario for a short time from 1927 to 1932. The ferry KEYSTONE could carry 80 automobiles and 1,000 passengers, and provided stateroom accommodations for 200.

### **Railroad**

By the mid 1850's, the railroads had become aggressive competitors, providing a faster transportation alternative to ship goods and passengers. Several railroad lines were constructed through Erie County in the 1850's, connecting Erie with Buffalo, Cleveland, Pittsburgh and Philadelphia, with these smaller lines eventually consolidating into larger systems. Erie County became a crossroads for many of the major railroads of the time, including the Pennsylvania Railroad (1864), Lake Shore (1869), Pittsburgh & Lake Erie Railway (1879), and The Nickel Plate (1882). The City of Corry also became a railroad hub, with the Philadelphia & Erie Railroad (1861), Buffalo, Corry & Pittsburgh Railroad (1870), and New York, Pennsylvania, & Ohio RR (1883) being major early lines intersecting in Corry.

Though constructed primarily to carry freight, passenger rail service through the region was also substantial during this time, with as many as 90 trains a day stopping at Union Depot in Erie at the turn of the 20<sup>th</sup> century. Many of the present communities in Erie County were initially shaped by the location of these rail lines, and the railroads continue to have an important presence in the region.

### **Trolley**

Streetcar and trolley service also played a major role in transportation in Erie County, primarily in the late 1800's and early 1900's, with the Erie City Passenger Railway Company, Conneaut & Erie Traction Company, and Buffalo and Lake Erie Traction Company being major carriers during this period. Most of the communities along the lakeshore were interconnected by the trolley system, with the line located where US 20 is today, as were several communities going south toward Pittsburgh.

The lines in Erie County were part of a network of streetcar and trolley lines in the Northeast and Midwest so extensive that a passenger could ride from Erie to as far as Chicago, Louisville and Buffalo. However, by the mid-1920's, the availability of the automobile marked the decline of the regional trolley system in Erie County. The West Ridge Transportation Company, Erie's first inter-urban and suburban bus company, had extensive regional service by 1926, and by 1935, the Erie Railway Company, primarily serving the City of Erie, had completely replaced their streetcars with buses.

### **Roads**

Road construction began in Erie County in 1753 with the road built by the French from Fort Presque Isle to Fort LeBoeuf (generally along PA 97). Another forty years passed, however, before the next road was surveyed in Erie County, from the mouth of Sixteenmile Creek (North East) to Colt Station, opening in 1797, and extending to Wattsburg the next year. Road construction increased in the early 1800's as the first settlers began to occupy various locations throughout the region. Early roads being built included a road from North East to Waterford in 1804, the Ridge Road connecting Erie to Cleveland and Buffalo (now US 20) in 1805, the Lake Road (PA 5) in 1806, and Wesleyville to Colt Station (PA 430) in 1813. Stagecoach routes were established between Erie and Cleveland, Buffalo and Pittsburgh in the 1820's, and local road construction continued throughout the 1800's as various areas became more populated.

The heaviest investment in roads and highways as the primary regional transportation system in Pennsylvania and Erie County did not occur until the 1900's, with the advent, and eventual dominance, of the automobile. By the late 1890's, when automobiles became more familiar in the country, and with the production of the Ford Model T, the federal and state governments became more concerned with road development. The Pennsylvania highway system was created in 1911, with 8,835 miles of highway falling under the control of the Department of Highways, which was established in 1903. However, the greatest growth in the state system occurred in 1931 when the Commonwealth gained control of another 20,156 miles of rural roads. During this time, the Department of Highways began an extensive project of paving roads in rural areas known as the "get the farmer out of the mud" program.

In addition to the growth and development of the state road system in Erie County, The United States Highway System, or 'US' Highways, created by the Federal Highway Act of 1925, resulted in further construction of roads in the region. Early US Highways constructed in Erie County were US Route 6 & 6N, US Route 19 and US Route 20, with the current alignments being in place by the mid 1930's. By the late 1930's, the pressure for construction of transcontinental superhighways was building, with interest in construction of a network of superhighways as a way of providing more jobs for people out of work. By the 1940s, the success of early highways such as the Pennsylvania Turnpike generated more momentum in developing an interstate highway system, with Erie being slated as a link in the network.

After the passage of the Interstate Highway Act of 1956, construction of Interstates 79 and 90, which were formerly proposed as the Northwestern Extension of the PA Turnpike, began almost immediately. I-90, the longest primary interstate in the continental United States which runs about 3,000 miles from Seattle to Boston, was opened in Erie County from Ohio to New York in 1960, making it the first completed Interstate project in the Commonwealth. I-79 was completed in various sections through Erie County in the sixties and open in its entirety by 1970. The development of I-86, from I-90 to the southern

tier of New York, did not occur until well into the 1980's and 90's, with the highway being officially designated in 1999.

### **Aviation**

Aviation as a new form of transportation began to take shape in the 1920's in the United States, with the success of government-sponsored airmail service. When the government transferred airmail operations to private companies, it effectively helped create the commercial aviation industry. The air transport revolution swung into full power with the building of advanced new airplanes in the latter 1930s to accommodate both passenger and freight transportation.

Air service in the Erie region began with the opening of Griswold Field (now Erie International Airport – Tom Ridge Field) in the early 1920's, and by 1925 was a Commercial class airport with government, commercial, and private planes welcome at all times. The airport consisted of a 1,800-foot north-south runway, a 1,650-foot east-west runway, and a 60 x 80 foot hangar. During the mid-1920's, the City of Erie acquired the airport, and by the early 1930's paving of the natural sod runways began. The City created the Erie Municipal Airport Authority in 1951, and the existing terminal was constructed in 1956. When the terminal building opened in 1957, the primary (east-west) runway was 5,000 feet long and four airlines were operating out of the airport, combining to make forty-two flights a day.

Airport facilities also began to appear in smaller communities throughout the period with several small, mostly private, airfields being developed in Erie County. The other public airport in Erie County, Corry-Lawrence Airport, located just south of the City of Corry, is a general aviation airport that opened in the 1930's as a private facility. The City of Corry acquired the airport in the 1960's, eventually extending the runway to its present 4,100 foot length.

As evidenced above, the Erie region has historically been a leader in providing the transportation services of the time, and has successfully evolved along with each mode of travel's dominance. The ongoing evolution of these transportation services and infrastructure in the region will continue to shape the future of the region, and continue to enhance Erie's ability to remain the economic center of northwestern Pennsylvania.

### **THE EXISTING NETWORK**

The existing transportation network in Erie County provides for all modes of travel. There are over 2,500 linear miles of roadways, including over 70 miles of interstate highways; public transportation facilities including a fixed route bus service and on-call paratransit service; several aviation facilities including an

international commercial airport and a general aviation airport; a Lake Erie port serving both industrial and recreational activities; rail infrastructure including Class I interstate rail lines and short line railroads; and local and regional networks of bicycle and pedestrian facilities. The locations of major transportation facilities in Erie County are illustrated in **Figure II-1 (a,b) – Erie County Transportation Network**, and are described below.

## **ROADWAY SYSTEM**

The roadway system in Erie County consists of over 2,500 linear miles of roads, with approximately 800 miles owned/maintained by PENNDOT, and over 1,700 miles under municipal control. The network is comprised of over 70 miles of Interstate highways, roughly 350 miles of arterial highways, 400 miles of collector roads, connecting over 1,700 miles of local streets. This roadway system provides the primary access through and between the City of Erie, City of Corry, and outlying boroughs and townships in Erie County. A description of the major roadway facilities in the County follows.

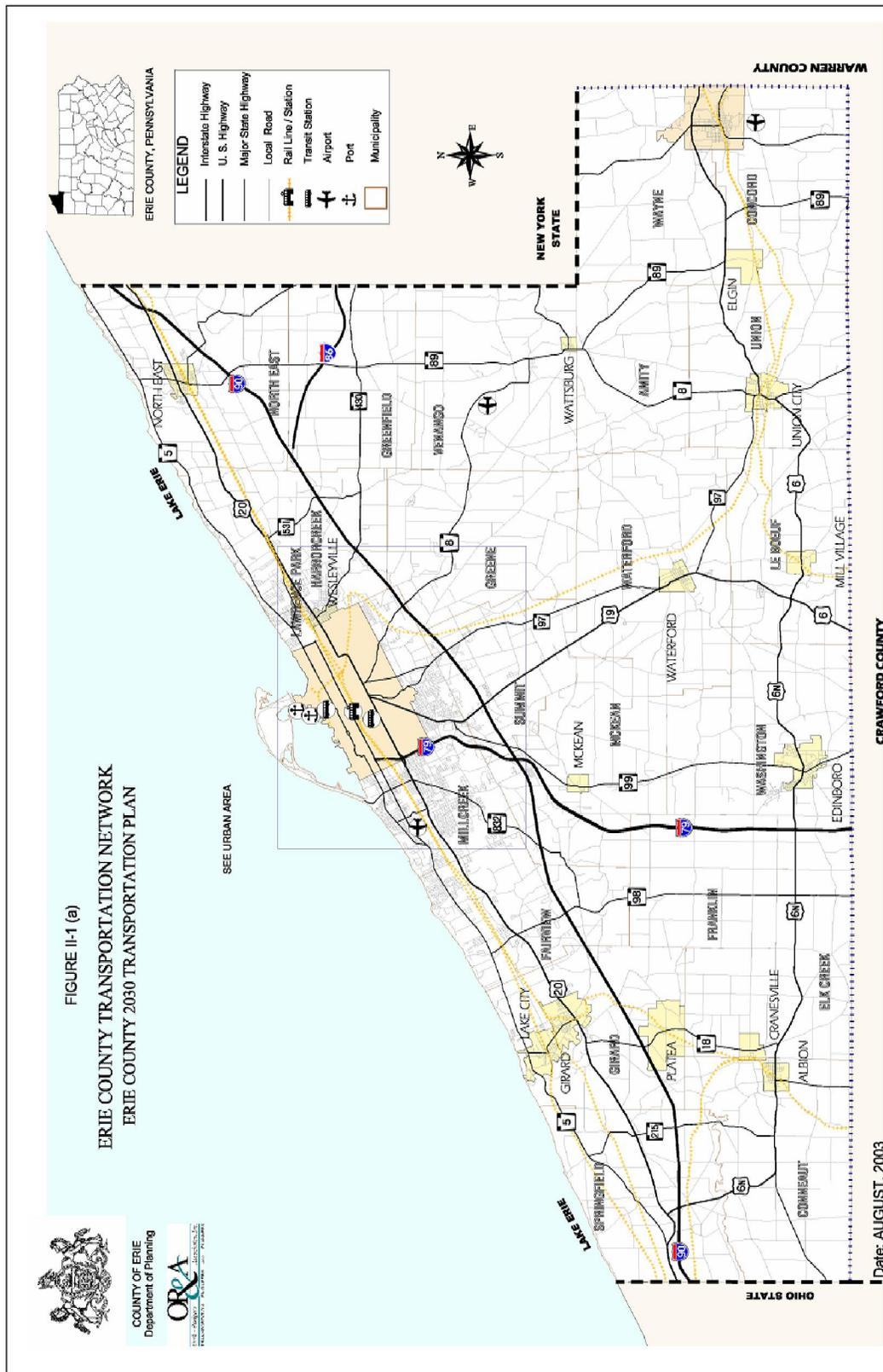
### **Interstate Highways**

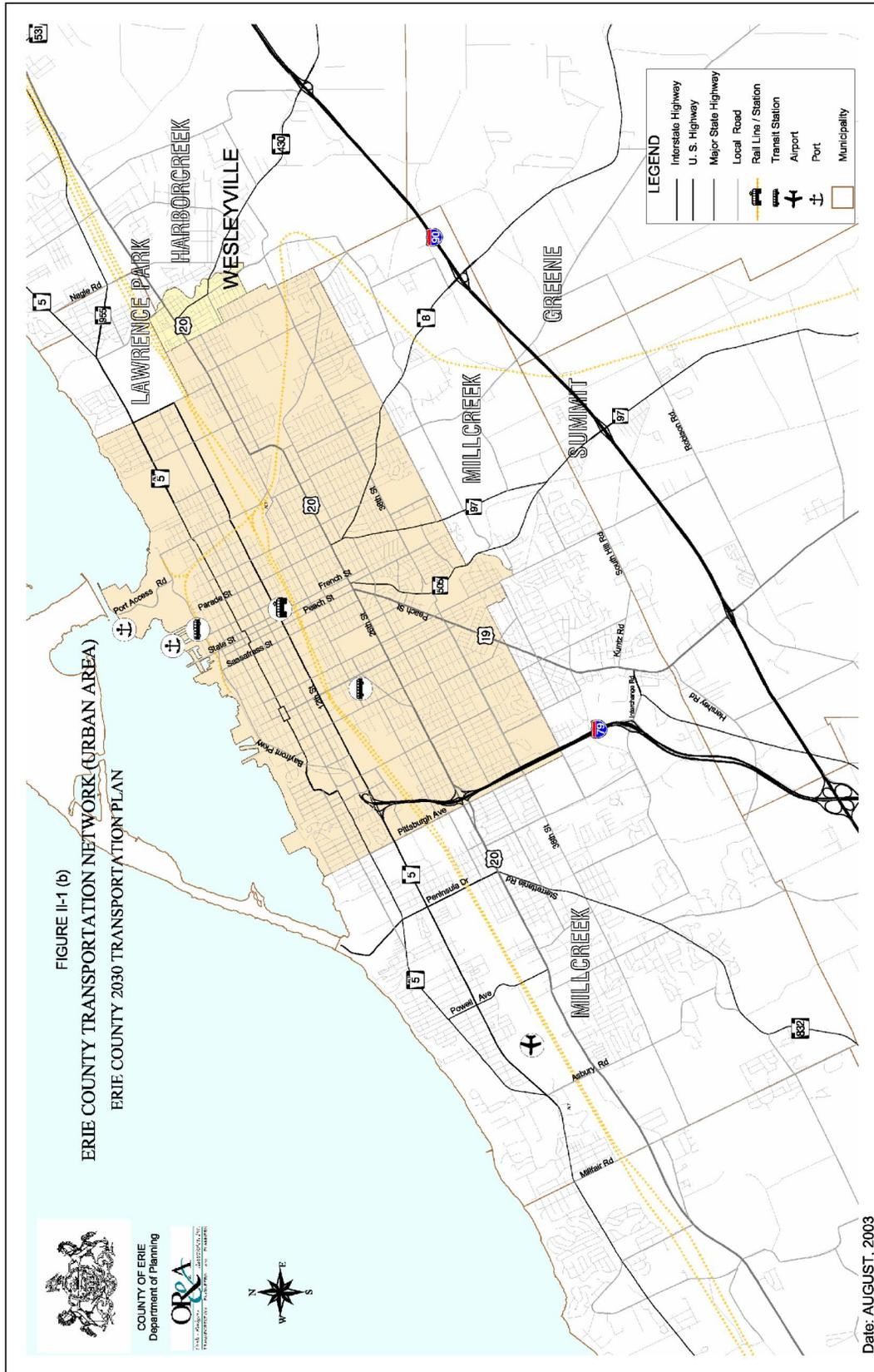
Three Interstate Highways cross Erie County: I-79, I-86, and I-90. All are four-lane facilities.

Interstate 79 is the primary north-south highway connecting Erie to Pittsburgh, PA and points south. I-79 has six interchanges in Erie County: US 6N near Edinboro, West Road (SR 3020) near McKean, I-90 near the Summit/McKean Township border, Interchange Road (SR 4012) in Millcreek Township, and 26<sup>th</sup> Street (US 20) and 12<sup>th</sup> Street (PA 5) in the City of Erie. I-79 terminates at the west end of the Bayfront Parkway near downtown Erie.

Interstate 86 connects Erie County, Pennsylvania with New York City, generally through the southern tier of New York. I-86 begins / terminates at an interchange with I-90 just east of Harborcreek Township, and has one other interchange in Erie County at PA 89 in Greenfield Township.

Interstate 90 is the primary east-west highway in Erie County, linking Erie with Buffalo, NY and points east, and with Cleveland, OH and points west. Fourteen interchanges are located along the 46 mile stretch through Erie County including (from west to east): US 6N, PA 215, PA 18, PA 98, PA 832, I-79, US 19, PA 97, PA 8, PA 290/430, PA 531, I-86, PA 89, and US 20.





### **United States Highways**

Four United States Highways pass through Erie County: US 6, US 6N, US 19, and US 20.

US Highways 6 and 6N, two-lane roadways, are the primary east-west arterials serving the southern tier of Erie County, connecting the communities of Corry, Elgin, Union City, Mill Village, Edinboro, and Albion.

US Highway 19 is a two-lane arterial which generally runs north-south through central Erie County, connecting Erie with Waterford and points south. US 19 is a four to five lane facility in the urban area north of I-90 to its terminus at US 20.

US Highway 20, a four-lane facility for most of its length in Erie County, is the primary east-west arterial serving the northern tier of Erie County connecting the communities of West and East Springfield, Girard, Fairview, Millcreek, the City of Erie, Wesleyville, Harborcreek, and North East.

### **PA Traffic Routes**

The designated PA Traffic Routes comprise the primary arterial system in Erie County and are typically two-lane facilities. These routes connect the City of Erie and the outlying communities together, with most providing direct access to the Interstate System.

PA Route 5 lies closely parallel to the Lake Erie shoreline and serves as the primary roadway for the communities of North Springfield, Lake City, Avonia, northern Millcreek, Lawrence Park, and northern Harborcreek and North East.

PA Route 8, a two-lane highway, links Union City to Wattsburg and the City of Erie, and provides access to one of the major agricultural areas of Erie County.

PA Route 18 is the primary north-south arterial through western Erie County, connecting the communities of Albion, Cranesville, Platea, Girard, and Lake City.

PA Route 77 is the primary arterial running south from Corry to Meadville, PA.

PA Route 89 is the easternmost north-south arterial in the county, and connects the southeast area of Erie County, including Elgin and Wattsburg, to Interstate 86 and Interstate 90, and the community of North East.

PA Route 97 is the primary arterial between Union City and Waterford, and also connects Waterford to the City of Erie.

PA Route 98 provides the primary access between the community of Fairview and I-90, and agricultural areas south.

PA Route 99 is a main north-south connector between Edinboro, McKean and southern Millcreek Township, and provides a primary access point to the Millcreek Mall/Peach Street area.

PA Route 215, a short north-south connector in the western part of Erie County, primarily provides access to active agricultural areas and the community of East Springfield.

PA Route 290 is the recently assigned route number of the Bayfront Connector linking I-90 to the Bayfront Parkway.

PA Route 426 is the primary connector between Corry and Findley Lake, NY and provides access to I-86 in NY. PA 426 re-enters PA into North East.

PA Route 430, an east-west arterial, connects Wesleyville and Harborcreek with I-90, and continues east to the NY line and Chautauqua Lake area.

PA Route 531 is a short north-south arterial connecting the Village of Harborcreek with I-90.

PA Route 832 runs northerly from PA Route 98, through western Millcreek, to Presque Isle, and is the primary roadway from I-90 to the entrance to Presque Isle State Park.

### **Secondary State Routes**

There is an extensive network of secondary state-owned roads (SR's) in Erie County serving as connectors between the major PA Traffic Routes and the locally owned roads. The majority of these roads are typically two-lane facilities located through the more rural areas of the County.

Significant roads in this category include Lake Pleasant Road (SR1009), Concord Road (SR 2010), Old State Road (SR 3014), Middle Road (SR 4002), and Oliver/Flower Road (SR 4008) in the rural areas; and Hershey Road (SR 4010), Zimmerly Road (SR 4012), 38<sup>th</sup> Street (SR 4016), Robison Road (SR 4024), South Hill Road (SR 4026) and the Bayfront Parkway (SR 4034) in the Erie urban area.

### **Federal Functional Classification**

The roadway network in Erie County is also classified by the Federal Functional Classification System. Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. There are seven classifications in Erie County, as described below and depicted in **Figure II-2 – Federal Functional Classification System**.

#### Interstate Highways

Interstate highways are divided highways with full control of access, and they serve major regional circulation movements and substantial statewide or interstate travel. These include Interstate 79, Interstate 86, and Interstate 90 within Erie County.

#### Other Freeways and Expressways

Freeways and expressways are divided highways with partial (freeway) or full (expressway) control of access. They serve through traffic and major circulation movements within federally defined Urban Areas. Currently there are no roadways in Erie County meeting this classification.

#### Principal Arterial Highways

Principal arterial highways provide for long distance connections. Examples of this type of highway are PA Route 5 and US Route 19 in the Erie urbanized area, and US Route 6N in Erie County.

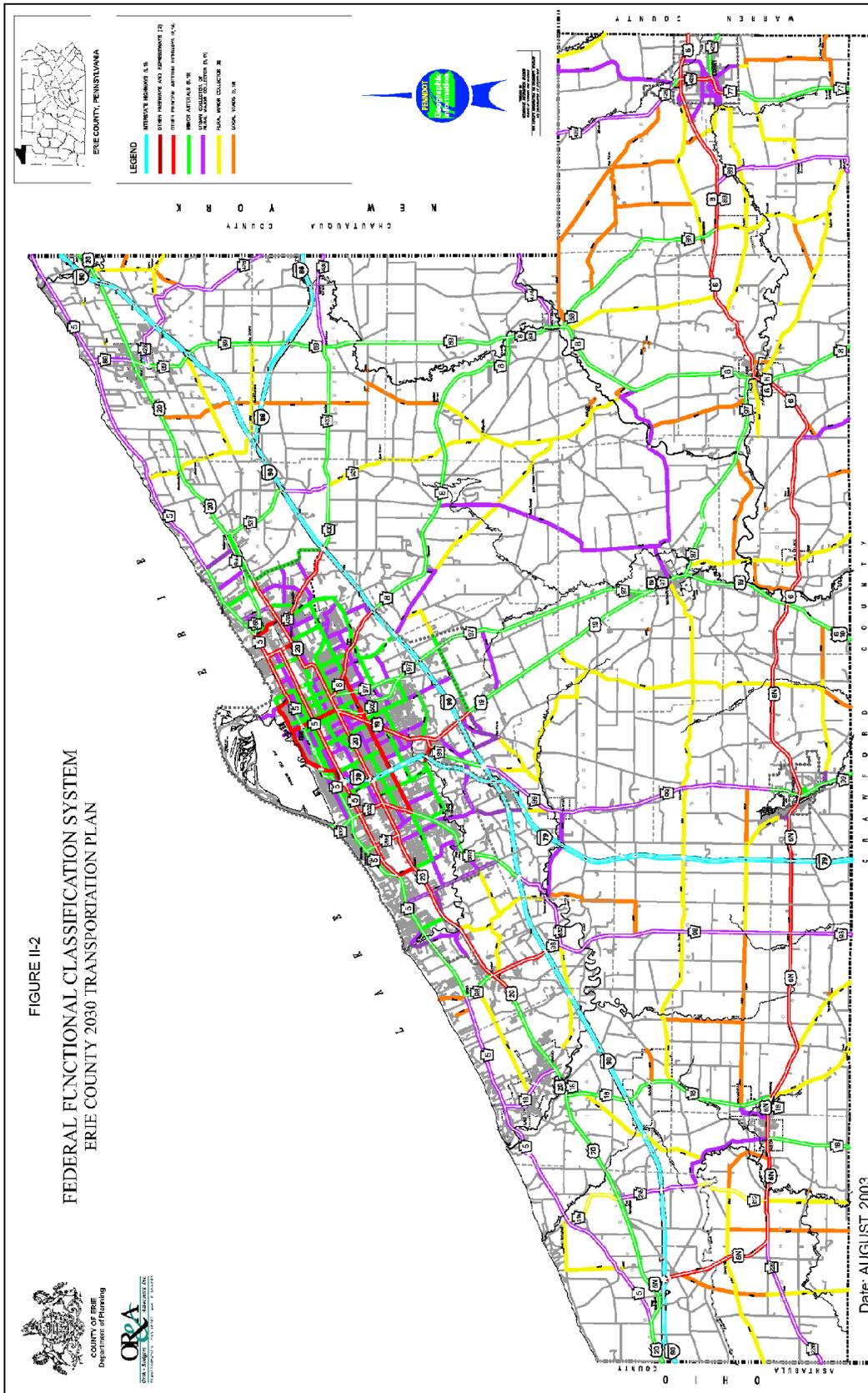
#### Minor Arterials

Minor arterial roads consist of routes that normally provide high travel speeds with minimum interference to through movement. Examples of minor arterials in Erie County include much of PA Route 8, PA Route 18, and much of US Route 20.

#### Urban Collector or Rural Major Collectors

Urban and rural major are two types of collector roadways. Urban collectors provide land access and traffic circulation within urban residential neighborhoods and commercial and industrial areas in federally designated urban areas. Rural major collectors serve travel within the County and travel distances are usually shorter than arterial roadways.

This type of road serves three important purposes in Erie County. First, it serves larger towns not directly served by the higher roadway classification system. Secondly, it links nearby larger towns or cities, with routes of higher classification. Thirdly, it serves intra-county travel corridors. Examples of this type of roadway are PA Routes 98 and PA Route 99 south of I-90.



### Rural Minor Collectors

Rural minor collector roads provide service to smaller communities and link locally important traffic generators with the arterial system. Examples of rural minor collector roadways can be found in various townships and boroughs. Lake Pleasant Road in Greene Township and Cherry Hill Road in Conneaut Township are rural minor collectors in Erie County.

### Traffic Volumes

The Annual Average Daily Traffic (AADT) for Erie County was obtained from PENNDOT's 2000 Traffic Volume Map. The highest traffic volume in all of Erie County is on Interstate 90 between US Route 19 and PA Route 8, where the AADT is 49,000 vehicles per day. The highest non-interstate traffic volume in Erie County is 34,000 vehicles per day on US Route 19 between Interstate 90 and SR 4010 (Hershey Road). **Figure II-3 (a,b) – Year 2000 Average Daily Traffic Volumes**, illustrates traffic volumes throughout the County.

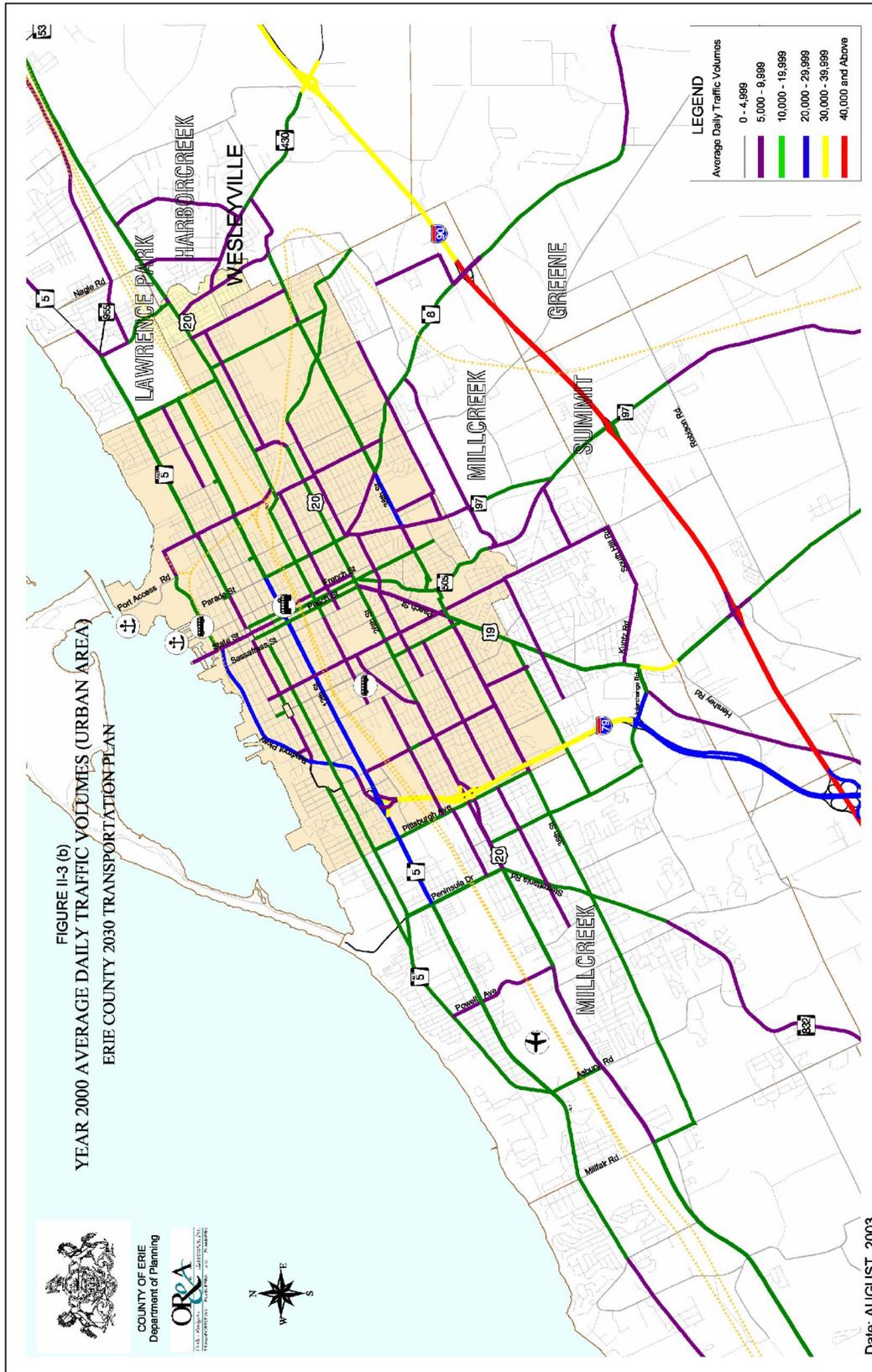
The high truck volume corridors within Erie County are illustrated in **Figure II-4 (a,b) – High Truck Volume Corridors**. This data was obtained from the PENNDOT 2001 Average Annual Daily Truck Traffic Volumes. The volumes were broken into the following ranges: 1000-3000 vehicles, 3001-5000 vehicles, 5001-10000 vehicles, and 10001-15000 vehicles. The highest volume of trucks in Erie County in 2001 is on Interstate 90, between Interstate 79 and US Route 19, where the annual average daily truck traffic is 12,000 trucks per day.

