

1.0 Executive Summary

1.1 Study Introduction & Background

The US 19 Corridor is a key north-south corridor within Erie County linking Waterford Borough with I-90. The county's 2030 transportation plan identified the need for this study. Specifically, the plan indicated that the corridor municipalities conduct a land use and transportation study of US 19. The county plan indicated that traffic volumes along this portion of roadway would worsen in the future and that the US 19 Corridor was a safety concern area.

**Study area strategic direction:
Manage growth, protect the rural quality of life and further improve the performance and safety of the transportation system.**

In response to this improvement recommendation, Erie County, Summit Township, Waterford Township, and Waterford Borough, and the consultant team undertook the task of examining the US 19 Corridor to establish specific land use and transportation recommendations that will provide the residents and travelers of this corridor a safer route to travel.

Erie County in partnership with Summit Township, Waterford Township, Waterford Borough, and PennDOT initiated the US 19 Land Use and Transportation Study for the region in October 2003.

1.2 Study Goals/Objectives

At the outset of the study, the study steering committee established key study directions and supporting objectives to help guide the study effort. The objectives used to guide the study include:

- Improve safety within the US 19 Corridor
- Provide ample municipal participation and coordination throughout the project
- Develop recommendations that are implementable.

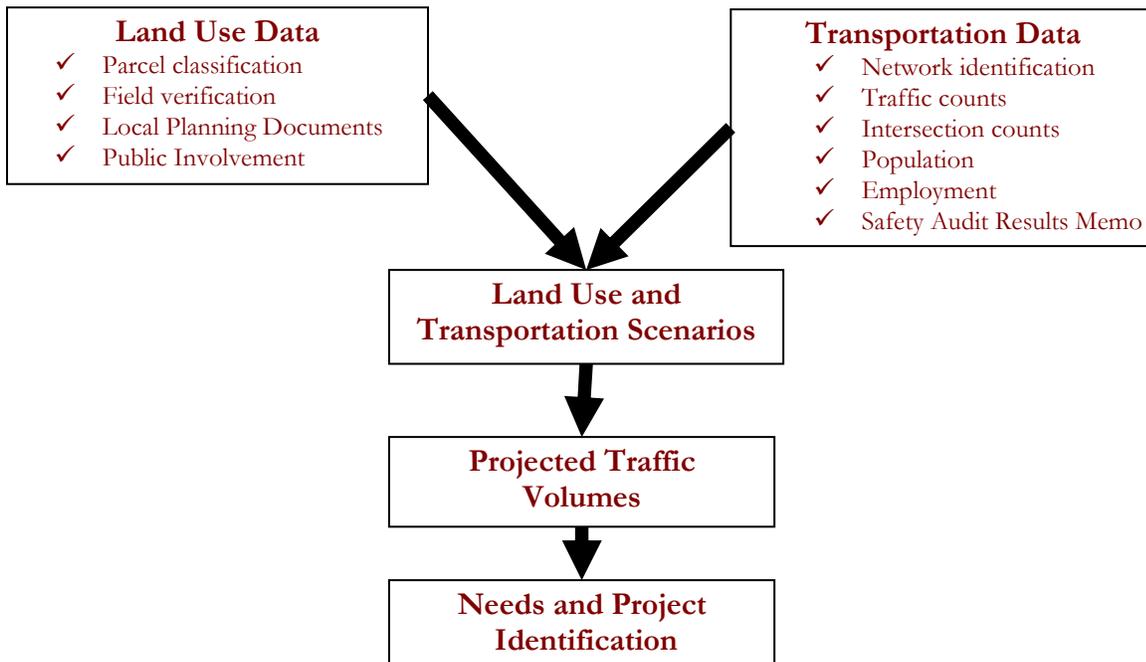
1.3 Methodology

The recommended transportation / land use scenario and resultant recommendations are the product of a process that began with the study team's kickoff meeting on October 9, 2003. The study team adopted the project scope, which included an eleven-step process towards developing this final report, as follows:

