



Lycoming County Growth Area Land-Use and Transportation Plan

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Prepared By:



**Trans Associates
123 North Enola, Drive
Enola, PA 17025
717-732-7066**



**Larson Design Group
1000 Commerce Park Drive, Suite 201
Williamsport, PA 17701
570-323-6603**



Introduction

In August 2006, the Board of Commissioners of Lycoming County adopted the *Lycoming County Comprehensive Plan, Phase II* to provide future guidance for the County and its municipalities in areas such as land-use, transportation, housing, infrastructure, and community development. A major recommendation issued by this policy document was the delineation of growth areas to encourage future land-development at locations with suitable infrastructure for public services and transportation. Approximately 5 percent of the total land-area of Lycoming County was designated as a growth area.



The *Lycoming County Comprehensive Plan* forecasted modest population growth within the County totaling approximately an 8 percent gain (10,564 persons) for the 10-year period between 2010 and 2020. Shortly following the adoption of the comprehensive plan, Lycoming County became a hub for the emerging Marcellus Shale natural gas drilling and exploration industry. The Marcellus Shale is a very large natural gas formation extending across 95,000 square miles and running through roughly two-thirds of Pennsylvania and portions of New York, West Virginia, Virginia, Maryland, and Ohio. Beginning in Year 2008, 13 Marcellus wells were drilled in Lycoming County. Since then, the rate of drilling slowly increased to 24 new wells in Year 2009 then dramatically increased to 102 new wells in Year 2010 and 68 new wells during the first 4-months of Year 2011.

The Marcellus Shale industry has increased the demand for land development in Lycoming County, particularly in the areas of temporary housing (motels/hotels), permanent housing, and industrial park facilities. According to the *Pennsylvania Statewide Marcellus Shale Workforce Needs Assessment*, approximately 420 individuals working across nearly 150 different occupations are needed to perform all the operations required to complete and produce gas from a single Marcellus Shale well. The total hours worked by these individuals represent over 13 full-time equivalent hours over the course of a year. Most of this labor is needed temporarily for the pre-drilling and drilling phases, but approximately 0.4 long-term full-time equivalent jobs per well are required for well production and natural gas processing. In addition, the gains in population and employment created by the Marcellus Shale industry create many jobs in other business sectors not directly related to natural gas drilling and production.

Marcellus Shale exploration and drilling is expected to continue for an estimated 30 to 50 years. The amount of total recoverable natural gas located within the formation is currently unknown, although recoverable gas estimates have ranged from 262 to 489 trillion cubic feet (EIA, 2011; Englander, 2009). Most geologists place the Marcellus play as among the largest in the nation and possibly the world.



Purpose

The purpose of this Lycoming County Growth Area Land-Use and Transportation Plan is two-fold. The first objective is to forecast future land-use within the Lycoming County growth areas given the increased demand pressures created by the Marcellus Shale industry. The second objective is to assess the transportation impacts of this future land development on the roadway infrastructure of Lycoming County and identify transportation improvements to alleviate these impacts. The base year of this study is Year 2010 and the forecast year is Year 2030.

The findings of this Lycoming County Growth Area Land-Use and Transportation Plan are intended to provide guidance for identifying potential future projects for the Long Range Transportation Plan (LRTP) and the Transportation Improvement Plan (TIP). Many of the projects identified in the growth-area plan are not being advanced to the LRTP and TIP at this time. Further study, including field views, environmental screening, project scoping, and cost estimates would be required prior to programming these projects onto the LRTP or TIP.

Williamsport Area Transportation Study

On October 28, 1993, the U.S. Department of Transportation, under joint sponsorship of the Federal Highway Administration and the Federal Transit Administration, released updated regulations covering the urban transportation planning and programming process. These regulations specify that Metropolitan Planning Organizations (MPO), in cooperation with the State and local operator of public transit, shall:

- (1) Develop unified planning work programs;
- (2) Discuss the planning priorities of the metropolitan planning area;
- (3) Describe short-term transportation and transportation air quality planning activities (including corridor and subarea areas), indicating funding responsibilities, work schedules and the products that will be produced;
- (4) Document planning activities to be performed with funds provided under Title 23, U.S.C., and the Federal Transit Act.