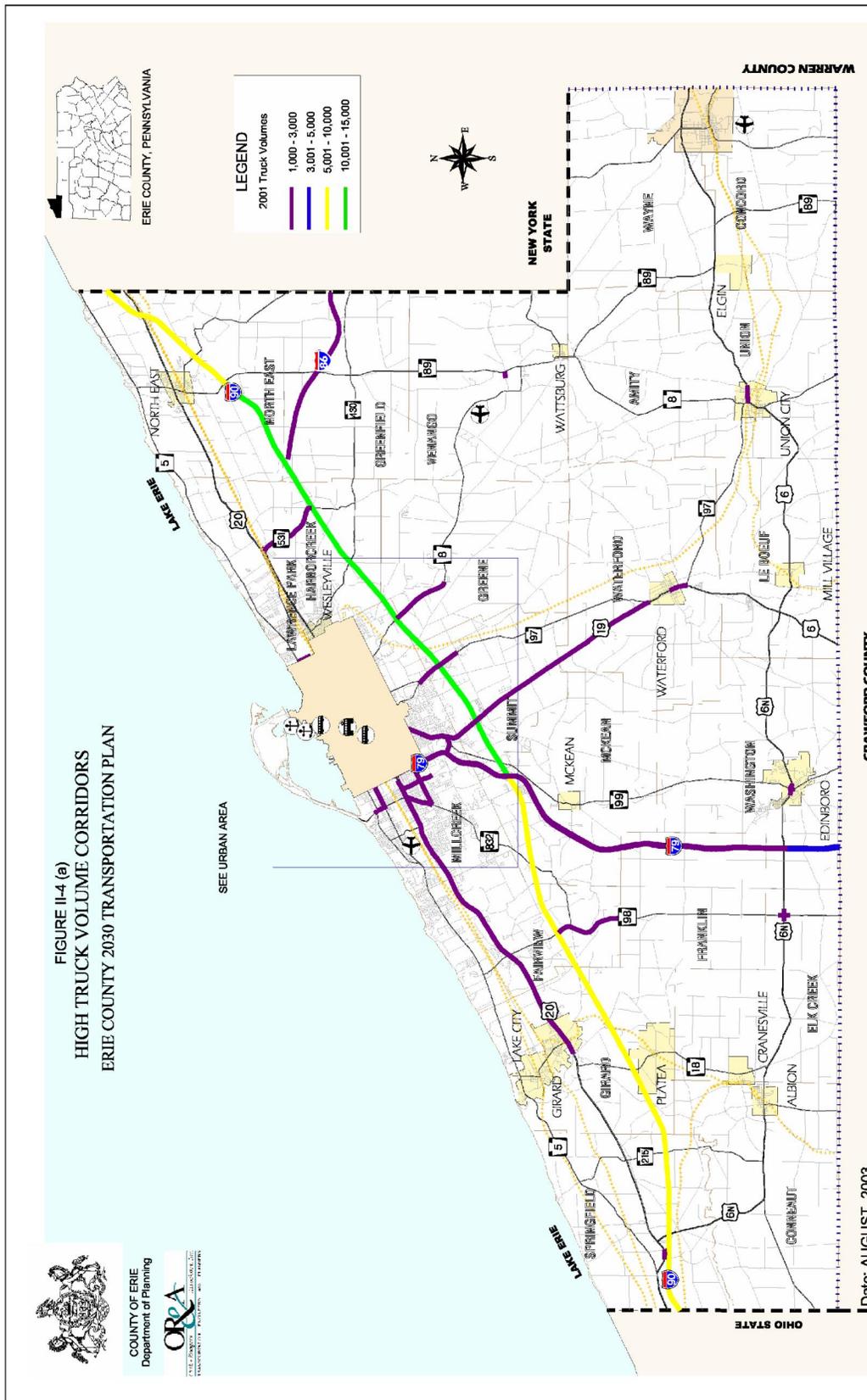
### Crash Clusters

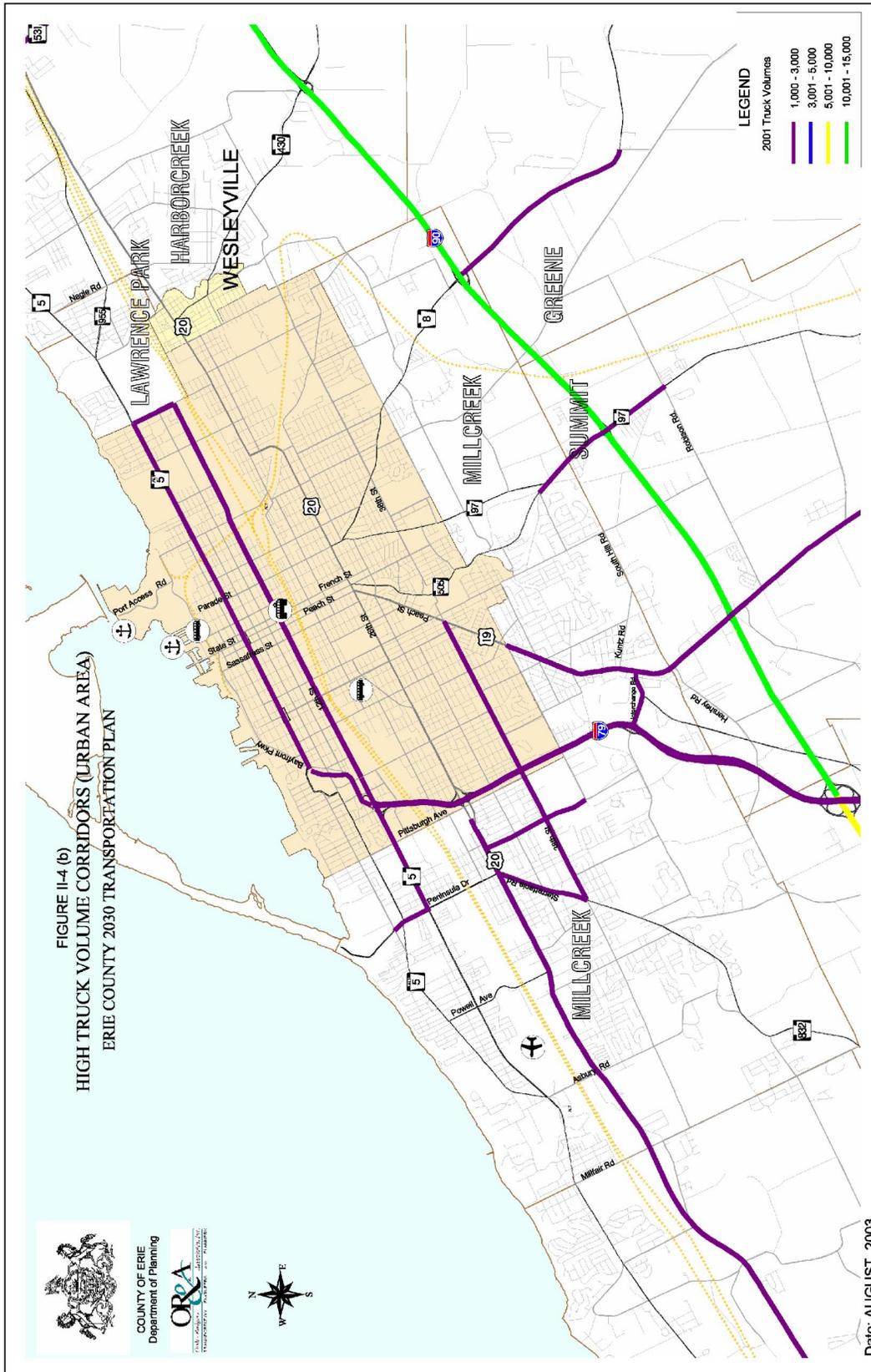
Crash data for Erie County from calendar years 1996 through 2000 was obtained from PENNDOT's Crash Records System. It should be noted that PENNDOT defines crashes as those that involve a fatality, injury, or require towing of one or more vehicles. Therefore, the crash record system includes data from those "reportable" incidents. In addition, non-reportable and reportable crash data for the Bayfront Parkway were provided by the City of Erie police department for review. Non-reportable crashes in other Erie County roadways are not available from PENNDOT's crash record database and are not included in the crash analysis.

Crash maps provided by PENNDOT were utilized to identify roadway segments with crash hot spots throughout the county. The roadway segments varied in length. PENNDOT segregated roadway sections that had 1 to 5 crashes, 6 to 20 crashes, 21 to 30 crashes, 31 to 50 crashes, and over 51 crashes during the study period. Crash clusters were segments containing 21 or more crashes during the five-year study period.









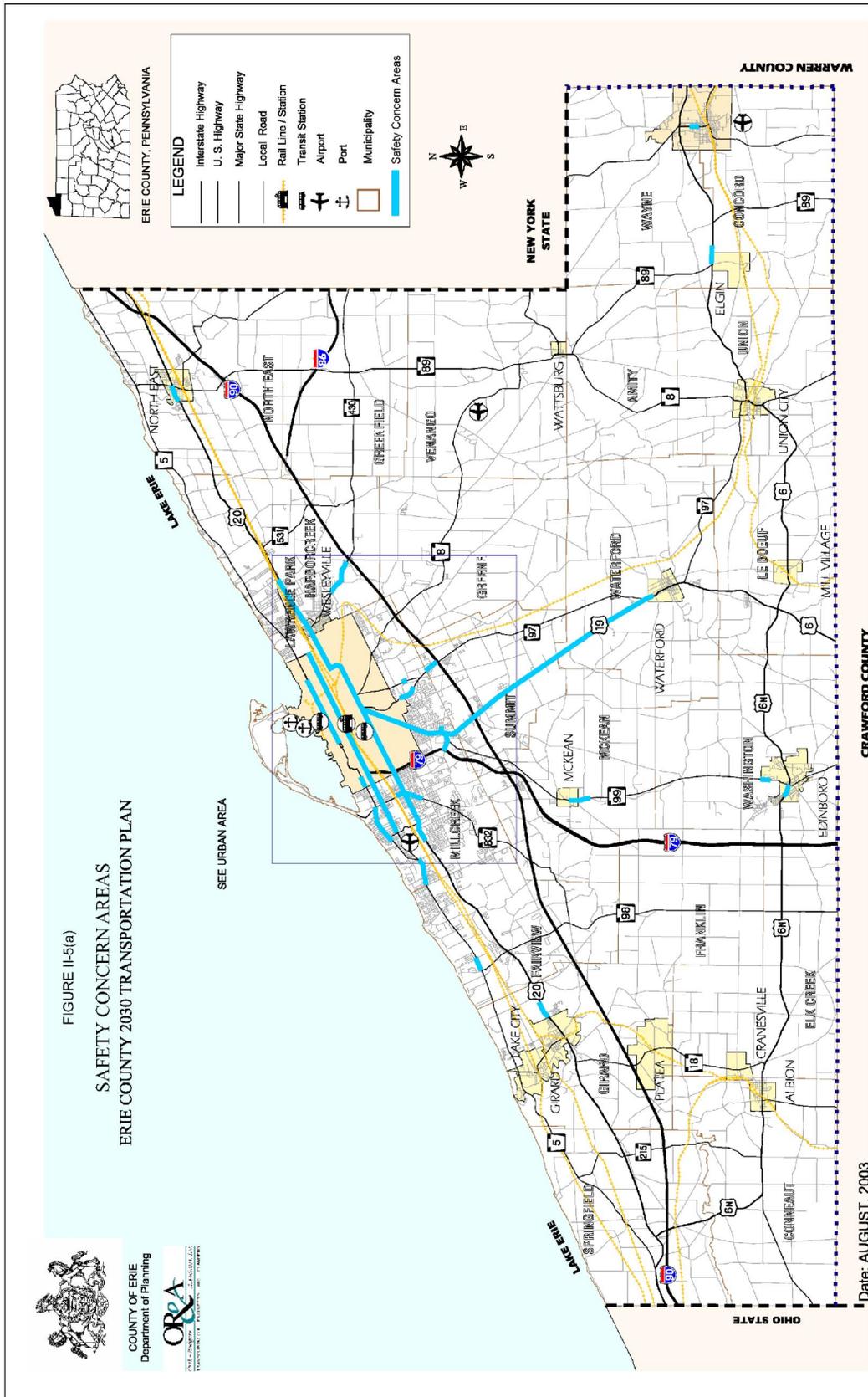
There were 10,908 crashes recorded within the five-year period. The largest number of crashes during the five-year period occurred along US Route 20 (1,882 crashes), and PA Route 5 (1,389 crashes).

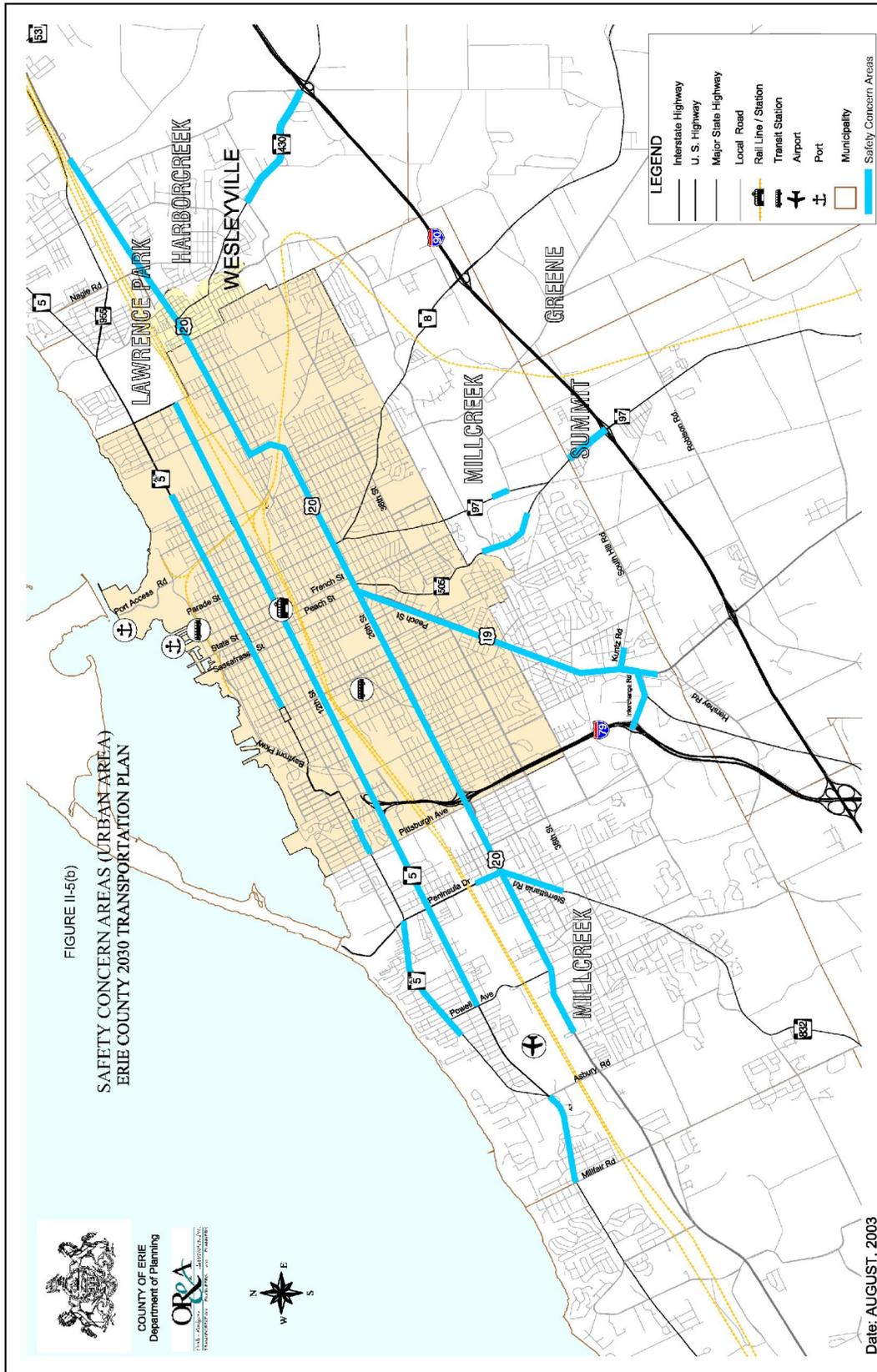
Crash analysis was performed on selected roadway segments based on the average daily traffic and number of crashes between 1996 and 2000. A crash rate for each selected roadway was established and compared to the statewide crash rate by roadway classification to determine if any segment exceeded the statewide rate. Roadway sections with crash rates at or above the statewide rates and roadway sections with over 31 crashes during the study period were identified as safety concern areas, and are illustrated in **Figure II-5 (a,b) – Safety Concern Areas**. The length of roadway analyzed varied depending on type of roadway and location within the county. The following roadway sections were identified as safety concern areas based on the five-year crash analysis:

- § US Route 20 just east of Girard Borough
- § PA Route 5 in Fairview (Avonia), east of S.R. 98
- § PA Route ALT 5 in Millcreek, between Millfair Road and Asbury Road
- § PA Route 5, PA Route ALT 5, and US Route 20 in various locations throughout the City of Erie
- § US Route 19, north of Waterford Borough to the City of Erie
- § US Route 6N and PA Route 99 in Edinboro Borough
- § US Route 6 in Elgin Borough
- § PA Route 99 just south of McKean Borough and McKean Township
- § PA Route 97 and PA Route 505, south of the City of Erie
- § Interchange Road between Interstate 79 and US Route 19
- § Sterrettania Road south of US Route 20
- § PA Route 426 in the City of Corry
- § PA Route 430, south of Wesleyville
- § US Route 20 in North East Borough
- § PA Route 97 between Interstate 90 and Robison Road

The PA Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP) completed in 2006 was developed to identify strategies for reducing fatalities on Pennsylvania highways. It lists several roadway sections in Erie County that could be candidates for the “Highway Safety Improvement Program” funding established by SAFETEA-LU that is specifically intended for safety and rail-grade crossing improvement projects:

- § PA Route 5 in Millcreek, from Asbury Road to Pittsburgh Avenue
- § US Route 19 in Millcreek and Erie, from Kuntz Road to 38<sup>th</sup> Street
- § US Route 6 throughout the south-county area
- § PA Route 8 and Parade Street
- § US Route 20 in the City of Erie from Hudson/Geist Roads to French Street



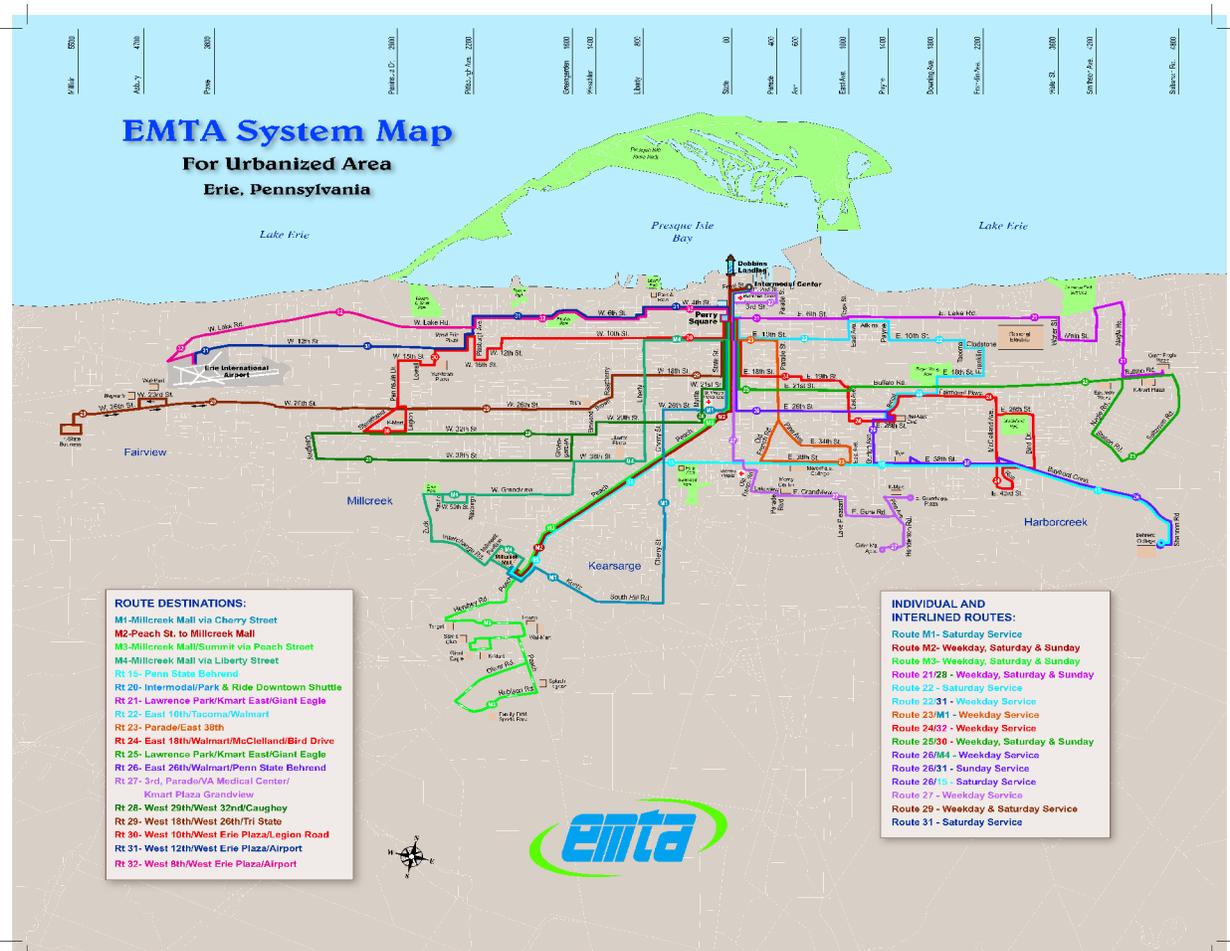


**PUBLIC TRANSIT**

The Erie Metropolitan Transit Authority (EMTA) is the primary provider of public transit service in Erie County.

**Erie Metropolitan Transit Authority (EMTA)**

Erie Metropolitan Transit Authority (EMTA) operates mostly in the City of Erie. There are presently fifteen fixed bus routes within the City of Erie and immediate surrounding communities as illustrated in the EMTA System Map, and four routes serving outlying Erie County. EMTA services the communities of Harborcreek, Edinboro, Albion, Girard, Lake City, Fairview, Waterford, Union City and Corry. All EMTA buses are wheelchair accessible; all of the vehicles are equipped with bicycle racks in an effort to promote multi-modal choices.



Map source: [www.emtaerie.com](http://www.emtaerie.com)

EMTA recently started operations at the Erie Intermodal Transportation Center at the bayfront (see photo). In addition to EMTA's transportation services, the Intermodal Center is also utilized by Greyhound Lines, Inc. motor coach service. EMTA also operates the Bayliner Trolley service, currently on a fare-free basis, from the Intermodal Transportation Center and the Bayfront Park & Ride lots through the downtown CBD area, and additionally operates a shuttle service on the campus of Edinboro University in Edinboro.



EMTA also operates Welfare-to-Work (WtW) services. East Side service is provided by fixed route buses whereas the West Side is demand-responsive operations.



**LIFT Paratransit Service**

EMTA also administers and operates a paratransit service (LIFT). LIFT is Erie County's door-to-door shared ride advance request transportation system. The LIFT service is available to the general public. Reduced fares are available to those who qualify through a number of subsidy programs, the largest being the Lottery Senior Citizen Program. LIFT also provides the complementary paratransit service for persons with disabilities for EMTA and medical transportation through the Medical Assistance Transportation Program (Dept. of Public Welfare).

A newly implemented program is the Rural Transportation program for Persons with Disabilities, funded by PENNDOT. The service runs Monday through Friday for the rural areas of the county, seven days a week for the Erie urbanized area, and Monday through Saturday for Edinboro. Rides require a one-day advanced request for scheduling. Due to the nature of the trip scheduling for this service, origin to destination trips can take as long as one hour in the urbanized area and as long as two hours from the rural areas to the urbanized areas.

**Park-and-Ride Facilities**

Park-and-ride facilities encourage ride sharing and reduce single occupancy vehicle use. A park-and-ride facility is available on the west Bayfront Parkway, and contains 296 parking spaces. A second park-and-ride facility is located on the east Bayfront Parkway directly behind the Erie Intermodal Transportation Center.

**Inter-City Motor Coach Service**

Greyhound Lines, Inc. operates motor coach service to major cities in the United States and Canada. Coaches operate from the Intermodal Transportation Center on the Bayfront Parkway. There are also charter motor coach operators in the area including: Blue Bird Coach Lines, Gray Line of Niagara Falls, Ringsway Bus Lines and Rainbow Tours of Niagara. The bus line routes connect Erie locally with the Commonwealth and the rest of the country

**Taxicab Service**

The Erie Yellow Cab Company provides taxicab service to the Erie urban area.

**AVIATION**

Two public airports serve Erie County and the region. Erie International Airport - Tom Ridge Field, the major passenger airport within the county, is located in Millcreek Township. This is primarily a commercial service airport serving the Tri-State region of northwestern Pennsylvania, western New York, and northeast Ohio. The Erie Municipal Airport Authority operates the airport. Corry-Lawrence Airport located in Corry is a general aviation airport serving businesses in northwestern Pennsylvania and western New York, operated by the Airport Authority of the City of Corry.

**Erie International Airport - Tom Ridge Field**

Erie International Airport (ERI) - Tom Ridge Field, located in Millcreek Township, is a publicly owned, public-use, largely commercial service facility that services the aviation needs of Erie County and the Tri-State area. The airport has 30 based aircraft and 53,000 operations per year. The scheduled airline and general aviation services sustain the regional market area's businesses and corporate needs. Four commercial airlines service the airport: US Airways Express with connections to their Pittsburgh and Philadelphia hubs, Continental Connection with connections to their Cleveland hub, Northwest Airlinck with

connections to their Detroit hub, and Delta/Comair with connection to their Atlanta hub. Cargo, freight, small package, freight forwarding, just-in-time and perishable goods are shipped by means of general aviation and charter aircraft.

The airport services a population of about 930,000. The primary service area includes Erie, Crawford, Forest, Mercer, Venango, and Warren Counties in Pennsylvania; Ashtabula and Trumbull Counties in Ohio; and Chautauqua County, New York.



**Erie International Airport – Tom Ridge Field**

2004 enplanement totals were up twenty-six point two percent (26.2%) compared to 2003, making Erie International Airport - Tom Ridge Field the fastest growing airport in the Commonwealth of Pennsylvania in 2004 and the third fastest growing airport in the United States. On December 8, 2005 ERI broke its former annual enplanement record set in 2004, making 2005 the second consecutive busiest year ever in the history of the airport. Since the low of 127,687 enplanements in 2001, airport enplanements have increased by forty seven point one percent (47.1%), the numbers of airlines have increased by one hundred percent (100%) and the numbers of non-stop destinations served have increased by one hundred fifty percent (150%).

EMTA provides bus service to the airport that is used by travelers and employees at the facility.

**Corry-Lawrence Airport**

The Corry-Lawrence Airport, a general aviation airport, is located about a mile south of the City of Corry, approximately 30 miles southeast of the City of Erie, and operated by the Airport Authority of the City of Corry. The airport provides service to Corry, southeastern Erie County, western Warren County in

Pennsylvania, and western New York State. Corry-Lawrence Airport has a 4,100-foot runway and houses 15 aircraft. Due to the weather conditions in Corry, the growth of based aircraft relies on the construction of additional hangars. The airport primarily services local companies that use the airport for business trips. Business at the Corry-Lawrence Airport is at a stable level.

The airport reported about 3,400 aircraft operations annually and 17 average day aircraft operations. The Annual Service Volume, the annual capacity of the airport, was calculated to be about 125,000 aircraft operations. The airport aircraft operations capacity is well above the projected year 2019 forecasts of 4,700 annual aircraft operations.

An Airport Action Plan for Corry-Lawrence Airport was prepared in July 2001. The major goal of the Plan is to obtain Bureau of Aviation approval of the Airport Layout Plan (ALP) that will serve as the blueprint for future development at the Corry-Lawrence Airport. The recommended development program is based on the facility requirements to meet the airports operational and safety needs for a five-year planning period. Development projects include a taxiway shoulder paving, Generic Visual Glideslope Indicator (GVGI) installation, Automated Weather Observing Systems (AWOS) installation, hangar construction, and a new Administration Building.

### **Erie County Airport**

The Erie County Airport is located north of Wattsburg Borough in Venango Township, just south of Erie on PA Route 8. The paved airport runway is 3030 feet long. There are approximately 150 aircraft operations per year, 67% local aviation, and 33% transient general aviation. The airport is open to the public, however it is unattended and there is no airport service.

### **PORT OF ERIE**

The Port of Erie, the only Pennsylvania port on the Great Lakes, is located in Presque Isle Bay, providing access to Canada and the Atlantic Ocean. The Erie-Western Pennsylvania Port Authority (EWPPA) owns the Port of Erie but leases the facility to Erie Shipbuilding, LLC to operate the facility. That company has received a \$2,500,000 matched grant totaling \$5,000,000 from the U.S. Department of Commerce and Economic Development (DCED) for a gantry-mounted robotic welding system. It also has the largest dry-dock and crane on the Great Lakes, a full-service shipyard, 300,000 sq. feet of warehouse space, a Foreign Trade Zone, an 80-acre Keystone Opportunity Zone, 6,000 feet of deep draft dock face and over 200 feet of private dock face. The Port of Erie facilities include the Mountfort Terminal, which handles the port's general cargo. Bulk goods are transferred most often at the terminal to take advantage of the good

highway and rail access available. Montfort Terminal has received a \$2,000,000 matched grant totaling \$4,000,000 from DCED for an overhead dry dock door.

In 2006 O-N Minerals, the current operator of the Mountfort Terminal and dock at the end of Ore Dock Road imported approximately 1,200,000 tons of aggregates, sand, salt, shingles, steel beams and heavy lift items through the port. Of these products 1,130,000 tons were distributed by truck and the balance by rail. Also 5 railroad locomotives were exported to Canada thru the port during the year.