1. Kick-off Study
2. Establish Base Mapping

3. Identify Stakeholders
4. Assess the Existing Land Use
5. Assess the Existing Transportation System
6. Assess the Existing Sewer and Water Infrastructure
7. Conduct Public Involvement # 1 (including an open house and focus group with the general public, an exit survey, and a business focus group)
8. Develop and Test Study Recommendations
9. Conduct Public Involvement # 2 (including intercept surveys, public open house with scheduled presentations and presentations to county and municipal officials)
10. Refine the Study Recommendations
11. Develop Final Report and Action Plan.

The methodology steps are discussed in the report within each section, and follow the study process chart below.



1.4 Existing Conditions

Existing conditions for land use, transportation, and environmental conditions were determined for the study area. Transportation conditions were also examined. Highlights follow in the accompanying text boxes.

Existing Land Use Conditions Highlights

- The study area's total land area is nearly 26 square miles.
- Open space and undeveloped land comprises the majority of the study area at 41 percent.
- Most of the study area's industrial land is located within proximity of US 19's interchange with I-90.
- All three study area municipalities (Summit and Waterford Townships and Waterford Borough) have adopted a zoning ordinance.
- Sixty percent of the study area is zoned agricultural and open space.
- Commercial development is occurring along the northern portion of US 19 in the study area near the I-90 Interchange. This growth is slowly developing southward along US 19.

Existing Social Environmental Conditions Highlights

- Population in the study area has increased since 1950. Generally, the municipalities in the study area have outpaced Pennsylvania's growth rate over the past 50 years.
 - Waterford Borough's population has declined since its 1980 peak of 1,568.
- The percentage of study area workers who drive alone is higher than state (76 percent) and county (80 percent) rates. In Summit Township and Waterford Borough, the rates are as high as 87 percent.
- Among the study area municipalities, Waterford Township experienced the largest housing unit growth rate (54.8 percent) over the 1980 to 2000 Census period.

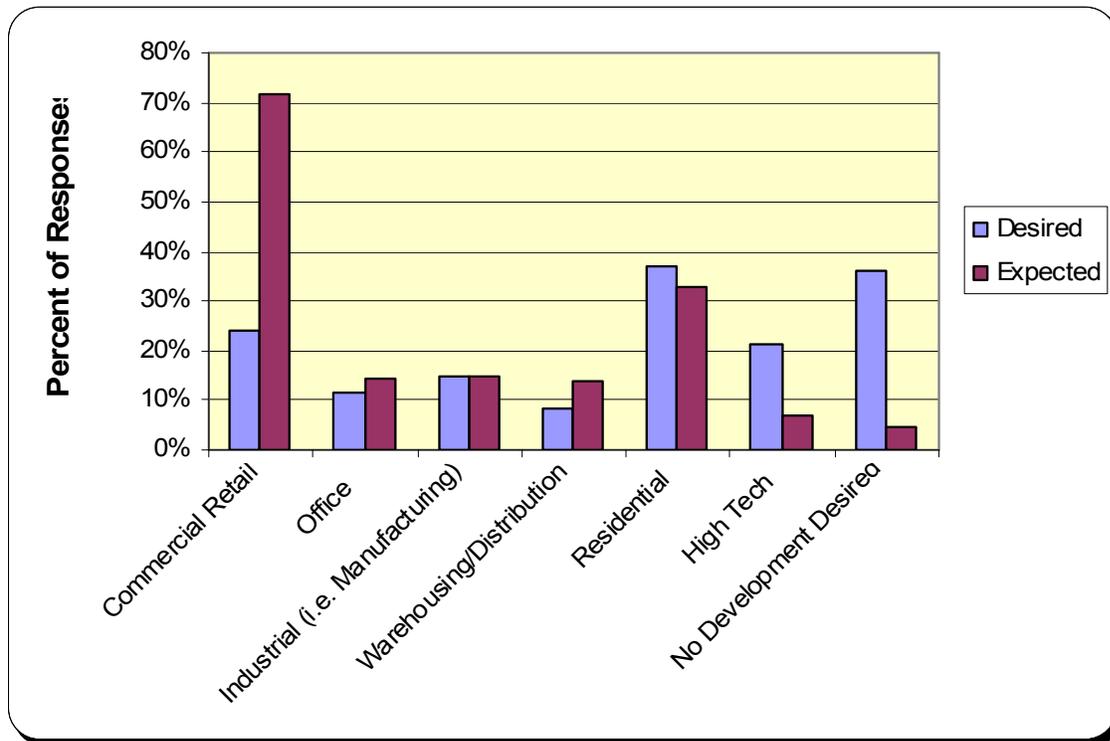
Existing Transportation Conditions Highlights