Within Lycoming County, Pennsylvania, the transportation planning process is conducted through the Williamsport Area Transportation Study (WATS). The role of WATS is to develop transportation policies, programs, and projects to move people and goods in a safe and efficient manner while promoting economic development, environmental protection, and preservation of Lycoming County's outstanding quality of life. The Lycoming County Planning Commission staff assumes lead responsibility for undertaking FHWA funded planning tasks while River Valley Transportation Services is responsible for undertaking the FTA transit planning tasks.



The Williamsport MPO adopted the Lycoming County Comprehensive Plan Update as the WATS Long Range Transportation Plan in June, 2007. The MPO recognizes the strong relationship between transportation planning, land use planning, environmental planning, economic planning, and overall comprehensive planning.

Project History

Lycoming County has been a leader in Pennsylvania with respect to the development of unique approaches to comprehensive planning. Lycoming County provided the Commonwealth's first integrated planning effort under the 2000 revisions of the PA Municipalities Planning Code. Accordingly, the Lycoming County Board of Commissioners has adopted a major update to the Lycoming County Comprehensive Plan that incorporates six multi-municipal comprehensive plans covering 26 municipalities and 6 designated growth areas. Planning Advisory Teams and extensive public involvement were utilized to secure local input during the plan development process. These planning efforts have shaped a future vision Lycoming County that targets specific area for growth and special resource protection. Lycoming County was awarded the Dallas Dollase Award for Planning Excellence for these comprehensive planning efforts.

The underlying policy the Lycoming County Comprehensive Plan is to promote future growth in areas that currently have availability of public infrastructure or where the necessary infrastructure can be easily provided. Development is not promoted in areas with known hazards or in areas which would degrade existing natural resources. The comprehensive plan embraces Smart Transportation principles and is consistent with the Keystone Principles for Sustainable Development. There is a strong tie between linking land use, transportation, and the environment throughout the County's comprehensive plan. The Lycoming County Planning Commission is currently focused on achieving comprehensive plan implementation and is working closely with local municipal officials to amend subdivision and land development, zoning, and other appropriate regulatory ordinances.

Due to funding constraints during development of the Lycoming County Comprehensive Plan, a thorough analysis was not completed to quantify the impacts of future land use plans on the surrounding transportation infrastructure. Given current financial constraints, it is imperative to identify the potential transportation impacts associated with forecasted land-development in the delineated growth areas. Where substantial negative impacts occur on the transportation system, infrastructure projects may need to be added to the long-range transportation plan or land-use intensity may need to be downscaled through major amendments to county and local ordinances.

Study Area

Figure 1 illustrates the study area for the Lycoming County Growth Area Land-Use and Transportation Plan. The 480 sq. mi. study area generally encompasses the southern portion of Lycoming County. The western boundary coincides with the Lycoming County-Clinton Count line. The southern boundary coincides with the borders of Union County,



Northumberland County, and Montour County. The northern boundary follows the northern borders of Watson, Mifflin, Anthony, Lycoming, Lewis, Hepburn, Eldred, Upper Fairfield, Mill Creek, and Wolf Townships. The eastern boundary follows the eastern borders of Wolf Township, Picture Rocks Borough, and Muncy Creek Township. Each of the growth areas designated in the Lycoming County Comprehensive Plan is included within this study area.

Land-use Forecasting

Build-out ratios used in the traffic analysis generally followed the “growth scenario” tables from Chapter 5-Community Infrastructure plan part of the respective Multi-Municipal Planning areas. The factor used for residential uses was not more than 75 percent of the developable acreage. The factor used for the non-residential uses was not more than 50 percent of the developable acreage. Also, the non-residential factor coincides with the ratio used for sewer planning projections by a local engineering consultant.

The developable acres were arrived at from subtracting floodway/floodplain (100 yr)/steep slopes/wetland/public land ownership out of those acres not built on. In Borough/City locations, adaptive re-use of buildings was considered. On a site-specific basis, a 100 percent build-out was considered if applicable. Other factors considered in the land-use forecasts were the current zoning of lot coverage, existing dwellings per acre and existing type of land-use. The future land use map of the Comprehensive Plan was considered to determine if future development zones would support residential or non-residential uses.

Highlights follow where additional adjustments were included to continue the above factors.