**The Port of Erie**

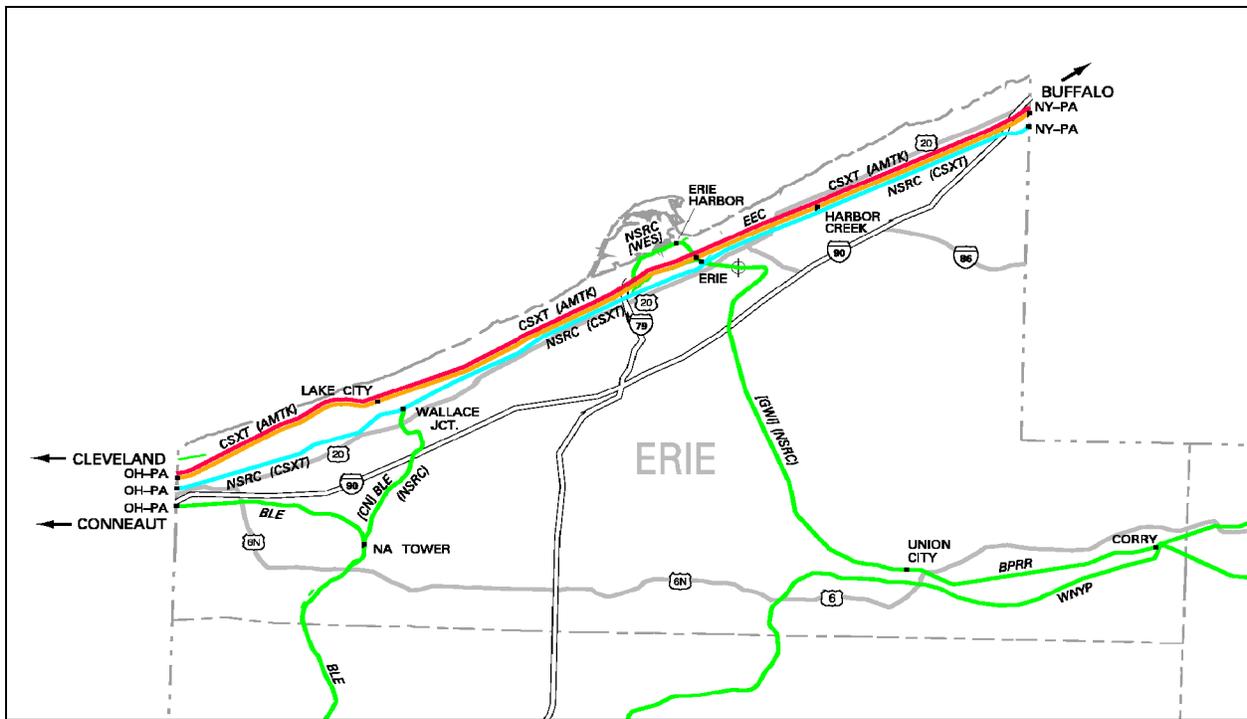
The rail spur at the Port of Erie connects the port with the CSX main line. CSX Transportation owns the rail section from the CSX main line to the Bayfront Parkway and the EWPPA owns the rail section from the Bayfront Parkway to the port. According to the Port of Erie website, CSX Railroad serves the Mountfort Terminal pier three times a week.

**RAILROADS**

Railroad infrastructure in Erie County is extensive, and includes two Class I railroads and several short line railroads. Most of the communities in Erie County are served by this rail infrastructure, though not as heavily as in the past. Over 70 trains per day pass through the main east-west rail corridor, operated by the two Class I railroads; however, daily traffic on the short line railroads is considerably less. The rail lines have a considerable impact on the transportation network in Erie County with the high number of at-grade rail/highway crossings a major concern.

**Class I Railroads**

Two Class I freight railroads pass through Erie County: CSX and Norfolk Southern (NS). Their rail lines run parallel to each other, through the northern tier of the County, generally along the Lake Erie shoreline. CSX and NS provide the bulk of rail freight service along this strategic corridor between Chicago and Buffalo. CSX's Chicago line and Lakeshore subdivision meet at Erie, and this portion of their line carries 113 million gross tons annually, running approximately 70 trains per day over the Erie line. The Norfolk Southern' line carries 27 million gross tons annually, and runs approximately 25 trains per day through Erie.



Map source: [www.dot.state.pa.us](http://www.dot.state.pa.us)

**Short Line Railroads**

There are currently five short line railroads operating in Erie County: the Buffalo & Pittsburgh Railroad, Inc., Canadian National Railway, Western NY & PA Railroad, West Erie Shortline Railroad, and the East Erie Commercial Railroad.

The Buffalo & Pittsburgh Railroad (BPRR) runs from the City of Erie through Union City and the City of Corry, and on to Johnsonburg, PA in Elk County. It supplies shippers with connections to CSX, NS, and the Western NY & PA RR. Large shippers have scheduled service, with other customers serviced on demand.

Canadian National Railway (CNR) operates in western Pennsylvania, connecting Erie County, through Albion and Girard, with Pittsburgh along a 124-mile main line carrying coal, ore, steel, stone, limestone and other bulk products. Branch lines from Albion connect to the Pittsburgh & Conneaut Dock Company at the port in Conneaut, Ohio. CNR handles approximately 15 million tons of freight annually and operates all trains on a demand basis, with current volumes typically requiring daily rail service.

The Western NY & PA Railroad acquired the former Northwest PA Rail Authority line in March of 2002 running between Hornell, NY and Meadville, PA. The line provides service to Mill Village, Union City, and the City of Corry. The railroad has been upgrading the infrastructure to accommodate increased operations.

The West Erie Shortline, Inc. railroad covers a distance of 9/10 of a mile in the City of Erie. This line provides rail connections for three companies to the Norfolk Southern main line: Erie Press Systems, Erie Forge & Steel, and Hardinger Transfer on a demand basis. Erie Press Systems ships scrapped steel and large presses. Erie Forge & Steel ships scrapped steel and forged ingots. Hardinger Transfer primarily ships goods for warehousing.

The East Erie Commercial Railroad operates a test track for GE Transportation Systems, a major manufacturer of locomotives in Erie, and runs eastward from the plant location, adjacent to the CSX rail corridor.

### **Passenger Rail Service**

Passenger rail service to Erie County is provided by Amtrak along the CSX rail corridor. The Lake Shore Limited train operates once daily service from Chicago through Erie, to Albany, where it splits to serve Boston or New York City. Erie is the only Pennsylvania stop from Boston to Chicago, with the Amtrak station located in downtown Erie at the Union Station building. The westbound train has a scheduled stop in Erie City at 1:36 AM on the way to Cleveland, Ohio and the eastbound train has a scheduled stop at 8:29 AM on the way to Buffalo, New York.

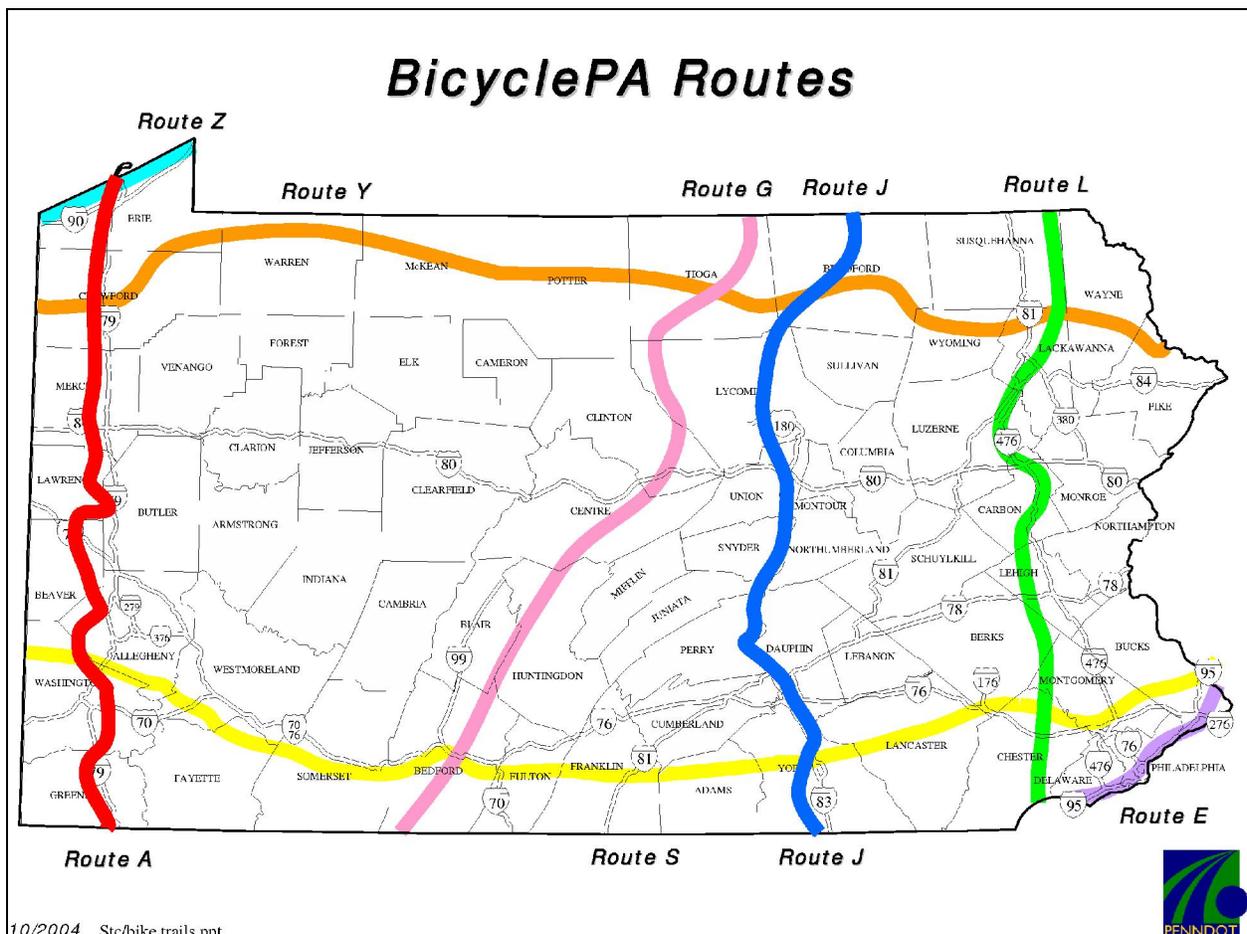
There is currently no local commuter rail service operating in Erie.

**BICYCLE AND PEDESTRIAN FACILITIES**

Erie County has a network of bicycle and pedestrian facilities comparable to other communities, with the urban areas being served by an extensive system of public sidewalks and several walking/biking pathways, and the rural areas interspersed with off-road recreational trails, including rail-trail corridors.

**BicyclePA Routes**

Pennsylvania has designated eight statewide bicycle routes, comprised of both on-road facilities and trails intended to serve as the primary regional bicycle touring routes for travel, tourism, and recreation. The designated routes are shown in the “BicyclePA Routes” map available on PENNDOT’s website. Over 200 miles of routes are fully signed statewide, with another 800 miles targeted for bike route signage in the future.



Map source: [www.dot.state.pa.us](http://www.dot.state.pa.us)

BicyclePA Routes A, Y and Z traverse Erie County. Route A is marked along PA Route 98 and PA Route 832, which terminates at the entrance to Presque Isle State Park. Route Y is marked along US Route 6, traveling through the City of Corry, Union City and Mill Village. Route Z follows the Seaway Trail corridor and is marked over PA Route 5 west of Millcreek Township, along Alternate Route 5 in Millcreek and the City of Erie, and along PA Route 5 east of the City of Erie.

### **Trails and Greenways**

The City of Erie and Port Authority have developed a network of trails serving the Bayfront district, connecting various amenities and providing public access to the waterfront for pedestrians and bicyclists. The Northwest PA Trail Association is concentrating on developing the rail-trail corridors in Erie County, and are currently acquiring and improving an existing 6-mile trail from Corry to Clymer, NY, and coordinating the project with trails in adjacent counties. Several communities in Erie County are actively incorporating trail and greenway planning into their comprehensive plans.

In addition to numerous public parks and natural areas, the county has one officially designated greenway, the Asbury Woods Greenway. The Asbury Woods Greenway and Trail System, is a 200-250 acre natural area that stretches from West 38<sup>th</sup> Street to Sterrettania Road in Millcreek Township, which is accessed by the Asbury Woods Trail, a 4.5 mile walking trail within the greenway.

**INTRODUCTION**

In order to identify the need for improvements to the transportation system in Erie County, consideration and analysis of several socio-economic factors were completed to assess the impacts. The primary factors being evaluated include area population, employment and land use patterns, as well as regional travel characteristics and goods movement activity. By looking at these characteristics, a picture of the demands on the existing transportation system begins to take shape. Trends in these factors were then forecasted to 2030 in order to anticipate the future transportation demands in Erie County, and provide the basis for developing the needs and recommendations sections of the LRTP.

**POPULATION**

One of the major elements of estimating travel demand is total population and the distribution of that population throughout the county, since that largely determines where a majority of trips are being generated. Erie County population data was gathered from the US Census Bureau, which provided year 2000 census information for Erie County in several data sets that are utilized in the travel demand forecasting, including: total population and age breakdown, number of households and household size, and household median income. Population information was also obtained from the *Erie County Demographic Study*, completed in 2003, which provided further insights into the raw Census numbers. There are just over 280,000 people residing in Erie County, with well over 50% of the population in their working years.

Age 0 to 19	80,092	(28.5 %)
Age 20 to 64	160,495	(57.1 %)
Age 65 and over	40,256	(14.3 %)
Total Population	280,843	

Approximately 80% of the population, according to the Census 2000 information, resides in the ten most populated municipalities in Erie County. The ten most populated municipalities are:

Erie City	103,717
Millcreek Township	52,129
Harborcreek Township	16,267
Fairview Township	10,140
Edinboro Borough	6,950
Corry City	6,834
North East Township	6,613
Summit Township	5,529
Girard Township	5,133
Greene Township	4,768

The ten least populated municipalities in Erie County are:

Elgin Borough	236
Wattsburg Borough	378
McKean Borough	389
Mill Village Borough	412
Platea Borough	474
Cranesville Borough	600
Amity Township	1,140
Concord Township	1,361
Waterford Borough	1,449
Albion Borough	1,607

Erie County’s population distribution can basically be characterized into three categories: the Erie Metro Area, Other Urban Areas, and the Balance of the County/Rural Areas.

The “Erie Metro Area” includes the City of Erie, Fairview Township, Harborcreek Township, Lawrence Park Township, McKean Township, Millcreek Township, Summit Township, and Wesleyville Borough. This area has traditionally been the population center of the region and comprises 71% of the County’s population.

The “Other Urban Areas” include the City of Corry, Edinboro Borough, Girard Borough, Lake City Borough, North East Borough, and Union City Borough. These communities serve as small hubs for the surrounding townships, maintaining a local importance. Together, they represent approximately 10% of the total residents in the County.

The “Balance of the County/Rural Areas” are the rural townships and smaller boroughs outside the Erie Metro Area. The 24 municipalities included in this category are generally the base of the County’s agricultural communities.

**Population Trends**

Erie County’s population increased 1.9% in the 1990’s, below the state average of 3.2%. However, the County added more people (5,271) than any other western PA county over that decade other than Butler and Clearfield counties, and also outgrew its neighboring counties in Ohio and New York.

The Erie Metro Area accounted for 35% of this growth (1,841), even though the City of Erie’s population declined by over 5,000 residents during the period. The Other Urban Areas saw a net decrease in population, though Lake City & Girard Boroughs combined grew by almost 600 people. The Balance of the County/Rural Areas municipalities accounted for most of the overall growth over the decade,

although, a significant majority of that growth was attributed to a few urban areas' neighboring municipalities - Girard Township, North East Township, Washington Township, and Waterford Township - with several of the other "rural" municipalities recording decreases in population. **Table III-1** illustrates the population statistics for each municipality.

**Table III-1  
Erie County Population by Municipality, 1990-2000**

<b>Municipality</b>	<b>1990</b>	<b>2000</b>	<b>Ten Year % Change 1990 – 2000</b>
Albion Borough	1,575	1,607	2.0%
Amity Township	1,034	1,140	10.3%
Concord Township	1,384	1,361	-1.7%
Conneaut Township (1)	1,938	3,908 (2,023)	101.7% (4.4%)
Corry City	7,216	6,834	-5.3%
Cranesville Borough	598	600	0.3%
Edinboro Borough	7,736	6,950	10.2%
Elgin Borough	229	236	3.1%
Elk Creek Township	1,738	1,800	3.6%
Erie City	108,718	103,717	-4.6%
Fairview Borough (2)	1,988	0	-100.0%
Fairview Township (3)	7,839	10,140	3.2%
Franklin Township	1,429	1,609	12.6%
Girard Borough	2,879	3,164	9.9%
Girard Township	4,722	5,133	8.7%
Greene Township	4,959	4,768	-3.9%
Greenfield Township	1,770	1,909	7.9%
Harborcreek Township (4)	15,108	16,267	7.7%
Lake City Borough	2,519	2,811	11.6%
Lawrence Park Township	4,310	4,048	-6.1%
LeBoeuf Township	1,521	1,680	10.5%
McKean Borough	418	389	-6.9%
McKean Township	4,503	4,619	2.6%
Mill Village Township	429	412	-4.0%
Millcreek Township	46,820	52,129	11.3%
North East Borough	4,617	4,601	-0.3%
North East Township (4)	6,283	6,613	5.3%
Platea Borough	467	474	1.5%
Springfield Township	3,218	3,378	5.0%
Summit Township	5,284	5,529	4.6%
Union Township	1,735	1,663	-4.2%
Union City Borough	3,537	3,463	-2.1%
Venango Township	2,235	2,277	1.9%
Washington Township	4,102	4,526	10.3%

Waterford Borough	1,492	1,449	-2.9%
Waterford Township	3,402	3,878	14.0%
Wattsburg Borough	486	378	-22.2%
Wayne Township	1,679	1,766	5.2%
Wesleyville Borough	3,655	3,617	-1.0%
<b>ERIE COUNTY</b>	<b>275,572</b>	<b>280,843</b>	<b>1.9%</b>

1. Conneaut Township 2000 population includes approx. 1885 persons at the Albion SCI. Township population in 2000 was 2,023 and a growth of 4.4% from the 1990 to 2000 population.
2. Fairview Borough was consolidated with Fairview Township in 1998.
3. Fairview Borough was consolidated with Fairview Township in 1998. Percent change is based upon combined 1980 population and 1990 population, respectively.
4. The Census Bureau as of April 1, 2002 revised the populations in Harborcreek and North East Townships.

**Population Forecasts**

The *Erie County Demographic Study*, prepared by the Erie County Department of Planning, was utilized as a basis for preparing the population forecasts to the year 2030. The projected growth rate of the County, by each municipality, was established for ten-year periods through 2030. The results were cross-referenced with projection data from Woods & Poole Economics, Inc., a nationally recognized corporation specializing in long-term county economic and demographic forecasts, for relative comparison.

Overall, Erie County is conservatively anticipated to grow to over 303,384 people by 2030, with a large percentage of that growth continuing to occur in the established growth areas. The Erie Metro Area will remain the dominant population center, with the City of Erie population stabilizing and most of its surrounding municipalities expanding. The other urban areas, Edinboro, Girard, Lake City, and North East Boroughs are anticipated to experience growth, with Corry and Union City remaining relatively stable. Rural Areas expected to have the most growth through this period include Franklin, Girard, North East, Washington, and Waterford Townships. **Table III-2** illustrates the forecasted population statistics for each municipality.

**Table III-2  
Erie County Population by Municipality, 2000-2030**

	2000	2010	Projected % Change 2000-2010	2020	Projected % Change 2010-2020	2030	Projected % Change 2020-2030
<b>Erie County</b>	<b>280,843</b>	<b>294,368</b>	<b>4.8%</b>	<b>298,876</b>	<b>1.5%</b>	<b>303,384</b>	<b>1.5%</b>
Albion Borough	1,607	1,633	1.6%	1,641	0.5%	1,650	0.5%
Amity Township	1,140	1,201	5.4%	1,222	1.7%	1,242	1.7%
Concord Township	1,361	1,444	6.1%	1,472	1.9%	1,500	1.9%
Conneaut Township (1)	3,908	4,053	3.7%	4,102	1.2%	4,150	1.2%
Corry City	6,834	6,844	0.1%	6,847	0.0%	6,850	0.0%
Cranesville Borough	600	612	2.0%	616	0.7%	620	0.6%
Edinboro Borough	6,950	7,250	4.3%	7,350	1.4%	7,450	1.4%
Elgin Borough	236	239	1.3%	240	0.4%	241	0.4%
Elk Creek Township	1,800	1,870	3.9%	1,894	1.3%	1,917	1.2%
Erie City	103,717	104,540	0.8%	104,815	0.3%	105,089	0.3%
Fairview Township	10,140	10,956	8.0%	11,228	2.5%	11,500	2.4%
Franklin Township	1,609	1,784	10.9%	1,842	3.3%	1,900	3.2%
Girard Borough	3,164	3,366	6.4%	3,433	2.0%	3,500	2.0%
Girard Township	5,133	5,713	11.3%	5,907	3.4%	6,100	3.3%
Greene Township	4,768	5,070	6.3%	5,171	2.0%	5,272	1.9%
Greenfield Township	1,909	2,066	8.2%	2,118	2.5%	2,170	2.5%
Harborcreek Township	16,267	17,499	7.6%	17,910	2.3%	18,321	2.3%
Lake City Borough	2,811	3,194	13.6%	3,322	4.0%	3,450	3.8%
Lawrence Park Twp	4,048	4,079	0.8%	4,090	0.3%	4,100	0.3%
LeBoeuf Township	1,680	1,712	1.9%	1,723	0.6%	1,734	0.6%
McKean Borough	389	414	6.5%	423	2.0%	431	2.0%
McKean Township	4,619	5,148	11.4%	5,324	3.4%	5,500	3.3%
Mill Village Borough	412	438	6.4%	447	2.0%	456	2.0%
Millcreek Township	52,129	56,265	7.9%	57,643	2.5%	59,022	2.4%
North East Borough	4,601	4,837	5.1%	4,916	1.6%	4,995	1.6%
North East Township	6,613	7,466	12.9%	7,751	3.8%	8,035	3.7%
Platea Borough	474	496	4.6%	503	1.5%	510	1.4%
Springfield Township	3,378	3,496	3.5%	3,535	1.1%	3,574	1.1%
Summit Township	5,529	6,162	11.4%	6,373	3.4%	6,584	3.3%
Union Township	1,663	1,704	2.5%	1,718	0.8%	1,732	0.8%
Union City Borough	3,463	3,485	0.6%	3,493	0.2%	3,500	0.2%
Venango Township	2,277	2,513	10.4%	2,592	3.1%	2,671	3.0%
Washington Township	4,526	5,050	11.6%	5,225	3.5%	5,400	3.3%
Waterford Borough	1,449	1,532	5.8%	1,560	1.8%	1,588	1.8%
Waterford Township	3,878	4,371	12.7%	4,536	3.8%	4,700	3.6%
Wattsburg Borough	378	406	7.5%	416	2.3%	425	2.3%
Wayne Township	1,766	1,827	3.4%	1,847	1.1%	1,867	1.1%
Wesleyville Borough	3,617	3,630	0.3%	3,634	0.1%	3,638	0.1%

<sup>(1)</sup> Conneaut Township 2000 Population includes approximately 1,885 prisoners at the SCI-Albion

Source: Erie County Department of Planning, 2007

**EMPLOYMENT**

Like population, employment statistics also are a major element of estimating travel demand, with work trips comprising a majority of daily travel. A detailed listing of employment locations in Erie County was compiled from the US Census Bureau – 1998 Workplace Update Database, and the totals compared to the Census 2000 municipal statistics for relative accuracy. The exact location of the business, classification of business activity, and the number of employees were identified for coding into the travel demand model. For each business the following detailed information was gathered:

- Exact business location by address, census tract, census block, latitude, and longitude coordinates.
- SIC Code for each employer. (Standard Industrial Classification given by the Census Bureau) This groups each business by general business activity. Based on the activity, businesses were then placed into one of four categories:
  - Retail Employment
  - Office Employment
  - Industrial Employment
  - Other Employment
- Number of employees per business. This number is representative of persons employed at a particular business location regardless of place of residence.

Annual growth factors were applied to each respective municipality in each category (retail, office, industrial, and other) to identify the calculated year 2000 employment. The calculated year 2000 employment by category is listed in **Table III-3**.

**Table III-3  
Erie County Employment by Category for 2000**

	Total	Retail	Industrial	Office	Other
<b>Erie County</b>	137,507	28,066	41,799	61,023	5,619
<b>Percent</b>		20.4%	30.4%	44.4%	4.1%

The Erie County employment profile, according to the 2000 Census, lists the employment by industry of county residents shown in **Table III-4**. The employment total in Table III-4 is lower than the employment totals in Table III-3. Table III-4 employment is based on Census data of employed residents in Erie County while Table III-3 totals the number of jobs in the county without consideration to the residence of the employees.

**Table III-4  
Erie County Employment by Industry for 2000<sup>1</sup>**

Industry	Total Number	Percent
Agriculture, forestry, fishing, hunting and mining	1,320	1.0%
Construction	6,113	4.7%
Manufacturing	30,731	23.8%
Wholesale Trade	3,305	2.6%
Retail Trade	15,642	12.1%
Transportation, warehousing and utilities	4,583	3.5%
Information	2,775	2.1%
Finance, insurance, real estate, rental and leasing	6,352	4.9%
Professional, scientific, management, administrative, and waste management services	7,554	5.8%
Educational, health and social services	30,431	23.5%
Arts, entertainment, recreation, accommodation and food services	10,948	8.5%
Other services (except public administration)	5,838	4.5%
Public Administration	3,733	2.9%
<b>Total</b>	<b>129,325</b>	<b>100%</b>

<sup>1</sup>Source: US Census Bureau, 2000 Census

**Employment Trends**

Erie County has gained over 21,000 jobs between 1980 and 2000, as illustrated in **Table III-5**. Retail employment has increased nearly 40% in that twenty-year period, while office and service employment have increased by over 50%. Industrial employment, in contrast, has decreased by 15%.

**Table III-5  
Erie County Historic Employment<sup>2</sup>**

Industry	Change 1980-1990				Change 1990-2000			
	1980	1990	Total	Percent	2000	Total	Percent	
<b>Retail</b>	18,012	21,250	3,238	18.0%	24,838	3,588	16.9%	
<b>Office &amp; Service</b>	36,197	44,646	8,449	23.3%	55,442	10,796	24.2%	
<b>Industrial</b>	50,890	45,021	-5,869	-11.5%	43,278	-1,743	-3.9%	
<b>Other</b>	3,553	4,608	1,055	29.7%	6,292	1,684	36.5%	
<b>Total</b>	108,652	115,525	6,873	6.3%	129,850	14,325	12.4%	

<sup>2</sup>Source: Pennsylvania Department of Labor and Industry  
All numbers above were only used as a reference and were not applied.

**Employment Forecasts**

Employment forecasts were developed for the year 2030, with differing growth rates applied to each municipality based on current and expected development patterns. The growth rates were also

compared with projections made by Woods & Poole Economics in their 2002 Data Pamphlet. **Table III-6** lists the overall employment forecasts for the year 2030, by category breakdown, generally assuming that the current employment trends in the various general categories will continue.

**Table III-6**  
**Erie County Employment by Category for Projected Year 2030**

	<b>Total</b>	<b>Retail</b>	<b>Industrial</b>	<b>Office</b>	<b>Other</b>
<b>Erie County</b>	183,832	38,801	55,042	82,044	7,945
<b>Percent</b>		21.1%	29.9%	44.6%	4.3%

**LAND USE PATTERNS**

The raw population and employment distributions throughout Erie County are the primary land use indicators used in the travel demand analysis; however, other land use issues related to the area’s forecasted population and employment growth are being considered as well. The analysis of other census figures such as the number and size of households, and shifts in residential areas and employment centers, also reveals significant land use patterns having implications to the transportation network.

Review of household characteristics in Erie County showed that though Erie County’s population between 1980 and 2000 was relatively stable (+1,063), the number of households in Erie County, due to the shrinking average household size, has increased dramatically (+10,000). The impact of this phenomenon is a significant increase in demand on land use, and public services, including transportation facilities. If this trend continues, future demands on housing, land, water and sewer capacity, and the additional transportation infrastructure needed to accommodate these housing developments, will be considerable.

Though the significant increase in residential land use has generally occurred in large tracts, mostly within the Erie Metro Area, the growth of the major employment centers in Erie County has occurred in more concentrated areas, with these areas typically being very linear in nature. Recent commercial developments in areas such as Peach Street in Millcreek and Summit Townships, and the Bayfront in the City of Erie, are focused along stretches of specific highway corridors, again placing high demands on the transportation network. It is mainly commercial/retail establishments that encourage this trend of “strip” type development, and with the forecasted growth of this sector of employment in Erie County, comes the challenge of accommodating this growth while minimizing the burden on the roadway network.

## **REGIONAL TRAVEL CHARACTERISTICS**

A review of regional travel characteristics affecting Erie County was completed to provide further insight into the different trends in demands being placed on the County's transportation network. Several statistical areas were looked at, including journey to work patterns, county-to-county worker flows, daily vehicle miles traveled, and goods movement / intermodal activity.

### **Journey to Work Patterns**

Commuters in the Erie area primarily travel by private automobile, with about 80% of commuters traveling alone, as compared to 76% statewide. There has been a general trend toward decreased carpooling both statewide and locally, though Erie had a higher than average rate in 1990 (14%), and continues to have 12% of its commuters carpooling in 2000. As single occupancy vehicle use has increased, so has travel time to work. Workers in Erie traveling 30 minutes or more to work increased 3% between 1990 and 2000, to 21%, which is still significantly lower than the statewide average of 33%. The mean travel time to work, at 18.5 minutes, is also below the state average of 25.2 minutes.

In Pennsylvania, and in Erie County, a vast majority of workers are employed in the county and state that they live. Erie County has a greater proportion of resident workers than many Pennsylvania counties, with approximately 93% of its workers living in the county, however, that figure is down a percent from the 1990 figure. The largest number of non-resident workers is from Crawford County, PA, with nearly 40% of the total non-resident workforce. Chautauqua County, NY, Warren County, PA, and Ashtabula County, OH, comprise most of the remaining workers.