- The highest traffic volumes in the US 19 corridor are immediately south of I-90, with annual average daily traffic (AADT) of 18,166.
- Data from Erie County's travel demand model (2000 base year) indicate the study area's roadway network is not congested, with peak volume to capacity (V/C) ratios generally below capacity.
- The intersections of US 19 with PA 97 are the most congested locations within the study area during peak periods.

1.5 Public Involvement

The study process included a public involvement program to identify the issues and concerns of land owners in the US 19 study corridor. The study team held an initial public meeting on March 10, 2004 to learn of public preferences as they relate to the area's future development direction. Figure 1 below demonstrates that the public believes that the area will continue to develop commercially, with a majority predicting warehousing distribution. However, when asked what their preferences are for the area, a majority cited commercial, agriculture, or no development at all. The survey results affirmed the need for an appropriate development/land use strategy that includes the supporting transportation requirements. The following highlights the results of the two public involvement workshops.

Figure 1: Comparison of Desired Versus Expected Development



The project team held a second public meeting on April 26, 2005 to review the recommended development program and receive public comment. Results of both meetings, including copies of the exit survey instruments are included in the report appendix.

1.5.1 Public Involvement 1 Summary

- Survey participants were asked in their opinion what best described the growth and development in the study area in the past 10 years. Most survey participants perceived fast growth over the past decade.
- The majority of survey participants expect the study area population to increase somewhat or grow very fast. This corresponds with their expected development and growth rates.
- When asked to express preferences for future land use by development type for the Corridor, participants' responses were mixed. Residential development (37.2 percent) ranked the highest preference with no new development (35.9 percent) with a close second. Warehousing distribution and office were the least desirable (8.5 percent and 11.8 percent respectively).
- In contrast when survey participants were asked what type of development they think will occur in the Corridor, a majority (71.4 percent) identified Commercial Retail as the primary development type.
- Survey participants indicated that delays on study area roadways are experienced during rush hour periods (68.8 percent). While, 19.4 percent of survey responses indicated that delays were experienced at all hours of the day.
- Approximately 42 percent of survey participants indicated that roadway safety was an issue at all hours of the day. Only 3 percent indicated that the roadways were safe.
- The study area's present character remains semi-rural with dispersed land use. Residents appropriately associate this pattern with a high quality of life. Over 68 percent, in fact, assigned high priority to maintaining the area's rural character.
- As part of quality of life, maintaining agriculture and open space is important to survey participants. This was the fourth-highest ranked issue by survey participants. Other issues, besides rural character and open spaces that were of high priority to survey participants included traffic congestion and improving roadway safety.
- An interesting finding is that 59 percent of respondents placed a high or medium level of priority on attracting new jobs to the area. It could be argued that this is at odds—from a land use-planning standpoint—with the high level of expressed interest in no growth. However, these apparent anomalies are the reason this planning process is so important. Development and quality of life objectives do not have to be incompatible or conflicting—but can be achieved as community goals are meshed with effective strategies for both land use and transportation.
- Another interesting finding is the low priority placed on creating more residential development (40 percent). In an earlier question on the survey, participants were asked what type of development they would like to see in

the Corridor – 37.2 percent indicated that they would like to see residential development occur in the study area followed by 35.9 percent who indicated they would like to see no new development occur.

