

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features and coordinated in conjunction with several recent roadway projects; however, most of the remaining system is outdated, and the following priority corridors need updates: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/8th/6th Streets)
- US Route 20 (26th Street/Buffalo Road)
- 38th 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Many of the traffic signals operating in the other urbanized areas throughout the County are also outdated and in need of upgrades or replacement.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 12th 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 5th lane and intersection improvements
- US Route 19 in Millcreek and Erie, from Kuntz Road to 38th 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 12th 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 (12th 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 th St.	13,400
	38 th 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 th St.	16,000
	38 th 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 38th 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 th 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 26th 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.

Table IV-8		
Erie Metropolitan Transportation Authority (EMTA) Bus Routes		
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:

Table IV-9				
Erie International Airport				
Forecast Summary Table				
	Actual		Forecast	
	1998	2005	2010	2020
Enplaned Passengers	164,323	193,998	218,423	264,460
Aircraft Operations	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
Based Aircraft	10	14	15	16
Aircraft Operations	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:

- 12th Street
- 26th Street
- 18th Street and Buffalo Road
- 17th Street
- Cherry Street – enhancement for vehicles and neighborhood components
- French Street
- Peach Street north of 26th 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.