### **Daily Vehicle Miles of Travel**

The Daily Vehicle Miles of Travel (DVMT) is a measure of the total number of miles traveled by all vehicles. On a statewide level, the number of daily vehicle miles traveled throughout Pennsylvania has steadily increased. Between 1993 and 2002, DVMT increased by 15.6%, or an average of 1.6% per year. The PENNDOT 2002 Highway Statistics Report indicated 6.4 million DVMT in Erie County, an increase from 5.8 million DVMT in 1997. This is a 10%, or 2% annual, increase in the Daily Vehicle Miles Traveled during the five-year period.

Some of the increase in miles traveled on the roadways can be attributed to an increase in the miles of roads in the County during that time (approximately 49 miles of new roads were built, mostly in residential subdivisions), but also, a general increase in the number and length of vehicle trips being performed in Erie County on a daily basis is occurring. Recognition of the land use patterns occurring in Erie County is

a key element of understanding why traffic volumes continue to grow in the face of a relatively stagnant population base. Obviously, the shifting population within the county is a contributing factor to the increase in vehicle miles traveled.

### **GOODS MOVEMENT**

According to the 1997 Commodity Flow Survey, the breakdown by mode of transportation for freight originating from the Commonwealth was 428,616,000 tons shipped by trucks, 45,926,000 tons shipped by rail, and 215,000 tons shipped by air. The mode of transportation for freight destined to the Commonwealth was 423,348,000 tons by trucks, 43,007,000 tons by rail, 24,673,000 by water and 191,000 tons by air. Great Lakes freight destined to Pennsylvania totaled 1,151,000 tons.

#### **Rail Freight**

Between 1993 and 1997, rail freight tonnage origination in Pennsylvania decreased by 35%. According to the Federal Highway Administration's Office of Freight Management and Operation, 5,000,000 to 20,000,000 tons of freight is transported on the CSX and Norfolk Southern rail corridor in Erie County annually. The Canadian National Railway also moves five million to twenty million tons of freight annually through Erie County.

The Buffalo & Pittsburgh Railroad and the Western NY and PA Railroad transport less than 5 million tons of freight annually on their lines in Erie County.

#### **Water Freight**

According to the Office of Freight Management, there are 3.5 million tons of freight that are flowing annually through Lake Erie. Approximately 16 percent (567,000 tons) of the Lake Erie tonnage moves through the Mountfort terminal in the Port of Erie.

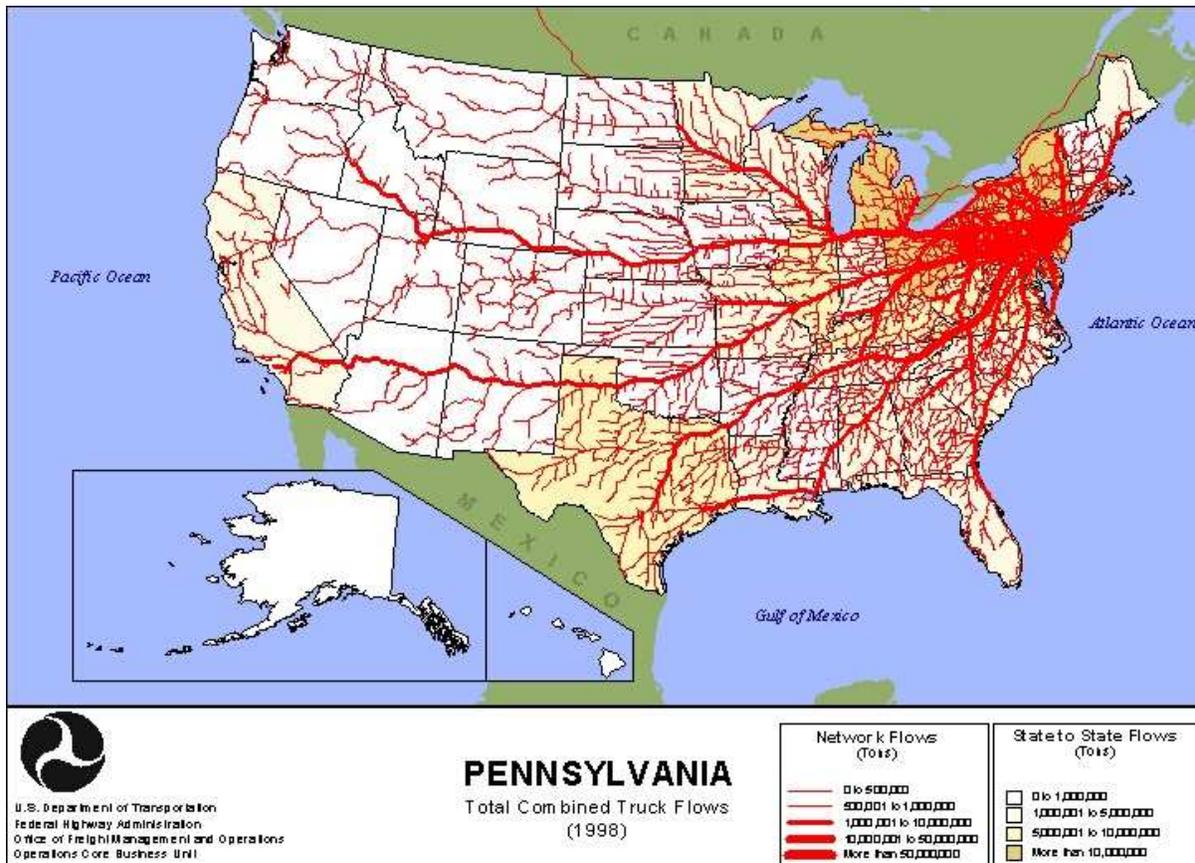
#### **Air Freight**

Air freight is experiencing rapid growth nationwide and within the Commonwealth of Pennsylvania. According to the Commodity Flow Survey, air freight tonnage originating in Pennsylvania increased by 246% between 1993 and 1997. The Philadelphia International Airport, Pittsburgh International Airport, Harrisburg International Airport, and the Lehigh Valley International Airport handle the majority of the air freight throughout the state.

Most of the cargo with origins and destinations in the Erie region is processed through Cleveland and Buffalo, and trucked to and from Erie County. According to the Erie Airport Master Plan (January 2002), the Erie International Airport has the opportunity to use the former Fenestra Building and the Penn Brass building sites, which are located within the southeast border of the airport property and adjacent to a rail siding, to create an air cargo market opportunity. The result of a preliminary analysis determined that the airport infrastructure has the potential to lead a highly successful cargo operation.

**Truck Freight**

Nationally, freight service is on the rise with the freight tonnage expected to double by the year 2020. The 1997 Commodity Flow survey indicates that approximately three quarters of truck freight tonnage have both an origin and a destination point within Pennsylvania. The heaviest tonnage destinations outside of the commonwealth are New Jersey, New York, Ohio, and Maryland, each of which accounts for 17.4 to 21.5 million tons of freight.



**Pennsylvania Truck Flows (1998)**

The above 1998 “Pennsylvania Truck Flows” graphic shows the truck distribution to the country. Roadways carrying high-volume truck freight are demonstrated with broad red lines.

The top states sending truck freight tonnage destined for Pennsylvania include Ohio, West Virginia, New Jersey, and New York, each of which accounts for 11.6 to 19.9 million tons. In 1998, the total combined domestic and international truck freight flows in and out of the state of Pennsylvania exceeded 50 million tons.

Given the tremendous tonnage carried annually on select roadways in Pennsylvania, the highway system is critical for freight movement nationally, within the Commonwealth and in Erie County. Traffic volume data from PENNDOT indicates that traffic volumes on urban interstate highways increased approximately 10% percent during the latter half of the 1990’s. Volumes on rural interstate highways grew faster, by 13%, during the same period.

Interstates 79 and 90 are principal national trade corridors that travel through Erie County. Both interstate highways carry local, statewide, national, and international freight. **Table III-7** lists major cities throughout the country and the impact their freight tonnage has on Erie roadways.

**Table III-7  
Freight Tonnage in Erie County**

CITY	ROADWAYS THAT IMPACT ERIE	ANNUAL FREIGHT TONNAGE (000)
New York	Interstate 90	500 to 1,000
Los Angeles	Interstate 90	500 to 1,000
New Orleans	Interstate 90	500 to 1,000
Cleveland	Interstate 90	1,000 to 10,000
Chicago	Interstate 90	1,000 to 10,000
New York	Interstate 79	500 to 1,000
Philadelphia	Interstate 79	1,000 to 10,000

Although neighboring states such as West Virginia, New Jersey, and New York contribute to the truck freight tonnage destined for all of Pennsylvania, truck freight from Ohio has the highest impact on Erie County. Ten to fifty million tons of truck freight from Ohio pass through Erie County by Interstate 90.

**IMPACTS TO TRAFFIC**

The various elements discussed in this chapter all are factored into the modeling process and help to shape future assumptions made in the subsequent chapters of this plan. The TP+ Travel Projection

Model uses the demographic data, through mathematical formulas, to generate travel demand estimates within and through Erie County.

Demographic data for the base year 2000 is input to determine the number of trips generated for that year and the projected demographic data for the year 2030 is input to determine the number of trips projected to be generated in that year. In the base year of 2000, there were 1,206,773 total trips generated in Erie County and by the year 2030, there will be 1,353,155 projected trips. This represents a 12 percent increase of 146,382 trips in the year 2030.

## INTRODUCTION

This chapter describes the transportation needs in Erie County, for all transportation modes developed in response to the trends and impacts analysis of the existing system. Simply put, a 'need' is a statement of a 'problem'. The needs are related to situations in which a transportation facility is currently, or will within the life of this plan, face demands in excess of its acceptable operating capacity, or through a current policy or set of actions or practices of the citizenry or its government, cause the inefficient operation of the transportation network.

## HIGHWAY NETWORK

There are two basic types of highway network needs that are being addressed: 1) those that relate to the inefficient operation of the existing system; such as traffic signal related needs, ITS activities, safety related needs, and other transportation systems management (TSM) initiatives, and, 2) those that are related to the capacity needs of various segments of the roadway network.

### Traffic Signals

The need for modernized traffic signal equipment and a coordinated traffic signal system spanning all traffic signals in the Erie urbanized area is well recognized. In a report prepared by the Pennsylvania Department of Transportation regarding the traffic signal system in the City of Erie, it was noted that the age and condition of the current traffic signal equipment and the coordinated operation of those traffic signals needed to be upgraded to current standards. While steps have been taken to address this condition, most of the required actions are still in the planning stages.

Within the Erie urban area, many traffic signals have been modernized to include emergency vehicle pre-emption features and coordinated in conjunction with several recent roadway projects; however, most of the remaining system is outdated, and the following priority corridors need updates:

- § PA Alt. Route 5 (West Lake Road/8<sup>th</sup>/6<sup>th</sup> Streets)
- § US Route 20 (26<sup>th</sup> Street/Buffalo Road)
- § 38<sup>th</sup> Street (SR 4016)
- § Parade Street
- § State Street
- § Peach Street

Several traffic signals in Erie have been determined to be unwarranted and have been removed. The removal has had the desired effect of improving traffic flow, and reducing delays and congestion.

Many of the traffic signals operating in the other urbanized areas throughout the County are also outdated and in need of upgrades or replacement. The City of Corry, in particular, as well as Union City, Edinboro, and Albion, are in need of signal system updates. The Corry traffic signal project is slated in the TIP for FY 2007 and FY 2008.

#### **Intelligent Transportation Systems (ITS)**

Currently, PENNDOT District 1-0 is working with the Erie MPO in conducting a study to develop an ITS program for the entire region. The unique winter weather conditions in the County and especially along the I-90 and I-79 corridors, require that a primary element of the ITS infrastructure include real-time weather stations and the means to communicate snow conditions to affected motorists, maintenance personnel and emergency response personnel. It is also important to upgrade incident management capabilities and the communication and response systems that complement these capabilities. The motorist information systems associated with this ITS program should be coordinated with adjacent PENNDOT Districts and the states of New York and Ohio. For example, when snow or a major incident severely restricts travel on the Erie County Interstates, northbound motorists need to learn of the restriction south of I-80. Eastbound and westbound motorists need to learn of the restriction prior to reaching the restricted area such that an alternate route can be traveled. In some cases, the decision points are many miles beyond the county border. The County, through PENNDOT, should consider becoming a part of the FHWA initiative called *Clarus*. That program, when fully implemented, would provide two-way road weather information between the County and adjacent jurisdictions on a real-time basis.

ITS activities can also have a considerable impact on the efficient operation of the local highway network. Local traffic conditions would benefit from strategically placed communications such as highway advisory radio, changeable message signs and commercial radio. The need to direct/manage the traffic between the 12<sup>th</sup> Street corridor and the Bayfront Parkway is apparent, and this type of system should be investigated in addition to signalization improvements. Though US Route 6 carries significantly lighter traffic than the Interstate highways and Erie urban arteries, it nonetheless serves as the main east-west artery across the southern part of the County, and should be included in the ITS network along with the Interstates and urban core.

In addition to development and implementation of a comprehensive system, a commitment needs to be made to operate, maintain and improve the ITS over time with a stable funding base.

ITS improvements are being planned by EMTA. A pilot program to install automatic vehicle locator (AVL) equipment aboard the downtown Erie trolley shuttle and the Edinboro campus shuttles is underway. Funding to equip the entire fleet is programmed in the TIP. AVL is a fundamental element of a transit security system as well as a management tool to monitor bus system operations.

### **Safety**

While coordinated traffic signal systems and an ITS program are key to effective Transportation Systems Management, safety concerns need to be addressed as well. The safety concern areas on the highway network, based on crash statistics, were previously identified in Chapter II, and shown graphically in **Figure II-5(a,b) – Safety Concern Areas**. The significance of these statistics may indicate a deficiency or inadequacy in either the existing roadway design/geometry or traffic control devices in these areas.

Safety improvements to reduce highway fatalities are a core program of the SAFETEA-LU legislation. The PA Comprehensive Strategic Highway Safety Improvement Plan (CSHSIP) lists strategies for planners, designers and road users, as well as lists several roadway sections in Erie County that could be candidate projects for the “Highway Safety Improvement Program” funds:

- § PA Route 5 in Millcreek, from Asbury Road to Pittsburgh Avenue – add 5<sup>th</sup> lane and intersection improvements
- § US Route 19 in Millcreek and Erie, from Kuntz Road to 38<sup>th</sup> Street – install sidewalks
- § US Route 6 throughout the south-county area –conduct safety study
- § PA Route 8 and Parade Street – conduct safety study
- § US Route 20 in the City of Erie from Hudson/Geist Roads to French Street – implement improvements to the existing corridor signalization

In response to safety concerns from increased train traffic along the CSX/NS mainline corridor, the County / MPO recently completed an At-Grade Rail Crossing Safety and Delay Study to inventory and assess the multitude of rail/highway crossings in the county. An analysis of approximately 200 at-grade crossings was conducted to identify hazardous or delay-prone crossings. Based on accident statistics and delay calculations, the study ranked the crossings throughout the County, and identified the top candidates for warning device upgrades and crossing eliminations / grade separation.

The top ten non-gated crossings identified for warning device upgrades, ranked by an accident prediction model:

- § Conneaut Township: Carter Road at BLE Crossing
- § City of Corry: Shady Avenue at BPRR Crossing
- § City of Corry: Avenue A at BPRR Crossing
- § Fairview Township: Dutch Road at NS Crossing
- § Girard Borough: Olin Avenue at BLE Crossing
- § Girard Township: Fairplain Road at NS Crossing

- § Millcreek Township: Koehler Rd at BPRR Crossing
- § Springfield Township: Townline Road at NS Crossing
- § Springfield Township: Eagley Road at CSX Crossing
- § Springfield Township: Lynch Road at CSX Crossing

The top ten crossings identified as candidates for elimination / grade separation, ranked by a combination of accident and delay statistics:

- § City of Erie: Cascade Street at CSX Crossing
- § City of Erie: Raspberry Street at CSX Crossing
- § City of Erie: Greengarden Road at CSX Crossing
- § City of Erie: Pittsburgh Avenue at CSX Crossing
- § City of Erie: Downing Avenue at CSX Crossing
- § Harborcreek Township: Walbridge Road at CSX Crossing
- § North East Township: Williams Road at CSX Crossing
- § City of Corry: East Main Street at BPRR Crossing
- § Union City Borough: Market Street at BPRR Crossing
- § Lake City Borough: Lake Street at CSX Crossing

As part of the examination of the Erie County highway network, using the travel projection model, an impedance penalty to estimate the delay at the crossings was introduced into the model to determine if the delay caused by rail traffic generated an unacceptable level of service. The model results revealed that the following at-grade crossings are already operating at unacceptable levels of service in the year 2000:

- § Pittsburgh Avenue (at CSX crossing)
- § Greengarden Road (at CSX crossing)

These additional crossings will be operating over capacity in 2030:

- § Millfair Road (at CSX crossing)
- § Downing Avenue (City of Erie)

These crossings are all located along the CSX tracks, and currently have crossing gates and lights. The next level of improvement is a grade-separated crossing.

### **Security**

The installation of permanent dynamic message signs (DMS) at strategic points on the interstate and arterial highways serving the region should be augmented. Additional installations will provide the capability for traffic management personnel to alert drivers to congestion areas as well as provide emergency and possible evacuation and other security information. Amber alerts can also be facilitated through the DMS infrastructure.

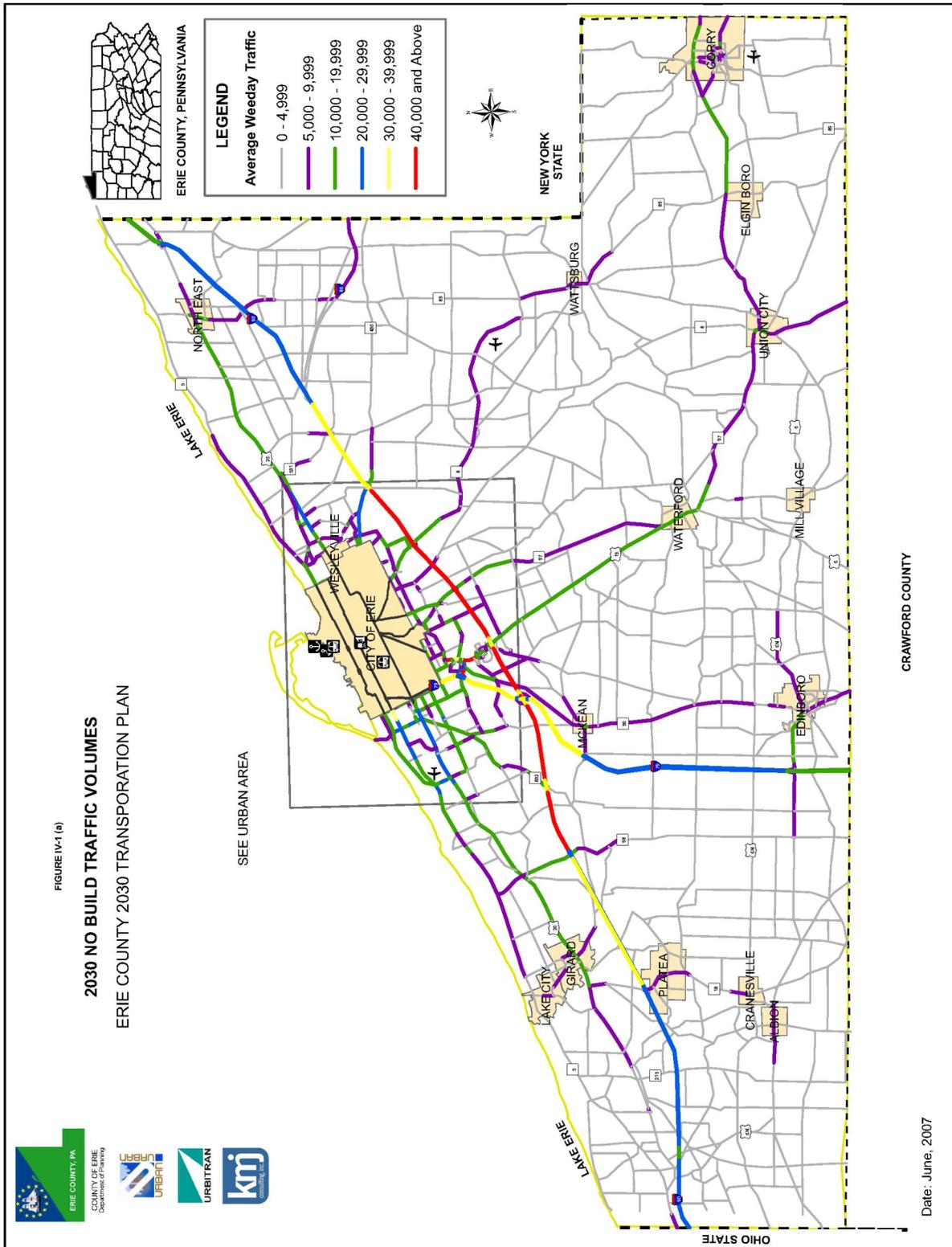
### **Transportation Systems Management (TSM) initiatives**

The MPO/County has recently completed several TSM / congestion management corridor studies throughout Erie County in an effort to quantify the transportation needs along priority corridors. Most recently, studies were completed for the Bayfront Parkway and 12<sup>th</sup> Street in 2003, identifying needed traffic flow improvements. A Needs Study prepared for the County/MPO in 2001 assessed transportation conditions in southeast Erie County, focusing on the arterial corridors between the City of Corry and the City of Erie. Based upon a traffic engineering analysis, the study identified over 30 improvements that would address mobility needs along the corridors. Recommended improvements include minor intersection modifications such as improved signal timing or increased curb radius as well as traffic calming measures, addition of turning lanes, and construction of passing lanes at selected locations.

### **Capacity Needs**

The evaluation of capacity related needs is derived from a detailed analysis using a travel projection model as a tool. This model, called TP+, divided Erie County into 1,403 traffic analysis zones that are based upon census block groups and an analysis of the roadway network. The municipal population and employment estimates from the demographic analysis were sub-allocated into the traffic analysis zones. The forecasted population and employment of each zone was entered into the model to generate the total number of trips to be distributed onto the roadway network in the design year of 2030. A trip table designating the number of trips between each pair of zones was created using a gravity model. A gravity model relates the proximity of one traffic analysis zone to the other and the population and number of jobs in each zone to determine the number of trips between each pair. Each trip is then assigned to the roadway based upon the quickest route between the zones. The model estimates the travel time of each possible route for the trip to assign trips. Travel time, of course, is dependent upon the amount of traffic the model assigns to each roadway since travel time is increased as traffic increases. The model also respects posted speed limit, functional classification of the road and the design of the roadway. Therefore, the model balances traffic among all reasonable routes, much as motorists do when selecting a desired travel route.

The model provides outputs of projected traffic volumes and levels of service. The system-wide traffic volumes anticipated for the year 2030 are illustrated in **Figure IV-1 (a,b) – Year 2030 No Build Traffic Volumes**. Following is a summary of findings regarding forecasted traffic volumes along the major roadways of Erie County.





Interstate Highways

Traffic projections for the year 2030 for I-90 range from 18,000 vehicles per day at the New York State Line to 57,200 vehicles per day between PA Route 97 and PA Route 8. **Table IV-1** lists the future ADT on Interstate 90.

**Table IV-1**  
**Projected Year 2030 Average Daily Traffic Volumes**  
**Interstate 90**

Roadway Link	Volume
Ohio Line to US Route 6N	43,600
I-79 to US Route 19	44,400
US Route 19 to PA Route 97	56,600
PA Route 97 to PA Route 8	57,200
PA Route 8 to Bayfront Connector	41,000
Bayfront Connector to Interstate 86	36,700
US Route 20 to New York State Line	18,000

I-86 is projected to carry about 4,600 vehicles per day over its length in the eastern part of the County. The projected Average Daily Volume on Interstate 86 is listed in **Table IV-2**.

**Table IV-2**  
**Projected Year 2030 Average Daily Traffic Volumes**  
**Interstate 86**

Roadway Link	Volume
I-90 to PA Route 89	4,000
PA Route 89 to New York State Line	5,004

I-79 projected traffic volumes range from 16,000 vehicles per day near the boarder with Crawford County to 39,200 vehicles per day between US Route 20 and PA Route 5. **Table IV-3** lists the future ADT on Interstate 79.

**Table IV-3**  
**Projected Year 2030 Average Daily Traffic Volumes**  
**Interstate 79**

Roadway Link	Volume
Crawford County Line to US Route 6N	16,000
US Route 6N to West Road	28,500
West Road to I-90	33,200
I-90 to Interchange Road	37,000
Interchange Road to US Route 20	37,200
US Route 20 to PA Route 5	39,200

US Routes

The US Routes are projected to carry significant amounts of regional traffic. On US Route 20 in Millcreek Township would carry as much as 24,000 vehicles per day. US Route 19 will carry as many as 15,000 vehicles per day between I-90 and Interchange Road, while US Route 6N will carry 19,100 vehicles per day between I-79 and Edinboro. The projected Average Daily Volumes on selected sections of US Routes in Erie County are listed in **Table IV-4**.

**Table IV-4**  
**Projected Year 2030 Average Daily Traffic Volumes**  
**US Routes**

Roadway	Roadway Link	Volume
US Route 6	Crawford Line to US 6N	3,900
	US 6N to Union City	4,600
	Union City to Elgin	7,900
	Elgin to the City of Corry	12,300
	Corry to Warren Co Line	11,000
US Route 6N	I-90 to PA 18 (South)	4,200
	PA 18 (S) to PA 18 (N)	5,900
	PA 18 (North) to PA 98	3,700
	PA Route 98 to I-79	6,500
	I-79 to PA Route 99	19,100
	PA Rte. 99 to US Rte. 6	5,500
US Rte. 19	US Rte. 6 to PA Rte. 97	2,600
	PA Route 97 to I-90	15,500
	I-90 to Interchange Rd.	31,500
	Interchange Rd. to US 20	29,800
US Route 20	Ohio Line to US Rte. 18	5,100
	PA Rte. 18 to PA Rte. 98	15,900
	PA Rte. 98 to PA Rte. 832	20,200
	PA Rte. 832 to I-79	24,000
	I-79 to Parade St.	12,400
	Parade St. to Buffalo Rd.	13,600
	Buffalo Rd. to Nagle Rd.	15,000
	Nagle Rd. to PA Rte. 531	21,600
	PA Rte. 531 to PA Rte. 89	12,300
PA Rte. 89 to I-90	5,500	

PA Traffic Routes

There are several key PA Traffic Routes projected to carry significant traffic volumes. PA 5 (12<sup>th</sup> Street), the primary east-west traffic route through the center of the City of Erie, is projected to carry volumes in excess of 15,500 vehicles per day in sections of the urban area. The other major PA routes carrying traffic in and out of the Erie urban area, such as PA 8, 89 and 97, will also be carrying large amounts of traffic to accommodate commuters. **Table IV-5** lists the projected volume of traffic on selected PA Routes in Erie County.

**Table IV-5**  
**Projected Year 2030 Average Daily Traffic Volumes**  
**PA Traffic Routes**

Roadway	Roadway Link	Volume
PA Route 5	US Rte. 20 to PA Rte. 18	1,800
	PA Rte. 18 to Millfair Rd.	8,300
	Millfair Rd. to PA Rte. 832	20,700
	PA Rte. 832 to I-79	34,500
	I-79 to State St.	20,000
	State St. to Bayfront Conn.	15,500
	Bayfront Conn. to Franklin Ave.	15,000
PA Route 8	Franklin Ave. to PA 955	18,100
	US Route 20 to 38 <sup>th</sup> St.	13,400
	38 <sup>th</sup> St. to East Gore Rd.	14,800
	East Gore Rd. to I-90	16,000
	I-90 to Barton Rd.	9,300
PA Route 18	Barton Rd. to PA Rte. 89	5,700
	US Rte. 6N to I-90	5,000
PA Route 89	PA Rte. 8 to PA Rte. 430	3,200
	PA Rte 430 to I-86	3,600
PA Route 97	PA Rte. 8 to PA Rte. 19	11,300
	PA Rte. 19 to Robison Rd.	8,000
	Robison Rd. to I-90	10,300
	I-90 to PA Rte. 505	19,600
	PA Rte. 505 to E. Gore Rd.	15,200
	East Gore Rd. to 38 <sup>th</sup> St.	16,000
	38 <sup>th</sup> St. to PA Rte. 8	15,300
PA Route 98	PA Rte. 832 to I-90	11,000

	I-90 to US Rte. 20	11,000
	US Rte. 20 to US Rte. 5	7,600
PA Route 99	US Rte. 6N to Crane Rd.	5,900
	Crane Rd. to W. Stancliff Rd.	6,000
	W. Stancliff Rd. to I-90	7,000
	I-90 to Interchange Rd.	6,000
PA Route 290	PA Rte. 20 to I-90	17,500

Other Significant Roadways

Two significant roadways expected to carry traffic in the Erie urban area are noted in **Table IV-6**. The Bayfront Parkway is projected to carry about 23,400 vehicles per day. The 38<sup>th</sup> Street corridor is anticipated to carry as much as 21,600 vehicles per day.