- Participants were asked to prioritize accommodating bicyclists and pedestrians in the study area. Of those participating in the survey, only 23 percent placed this issue as high priority. In fact, the majority of the survey participants ranked this issue as a low priority.

1.5.2 Public Involvement 2

From the survey, the strongest support appears to be at addressing sight distance limitations at Townhall's intersections with US 19 and PA 97 (53 percent and 45 percent respectively saying they "strongly support" the recommendation), while 50 percent voiced "strong support" for a center turn lane in Summit Township.

Favorable public responses to the recommendations were as follows (those saying they: strongly agree/agree/somewhat agree):

- 86% - US 19 & Townhall Road sight distance
- 85% - construct center turn lane on US 19 to Townhall Road
- 85% - PA 97 & Townhall Road sight distance
- 82% - US 19 & Dorn sight distance
- 81% - Robison Road & Old French Road sight distance
- 77% - administer a parking/traffic circulation study for Waterford Borough
- 76% - address physical objects in the corridor (swales, etc.)
- 73% - extend Waterford Borough's Main Street character
- 72% - retime Waterford Borough signal
- 68% - express bus service/park and ride
- 65% - joint access management ordinance
- 58% - roundabouts
- 58% - eliminating commercial strip potential
- 47% - limit public water/sewer extensions.

Recommendations registering any kind of "strong disagreement" were:

- 21% - limiting water/sewer service extensions
- 17% - roundabouts
- 11% - Eliminating commercial strip potential.

There were a total of 192 participants who submitted surveys. All three municipalities were equally represented.

1.6 Scenarios

As part of the planning process, the planning team developed three scenarios for evaluation. These included a "base scenario", "full build out (worst case) scenario", and a "publicly preferred scenario" Table 1 below defines the scenarios in more detail.

Table 1: Scenario Definitions

Scenario	Land Use Changes	Traffic Changes*
<p>2030 Base Case Scenario</p>	<ul style="list-style-type: none"> • Population and employment increases within its historic patterns. • No changes in the current zoning or functioning of the study area land uses. • Population and employment projections are a result of the Erie County Travel Demand Model Update of 2002. • Includes projects included in the 2003 Transportation Improvement Program. 	<ul style="list-style-type: none"> • Increased volumes (approx. 60 percent) on US 19 north of Waterford Borough and the US 19/PA 97 intersection. • Substantially increased volumes on Robison Road between Parsons Road and Old French Road (74 percent) as a result of increased population. • Relatively constant traffic growth along PA 97 and US 19. • Except for the sections of US 19/PA 97 to the north and south of Waterford Borough, the highway system is expected to operate below capacity within the study area.
<p>2030 Base Case Scenario Summary: This scenario yielded the best performing transportation system of the three scenarios. The land-use development is less intensive and centers on the existing major traffic routes and interchanges. <i>This scenario yielded the best level of service on all 14 segments in comparison to the other scenarios.</i></p>		

* ID refers to the corresponding segment on the scenario analysis tables.