**Table IV-6**  
**Projected Year 2030 Average Daily Traffic Volumes**  
**Other Significant Roadways**

Roadway	Roadway Link	Volume
Bayfront Pwy.	I-79 to 8th St.	14,100
	8th St. to State St.	23,400
	State St. to 6th St.	11,000
	6th St. to PA Rte. 5	8,900
38 <sup>th</sup> Street	PA Rte. 832 to Pittsburgh Ave.	17,400
	Pittsburgh Ave. to US Rte. 19	21,600
	US Rte. 19 to PA Rte. 8	28,900

**Levels of Service**

While traffic volumes provide an important measure of activity on the County’s roadway system, evaluating how well the system accommodates those volumes is also very important. To do this, the traffic volumes are compared to the capacity of the roadway or roadway element such as an intersection or a roadway link. Based upon data of similar roadways from across the country, an assessment is made of how that roadway element will perform under a particular amount of traffic. Level of service is a way of relating the experience of motorists using the roadway system to the concept of traffic volume and the capacity of the roadway element to accommodate traffic demands. Six levels of service are established for the different types of roadway elements. Typically, Level of Service F indicates stop and go traffic or failing operation. Level of Service E represents operation at the capacity of the roadway to accommodate its traffic demand. For most planning purposes, Level of Service C or D is used because these levels

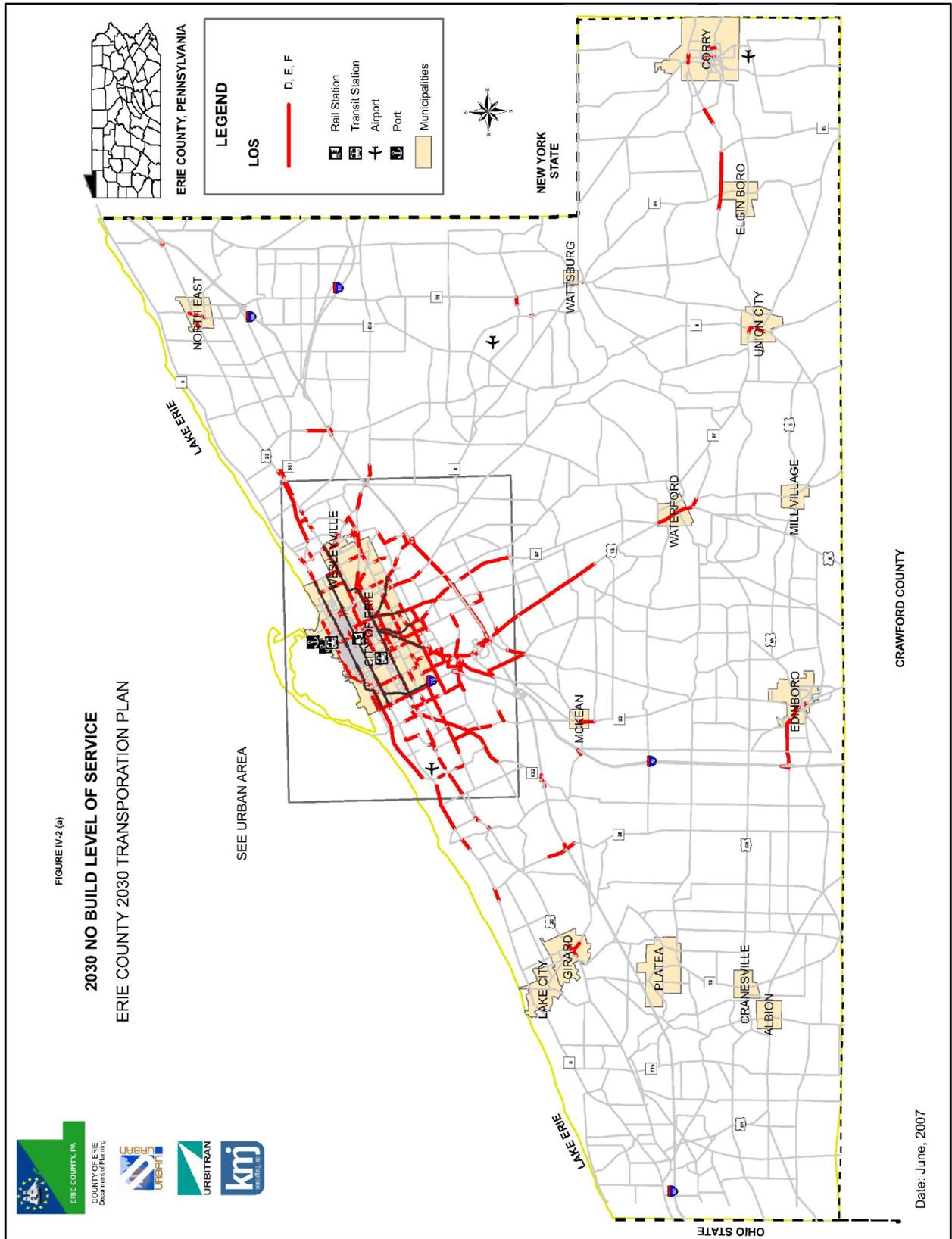
define more acceptable operating conditions for motorists. Erie County has determined that Level of Service C is the minimum acceptable Level of Service for transportation planning purposes in the County.

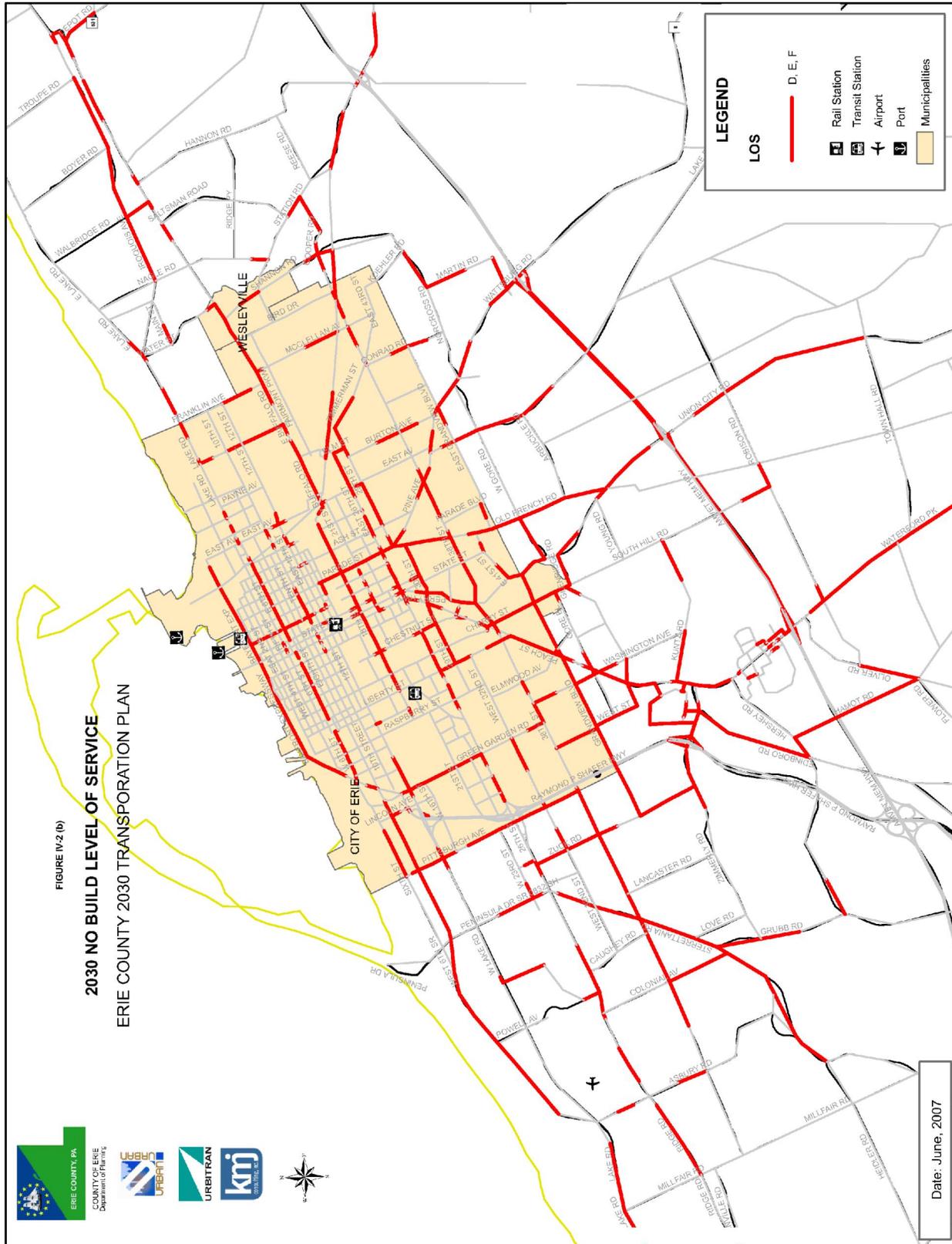
**Table IV-7** shows descriptions of levels of service.

**Table IV-7**  
**Descriptions of Levels of Service**

Level of Service "A"	Represents free flow. Individual motorists are unaffected by the presence of other vehicles on the roadway. The individual can select speed and maneuver (pass a slower vehicle) without interference from other vehicles.
Level of Service "B"	Represents slightly less freedom to maneuver. The presence of other motorists in the traffic stream is now noticeable, but desired speeds can still be selected freely and maneuverability is impeded occasionally.
Level of Service "C"	Represents stable flow. Motorists now become significantly affected by interactions with others in the traffic stream. The selection of speed is influenced by others and maneuverability is achieved through careful decisions. However, overall traffic flow is still relatively smooth.
Level of Service "D"	Represents occasional unstable flow. Speed and freedom to maneuver are restricted. Any additional traffic causes operational problems at this level.
Level of Service "E"	Represents unstable flow. Breakdowns occur with increasing frequency. Operating conditions are at or near fill capacity level. Speeds are typically reduced. Passing opportunities and gaps in traffic are infrequent.
Level of Service "F"	Represents unacceptable flow. It could be considered excessive delay in some areas, frequently an indication of over saturation (i.e., arrival flow exceeds capacity), or very long cycle lengths with minimal side street green time. Capacity is not necessarily exceeded under this level of service.

**Figure IV-2 (a,b) – Year 2030 No Build Level of Service** illustrates the roadway links that are projected to operate at LOS D, E and F by the year 2030. The following paragraphs describe the projected operations on selected links projected to operate unacceptably.





Interstate Highways

I-90 is anticipated to operate at unacceptable levels of service throughout significant segments of Erie County. During the study period, the capacity deficiencies in the section between PA Route 98 and I-86 are severe enough to warrant action within the timeframe of this plan to increase capacity and improve operations. Safety, pavement, structural and operational updates may also be needed in the eastern and western ends of the corridor.

I-79 is projected to operate acceptably throughout Erie County. It is not anticipated that capacity enhancements (such as additional travel lanes) will be required during the life of this plan. Pavement rehabilitation, traffic operational and safety improvements as well as structural improvements, however, may be needed.

I-86 is projected to operate acceptably throughout the duration of this plan.

Several of the on/off ramps of these interstate routes are expected to begin operating unacceptably.

Key East-West Corridors

The Bayfront Parkway will operate unacceptably between Eighth Street and the Bayfront Connector, but the level of unacceptable operation will be such that operational improvements as opposed to major capacity improvements will be needed during the life of the Plan.

Portions of PA Route 5 will operate unacceptably between I-79 and the Bayfront Connector. The Franklin Avenue section will also operate unacceptably, as well as the segment between Franklin Avenue and PA Route 955.

US Route 20 will operate unacceptably within the City of Erie and adjacent to the City. Specific locations of unacceptable operation are between I-79 and Franklin Avenue. In this area, the unacceptable levels of service are most severe between Peach Street and Bayfront Connector and in Wesleyville. US Route 20 is also projected to operate unacceptably in North East Borough.

US Route 6/6N is projected to operate unacceptably between PA Route 89 and the Warren County Line. It should be noted, however, that except in the City of Corry area, the capacity deficiencies are such that additional lanes would not be warranted. Specific traffic operations and safety improvements such as described in the City of Corry/Southeast Erie County Transportation Improvement Needs Analysis will be needed. Within Edinboro, and the segment to I-79, US Route 6N would operate well in excess of capacity.

Key North-South Corridors

US Route 19 ,south of I-90, capacity deficiencies are projected over a significant length of the corridor to Waterford. The roadway link in which US Route 19 and PA Route 97 are coincident through Waterford is projected to operate at severely unacceptable levels of service. Between US Route 20 and the Millcreek Mall, US Route 19 will have capacity deficiencies.

PA Route 832 is projected to have capacity deficiencies between I-90 and US 20.

PA Route 97 is projected to have unacceptable operations from its intersection with PA Route 8 in the City of Erie through to south of I-90

PA Route 99 is projected to operate deficiently in Edinboro and McKean. Deficiencies are expected near the Millcreek Mall.

PA Route 8 is projected to operate unacceptably at various locations from PA Route 5 to just beyond the I-90 interchange.

PA Route 98 would operate unacceptably in the area of the I-90 interchange.

Boroughs and Cities

In addition to the unacceptable roadways noted in the corridors listed above, there are deficient roadway links of note within the Boroughs and Cities.

City of Corry – PA Route 426 -- Center Street between US Route 6 and Main Street.

Girard – US Route 20, between PA Route 18 and Walnut Street.

Union City – Combined US Route 6 and PA Route 8 between PA Route 97 and the south borough boundary.

City of Erie – With its grid network of streets, traffic is distributed based upon local conditions and driver preferences. However, there are several roadway links that are projected to operate unacceptably. These links are PA Route 505 between 26<sup>th</sup> Street and PA Route 97, Sixth Street between Pittsburgh Avenue and Downing Avenue, Grandview Boulevard between Zuck Road and PA Route 505.

**PUBLIC TRANSPORTATION**

In 2006, a comprehensive Transit Service Planning Study was prepared that considered eleven (11) major aspects of planning, providing, and evaluating transit service. Those issues were:

**Community Characteristics** – which identified major transit generators and examined information on socioeconomic characteristics throughout Erie County.

**Existing Conditions** – which focused on routing, frequency and span of all services provided as well as the current fare structure and a five-year operating, financial, and ridership performance trend analysis of the services on a systemwide basis.

**Resident Survey** – which quantified attitudes of non-regular users towards public transportation services. A total of 526 valid surveys were returned and tabulated which surpassed the goal of 400.

**Rider Survey** – which included an opinion survey of current EMTA riders. Riders were asked a series of questions concerning their riding habits, opinions regarding EMTA service as well as socioeconomic and demographic information. In addition, riders were asked to identify service improvements that they feel are most important. A total of 1,853 valid surveys were returned and tabulated.

**Community Participation Forums** – which included various survey efforts to elicit the input of the general public and current EMTA riders. In addition to the surveys, the study process also included various forums to provide members of the public and EMTA staff with an opportunity to provide input to study recommendations.

**Peer Group Analysis** - which evaluated EMTA in relation to peers selected from the National Transit Database.

**Service Standards** – which established a set of transit performance criteria to assess the performance and adequacy of the current public transportation system and guide the formulation of route improvement proposals

**Service Adequacy** – which assessed EMTA's performance relative to each element of the above mentioned established service standards.

**Route Diagnostics Analysis** – which developed specific proposals designed to render EMTA's public transportation system more efficient and responsive to the needs of its market.

**Service Improvement Proposals** - which described route and service improvement proposals developed for EMTA services.

**Recommended Plan** – which provided a recommended schedule for the implementation of the above-mentioned Service Improvement Proposals. These recommendations also addressed issues which support and enhance EMTA's services such as a capital improvement program, public information programs, and fare structure.

As a result of the Study, EMTA has implemented many of the route and schedule changes recommended therein. **Table IV-8** lists the revised route numbers, days of operation, and route descriptions for the fixed route system.

However, there are several recommendations that have not yet been or are in the process of being implemented. Express bus service, particularly between Edinboro and Erie is under consideration but has not commenced. The implementation of a zone-based fare structure with a revised transfer policy has also not been accomplished.

A major recommendation of the "Joint Operational Facility and Technology Deployment" study cited in Chapter I, details the rationale and need for a joint facility to house both the fixed route and paratransit (LIFT) fleets and supporting administrative and operational services. Incorporating a traffic management operations center in the facility is also planned. A \$20 million item has been included in the year 2010 Transportation Improvement Plan for this joint facility. Further, the system-wide implementation of an Automatic Vehicle Location (AVL) system should be effected. Only the Bayliner Trolley and the Edinboro Shuttle services are equipped with AVL systems at present.

Not considered specifically in the Study but needed none-the-less is improved access at the entrance of the Bayfront Parkway Park and Ride Lot. A proposed traffic light request was denied by PennDOT unless it replaced all other traffic lights on the Parkway. Difficulty in exiting the lot onto the Bayfront Parkway eastbound across the westbound lane carrying heavy traffic is a major deterrent for patrons considering using the lot. Any such improvement will enhance the lot's attractiveness for drivers seeking to avoid downtown congestion and would be an important element of an intermodal solution to congestion as required by SAFETEA-LU. Further, a park and ride lot located at a more remote location such as at the intersection of Interstates 90 and 79 with express bus service serving the lot could provide benefit.

<b>Table IV-8</b>		
<b>Erie Metropolitan Transportation Authority (EMTA) Bus Routes</b>		
21/28	Weekday, Saturday & Sunday	Lawrence Park, K mart East, Giant Eagle, West 29th Street, West 32nd Street, Caughey
M2	Weekday, Saturday & Sunday	Peach Street to Millcreek Mall
11	Wednesday and Friday	County service – Erie to Harborcreek
12	Monday and Thursday	County Service – Erie to Albion
13	Friday only	County Service – Erie to Corry
14	Weekday & Saturday	County Service – Erie to Edinboro

**AVIATION**

Currently, the Erie International Airport - Tom Ridge Field and the Corry-Lawrence Airport are taking steps to evaluate their specific facility needs, described in Chapter II, Transportation Program, Aviation Section. This chapter will describe the basis upon which the airports are progressing improvement plans.

**Erie International Airport**

As shown in **Table IV-9**, the Erie International Airport – Tom Ridge Field Master Plan (Draft Final Report dated January 2002) projects the following growth in operations:

<b>Table IV-9</b>				
<b>Erie International Airport</b>				
<b>Forecast Summary Table</b>				
	<b>Actual</b>		<b>Forecast</b>	
	<b>1998</b>	<b>2005</b>	<b>2010</b>	<b>2020</b>
<b>Enplaned Passengers</b>	164,323	193,998	218,423	264,460
<b>Aircraft Operations</b>	63,256	63,704	68,152	78,826

The Airport Master Plan also forecasts that cargo tonnage may become an increasing commodity at the airport. However, this demand requires space and the Plan calls for the acquisition of additional land and construction of an Air Cargo Facility.

Even with the forecasted growth in operations, the capacity of the airfield is not judged to be a capacity constraint. However, with the aircraft needed to meet future cargo and passenger demand, the Plan

concludes that the airport has insufficient runway length for corporate jet operations, full commercial jet service, and major air freight operators. Without the runway expansion, economic conditions could be adversely affected due to restricted access to other airports and the national and international marketplace. Associated improvements to Powell Avenue and surrounding highway network will be necessary to accommodate the runway extension and future transportation needs of the surrounding area. Construction of a 1,900-foot extension to the primary runway is scheduled to begin in late 2006.

### **Corry Lawrence Airport**

The Corry-Lawrence Airport prepared an Action Plan Report to assist the Airport Authority and develop a plan to address the needs at the airport. The Action Plan developed activity forecasts for the airport, which serves mainly general aviation.

The airport forecasted about 4,700 annual aircraft operations in the future year 2019. The Annual Service Volume of the Corry-Lawrence Airport was calculated at about 125,000 aircraft operations annually. Therefore, no modifications to the number of runway/taxiway facilities are required to improve or accommodate the future demands projected at the airport.

The Plan projected growth also linked the growth to the construction of additional hangars. The additional hangar space will be the key element that controls growth at the airport. **Table IV-10** illustrates the forecasted operation levels:

**Table IV-10  
Corry-Lawrence Airport  
Forecast Summary Table**

	Actual 1999	Forecast		
		2004	2009	2019
<b>Based Aircraft</b>	10	14	15	16
<b>Aircraft Operations</b>	3,372	3,648	3,938	4,434

The Airport Action Plan indicates future airside and landside developments to consist of: a 12 unit T-hangar and a 100' x 80' corporate hangar to address aircraft users on the waiting list for hangar space and to attract new aircraft users; a new Airport administration building; operational improvements; and some land acquisition.

**PORT OF ERIE**

The Erie-Western Pennsylvania Port Authority operates a multi-modal port facility, and also operates a number of recreational attraction venues along Erie's Bayfront. In recent years these operations have been increased:

- § **2000:** Port welcomed 2 ships at 4 calls with 285 passengers
- § **2001:** Port welcomed 2 ships at 4 calls with 445 passengers
- § **2002:** Port welcomed 3 ships at 7 calls with 684 passengers

If the current trends continue, some 1,200 passengers will stop at the Port of Erie by 2012. While the current trends may be optimistic, if the rate of growth is half of the trend, then by 2024, there will be in excess of 1,000 passengers visiting the port per year.

The Port also accommodates industrial traffic, but at a slowing rate due to the loss of industries that ship via water. Despite this slowing rate, the Port maintains cranes and facilities to serve industry. Additionally, to better serve industrial shippers, the Port Authority is improving the Dock Face area to accommodate bulk cargo. Shipping volumes have increased. The Port operator has requested the rail carriers serving it to upgrade the rail sidings to acquire more capacity.

The Port Authority sees the need to actively participate in transportation to and from Canada via high-speed water ferry. As proposed, the service would reduce travel time to Canada by about one hour. The Port Authority received a commitment from PENNDOT for \$4 million in state grant, contingent on the Port Authority receiving \$16 million in combination grants from the federal government, to begin the estimated \$20 million project. While the infrastructure in Erie has been completed, Canada is extending a freeway to serve the proposed terminal and is planning to construct the waterside infrastructure. The first ferry to Canada is expected to sail in the summer of 2007.

The Erie-Western Pennsylvania Port Authority is also the steward for the development of the Bayfront. It has studied and planned a program of improvements for the development of a Bayfront park including:

- § Completion of a final 16-mile stretch of a pedestrian trail system from the Penn State campus to Presque Isle State Park
- § Possible facility at boathouse to rent bicycles
- § Possible campground at channel entrance to port accessible by car, bicycle and ferry boat
- § Handicapped accessible fishing pier
- § Restored historic boat house for boat rentals

This park, with development now underway, is designed to link the downtown area with the Bayfront, connect to the residential areas to the west of the downtown and the venues to the east.

In response to homeland security concerns, the Port has installed six (6) cameras along two (2) miles of shoreline.

### **GOODS MOVEMENT**

Freight movement, along the main rail corridor, and through truck traffic along the I-90 Corridor, is increasing. Provision to accommodate these increases is a critical part of the transportation picture. Coordination between the modes needs to become more efficient, and this can be accomplished in several areas:

- § Volume of trucks on the Interstate Highway System. I-90 carries up to 12,000 trucks per day and I-79 carries approximately 4,600 trucks per day. Steps need to be taken to utilize rail as the mode of choice for commodities to the extent possible.
- § Rail/highway crossings. The safety of the crossings as well as the delays caused due to train movements needs to be addressed to provide for more efficient traffic movement.
- § Transfer of goods from the port to other freight modes. Currently, most of the goods shipped by water to the Port of Erie are loaded onto trucks despite the proximity of rail service.
- § Changing of industry from heavy manufacturing to light manufacturing in Erie County. Shipments are more time sensitive and the packages mostly smaller.

### **PEDESTRIAN AND BICYCLE**

The need to plan for convenient and safe pedestrian circulation is most critical in the suburbanizing areas of the County. In many of the newly suburbanized areas, there are no sidewalks. There should be a system of interconnecting trails developed, and policies and standards related to new residential and commercial developments implemented, to provide pedestrian access to attractive community destinations. And in many of the older urbanized areas throughout the county sidewalks are aging and in need of repair.

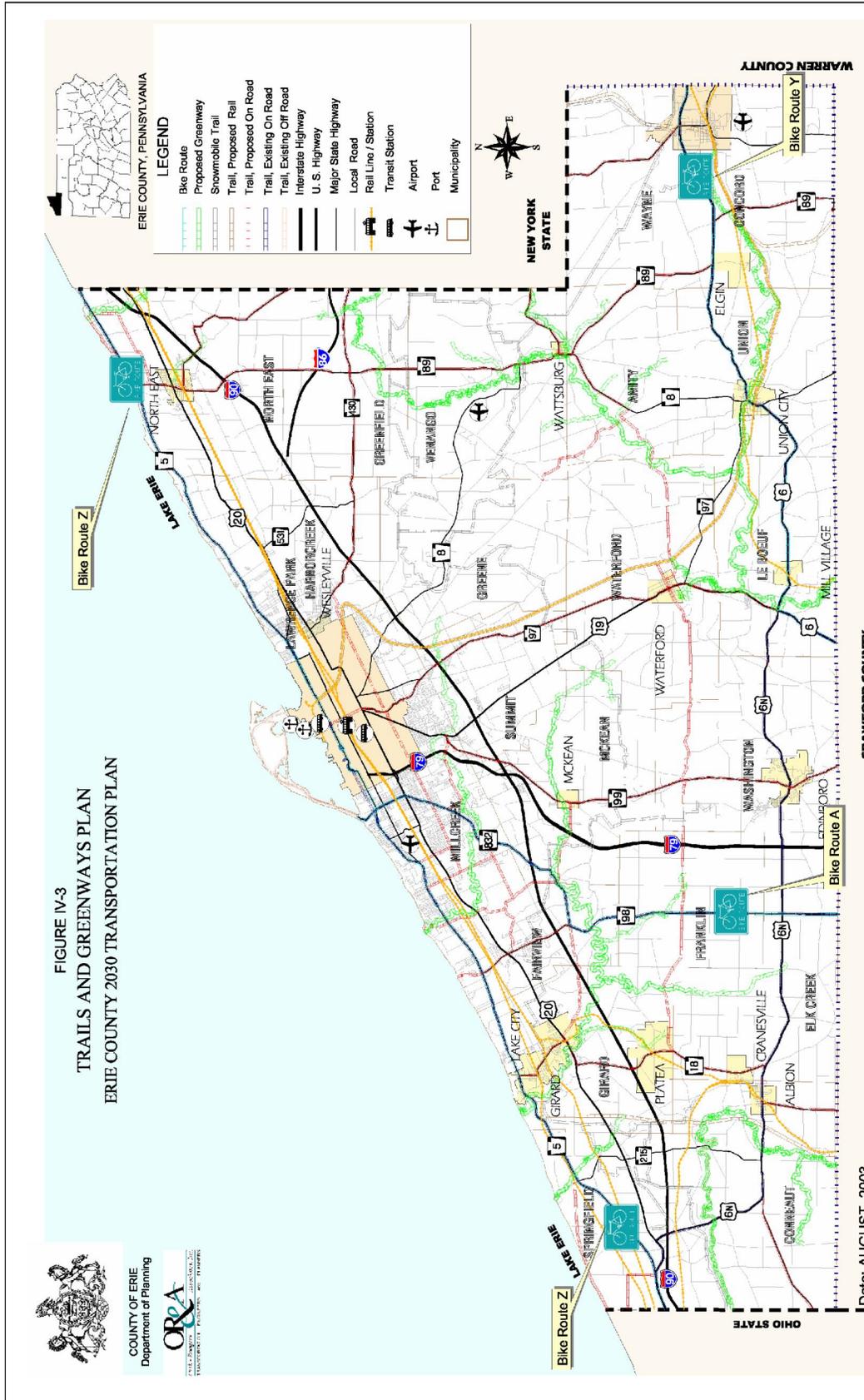
#### **Trails and Greenways**

To assess the needs of pedestrians and bicyclists in the region, a Trails and Greenways Plan for Erie County was completed in 2000, identifying the location, type, and implementation of roadside and off-road bicycle and/or pedestrian facilities throughout Erie County. The study was concerned with the development of a cohesive system of trails, greenways, safe corridors for bikes and the safety of pedestrians, promotion of the facilities and program as well as the use of the transit system. This plan developed an Action Plan to address the needs of Erie County. The elements of the Erie County Trails

and Greenways Plan are illustrated in **Figure IV-3 -Trails and Greenways**. Erie County also completed a *Rail Trail Feasibility Study*, which examined four primary corridors, previously identified in the *Erie County Trails and Greenways Plan* as having the greatest potential for rail-trail development. The overall goal of the study was to provide a strategy for development of one or more of the corridors into a publicly dedicated rail trail.

Notable projects identified through these initiatives that should continue to be pursued include:

- § Enhancement of Bicycling and Walking in the City of Erie
  - All existing EMTA buses are equipped with bike racks. Replacement buses should be equipped as well.
  - Use of Intermodal Center as a hub for biking and walking and establishment of a bike station
  - Construct the remaining bike/pedestrian facilities along the Bayfront corridor
- § Education Program
- § Municipal Outreach
- § Rail Trail Projects
  - Acquire and improve the Corry to Clymer, NY trail corridor as first R/T priority
  - Continue to investigate the acquisition of the Corry to Crawford County Line/Clear Lake corridor
  - Rail with Trail from Corry to Erie (if abandoned as an operating railroad)
  - Rail with Trail from Corry to Crawford County / Meadville (if abandoned as an operating railroad)
  - Rail Trail Corridor from Union City to Cambridge Springs



**Streetscape Improvements**

While the trails and greenways program develops the way to get pedestrians and bicyclists to one's destination, the destination needs to be an attractive place to go to, as well as to live and work. To that end, the boroughs and cities of Erie County, many of which are old, need to consider enhancing their appearance as a destination. Cities such as Corry, Waterford, Albion, North East, Girard, Lake City, Edinboro, and Union City need to be analyzed for streetscape improvements. Municipalities that have a Main Street program should be considered first in addressing this need.

The City of Erie is beginning the revitalization of a number of neighborhoods and commercial areas, including the downtown area. One area in particular is the Parade Street Corridor. This corridor has a mix of commercial and residential uses and contains a number of historical buildings. A streetscape project is already in final design with construction anticipated to begin in 2007.

In addition, the City is beginning to work with community groups in the following areas. It is anticipated that as a result, streetscape improvements will be identified for these areas:

- § 12<sup>th</sup> Street
- § 26<sup>th</sup> Street
- § 18<sup>th</sup> Street and Buffalo Road
- § 17<sup>th</sup> Street
- § Cherry Street – enhancement for vehicles and neighborhood components
- § French Street
- § Peach Street north of 26<sup>th</sup> Street
- § Sassafras Street
- § State Street

In addition, a complementary improvement to the streetscape improvements would be a citywide program of tourist-oriented signs to key neighborhoods and venues around the city.

In general, many of these candidate areas are burdened by large trucks making deliveries trying to maneuver in small areas, poor and inconvenient parking layouts, and no identity setting these communities apart. A streetscape program is needed to complement the efforts of municipal governments.

**TRANSPORTATION POLICY NEEDS**

Transportation needs are not limited to transportation facilities alone. Sound policies that will support economic growth and encourage involvement of all agencies, local governments and PENNDOT are also required for a long-range transportation plan.

In the roadway capacity needs element of the Highway Network section, it was noted that some of the roadways are projected to operate at levels of service that are marginally below acceptable levels. This means that there is time before a capacity improvement will be needed. However, this would assume that the County could build its way out of congestion. Experience tells us that that is not possible. On the other hand, there are other tools that can come into play in the area of policies. Land use policies that concentrate development in areas with infrastructure that support development (water, sewer, transportation), access management policies (interagency cooperation, access standards and process standards) and development evaluation policies (traffic impact study and internal circulation) need to be established and strengthened so that the roadway capacity is preserved for as long as possible.

The Erie Metropolitan Planning Organization partners with the municipalities throughout the County to assist with land use planning, development reviews and assists municipalities to coordinate across boundaries.

Recently, the County Department of Planning staff has been working to develop a countywide land use plan that will serve as a guide in the development of municipal comprehensive plans, zoning and subdivision, and land development ordinances. The MPO should continue their efforts with their partners to establish policies needed to manage existing and future traffic, growth and development within the county, and the preservation of roadway capacities. Consideration of incorporating the concept of “transit oriented development” should be given as an element of managing existing and future traffic and roadway capacities.

## INTRODUCTION

This chapter will combine the projects and programs that have been developed through the planning process and develop a list of capital projects that are recommended for addition to the County's Transportation Improvement Program as funding and urgency allow.

PENNDOT coordinates with the State Transportation Commission (STC), Metropolitan Planning Organizations (MPO's), County Planning Commissions, and the public as part of their long range planning practice. The PENNDOT Twelve Year Program (TYP) is a comprehensive list of projects funded over that twelve-year period. The program goal is to enhance economic development throughout the state of Pennsylvania with a safe and reliable transportation system. Projects appearing on the TYP are reevaluated every two years for completed projects to be removed, current projects to move forward and additional projects to be added to the program. The projects are categorized into three four-year periods. MPO's review submissions from local municipalities and solicit public input to prioritize the projects. Projects are selected to be included in the Transportation Improvement Program (TIP). STC then holds a public hearing to determine which projects will be on the PENNDOT Twelve Year Program. The projects included in the first four years of the program become the Statewide Transportation Improvement Program (STIP).

The Transportation Needs section of the Plan described the needs of the various modes of transportation. Most all modes have a program that is ongoing and regularly updated. The purpose of this chapter of the Plan is to define the new initiatives and those ongoing initiatives that should be modified.

## COMMITTED PROJECTS

Several significant transportation projects identified in the 1998 Erie MPO Long Range Transportation Plan have been completed or are currently underway. Notable completed highway projects include all sections of the Bayfront Connector (East Side Access Hwy.) from the Bayfront Parkway to I-90; the widening of 26<sup>th</sup> Street from Asbury Road to Peninsula Drive for the addition of a center turn lane; and the widening of Buffalo Road from Fourmile Creek Bridge to Walbridge Road for the addition of a center turn lane. The Nagle Road grade separated railroad crossing project and the West 38<sup>th</sup> Street realignment are completed.

The Airport Runway/Powell Avenue environmental and engineering study addressing the existing needs of the Erie International Airport - Tom Ridge Field and the surrounding highway network is completed. The project will extend Runway 24 by 1,900 feet to provide 7,500 feet of available runway takeoff length. The extended runway will divide the existing Powell Avenue alignment, and a local roadway connection

will be constructed to connect Powell Avenue from south of the runway to 12<sup>th</sup> Street via Marshall Drive. The project also includes widening of Asbury Road to four lanes, and replacing the Norfolk Southern and CSX railroad bridges over Asbury Road. Improvements to the West 12<sup>th</sup> Street and Peninsula Drive, West 12<sup>th</sup> Street and Asbury Road, West 26<sup>th</sup> Street and Peninsula Drive, and West 26<sup>th</sup> Street and Asbury Road intersections are also included in the project scope, and are in final design stages.

The Erie Metropolitan Transportation Authority has implemented initiatives such as the opening of the Intermodal Transportation Center, Park & Ride lots, utilizing CNG clean-air buses, and starting the downtown trolley shuttle service.

## HIGHWAY NETWORK

In addition to the Committed Projects described above, the Long Range Plan developed a series of new projects. Along with the Committed Projects, the Major Projects of the Long Range Plan are shown in **Figure V-1 (a,b) – Recommended Major Highway Improvements**. The Major Projects as developed in the Long Range Plan are summarized below:

- § I-90 Widening: In Summit, Fairview, McKean, Greene, Millcreek and Harborcreek Townships, widen I-90 to a six-lane facility. The project is divided into three sections for funding and prioritization:
  - I-79 to PA 97 (Year 2020)
  - PA 98 to I-79 (Year 2030)
  - PA 97 to I-86 (Year 2030)
  
- § Roadway Extensions on new alignment:
  - In Greene Township, extend Robison Road from Old Waterford Road to PA 8 (Year 2015)
  - In Millcreek and Summit Townships, extend South Hill Road in three segments – US 19 to Kuntz Road (Year 2015), Cherry Street to PA 97 (Year 2015), PA 97 to PA 8 (Year 2025)
  - In Millcreek and McKean Townships, extend Hershey Road from Grubb Road to PA 832 (Year 2025)
  - In the City of Erie, extend 18<sup>th</sup> Street from Cranberry Street to Greengarden Road (Year 2025)

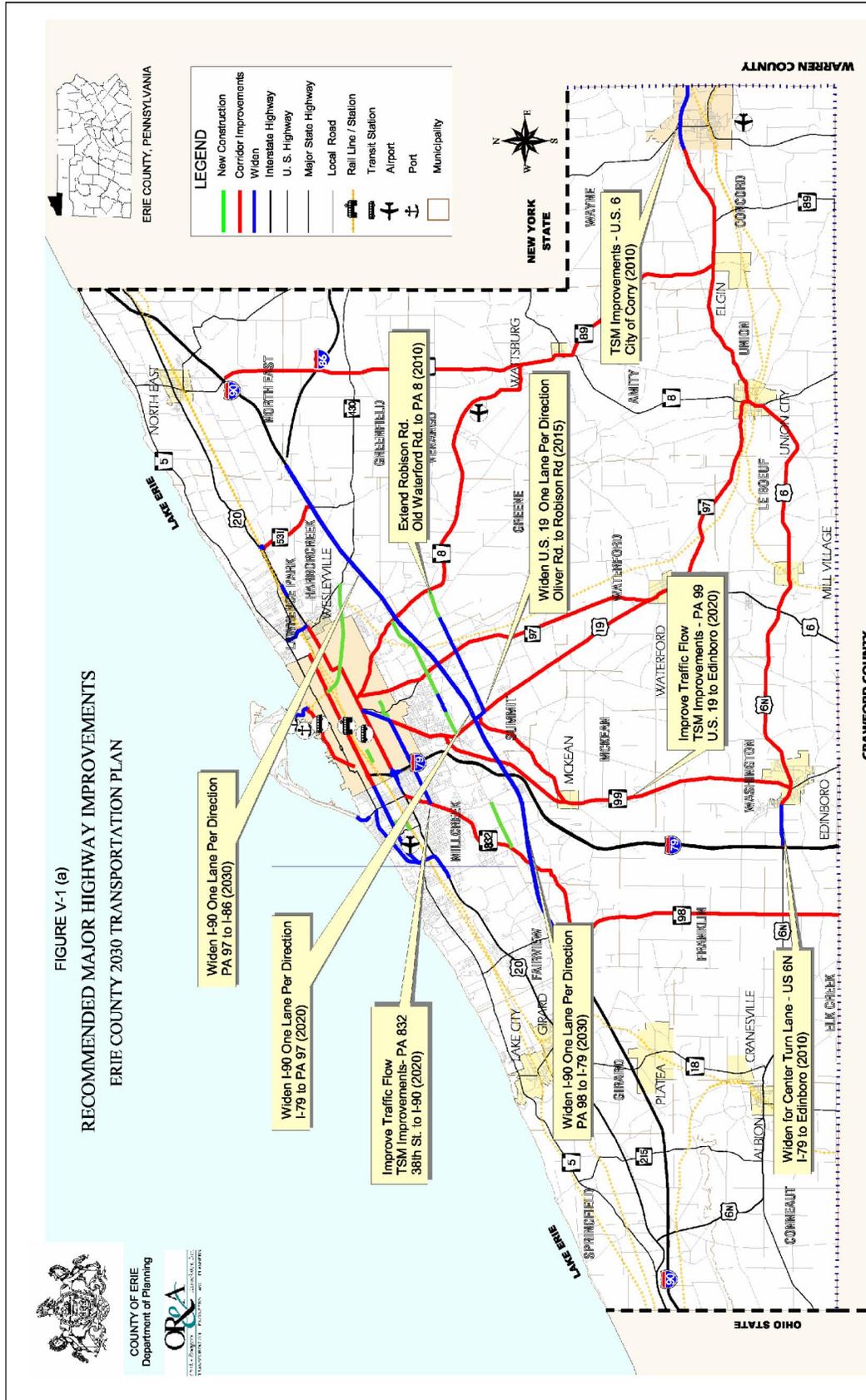
## § Roadway Widening:

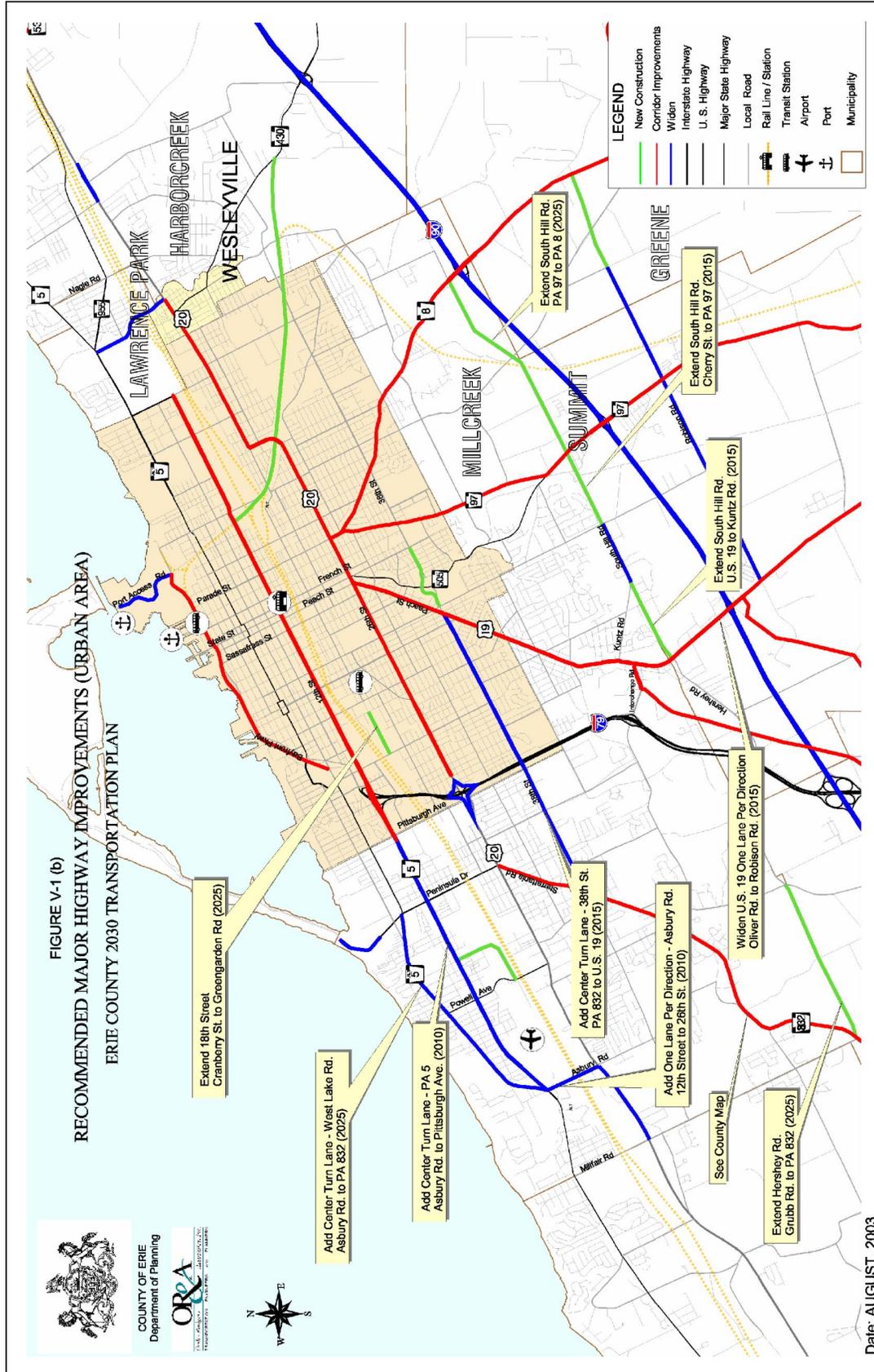
- In Millcreek Township, widen PA 5 from Asbury Road to Pittsburgh Avenue to provide a center turn lane (Year 2010)
- In Washington Township and the Borough of Edinboro, widen US 6N to provide a center turn lane (Year 2010)
- In Summit Township, widen US 19 between Oliver Road and Robison Road for an additional through lane in each direction (Year 2015)
- In Millcreek Township and the City of Erie, widen and/or re-stripe 38<sup>th</sup> Street between PA 832 and US 19 to provide a center turn lane (Year 2015)
- In Millcreek Township, widen West Lake Road between Asbury Road and Peninsula Drive to provide a center turn lane (Year 2025)

§ TSM Improvements: These improvements are typically the addition of left or right turn lanes, access management improvements, curve realignments, shoulder improvements and traffic signalization improvements. The corridors listed below have been identified through the Long Range Plan Study. Other corridors that are not listed but should be considered as if they are listed below are found in the *City of Corry/Southeast Erie County Transportation Improvement Needs Analysis Study*.

- In the City of Corry, improve traffic flow on US 6 by adding turn lanes at intersections and developing an access management plan (Year 2010)
- In Millcreek and McKean Townships, improve traffic flow on PA 832 by adding turn lanes at intersections. (Year 2020)
- In the Borough of Edinboro and in Washington, McKean, Summit and Millcreek Townships, improve traffic flow on PA 99 from Edinboro to US 19 by adding turning lanes at intersections, center turn lanes as appropriate and access management and land use controls. (Year 2020)

The recommended major highway projects are also shown in **Table V-1 – Recommended Major Highway Improvements** along with projects that are ongoing and projects that are currently committed and on the TIP. Taken together, these project recommendations have been designed to address the congestion, safety, and mobility needs of the Erie County highway network to the year 2030.





V. RECOMMENDED IMPROVEMENTS

Table V-1 – Recommended Major Highway Improvements

Project Information				Costs (\$000)									
MPMS	SR	Title/Sponsor	Improvement	Period	Study	PE	FD	UTL	ROW	CON	PRA	TOTAL	
		NEW HIGHWAY CONSTRUCTION PROJECTS											
	4010	Hershey Road Corridor: PA 832 to Grubb Road	New Alignment	B		342	684		2053			3079	
	"	"	"	C						19981		19981	
1228	4024	Robison Road Corridor: Old Waterford Road to PA 8	New Alignment	B		342	684		1095			2121	
	"	"	"	C						9990		9990	
1202	4026	South Hill Road Corridor: US 19 to Cherry Street	New Alignment	B		342	684		2053			3079	
	"	"	"	C						13321		13321	
	4026	South Hill Road Corridor: Cherry Street to PA 97	New Alignment	B			684		1095			1779	
	"	"	"	C						9990		9990	
	4026	South Hill Road Corridor: PA 97 to PA 8	New Alignment	C		416	833		3330			4579	
		West Erie Grade Separated RR Crossing	New Alignment	B		274	684		1369			2327	
	"	"	"	C						24976		24976	
		18th Street Extension: Greengarden Rd to Cranberry St	New Alignment	C			167		416		2498	3081	
		26th Street Extension: McCain Ave to McClelland Ave	New Alignment	C			167		416		2498	3081	
		NEW HIGHWAY CONSTRUCTION COSTS:				0	1716	4587	0	11827	83254	0	101384
		PERIOD A (2007-2010):										\$0	
		PERIOD B (2011-2020):										\$12,385	
		PERIOD C (2021-2030):										\$88,999	
		TOTAL:										\$101,384	
		HIGHWAY WIDENING / RECONSTRUCTION PROJECTS											
57836	5	West 12th Street: Asbury Road to Pittsburgh Avenue	Center Turn Lane	A		250		150	50	13250		13700	
75039	6	Erie Rural-Urban Corridor	Improve Traffic Flow	A		200	200		50	2163		2613	
75039	6	Erie Rural-Urban Corridor	Improve Traffic Flow	B						2185		2185	
629	19	Peach Street (A06): Robison Rd to Oliver Rd	Additional Lanes	B			342		205	3421		3968	
786	19	Peach Street (A07): I-90 Interchange	Add Lanes / Ramp Impr.	A		400	1535					1935	
786	19	Peach Street (A07): I-90 Interchange	Add Lanes / Ramp Impr.	B				281	3600	18000		21881	
68138	19	Peach Street (A08): Kuntz Rd. to 38th St.	Additional Sidewalks	A			312	1040	1040	270		2662	
68138	19	Peach Street (A08): Kuntz Rd. to 38th St.	Additional Sidewalks	B						1082		1082	
76191	19	US 19 Corridor: Waterford Improvements	Widening / Turning Lanes	A		350	416		270			1036	
76191	19	US 19 Corridor: Waterford Improvements	Widening / Turning Lanes	B					379	2340		2719	

V. RECOMMENDED IMPROVEMENTS

Table V-1 – Recommended Major Highway Improvements (continued)

Project Information				Costs (\$000)									
MPMS	SR	Title/Sponsor	Improvement	Period	Study	PE	FD	UTL	ROW	CON	PRA	TOTAL	
	20	Buffalo Road Corridor: Wesleyville	Improve Traffic Flow	B			137	137	137	1369		1780	
	20	US 20 Harborcreek RR Underpass	Highway Reconstruction	C		833	3330		833	41627		46623	
	20	US 20: Millfair Road to Asbury Road	Center Turn Lane	C			167	167	167	4163		4664	
75877	20	26th Street CCIP	Improve Traffic Flow	A		200	200	52	52	1839		2343	
	79	I-79 @ 26th Street Interchange	Interchange Improvement	C		833	1665		833	24976		28307	
	90	I-90 Widening: I-79 to PA 97	Additional Lanes	B		342	3421		6843	34214		44820	
	90	I-90 Widening: PA 98 to I-79	Additional Lanes	C		416	3330		3330	40000		47076	
	90	I-90 Widening: PA 97 to I-86	Additional Lanes	C		416	4995		9990	58278		73679	
	97	PA 97 / I-90 Interchange	Highway Reconstruction	B		342	342		684			1368	
	97	PA 97 / I-90 Interchange	Highway Reconstruction	B					684	6843		7527	
	99	PA 99 Corridor: Edinboro to US 19	Improve Traffic Flow	B			137	137	274	2737		3285	
	531	Depot Road Widening: I-90 to US 20	Highway Betterment	B		342	342		684	4106		5474	
62915	832	Peninsula Drive Relocation (A01)	Hwy Recon/Bike Lane	B		342	342	684	684	6330		8382	
68271	832	Peninsula Dr. at 12th and 26th	Additional Lanes	A				500	1710	6000		8210	
	832	Sterrettania Road: 38th Street to 26th Street	Center Turn Lane	B			342	684	684	4106		5816	
	832	Sterrettania Road: I-90 to 38th Street	Improve Traffic Flow	C			416	832	832	3330		5410	
	3006	US 6N Widening: I-79 to Edinboro	Additional Lanes	B		342	684	684	684	6843		9237	
68274	4009	Asbury Road Widening: 26th Street to 12th Street	Additional Lanes	A			350	300	4188	9985		14823	
68274	4009	Asbury Road Widening: 26th Street to 12th Street	Additional Lanes	B						19525		19525	
	4016	38th Street: PA 832 to US 19	Center Turn Lane	B			411		684	6843		7938	
	4018	West Lake Road: Asbury Road to Peninsula Drive	Center Turn Lane	C			333		833	4995		6161	
	4024	Robison Road: US 19 to Old Waterford Road	Highway Betterment	B			137		411	2053		2601	
	4026	South Hill Road: Kuntz Road to Cherry Street	Highway Betterment	B			137		411	2053		2601	
	4027	Lawrence Parkway Widening	Highway Betterment	C			326		832	3330		4488	
1114		Port Access Road	Highway Betterment	B		137	137		137	1916		2327	
		McKean to Robison Road - Corridor Improvement	Highway Betterment	B			137		274	2737		3148	
		HIGHWAY WIDENING / RECONSTRUCTION COSTS:				0	5745	24623	5648	42469	342909	0	421394
		PERIOD A (2007-2010):	\$47,322										
		PERIOD B (2011-2020):	\$157,664										
		PERIOD C (2021-2030):	\$216,408										
		TOTAL:	\$421,394										

In addition to the major project recommendations, a unique feature of the 2030 Plan is the use of “line item” recommendations for priority existing system maintenance / improvement programs. The line items enable the Erie MPO to allocate a predictable funding level to specific types of projects. These projects are identified and prioritized on an ongoing basis by PENNDOT and the MPO to address the existing system in a proactive manner. These line items are designed to permit flexibility in prioritizing and progressing projects, allowing consideration for unforeseen issues, such as changes in project schedules, scopes or costs that the MPO must regularly consider and respond to during the course of its business. The following line items are proposed for the 2030 Transportation Plan:

- § Interstate Maintenance – A key initiative of this line item is the continued reconstruction of the pavement and bridges of the County’s Interstate System. Of particular concern is the deficient vertical clearance above the pavement for several of the bridges over I-90.
- § Maintenance/Betterment Projects – This program continues an existing annual line item in the TIP that includes routine maintenance activities such as pavement resurfacing, striping, shoulder and drainage improvements.
- § Safety Improvements – This line item continues as a major initiative of the Plan. This Plan has identified for further study additional locations and corridors and recommends that the practice of including safety updates in all improvement projects continue.
- § Traffic Signal Improvements – This line item is a key element in the recommended program and, as such, covers two critical areas of the program -- Intelligent Transportation Systems (ITS) and traffic signal coordination and upgrades. ITS needs stand out as weather and incident related and traffic signal needs stand out as modernization of outdated traffic signals and coordination of traffic signals along major corridors in the City of Erie and in other communities. This line item allows the ITS and signalization projects to move forward in a rational program.
- § Economic Development Projects – This line item is being created to enhance economic development related projects throughout the County by reserving funds to provide the transportation infrastructure needed to implement the projects.
- § Community Enhancement Projects – This line item has been expanded to provide funding to community-building transportation projects as well as pedestrian and bicycle projects. In addition, it is also the Plan’s intent to fund land use and transportation studies and master traffic plans through this line item as well as streetscape improvements. An example of a Land Use and Transportation Study to be progressed is the US 6N Land Use and Transportation Study as a follow up to the US 19 study that was recently completed. The master traffic plans recommended for the Edinboro and Waterford areas are also recommendations of this Plan. Finally, in the City of Erie, the City’s recent initiative to improve the Parade Street Corridor is an example where this line item will fund the streetscape portion of the program. It is expected that

this line item will also provide funding for repairing and replacing deteriorated sidewalks in older urban areas throughout the County.

- § Rail/Highway At-Grade Crossings – The purpose of this line item is to implement recommendations of the County's At-Grade Rail Crossing Safety and Delay Study and ongoing PENNDOT inventorying of at-grade crossing conditions. As such, two major projects to be progressed are grade separating the Pittsburgh Avenue and Greengarden Road crossings of the CSX & Norfolk Southern tracks in the City of Erie. Equally important is the continuation of the at-grade crossing improvements throughout the County in accordance with the study.
- § Bridge Projects – This line item is dedicated to the local bridge program to allow for more flexible programming of improvements to these structures on an as needed, ready to go basis, again enabling PENNDOT to remain more proactive in utilizing limited funding.

These line items are categorized in **Table V-2 – Existing System Maintenance / Improvements**. The individual projects listed for these line items are as they were identified in early 2007. Candidates for each type of improvement are constantly monitored and modified for inclusion in annual program updates.

**Table V-3 – State-Owned Bridge Projects** identifies the major state-owned bridge replacement and rehabilitation projects to be accomplished in Erie County. Of note are several bridge replacements on I-90, the systematic replacement of deficient vertical clearance bridges on the interstate system, and replacement or rehabilitation of bridges on the arterial system.

V. RECOMMENDED IMPROVEMENTS

Table V-2 – Existing System Maintenance / Improvements

Project Information				Costs (\$000)								
MPMS	SR	Title/Sponsor	Improvement	Period	Study	PE	FD	UTL	ROW	CON	PRA	TOTAL
EXISTING SYSTEM MAINTENANCE / IMPROVEMENTS												
INTERSTATE MAINTENANCE												
76853	79	MP 182.2 to MP 183.1	Highway Restoration	A						5800		5800
68593	90	Elk and South Creek Bridges	IMP Program	A						3080		3080
64321	90	Ohio Line to MP 18	Highway Restoration	A						27000		27000
1278	90	Six Mile Creek Bridges EB/WB	IMP Program	A		1500	2000		500			4000
1278	90	Six Mile Creek Bridges EB/WB	IMP Program	B						49268		49268
		I4R Line Item Reserve	Highway Restoration	B						87588		87588
		I4R Line Item Reserve	Highway Restoration		C					166507		166507
												343243
MAINTENANCE / BETTERMENT PROJECTS - HRST												
76896	5	PA 5: Pittsburgh Avenue to Holland Street	Highway Restoration	A						2260		2260
75973	6	Mill Village RR Underpass	Highway Restoration	A		200	541		135			876
75973	6	Mill Village RR Underpass	Highway Restoration	B					135	1200		1335
64853	89	PA 89 Corridor: Elgin to Wattsburg	Highway Restoration	A			50	50	50	2285		2435
76895	99	PA 99: Rte 6N to Old State Road	Highway Restoration	A						2240		2240
75837	4034	Bayfront Patching	Highway Restoration	A						2000		2000
73763	4034	Convention Ctr. Access Ph. 1	Highway Restoration	A						1400		1400
77811	4034	SR 4034 & Sassafras St.	Highway Restoration	A			50			1260		1310
		3R Line Item Reserve	Highway Restoration	A						14000		14000
		3R Line Item Reserve	Highway Restoration	B						97217		97217
		3R Line Item Reserve	Highway Restoration		C					122428		122428
												247501
SAFETY IMPROVEMENTS - SAMI												
70305	5	PA 5: Pittsburgh Avenue to Franklin Avenue	Safety Improvements	A						880		880
79002		Group 1-07 RPM	Safety Improvements	A						420		420
82131		Erie ROP Initiatives		A						200		200
82122	5	Erie ITS Initiative		A		260	270					530
82122	5	Erie ITS Initiative		B						1125		1125
		Safety Improvements Line Item	Safety Improvements	A						1286		1286
		Safety Improvements Line Item	Safety Improvements	B						13686		13686
		Safety Improvements Line Item	Safety Improvements		C					16651		16651
												34778
TRAFFIC SIGNAL IMPROVEMENTS - SAMI												
73771	426	Corry Traffic Signals	Signal Upgrades	A			150		50	780		980
		Traffic Signal Improvements Line Item	Signal Upgrades	A						1050		1050
		Traffic Signal Improvements Line Item	Signal Upgrades	B						6843		6843
		Traffic Signal Improvements Line Item	Signal Upgrades		C					8325		8325
												17198

V. RECOMMENDED IMPROVEMENTS

Table V-2 – Existing System Maintenance / Improvements (continued)

Project Information		Costs (\$000)										
MPMS	SR	Title/Sponsor	Improvement	Period	Study	PE	FD	UTL	ROW	CON	PRA	TOTAL
		ECONOMIC DEVELOPMENT PROJECTS - HCON										
75963	4027	Lawrence Parkway Study	Economic Development	A	250							250
		Economic Development Line Item	Economic Development	A						1000		1000
		Economic Development Line Item	Economic Development		B					3421		3421
		Economic Development Line Item	Economic Development		C					4163		4163
												8834
		COMMUNITY ENHANCEMENTS - TENH										
65822		Corry Rail Trail, Ph I & II	Trans Enhancements	A						205		205
71030		Shades Beach Park	Trans Enhancements	A						115		115
71034		Fairview Streetscape	Trans Enhancements	A						115		115
71036		Harborcreek Streetscape	Trans Enhancements	A						173		173
71039		Parade Street Streetscape	Trans Enhancements	A						187		187
72726		Parade Street Revitalization - HTS	Trans Enhancements	A						1000		1000
72838		Chapin/Shunpike Pedestrian Facility - SR2S	Trans Enhancements	A						83		83
72860		Asbury Road Bike Lanes - SR2S	Trans Enhancements	A						405		405
72861		Wattsburg Hometown Streets - HTS	Trans Enhancements	A						208		208
72876		Edinboro Revitalization, Ph 5 - HTS	Trans Enhancements	A						357		357
77161		Elk Valley Safe Routes to School - SR2S	Trans Enhancements	A						58		58
77162		Erie Downtown Beautification - HTS	Trans Enhancements	A						102		102
77163		Waterford Borough Sidewalk - SR2S	Trans Enhancements	A						277		277
77164		East 21st Street Streetscape - SR2S	Trans Enhancements	A						511		511
77166		Girard Main Street Improvement - HTS	Trans Enhancements	A						259		259
77177		Convention Center Public Access	Trans Enhancements	A						466		466
77178		Concord Street Sidewalk	Trans Enhancements	A						259		259
72719		Presque Isle Wayfinding	Scenic Byway Funding	A						29		29
79061	5	Seaway Trail Gateway Planning & Design	Scenic Byway Funding	A			20	11				31
79062	5	Seaway Trail Kiosks	Scenic Byway Funding	A						25		25
79066	5	Seaway Trail Birding Project	Scenic Byway Funding	A		24						24
79068	5	Erie Bayfront Trail Access Improvements	Scenic Byway Funding	A			35	65				100
79069	5	Gateway at Erie Bluffs Park	Scenic Byway Funding	A						70		70
79070	5	Maritime Heritage Map	Scenic Byway Funding	A		2						2
		Transportation Enhancements Line Item	Trans Enhancements	A						999		999
		Transportation Enhancements Line Item	Trans Enhancements		B					8211		8211
		Transportation Enhancements Line Item	Trans Enhancements		C					9990		9990
												24261

V. RECOMMENDED IMPROVEMENTS

Table V-2 – Existing System Maintenance / Improvements (continued)