Scenario	Land Use Changes	Traffic Changes*
<p>Full Build-out Scenario</p>	<ul style="list-style-type: none"> Increased commercial retail along US 19 from I-90 to Waterford Borough. Increased commercial retail along PA 97 from I-90 to Waterford Township. Increased retail concentration in Summit Township in the area of US 19 and I-90 interchange. Residential development in Summit and Waterford Townships and Waterford Borough. 	<ul style="list-style-type: none"> Increased volumes on US 19 from I-90 to Waterford Borough as a result of increased commercial development. The bulk of this traffic is concentrated close to the interstate. Increased volumes on Townhall and Robison Roads as a result of the allotted build-out of currently zoned agricultural land. Congestion on US 19/PA 97 to the north and south of Waterford Borough fractionally worse than the Base Scenario is expected.
<p>Zoning Build-out Scenario Summary: With this scenario, traffic volumes increase more dramatically than in the Base Scenario due to more intensive land use (the higher density residential, commercial, and industrial development) throughout the study area. The scenario is the most land intensive of the three tested. <i>This scenario generated fourteen of the poorest producing segments analyzed.</i></p>		
<p>Publicly Preferred Scenario</p>	<ul style="list-style-type: none"> Increased commercial development along US 19 and PA 97 but with reduced densities than is allowed by current zoning. Maintains the focus of commercial development near the US 19 and I-90 interchange in Summit Township. 	<ul style="list-style-type: none"> Growth in traffic is more concentrated at the US 19/I-90 interchange with US 19 expected to operate at capacity by the year 2030. Increased volumes on US 19 from I-90 to Waterford Borough as a result of increased commercial development however less than the zoning build-out. Increased volumes on Townhall and Robison Roads as a result of the allotted build-out of currently zoned agricultural land. Congestion on US 19/PA 97 to the north and south of Waterford Borough should continue to be expected, although not as severe.
<p>Publicly Preferred Scenario Summary: This scenario was derived from input received at the study's two public open houses. The goals were to maintain the area's rural character, improve safety, and reduce congestion compared to the Zoning Build-out Scenario. This scenario is therefore based on the zoning build-out with more development in Summit Township at the I-90 interchange and less intensive growth along US 19 and PA 97. <i>This scenario generated four of the poorest producing segments analyzed.</i></p>		

1.7 Recommendations

Based upon the preferred future land use scenario, a series of recommendations was developed for the study area. After performing an assessment of existing conditions, working with the project steering committee, and communicating with the public, the project team identified the major areas to be acted upon by a variety of agencies for implementation. In no particular order, these major areas include:

1. Future Land Use and Development Direction
2. Ordinance and Policy Recommendations
3. Transportation System Improvements

The corresponding recommendation areas reflect the collective input of the public outreach meetings and the steering committee meetings. They provide the study area municipalities with a menu of recommended options to consider as they continue their efforts to improve accessibility and mobility in the US 19 Corridor.

Category	Recommendations/Options
Land Use and Development Recommendations	
Waterford Borough Main Street Character	<ul style="list-style-type: none"> ▪ Preparation of a town master plan for Waterford Borough to establish a community vision with corresponding design guidelines that reflect the historic village development pattern (which is a considerable community asset). ▪ Extend the "Main Street" design/character from the center of the borough to US 19's intersections with PA 97. ▪ Promote mixed use "in-fill" development within the district consistent/compatible with existing uses. ▪ Enhance the district's physical appeal and image through pedestrian-friendly streetscaping and façade renovations.
Open Space/ Rural Character Areas	<ul style="list-style-type: none"> ▪ Encourage the implementation of Conservation Design principles for proposed developments. ▪ Explore opportunities for conservation easements in identified/designated environmentally sensitive areas.
Economic Development/Growth Areas	<ul style="list-style-type: none"> ▪ Provide convenient access to public utilities and municipal services. ▪ Provide development incentives for designated areas. ▪ Utilize standardized land development process/approval guidelines that expedite decision-making.