Project Information				Costs (\$000)									
MPMS	SR	Title/Sponsor	Improvement	Period	Study	PE	FD	UTL	ROW	CON	PRA	TOTAL	
		RAIL / HIGHWAY AT-GRADE CROSSINGS -SAMI											
35742		Avenue A RRX	Crossing Improvements	A						90		90	
67028		Summer St. RRX	Crossing Improvements	A						90		90	
76876		Downing Ave RRX	Crossing Improvements	A						150		150	
76878		Greengarden Blvd RRX	Crossing Improvements	A						120		120	
76882		Langdon Road RRX	Crossing Improvements	A						50		50	
80165		Henderson Road RRX	Crossing Improvements	A						50		50	
		Rail/Hwy At-Grade Crossing Line Item	Crossing Improvements	A						860		860	
		Rail/Hwy At-Grade Crossing Line Item	Crossing Improvements	B						4995		4995	
		Rail/Hwy At-Grade Crossing Line Item	Crossing Improvements	C						6078		6078	
												12483	
		LOCAL BRIDGE PROJECTS - BRDG											
1019		Old Sterrettania Br. T-406	Bridge Rehab./Replace.	A		80						80	
846		Flatts Rd. T-596 / French Creek	Bridge Rehab./Replace.	A		80						80	
902		Akerly Rd Br T-883	Bridge Rehab./Replace.	A		80						80	
79216		Brickyard Road Bridge	Bridge Rehab./Replace.	A			100					100	
836	7207	Gudgeonville Rd Bridge T-400	Bridge Replacement	A		188						188	
843	7207	Elk Park Rd Br T-544	Bridge Replacement	A					10	1700		1710	
876	7214	W. Law Road Bridge #1 T-743	Bridge Replacement	A				10	10			20	
71896	7219	Conneauttee Rd Br T-349	Bridge Replacement	A		45						45	
945	7302	West 38th Street Bridge	Bridge Replacement	A			100	50	50			200	
945	7302	West 38th Street Bridge	Bridge Replacement	B						1095		1095	
		Local Bridge Line Item	Bridge Rehabilitation	A						3324		3324	
		Local Bridge Line Item	Bridge Rehabilitation	B						20000		20000	
		Local Bridge Line Item	Bridge Rehabilitation	C						25000		25000	
												51922	
		EXISTING SYSTEM MAINTENANCE / IMPROVEMENTS:				276	2488	3337	110	940	733069	0	740220
		PERIOD A (2007-2010):				\$86,294							
		PERIOD B (2011-2020):				\$294,784							
		PERIOD C (2021-2030):				\$359,142							
		TOTAL:				\$740,220							

V. RECOMMENDED IMPROVEMENTS

Table V-3 – State-Owned Bridge Projects

Project Information				Costs (\$000)								
MPMS	SR	Title/Sponsor	Improvement	Period	Study	PE	FD	UTL	ROW	CON	PRA	TOTAL
	5	SR 5 over WALNUT CR	Bridge Rehabilitation	B		137	68		68	616		889
	5	SR 5 over Six Mile Cr	Bridge Rehabilitation		C	167	167		83	1166		1583
72420	5	East Lake Rd Bridge		A		108						108
72420	5	East Lake Rd Bridge			B		112		56	351		519
72649	5	Cascade Creek Bridge: SR 5		A		104	108		54			266
72649	5	Cascade Creek Bridge: SR 5			B					585		585
1269	6	Mill Village Truss	Bridge Replacement	A						1250		1250
58184	6	SR 6 over Beaver Run	Bridge Replacement	A		250	270		54	54		628
58184	6	SR 6 over Beaver Run	Bridge Replacement		B					595		595
68725	18	MEADVILLE RD BRIDGE	Bridge Replacement	A		50	100	100	200	1200		1650
	19	SR 19 OVER LEOEUF CREEK	Bridge Replacement		B	274	151		137	1505		2067
	20	SR 20 over WALNUT CR	Bridge Rehabilitation		B	68	68		68	684		888
	20	BR OVER B&LE RR	Bridge Replacement		C	167	167		83	1249		1666
58219	98	SR 98 over CUSSEWAGO CK	Bridge Replacement	A			100		50	1000		1150
	98	ELK CK / AVONIA RD.	Bridge Rehabilitation		B	411	342		137	3421		4311
	215	SR 215/CONNEAUT CK.	Bridge Rehabilitation		B	137	137		68	958		1300
990	832	STERETANIA/WALNUT BR	Bridge Restoration	A		250	487		108			845
990	832	STERETANIA/WALNUT BR	Bridge Restoration		B					4500		4500
	832	STERRETTANIA ROAD over SR90	Bridge Rehabilitation		C	500	500		333	4995		6328
	955	IROQUOIS AVE SR 955/Seven Mi Cr	Bridge Replacement		B	137	137		68	1026		1368
1006	1011	PHILIPSVILLE RD	Bridge Replacement	A		150	100		10	936		1196
1286	1011	SR 1011 over ALDER BROOK	Bridge Replacement	A		150	104		10	162		426
1286	1011	SR 1011 over ALDER BROOK	Bridge Replacement		B					973		973
	1013	SR 1013 over SR 90	Bridge Rehabilitation		C	167	333		167	3330		3997
	2010	SR 2010 OVER PINE RUN	Bridge Replacement		C	83	83		83	833		1082
937	2018	LOVELL RD BR	Bridge Removal	A		150	104		10	195		459
937	2018	LOVELL RD BR	Bridge Removal		B					865		865
980	2019	S. MAIN ST BR/ELGIN	Bridge Replacement	A		150	100		50	1092		1392
	2022	COLUMBUS AVE. EXT BR	Bridge Replacement		C	167	83		83	1249		1582
	2034	DAVIDS/ALDER RUN BR	Bridge Replacement		C	83	83		83	833		1082
	3003	BARNEY RD BRIDGE	Bridge Replacement		B	137	137		68	1095		1437

V. RECOMMENDED IMPROVEMENTS

Table V-3 – State-Owned Bridge Projects (continued)

	3006	SR 3006 over Conneauttee Cr Trib	Bridge Replacement			C		83	83		83	833		1082	
1138	3014	Franklin Center Road Bridge	Bridge Replacement	A				150	100		50	1056		1356	
1139	3014	OLD STATE RD BR	Bridge Replacement		B			137	68		68	684		957	
	3014	E PARK RD BRIDGE	Bridge Replacement			C		167	83		83	833		1166	
1125	3015	Lexington Road over I-90	Bridge Replacement	A				500	400		100			1000	
1125	3015	Lexington Road over I-90	Bridge Replacement		B							5474		5474	
1128	3025	Sharp Road Bridge	Bridge Replacement	A				150	100		50	1170		1470	
	4014	GRANDVIEW BLVD BR	Bridge Replacement		B			137	342		274	3421		4174	
	4016	W 38TH ST OVER I-90	Bridge Rehabilitation		B			137	287		137	2874		3435	
		State Bridge Line Item	Bridge Repl / Rehab	A								16500		16500	
		State Bridge Line Item	Bridge Repl / Rehab		B							67000		67000	
		State Bridge Line Item	Bridge Repl / Rehab			C						117500		117500	
		STATE-OWNED BRIDGE COSTS:						0	5458	5504	100	2976	254063	0	268101
		PERIOD A (2007-2010):	\$29,696												
		PERIOD B (2011-2020):	\$101,337												
		PERIOD C (2021-2030):	\$137,068												
		TOTAL:	\$268,101												

**PUBLIC TRANSPORTATION**

At the current time, the Erie Metropolitan Transportation Authority (EMTA) is concentrating on maintaining the current system through bus purchases and maintenance updates to facilities. A new facility is planned to house both the fixed route and paratransit services. The facility is planned to house a traffic operations center as well as any other appropriate transportation-oriented entity that can benefit from proximity to transit and traffic management activities. The findings of the 1998 version of the Plan indicated that there is a potential to attract new riders to key routes. Accordingly, EMTA has conducted a detailed analysis of their current route structure and frequency of service. Routes and schedules have been adjusted to reflect demographic changes and needs as determined from focus groups and surveys. Fares and transfer changes are being considered as well. The opening of the new Intermodal Transportation Center and the Travel Projection Model designed to become a regular part of the County's Transportation Planning Program provide a unique opportunity to investigate future actions to improve service in a cost effective manner.

Current initiatives that are proceeding involve an evolution to community-based services by establishing transit hubs as close as possible to concentrations of riders and providing shuttle services from the outlying hubs. In addition, the ongoing programs of 'welfare-to-work', 'job-access', and 'reverse commute' should continue.

EMTA is moving forward with the procurement of clean air vehicles, and currently operates seventeen (17) Compressed Natural Gas (CNG) powered vehicles. This represents about 20% of their bus fleet (eleven full sized buses and six shuttle vehicles). The entire fleet conversion of 61 transit vehicles would not be at once, but rather at a rate of approximately four (4) vehicles per year. The CNG powered vehicles are approximately \$315,000 a piece. EMTA will be updating their on-site CNG refueling station with more storage capacity, enabling them to fuel more vehicles and fuel them faster. The original cost of the fueling station was 1.5 million dollars, and the update will not be at EMTA's expense. Other clean air options are currently being explored such as the Diesel Electric-Hybrid buses. As other clean air technologies emerge such as diesel-electric power, EMTA will consider the benefits and costs of adding this technology to the fleet.

The proposed projects and total cost of the current EMTA Twelve Year Program are listed in **Table V-4 - Erie Metropolitan Authority (EMTA) Twelve Year Program**.

V. RECOMMENDED IMPROVEMENTS

Table V-4 - Erie Metropolitan Authority (EMTA) Twelve Year Program

MPMS	Project Information Improvement	Period	Costs (\$000)								
			PE	FD	UTL	ROW	CON	PRA	TOTAL		
	Acquisition of 16 Transit Buses	1						4,800		4,800	
	Spare Parts/ACM	1						389		389	
	Acquisition of 20 <30' Buses - Paratransit Division	1						1,200		1,200	
77108	Acquisition of Automated Vehicle Locator System	1						2,000		2,000	
77109	Engines/Transmissions	1						500		500	
	Acquisition of Shop Equipment	1						260		260	
	Acquisition of Miscellaneous Equipment	1						275		275	
77110	Acquisition of ADP Hardware	1						45		45	
77111	Acquisition of ADP Software	1						15		15	
77136	Construct Facility	1		900	250	350		17,000		18,500	
80162	Fuel Monitoring System	1						150		150	
	Acquisition of 16 Transit Buses	2						5,000		5,000	
	Spare Parts/ACM	2						400		400	
	Acquisition of 20 <30' Buses - Paratransit Division	2						1,350		1,350	
	Acquisition of Shop Equipment	2						275		275	
	Acquisition of Miscellaneous Equipment	2						300		300	
	Acquisition of Communications Equipment	2						750		750	
	Replace Service Vehicles	2						150		150	
	Replace Supervisory Vehicles	2						125		125	
	Engines/Transmissions	2						500		500	
	Acquisition of 16 Transit Buses	3						5,300		5,300	
	Spare Parts/ACM	3						425		425	
	Acquisition of 20 <30' Buses - Paratransit Division	3						1,500		1,500	
	Acquisition of Shop Equipment	3						275		275	
	Acquisition of Miscellaneous Equipment	3						300		300	
	Acquisition of ADP Hardware	3						50		50	
	Acquisition of ADP Software	3						20		20	
	Engines/Transmissions	3						500		500	
	Acquisition of Fare Collection Equipment	3						1,000		1,000	
	TRANSIT COSTS:			0	900	250	350	0	44,854	0	46,354
	PERIOD 1 (2007-2010):	\$									
	PERIOD 2 (2011-2014):	\$									
	PERIOD 3 (2015-2018):	\$									
	TOTAL:	\$									

**AIRPORT INITIATIVES**

Erie International Airport - Tom Ridge Field, and the Corry-Lawrence Airport have proposed improvements that are currently being progressed.

**Erie International Airport - Tom Ridge Field**

Erie International Airport - Tom Ridge Field has a Long Range Plan that consists of three phases. The first phase consists of 19 projects estimated at \$51.49 million. Of that total, \$46.7 million will be derived from federal and state sources. The highlight of the Phase 1 Program is a new tower and land acquisition for a new runway extension and the taxiways associated with it. It also includes the construction of an Air Cargo Operations Facility. Phase 2 has a total cost of \$10.9 million with state and federal sources responsible for \$5.7 million. The highlight of this phase is the first phase of the terminal expansion and hangar development. The third phase completes the terminal expansion and improves the associated taxiways. The cost of this phase is \$4.25 million with \$4.0 million coming from federal and state sources of funding.

**Corry-Lawrence Airport**

The Corry-Lawrence Airport has a single-phase program that consists of land acquisition and hangar development along with a new administrative building and an improvement in traffic control technology. The total cost of the plan is \$1.53 million. Land acquisition, new technology and taxiway construction is proposed to be funded at a rate of 90% federal and 5% state with the remaining 5% locally funded. The new hangar and administrative building is proposed to be funded 50% from the airport's capital budget and 50% from local sources.

**ERIE-WESTERN PENNSYLVANIA PORT AUTHORITY**

The Erie-Western Pennsylvania Port Authority has developed several transportation initiatives that will need the infusion of public and private funds to succeed. A summary of the Port's high priority major projects includes:

- § Lake Erie Fast (Passenger) Ferry Service – Total project cost is \$20-30 million.
- § Lake Erie Freight Ferry Service – Total project cost is \$30-35 million.
- § Bayfront Development– Total project cost is \$8.5 million.
- § Industrial Operations – Staff plans to continue to market industrial firms.

The Erie-Western Pennsylvania Port Authority is preparing to seek funding to establish passenger ferry service to Port Dover, Ontario as outlined in a recent feasibility study; the service would run approximately

270 days a year between Erie and Port Dover, Ontario. The first ferry to Canada is expected to sail in the summer of 2007.

The Port Authority is planning to acquire the bluff along the waterfront and plans to transform the property into a two-mile long public park and greenway that will re-establish pedestrian access between the City of Erie and the waterfront as described in the recently completed Overlook Park Master Plan.

### **POLICY RECOMMENDATIONS**

The Long Range Transportation Plan is not only a plan that contains projects but it is also a plan that considers policy issues and prepares recommendations. In previous chapters, the need for countywide policies related to transportation have been identified. The key policy areas to be addressed are:

- § Transportation Planning Education
- § Coordination With Other Planning Initiatives
- § Land Use Controls Adjacent to Major Highways
- § Access Management
- § Public Transit Considerations
- § Policies and Procedures Relating To Coordination among the Levels of Government

Without strong policies in these areas, the much-needed capacity in the roadway system would be used up far too quickly.

#### **Transportation Planning Education**

Municipalities throughout Erie County have varying levels of land use control from no zoning to strong zoning ordinances, from loosely enforced subdivision and land development ordinances to strong ordinances and from planning efforts that can be classified as weak to fairly sophisticated planning processes. The Erie County Planning Department provides continuing planning services to municipal governments and is developing a land use plan to guide countywide decision-making. In fact, the TP+ Travel Projection Model is based upon the land use plan being developed contemporaneously with the Long Range Transportation Plan. Nevertheless, the continued active involvement of County Planning staff is essential to the success of any plan. It is recommended that the County Planning Staff undertake the following educational activities:

- § The linkage between transportation and land use planning.
- § Evaluation of the impacts of a development proposal to the transportation network.
- § The preparation of the Circulation Element of a Comprehensive Plan.
- § The principles of access management and internal site circulation of development proposals.
- § Ordinance preparation via the development of model ordinances.
- § Sharing of good practices within the county with municipal officials.

The funding for active involvement should be considered as the Annual Work Program is developed.

### **Coordination with other Planning Initiatives**

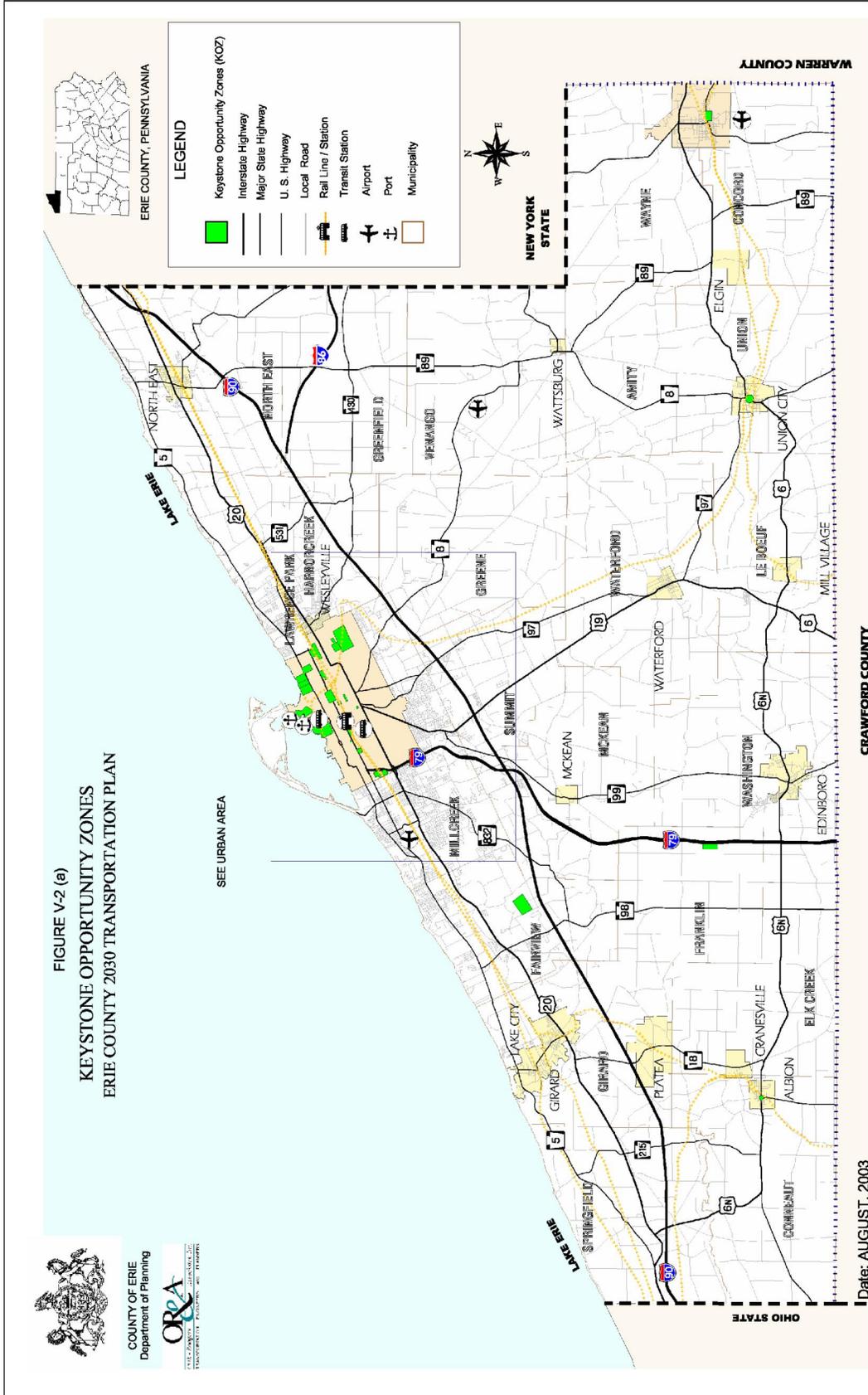
This plan has been developed in concert with the County's Comprehensive Plan and respective of the comprehensive plans of local municipalities. Each comprehensive plan contains a land use component and a community facilities component. These components serve to direct development and growth to areas that are planned to accommodate it. This planning effort, mandated in the Municipalities Planning Code, establishes concept development areas. These areas as applied to Erie County are called Designated Growth Area, Future Growth Area, Rural Resource Area and Village.

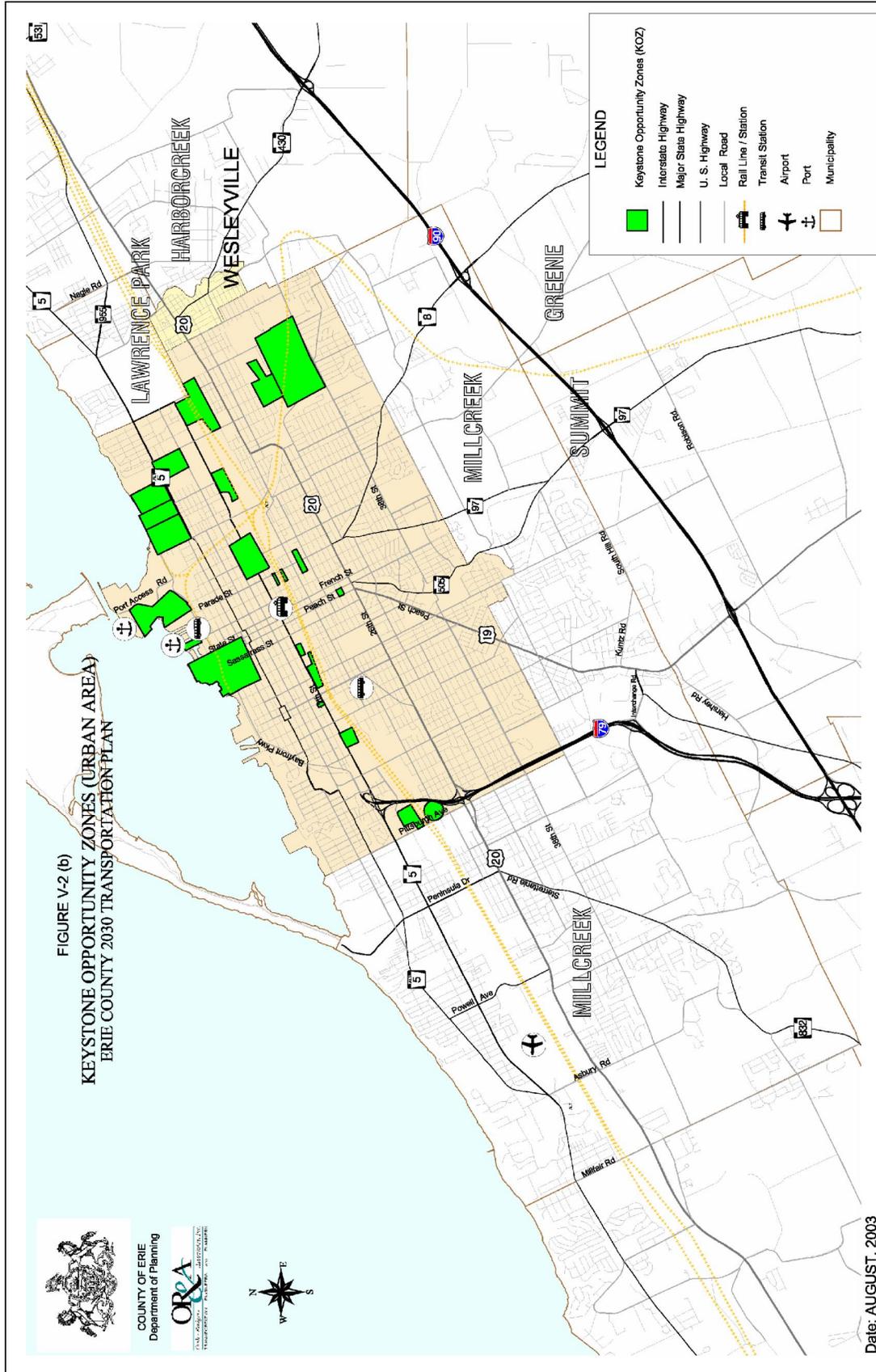
The Designated and Future Growth areas are areas slated for planned growth and planning should provide the infrastructure to encourage growth. As a component of infrastructure, transportation facilities should be planned to provide access and mobility allowing goods and services and the people that live there to circulate efficiently. In these areas where development and growth are to be encouraged, special zones like Keystone Opportunity Zones (KOZ) should be central to the transportation planning efforts. Transportation investments should be prioritized and designed to leverage investments in KOZs, making them primary development sites. While this plan provides investments adjacent to or near each KOZ site, it is still important to coordinate the development of each KOZ with transportation improvements. **Figure V-2 (a,b) – Keystone Opportunity Zones** illustrates the location of the KOZs in Erie County.

Rural Resource Areas include such uses as agriculture, open space, forests, tourist attractions and other areas not dependent upon a common public infrastructure. Transportation improvements slated for these areas must be planned and designed in a way that growth and development beyond what is needed to support permitted uses is not progressed.

Villages that are located in rural resource areas will need a transportation infrastructure. This infrastructure should be planned in a context sensitive manner, respecting the area's rural nature.

The MPO, in developing and implementing the Transportation Improvement Program shall consider the other required elements of comprehensive plans especially those pertaining to land use and public utility goals and objectives within targeted growth areas.





**Land Use Controls Adjacent to Major Highways**

As data was developed for the Long Range Plan, it became evident that many communities engaged in zoning and land use practices that would result in strip development with many access points on some of the major roadways. This practice should not continue. The County Planning Staff should work with local governments to change such practices to:

- § Provide for cluster development and mixed-use development.
- § Establish setbacks from the legal right of way as opposed to the edge of the roadway
- § Require cross easements with adjacent parcels of compatible use
- § Establish density controls that encourage more intense development and potential use of transit along roadways designed to accommodate it using:
  - Building coverage percentages
  - Paved area coverage percentages
  - Building height
  - Floor area as a ratio to lot size
- § Establish sidewalk and bikeway standards for development in suburbanizing areas.
- § Establish standards for bus service such as when a bus shelter is justified.
- § Establish sight distance standards compatible with the standards used by the Pennsylvania Department of Transportation (as opposed to a sight triangle).
- § Establish driveway standards consistent with the standards used by the Pennsylvania Department of Transportation.

The use of these controls must be consistent with the County's Land Use Plan. The Land Use Plan is designed to encourage new development to be an extension of existing developed areas. In areas designed to remain rural, the controls must encourage lower densities and consider different strategies. An example of such a strategy would be permitting large lot subdivision of large tracts such as farms to determine the number of residential lots, but require those lots to be clustered on small lots near a major roadway such that the number of access points can be controlled. These principles should be consolidated into a set of guidelines for local municipal officials and their professionals.

**Access Management**

Access management is a comprehensive approach to improve traffic operations by managing the number, location, and width of driveways. An access management ordinance can accomplish this by reducing the frequency and proximity of driveways along arterial roadways, and by ensuring that the driveways are separated by a safe distance. The ordinance also encourages internally linked parking lots and driveways, as these will permit both motorists and pedestrians to pass between adjacent developments without re-entering the arterial roadway. Existing nonconforming driveways would be "grandfathered", and the landowners would not be required to meet the ordinance standards unless they change the use and intensity of their property.

Access management provisions would be applied through the establishment of an “access management overlay district.” This overlay district would be placed over appropriate arterial roadways: roadways that have started to be developed, or have promise in the future to be developed and thus see a significant increase in the number of driveways. One example of a roadway that would benefit from improved access management is US Route 19, particularly south of its interchange with I-90.

**Public Transit Considerations**

Funding aside, land use intensities established in the land use plan and in the zoning ordinance will determine whether or not transit service is a feasible option, assuming service is available in the first place. At the individual development scale in areas with population currently dense enough or planned to be sufficiently dense to support transit service, coordination with the Erie Metropolitan Transit Authority should be required to determine if transit should be a consideration in site planning. **Table V-5** provides an example of guidelines used for considering the feasibility of transit service.

**Table V-5  
Guidelines for Considering Potential Transit Service<sup>1</sup>**

<b>Development</b>	<b>Size</b>
Major housing developments	50 or more units
Major employers	100 or more employees
Shopping centers	More than 50,000 square feet of retail space
Hospitals/nursing homes	50 or more beds
Schools	At least 500 students enrolled
Social services/government centers	All cases
Rail stations	All cases

Standards related to bus shelters, bus turnouts and, for large sites, permitting bus circulation on site is important to good site design. If a site plan meeting the above guidelines is submitted, EMTA should be given an opportunity to review the plan for the provision of transit service either in conjunction with development or at some future time.

<sup>1</sup> New Jersey Department of Transportation, Managing Transportation in Your Community, A Municipal Handbook, January 1989.

The 2007-2010 Transportation Improvement Program (TIP) contains 43 Public Transit projects. These projects include: operating assistance, vehicle and shop item replacements, vehicle replacement, vehicle locator system, and construction of a new operations and administration facility. The total amount of federal funding budgeted for these projects is approximately \$21,000,000.

#### **Policies and Procedures Relating To Coordination Among the Levels of Government**

PENNDOT District 1-0 and local municipalities can coordinate in the development review/approval process by:

- § Municipalities informing PENNDOT of emerging development projects and requesting PENNDOT to comment on transportation and access concerns that could be adversely affected by the development,
- § Municipalities requesting that they be notified of Highway Occupancy Permit applications submitted to PENNDOT for access onto PENNDOT right-of-ways, and/or
- § Municipalities enacting access management ordinances.

The first two coordination efforts are relatively informal, and can have limited effectiveness in maintaining or enhancing the integrity of the transportation system. The third is much more formal and official, and gives PENNDOT the ability to deny access onto a State Highway from individual properties unless the access is at location approved by the ordinance.

Access to State Highways must be pre-planned before development occurs in full recognition of the potential development of the area and especially along the route in question, future traffic volumes and conditions, the principles of access management, the standards of the Pennsylvania Department of Transportation, and local zoning and subdivision and land development ordinances. This requires a study called a Land Use and Transportation Corridor Study. Such a study includes the following steps:

1. Define the study area
2. Establish the study committee and public involvement
3. Define the goals and objectives
4. Analyze the existing transportation conditions
5. Develop future land use assumptions
6. Project future traffic conditions
7. Establish corridor transportation needs
8. Develop alternatives to address the needs
9. Establish a preferred alternative
10. Develop a traffic signal spacing plan
11. Develop a driveway spacing plan
12. Establish an implementation and funding plan
13. Prepare enabling municipal ordinances

The work described above is a typical corridor study with two new tasks. The first task is to determine a Traffic Signal Master Plan or Spacing Plan, and the second is an Access Management Plan or Driveway Spacing Plan.

The Traffic Signal Master Plan by its very nature must be a fluid plan. Traffic signals should be installed only where they provide greatest benefit and minimize inefficient operation although implementation of a signal spacing plan can reduce the chance for this to occur. However, the study used to develop the Plan must attempt to look at all factors that will cause a traffic signal to be installed and to account for them. The product of this study is a plan showing existing and committed traffic signals and sections of the corridor that can accept traffic signals that will result in an acceptably coordinated system.

A central part of an Access Management Plan is to account for all parcels of land and plan access for each. The product of this study is a driveway location plan. This plan does not need to design a driveway; rather it only needs to identify a 'window' where the driveway can safely fit. If it is a signalized driveway, it will be eligible for a signal if it can be located within a window that will result in an acceptably coordinated system. Failing that, left turns and other movements that would justify a traffic signal must be located elsewhere.

The first 8 steps of the process have been completed for the corridor of US Route 19 between I-90 and PA Route 97; the municipalities that contain this corridor would next need to proactively endorse and advance the remaining steps. As funding becomes available, this process should be repeated elsewhere. Communities that follow this process through its entirety should be given higher priority when considering projects to move forward on the Transportation Improvement Plan.

### **TRANSPORTATION AND ECONOMIC DEVELOPMENT**

The mission statement of the Erie County Long Range Transportation Plan in part calls for "developing a transportation system that enhances mobility, economic vitality and is innovative, affordable and environmentally responsible". Goal 4 requires the Plan to "Provide efficient, accessible, and connected transportation systems, services, and facilities as an incentive to support positive economic development throughout Erie County."

As the Transportation History of Erie County illustrates, the county is transitioning from a manufacturing center with a seaport and a railway network designed to serve industry to a service related economy. Even with this transition however, there is a strong work force with access to a transportation network of which other areas would be envious. To meet the test of Goal 4, this plan must improve access to areas

designed for economic development and improve the connectivity of those areas to the regional and interstate transportation networks.

One of the keys to any economic development initiative for the county is the development of a land use plan. The current Erie County Land Use Plan was adopted in 2003. The goals of the Land Use Plan include promoting the revitalization of existing urban places and promoting economic development activities, which create good jobs. The Land Use Plan identifies the revitalization of existing urban places as a policy mainstay with one of the preferred practices to reduce the impact of the car. The development and maintenance of clear gateways, to developed areas, provisions for greenways and trails, and traffic calming measures in shopping areas were recommended tools to enhance communities.

To attract employers that will provide good jobs within Erie County, there are 14 Keystone Opportunity Zones (KOZ) available to prospective businesses. These KOZ were designated to provide land to potential developers with tax and other incentives that contain infrastructure designed for ready development. From a transportation perspective, a KOZ can be attractive to a developer if it has ready access to a transportation facility and that facility will operate efficiently through the year 2030. Further, if improvements are needed to the external roadway network, they are noted in this Plan. Transportation facilities adjacent to KOZs are expected to operate acceptably without any improvements or after improvements detailed in the Plan are implemented. All of the KOZs are located where sufficient roadway capacity is expected in the transportation system.

It is not possible to know the specific transportation need of a KOZ until a developer submits a plan and the plan is deemed acceptable. At that time, the specific transportation needs of a KOZ may be determined and plans to improve the transportation system can be made. Plans for the transportation infrastructure of a given KOZ are developed in two stages – the first is the internal site circulation system and the second is the external transportation network. Regardless of the funding source, the same process is required.

Because transportation funding is tight, other sources of funding may be appropriate for additional improvements to KOZ and other economic development areas. Traditionally, the State of Pennsylvania provides a pool of funds for economic development activities. Erie County has used these funds for such projects as the access road to the Ore Dock. The new administration in Harrisburg plans to provide additional economic stimulus funding from bonding, leveraging other public and private funds and new appropriations totaling over \$9 billion statewide over the next five years. These new funds are designed to identify economic growth opportunities, identify developers, and construct the needed infrastructure. Transportation improvements are eligible and these new funds will expand and leverage traditional funding opportunities. The program had not been yet adopted, however, if it is adopted, it will provide

additional opportunities to improve the economic climate as well as provide for the infrastructure needs of the new economy.

### **PROJECT IMPACTS, AND ENVIRONMENTAL MITIGATION AND COORDINATION**

The objective of environmental mitigation in the development of transportation improvements is to apply Federal and State laws and regulations associated with the human, natural and physical environments that may be affected by transportation projects. This is accomplished through the implementation of Federal and State legislation, policy statements, and guidance documents that focus on the activities that may have the greatest potential to avoid, restore and/or maintain the environmental functions that could be affected by the projects.

The process is accomplished through coordination with the various Federal, State and Tribal resource agencies responsible for wildlife, land management, cultural resources and regulations. The following text, condensed and annotated from PennDOT's website, summarizes the process for many of the environmental resources of concern:

#### **Air Quality**

Compliance with the National Ambient Air Quality Standards (NAAQS) in relation to transportation projects is an issue. Typically only Ozone, Carbon Monoxide, and Particulate Matter are of concern when analyzing air quality impacts of a new highway or a highway improvement project through proper application of the Environmental Protection Agency's Mobile Model and Dispersion Models to ensure projects are in conformance with the Clean Air Act.

#### **Agricultural Lands**

PennDOT provides for effective integration of agricultural resource evaluations into the transportation project development process established under the National Environmental Policy Act (NEPA). PennDOT's Agricultural Resource Evaluation Process may be identified as a series of generalized tasks, including internal administrative activities, data collection and impact assessment, avoidance and minimization measures, documentation of findings, and land condemnation.

#### **Archeological Sites**

PennDOT conducts archaeological investigations within the context of Federal and State historic preservation and environmental laws and regulations to identify, evaluate, protect, and learn from the buried evidence of Pennsylvania's past along the Commonwealth's highways. When transportation projects produce unavoidable effects to important sites, the PennDOT uses state-of-the-art approaches to archaeological excavation and analysis and to disseminating the results of the work to the professional community and to the public.

#### **Community Impact Assessment**

Transportation facilities and services make an important contribution to a community's quality of life and economy. Proposed improvements to transportation facilities can have a variety of effects, both positive and negative, on people and their surrounding natural, cultural, and human resources. Community Impact Assessment (CIA) is a process used to evaluate the effects of a transportation action on a community and its quality of life.

**Cultural Resources**

Transportation projects can affect historic buildings and districts in profound ways. When a transportation project is contemplated, architectural historians conduct extensive background research on the local history with surveys of buildings and districts that may be eligible to the National Register of Historic Places. The information is factored into the planning and design of the project, with the first choice being complete avoidance of effects to important buildings and structures whenever possible. When unavoidable effects occur, minimization or mitigation practices are implemented. These practices take into account the significance of the affected buildings and the severity of the project effects, that they conform to the Secretary of Interior's standards for the Treatment of Historic Properties, and that they are developed in consultation with the State Historic Preservation Office. They range in scope from simply screening properties with shrubs or other landscaping elements, through precise architectural recording of buildings for the Historic American Buildings Survey/Historic American Engineering Record prior to demolition, to stupendous feats of engineering like moving the King of Prussia Inn.

**Highway Traffic Noise**

Highway Traffic Noise is an increasingly growing concern for land owners along highways. Depending on the type of project, varying levels of analysis can be done to assess the potential for future highway traffic noise impacts on sensitive receptors as a result of a proposed Transportation Improvement Project. The FHWA Highway Traffic Noise website provides information on compatible growth and development, Federal rules, policies, and technical advisories, as well as a wide variety of reference material. On the state level, PennDOT has two publications on Highway Traffic Noise: Publication #24 – Project Level Highway Traffic Noise Handbook, and Publication #21 – Making Sound Decisions About Highway Noise Abatement public involvement brochure.

**Species of Special Concern**

Species of Special Concern is an umbrella term that includes all plants and animals classified by state and federal agencies into protection categories such as endangered, threatened, rare, etc. and those species recommended for classification by the PA Biological Survey (PBS). In PA, the species jurisdictional responsibilities are divided among three (3) state resource agencies. The PA Department of Conservation and Natural Resources has responsibility for native plants, the PA Game Commission covers native birds and mammals and the PA Fish and Boat Commission has responsibility for fish, amphibians, reptiles, and other aquatic organisms. The U.S. Fish and Wildlife Service, Region 5, PA state field office oversees the federally listed species that occur in the Commonwealth. Data to describe these species and associated natural plant communities is stored in the Pennsylvania Natural Heritage Program information system. Specific procedures and agreements have been developed with the resource agencies for certain species such as the Bog Turtle and the freshwater mussels. Species of Special Concern are reviewed within all transportation project areas through coordination with the state and federal resource agencies. All efforts are taken to avoid impacts to these imperiled plants and animals. Minimization and mitigation procedures follow if a population is impacted by a transportation activity.

**Terrestrial Mitigation**

A PennDOT policy has been developed to provide guidance related to which terrestrial (wildlife habitat) resources merit compensation during the transportation development process. The policy also establishes procedures related to terrestrial mitigation and the authority to approve terrestrial mitigation plans.

**Tribal Consultation**

Federal regulations and laws require federal agencies (like FHWA) to consult with federally-recognized Native American tribes on projects or policies that may affect Tribal culturally sensitive or important places, objects or archaeological sites. PennDOT's Tribal Consultation handbook and appendix do not list specific areas of concern, but describe the consultation process and list the Tribal Nations that are to be notified, through the FHWA and/or PENNDOT, of projects that

would disturb the ground of previously undisturbed areas. Of the 14 Tribes that are likely to have an interest in Pennsylvania projects, 8 identify Erie County as a county of interest for consultation:

- § Absentee-Shawnee Tribe of Oklahoma
- § Delaware Nation
- § Eastern Shawnee Tribe of Oklahoma
- § Seneca Nation of Indians
- § Seneca-Cayuga Tribe of Oklahoma
- § Shawnee Tribe
- § St. Regis Mohawk Tribe
- § Tonawanda Seneca Nation

#### **Wetlands**

PennDOT works through the environmental processes to avoid and minimize impacts to wetlands. The PA Department of Environmental Protection (DEP) has responsibility for protecting wetlands through PA Code Title 25, Chapter 105, Dam Safety and Waterway Management.

Within the context of the Long Range Transportation Planning process, the purpose of the environmental mitigation and coordination activities is to first recognize the types of potential impacts that could result from transportation improvement projects as well as the regulating agencies and policies, and the applicable mitigation measures. If data is readily available, the environmental resources can be mapped for reference and comparison with the recommended transportation projects. It is anticipated that future Plan updates will provide this information comparison.

Where the Plan development process identifies new recommended projects, the Erie MPO then completes a "Planning and Programming Checklist" developed by PENNDOT to identify potential socio economic, cultural, and natural resources impacts of each new project. Upon identification of potential impacts, the Erie MPO initiates agency consultation through PennDOT's Bureau of Design – Environmental Quality Assurance Division and its regular Agency Coordination Meetings.

## **PLAN EVALUATION**

### **The Eight Planning Factors of SAFETEA-LU**

**Table V-6 – SAFETEA-LU Planning Factors Evaluation** illustrates how the 2030 Long Range Transportation Plan addresses the Eight Planning Factors of SAFETEA-LU.

It is important to note that about 80% of the financial resources allocated to Erie County through the SAFETEA-LU are slated for improvements to maintain the existing transportation network. This Plan makes strategic use of 'line items' to achieve its goals. These line items cover all routine projects related to the following programs:

- § Interstate Maintenance – This is the 4-R Program and is designed to maintain and improve the operation of the Interstate Highways in Erie County.
- § Maintenance/Betterment Projects – This program, much like the 4-R Program, is designed to maintain the arterial and collector road system. However, this Plan takes this program to a new level – it expands the eligible improvements to include traffic signal systems, curve straightening and other improvements designed to improve the existing system.
- § Traffic Signal Improvements – Traffic signal improvements are funded on a recurring basis. The goal is to insure the efficient flow of traffic in the urban areas and at key cross road communities in the County. A key improvement is to bring all traffic signals into conformance with current standards as quickly as possible while still moving forward with Intelligent Transportation Systems (ITS) improvements.
- § Safety Improvements – These improvements continue as a major initiative of the Plan. This Plan has identified for further study additional locations and corridors and recommends that the practice of including safety updates in all improvement projects continue.
- § Security projects – The implementation of dynamic message signs at major highway decision points continues and should be expanded to improve security-related communication with motorists. The plan has identified the need for: automatic vehicle monitoring (AVL) pilot program underway by EMTA that should be implemented system-wide as warranted; traffic signal prioritization programs to be expanded county-wide to enhance the operations of emergency and transit vehicles; and continued security programs at the Port and Airport facilities.
- § Intermodal Improvements – These improvements reflect the need to better coordinate interconnections between the transportation modes. Establishment of park and ride lots served by express bus and shuttle services, improvements related to the Port as it connects to the roadway network, and improvements related to access to freight terminals are examples of what would be progressed as part of this line item.
- § Rail/Highway At-Grade Crossings – As a means of implementing the recommendations of the County's At-Grade Rail Crossing Study, a line item fund is used so that the priorities established in that report can be addressed in a systematic basis.
- § Pedestrian/Bicycle Projects – These improvements are primarily advanced through transportation enhancement funding and major highway improvements. This Plan has identified a need for improved streetscapes and it is the goal of this line item to fund these initiatives along with bicycle and pedestrian projects.
- § Bridge Projects – This line item continues much as in the past.

Through the use of line item funding to accomplish these improvements, the Plan remains flexible and true to the intent of SAFETEA-LU.

**Table V-6 –SAFETEA-LU Planning Factors Evaluation**

		Goal 1: Maintain and improve Erie County’s transportation systems to meet the needs and requirements of people and goods movement in both urban and rural regions. Provide transportation choices where appropriate and feasible.			
		Objective 1A: Manage, maintain, and operate safe, efficient, reliable transportation systems to move people and goods	Objective 1B: Maintain systems and facilities on a life cycle basis, in a cost effective manner, and in an operational condition.	Objective 1C: Support the development of intermodal connections and multimodal choices for passengers and freight transportation modes at the state, regional and local levels, and with other states and metropolitan areas.	Objective 1D: Promote the installation, operation and sharing of the best available technology among the public and private sectors.
<b>SAFETEA-LU Planning Factors</b>	Support the economic vitality of the metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency	<b>X</b>	<b>X</b>		
	Increase the safety of the transportation system for motorized and non-motorized users				<b>X</b>
	Increase the security of the transportation system for motorized and non-motorized users				<b>X</b>
	Increase the accessibility and mobility options available to people and freight	<b>X</b>		<b>X</b>	
	Protect and enhance the environment, promote energy conservation, and improve quality of life				
	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight			<b>X</b>	
	Promote efficient system management and operation		<b>X</b>	<b>X</b>	
	Emphasize the preservation of the existing transportation system		<b>X</b>		

**Table V-6 –SAFETEA-LU Planning Factors Evaluation (continued)**

		Goal 2: Manage, maintain, and improve a transportation system that preserves and reinforces environmental quality and livable communities. Provide access to Erie County’s recreational, natural and historic/cultural resources.				
		Objective 2A: Promote transportation modes and practices which best achieve compliance with clean air, noise, and water quality standards, reduce congestion, and promote energy efficiency.	Objective 2B: Cooperate with and support employer, community, and public agency efforts to increase transportation operations that improve environmental quality.	Objective 2C: Plan, construct, operate, and maintain transportation facilities in a manner which is compatible with the natural, scenic, historic, and cultural resources of Erie County.	Objective 2D: Improve accessibility to transportation and provide equitable transportation service to all residents.	Objective 2E: Promote the incorporation of gateways and greenways concepts into infrastructure redevelopment projects throughout the county.
<b>SAFETEA-LU Planning Factors</b>	Support the economic vitality of the metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency					<b>X</b>
	Increase the safety of the transportation system for motorized and non-motorized users					<b>X</b>
	Increase the security of the transportation system for motorized and non-motorized users					<b>X</b>
	Increase the accessibility and mobility options available to people and freight				<b>X</b>	
	Protect and enhance the environment, promote energy conservation, and improve quality of life	<b>X</b>	<b>X</b>	<b>X</b>		<b>X</b>
	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight				<b>X</b>	
	Promote efficient system management and operation		<b>X</b>			
	Emphasize the preservation of the existing transportation system					

**Table V-6 –SAFETEA-LU Planning Factors Evaluation (continued)**

		Goal 3: Strengthen the planning, programming, and decision-making processes, supported by performance-based management, monitoring, evaluation, and reporting systems which are used cooperatively at the county and regional/state levels.			
		Objective 3A: Refine the existing planning and programming processes, procedures, roles and responsibilities consistent with SAFETEA-LU and the CAAA, and establish collaboration between the Policy Plan and the 12 Year Program, Statewide Transportation Improvement Program, Long Range Plans and Transportation Improvement Programs.	Objective 3B: Support informed decision-making through improved communications and responsive new planning and programming methods and techniques at the county, regional, and state levels.	Objective 3C: Institute improved accountability through a continuous cycle of management system monitoring, program evaluation, and feedback at the county and regional level.	Objective 3D: Streamline planning and project implementation processes
SAFETEA-LU Planning Factors	Support the economic vitality of the metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency				
	Increase the safety of the transportation system for motorized and non-motorized users			<b>X</b>	
	Increase the security of the transportation system for motorized and non-motorized users			<b>X</b>	
	Increase the accessibility and mobility options available to people and freight		<b>X</b>		
	Protect and enhance the environment, promote energy conservation, and improve quality of life				
	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight				<b>X</b>
	Promote efficient system management and operation	<b>X</b>	<b>X</b>	<b>X</b>	
	Emphasize the preservation of the existing transportation system			<b>X</b>	

**Table V-6 –SAFETEA-LU Planning Factors Evaluation (continued)**

		Goal 4: Provide efficient, accessible, and connected transportation systems, services, and facilities as an incentive to support positive economic development throughout Erie County.			
		Objective 4A: Promote and coordinate access and intermodal improvements which support specific employment generating opportunities, consistent with local, regional, and statewide economic and environmental land use policy.	Objective 4B: Identify strategic system improvements for all modes of transportation which increase the productivity and competitiveness of Erie County industries.	Objective 4C: Improve the management, streamline regulation, and extend operational coordination across all modes of the county's transportation systems to enhance the safety, security, and productivity of shipping and distribution.	Objective 4D: Identify transportation initiatives that support tourism and recreational opportunities for the residents of Erie County and its visitors.
<b>SAFETEA-LU Planning Factors</b>	Support the economic vitality of the metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency		<b>X</b>		<b>X</b>
	Increase the safety of the transportation system for motorized and non-motorized users		<b>X</b>	<b>X</b>	<b>X</b>
	Increase the security of the transportation system for motorized and non-motorized users		<b>X</b>	<b>X</b>	<b>X</b>
	Increase the accessibility and mobility options available to people and freight			<b>X</b>	
	Protect and enhance the environment, promote energy conservation, and improve quality of life	<b>X</b>			<b>X</b>
	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	<b>X</b>		<b>X</b>	
	Promote efficient system management and operation				
	Emphasize the preservation of the existing transportation system		<b>X</b>		

## INTRODUCTION

The purpose of this chapter is to identify the technical basis used to determine when improvements will be needed, and how they will be funded given the level of transportation funding available to the Erie MPO. Much of the discussion in this chapter will focus on the highway and bridge program, since they are the primary elements the Erie MPO must demonstrate fiscal constraint on. The implementation and funding of the other modes' projects discussed in this plan, such as transit, airport, port, or rail projects, are primarily the responsibility of the individual mode operators, such as the transit, airport and port authorities, and independent railroad operators. Costs are expressed in thousands of dollars in the tables of this chapter.

## IMPLEMENTATION SCHEDULES

The improvements described in the preceding chapter are not all needed today. Some improvement locations will not degrade to unacceptable levels of service for a number of years. It is on this basis that the needs are prioritized, since in reality, transportation agencies progress projects when the need is truly evident to the motoring public. The Erie MPO has divided the highway improvement program into three implementation periods for prioritization and funding analysis purposes: the **A** period, covering the years 2007-2010, the **B** period, covering the years 2011-2020, and the **C** period, covering the years 2021-2030. The costs in each period have been adjusted for inflation. The **A** period project costs reflect the most recent cost estimates provided by PennDOT in the 2009 TIP. The **B** and **C** period costs have been inflated at a rate of 4% per year as required by State and Federal guidelines. Considering that the **B** and **C** periods are each 10-year increments and the difficulty of determining the exact start date for each project in the later years of the plan, a median year for each period was used for calculating inflation. Projects in the **B** period are inflated up to 2015. Projects in the **C** period are inflated up to 2025.

To determine when a particular transportation project should be implemented over time, the travel projection model was used to identify when the Level of Service would reach the E/F threshold. This is typically the LOS at which traffic operations are severely congested, and capacity enhancing projects are considered. The Erie MPO reviewed the results, and using fiscal constraints and other considerations, made the final determination as to which of the defined timeframes each of the projects belonged. The project recommendations from Chapter V indicate the proposed implementation period for each project based on this methodology.

**COST OF IMPROVEMENTS**

Chapter V details the list of major projects developed in this edition of the Erie County Long Range Transportation Plan. The overall highway and bridge improvement program needs include major projects such as new highway construction, with an estimated cost of \$101 million; highway widening and reconstruction, with an estimated cost of \$421 million; bridge replacement and rehabilitation projects totaling \$320 million; and existing system maintenance / improvements estimated to total \$688 million. The total cost of needed improvements in Erie County to the year 2030 is estimated at \$1.53 billion.

**Table VI-1** shows the total project costs by program/project category:

**Table VI-1**

<b>Improvement Type</b>	<b>Cost*</b>
New Highway Construction	\$101,384,000
Highway Widening / Reconstruction	\$421,394,000
Interstate Highway Maintenance	\$343,243,000
Maintenance / Betterment Projects	\$247,501,000
Safety Improvements	\$34,778,000
Traffic Signal Improvements	\$17,198,000
Economic Development Projects	\$8,834,000
Community Enhancement Projects	\$24,261,000
Rail/Highway At-Grade Crossings	\$12,483,000
Bridge Replacement / Rehabilitation	\$320,023,000
<b>Total Cost:</b>	<b>\$1,531,099,000</b>
*Cost estimates inflated at a rate of 4% per year	

**Table VI-2** shows the total project costs separated into three implementation periods.

**Table VI-2  
Highway / Bridge Program Costs (\$000's)**

<b>IMPROVEMENT TYPE</b>	<b>PERIOD A 2007-2010</b>	<b>PERIOD B* 2011-2020</b>	<b>PERIOD C* 2021-2030</b>	<b>TOTAL COST TO 2030</b>
<b>MAJOR HIGHWAY PROJECTS</b>				
NEW CONSTRUCTION	\$ -	\$ 12,385	\$ 88,999	\$ 101,384
WIDENING / RECONSTRUCTION	\$ 47,322	\$ 157,664	\$ 216,408	\$ 421,394
<b>SUB-TOTAL</b>	<b>\$ 47,322</b>	<b>\$ 170,049</b>	<b>\$ 305,407</b>	<b>\$ 522,778</b>
<b>MAJOR BRIDGE PROJECTS</b>				
STATE-OWNED REPLACE/REHAB	\$ 29,696	\$ 101,337	\$ 137,068	\$ 268,101
<b>EXISTING SYSTEM MAINTENANCE / IMPROVEMENT COSTS</b>				
HIGHWAY RELATED	\$ 80,467	\$ 273,689	\$ 334,142	\$ 688,298
BRIDGE RELATED	\$ 5,827	\$ 21,095	\$ 25,000	\$ 51,922
<b>SUB-TOTAL</b>	<b>\$ 86,294</b>	<b>\$ 294,784</b>	<b>\$ 359,142</b>	<b>\$ 740,220</b>
HIGHWAY SUB-TOTAL	\$ 127,789	\$ 443,738	\$ 639,549	\$ 1,211,076
BRIDGE SUBTOTAL	\$ 35,523	\$ 122,432	\$ 162,068	\$ 320,023
<b>TOTAL</b>	<b>\$ 163,312</b>	<b>\$ 566,170</b>	<b>\$ 801,617</b>	<b>\$ 1,531,099</b>

\*Inflated at a rate of 4% per year to the median year of the period

**PROGRAM FUNDING ESTIMATES**

As previously indicated, the highway and bridge improvement program was developed to be fiscally balanced and reflect anticipated funding levels. **Table VI-3** illustrates the total estimated funds (including the funding for the line items) available to the MPO for project implementation.

**Table VI-3 - Erie MPO Estimated Funding (\$000's)**

IMPROVEMENT TYPE	ANNUAL FUNDS*	PERIOD A** 2007-2010	PERIOD B*** 2011-2020	PERIOD C*** 2021-2030	TOTAL FUNDS TO 2030
<b>HIGHWAY FUNDS</b>					
INTERSTATE MAINTENANCE	\$10,000	\$42,465	\$140,454	\$207,907	\$390,826
MAINTENANCE / BETTERMENT	\$4,500	\$19,109	\$63,205	\$93,558	\$175,872
NATIONAL HIGHWAY SYSTEM (NHS)	\$3,499	\$14,214	\$49,145	\$72,747	\$136,106
SURFACE TRANSPORTATION PROGRAM (STP)	\$3,575	\$14,120	\$50,212	\$74,327	\$138,659
STATE HIGHWAY	\$3,502	\$13,975	\$39,781	\$46,167	\$99,923
SAFETY AND MOBILITY INITIATIVE (SAMI)	\$1,046	\$4,269	\$14,692	\$21,747	\$40,708
CONGESTION MITIGATION / AIR QUALITY (CMAQ)	\$2,597	\$10,551	\$36,476	\$53,993	\$101,020
TRANSPORTATION ENHANCEMENTS	\$561	\$2,338	\$7,879	\$11,664	\$21,881
RAIL / HIGHWAY CROSSINGS	\$366	\$1,463	\$5,141	\$7,609	\$14,213
<b>HIGHWAY TOTAL</b>	<b>\$29,646</b>	<b>\$122,504</b>	<b>\$406,985</b>	<b>\$589,719</b>	<b>\$1,119,209</b>
<b>BRIDGE FUNDS</b>					
FEDERAL BRIDGE	\$4,301	\$17,485	\$60,409	\$89,421	\$167,315
STATE BRIDGE	\$2,132	\$8,516	\$24,218	\$28,106	\$60,840
<b>BRIDGE TOTAL</b>	<b>\$6,433</b>	<b>\$26,001</b>	<b>\$84,627</b>	<b>\$117,527</b>	<b>\$228,155</b>
<b>ACT 44 FUNDS</b>					
<b>ACT 44 TOTAL</b>	<b>\$6,149</b>	<b>\$18,912</b>	<b>\$74,187</b>	<b>\$94,965</b>	<b>\$188,064</b>
<b>HIGHWAY, BRIDGE, and ACT 44 TOTAL FUNDS</b>					
<b>TOTALS</b>	<b>\$42,228</b>	<b>\$167,417</b>	<b>\$565,799</b>	<b>\$802,211</b>	<b>\$1,535,428</b>

\*Annual Funds based on FFY 2007 Allocation levels except Act 44 Funds (based on 2008 allocation)

\*\* The Total Funds in Period A are determined by 2007 Financial Guidance provided by The Pennsylvania Planning Partners except Act 44 Funds (adjusted for inflation at a rate of 2.5% per year using Annual Funds as base)

\*\*\* Inflation adjustments as per YOE Expenditure Guidelines: Federal lines adjusted at a rate of 4% per year; State lines adjusted at a rate of 1.5%; ACT 44 adjusted at a rate of 2.5%

The annual levels of funding currently available to the Erie MPO were identified for each program area, and those annual levels were assumed for future funding estimates.

### FISCAL CONSTRAINT

The fiscal constraint analysis considers the total project costs versus the total available funding through 2030, and additionally, the fiscal balancing of each of the three-implementation periods. Overall there is a projected surplus of approximately \$4.3 million during the course of the plan. The figures are shown in **Table VI-4**.

**Table VI-4**  
**Erie MPO Fiscal Constraint Analysis**

<b>(\$000's)</b>	<b>PERIOD A 2007-2010</b>	<b>PERIOD B 2011-2020</b>	<b>PERIOD C 2021-2030</b>	<b>TOTAL TO 2030</b>
HWY	\$122,504	\$406,985	\$589,719	\$1,119,209
BRDG	\$26,001	\$84,627	\$117,527	\$228,155
ACT 44	\$18,912	\$74,187	\$94,965	\$188,064
<b>TOTAL FUNDS</b>	<b>\$167,417</b>	<b>\$565,799</b>	<b>\$802,211</b>	<b>\$1,535,428</b>
HWY	\$127,789	\$443,738	\$639,549	\$1,211,076
BRDG	\$35,523	\$122,432	\$162,068	\$320,023
<b>TOTAL COSTS</b>	<b>\$163,312</b>	<b>\$566,170</b>	<b>\$801,617</b>	<b>\$1,531,099</b>
<b>BALANCE</b>	<b>\$4,105</b>	<b>(\$371)</b>	<b>\$594</b>	<b>\$4,329</b>

As is demonstrated in Table VI-4, the highway and bridge improvement programs are generally balanced during all three planning periods and overall, with ACT 44 funding covering the difference. It is intended that as time progresses other project needs will be identified and refined, and they will be accounted for in the future editions of the transportation program.

**INNOVATIVE FINANCE**

The fiscal constraint analysis is based on the assumption that traditional financing resources will be available in the future. Should gaps between highway infrastructure investment needs and the traditional funding sources develop, SAFETEA-LU includes provisions for encouraging private sector investment:

- § **Private Activity Bonds** – SAFETEA-LU adds highway facilities and surface freight transfer facilities to a list of activities eligible for exempt facility bonds. Qualified projects, which must be receiving Federal assistance, include surface transportation projects eligible under Title 23, and facilities for the transfer of freight from truck to rail or rail to truck. The bonds are subject only to a National annual volume cap, and not to a State cap.
- § **Transportation Infrastructure Finance and Innovation Act (TIFIA)** – Establish under TEA-21, SAFETEA-LU encourages broader use of the TIFIA financing by lowering the threshold required for total project cost to \$50 million (\$15 million for ITS projects), and eligibility is expanded to include public freight rail facilities or private facilities providing public benefit for highway users, intermodal freight transfer facilities, access to such freight facilities and service improvements to such facilities including capital investment for intelligent transportation systems (ITS).
- § **State Infrastructure Banks (SIBS)** - SAFETEA-LU establishes a new SIB program which allows States to enter into cooperative agreements with the Secretary to establish infrastructure revolving funds eligible to be capitalized with Federal transportation funds authorized for fiscal years 2005-2009. This program gives States the capacity to increase the efficiency of their transportation investment and significantly leverage Federal resources by attracting non-Federal public and private investment.