Ordinance and Policy Recommendations	
Comprehensive Planning	<p>The study area municipalities should consider updating their comprehensive plans to address:</p> <ul style="list-style-type: none"> ▪ Consistency with the land use and transportation recommendations for the US 19 study area. ▪ Consistency with current Federal, State and County planning initiatives.
Zoning	<p>The study area municipalities should consider updating their zoning ordinance to address:</p> <ul style="list-style-type: none"> ▪ Creation of a Transitional zoning district on US 19. ▪ Expansion of commercial districts in designated growth areas. ▪ Modification of permitted and conditional uses in commercially-zoned areas. ▪ Creation of a new Residential Conservation Development District.
Subdivision & Land Development	<p>The study area municipalities should consider updating their subdivision and land development ordinance to address:</p> <ul style="list-style-type: none"> ▪ Land development standards. ▪ Pre-Application Conference requirements.
Official Map	<p>The study area municipalities should consider developing an Official Map. The official map would:</p> <ul style="list-style-type: none"> ▪ Provide a tool for planning public capital investments ▪ Identify areas where public improvements are envisioned (e.g., road improvements, parks, playgrounds and sites for other public purposes). ▪ Strengthen its position with developers with regard to the incorporation of public improvements into land development submittals.
Landscaping	<p>The study area municipalities should consider amending their zoning ordinance to enhance provisions for landscaping, such as:</p> <ul style="list-style-type: none"> ▪ Landscaped buffer areas ▪ Recommended street tree species ▪ Minimum planting specifications.

Outdoor Lighting	The study area municipalities should consider developing an Outdoor Lighting ordinance to help manage the amount and intensity of outdoor lighting.
Transfer of Development Rights (TDR)	The study area municipalities should consider establishing a Transfer of Development rights program (TDR). With the transfer of development rights, the affected landowners would be compensated and the designated land could be preserved as open space, agricultural, or similar use.
Transportation System Recommendations	
Corridor-Wide Improvements	
Access Management	<p>The study area municipalities should consider adopting an access management ordinance addressing:</p> <ul style="list-style-type: none"> ▪ Cross access drives ▪ Driveway spacing ▪ Frontage/Marginal Access Roads
Highway Safety Improvements	<p>Identify, define and complete various safety-related improvements along US 19. Considerations include:</p> <ul style="list-style-type: none"> ▪ The possible construction of turning lanes along the corridor should be considered where warranted. ▪ Requests for speed limit reductions could also be considered as warrants for turning lanes are met. ▪ Implement recommendations of the traffic safety audit. ▪ Address physical objects in the US 19 corridor, such as unprotected drainage swales. ▪ Improve sight distances at identified locations.
Off-Street Parking	<p>The study area municipalities should consider amending their respective zoning ordinances to incorporate the following off-street parking principles:</p> <ul style="list-style-type: none"> ▪ Rear and Side Yard Parking ▪ Shared Parking ▪ Developer Incentives
Bicycle/Pedestrian	<p>The study area municipalities should consider enhancing bicycle/pedestrian facilities planning for the corridor, including:</p> <ul style="list-style-type: none"> ▪ Conducting assessments of existing bicycle/pedestrian facilities in the corridor. ▪ Implementing a bicycle/pedestrian checklist to be distributed at the pre-meeting for major subdivision proposals.

	<ul style="list-style-type: none"> ▪ Retrofitting sidewalks to pre-existing developments.
Waterford Area Improvements	
Intersection Improvements	<ul style="list-style-type: none"> ▪ Improve US 19's intersections with PA 97 at both ends of Waterford Borough either through signalization or the construction of roundabouts. ▪ Improve the signalized intersection in Waterford to include upgraded signal equipment and retiming.
Pedestrian Facilities	<ul style="list-style-type: none"> ▪ Improve the walkability of Waterford Borough through a streetscape design that includes sidewalk and crosswalk standards ▪ Extend existing sidewalks on Main Street north and south to the developments at the intersections of US 19 and PA 97.
Parking	<ul style="list-style-type: none"> ▪ Conduct a detailed on-street parking analysis for the Main Street area which would address how best to design/improve parking patterns (and availability) in the borough and reduce conflicts with traffic flow.
Traffic Calming	<ul style="list-style-type: none"> • Consideration should be given to adopting a toolbox of traffic calming devices with guidelines for implementation in designated areas.
Transit	<ul style="list-style-type: none"> ▪ The Erie Metropolitan Transit Authority and PennDOT should consider providing express bus service from the study area to the City of Erie via a new park and ride facility adjacent to Waterford Borough.