- Greater Williamsport Alliance Planning Area: Some sites for residential uses were given a 100% to 75% build-out from the developable tract area with the proximity to the center of the City. Areas were also viewed to develop beyond the 50% non-residential factor based on a) floor area % factor is at 100% coverage, reuse of existing floor area and b) mixed use configurations. Generally build-out area was converted to square feet;
- In the Montoursville-Muncy Planning Area: The area of development was a factor based on % of building coverage in square feet established by zoning guidelines;
- In the I-99/220 Planning Area a couple of options for development were applied based on that one Township (Piatt) is within the County Zoning Partnership, and the sliding scale of dwellings was followed for residential uses in the growth area. Overall some uses were based on zoning map changes with the Comprehensive Plan as a guideline.

As a check on the accuracy approximat future projections coincided with the residential dwelling tally generating future population.

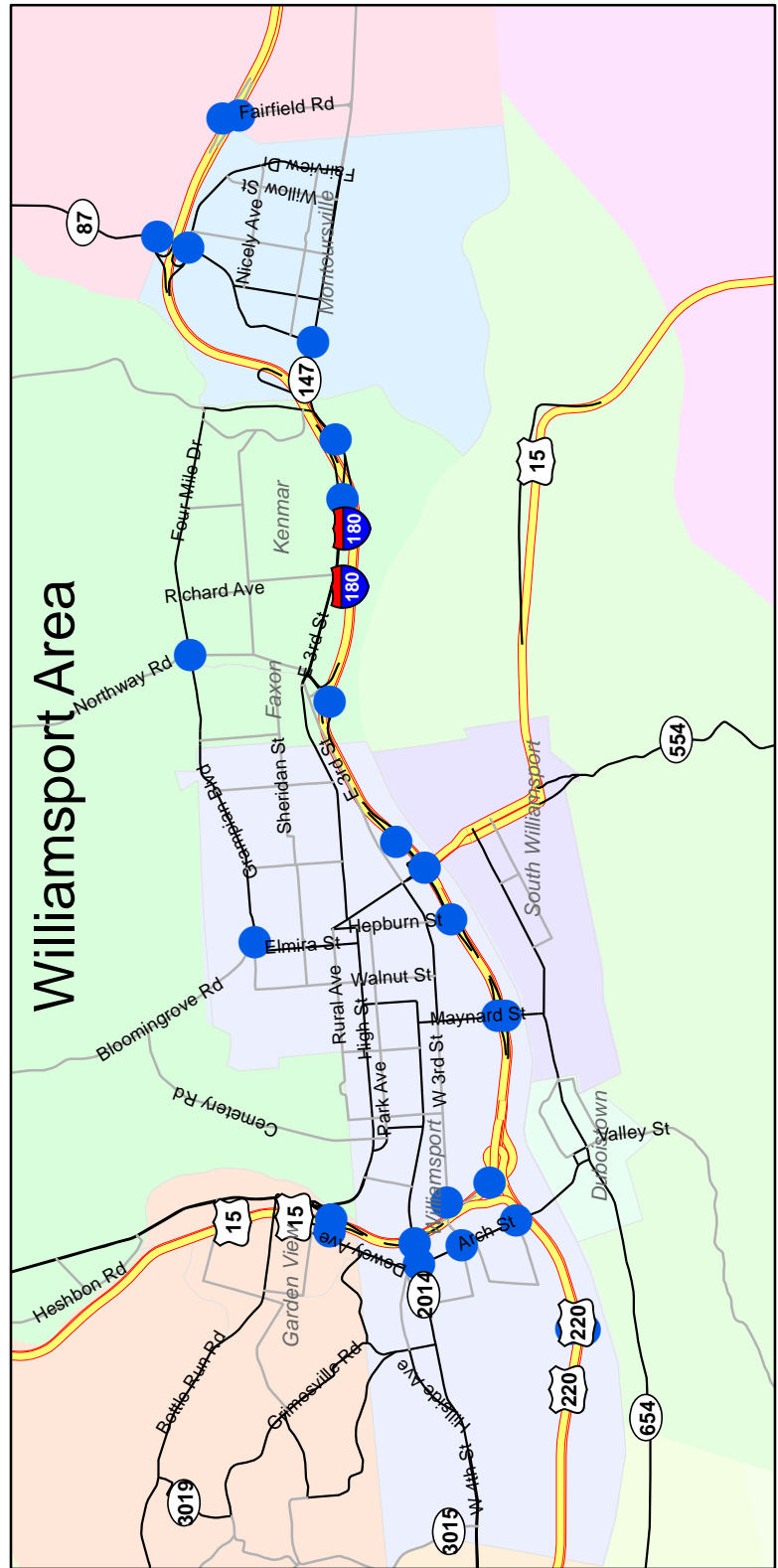
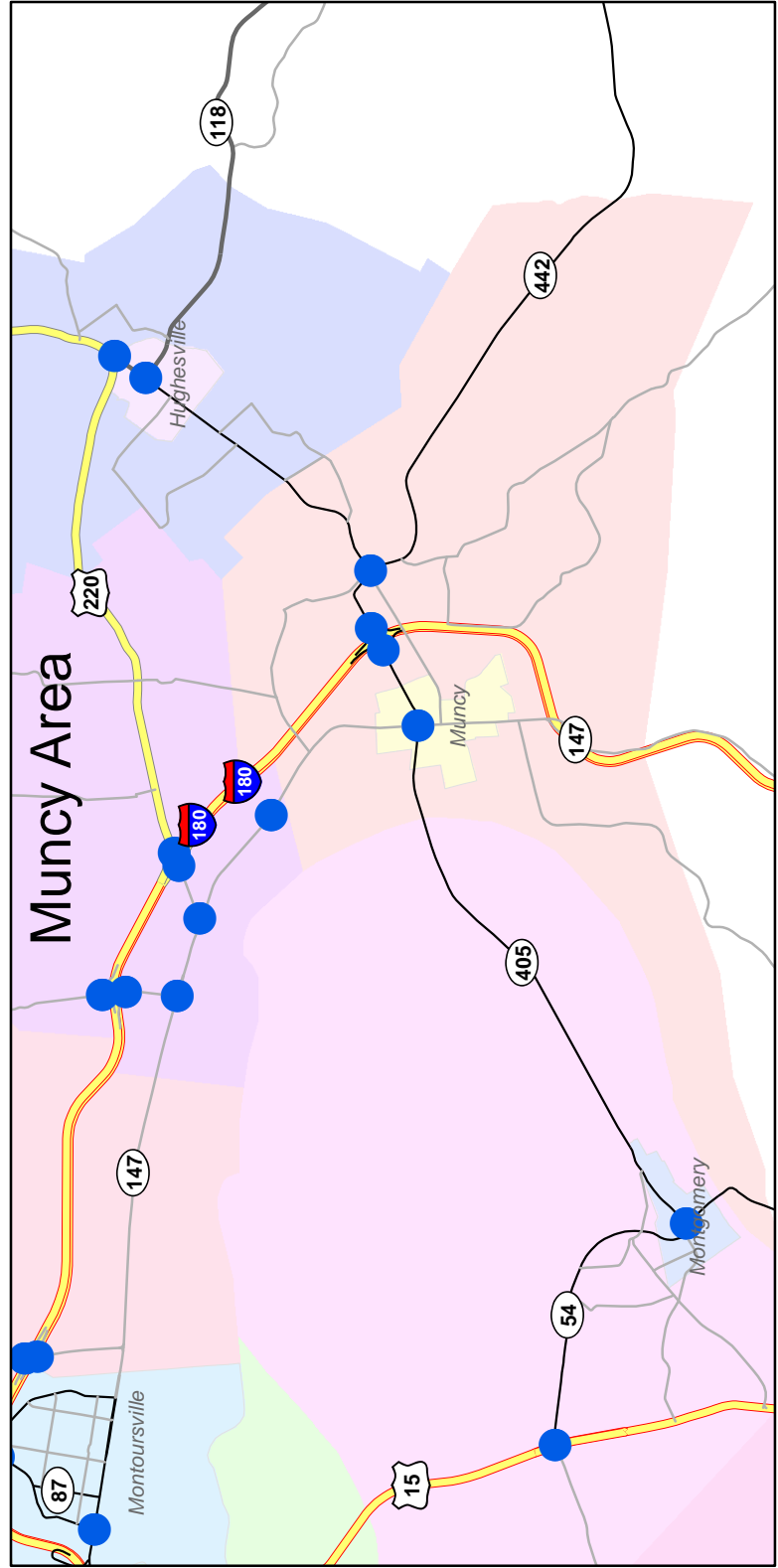
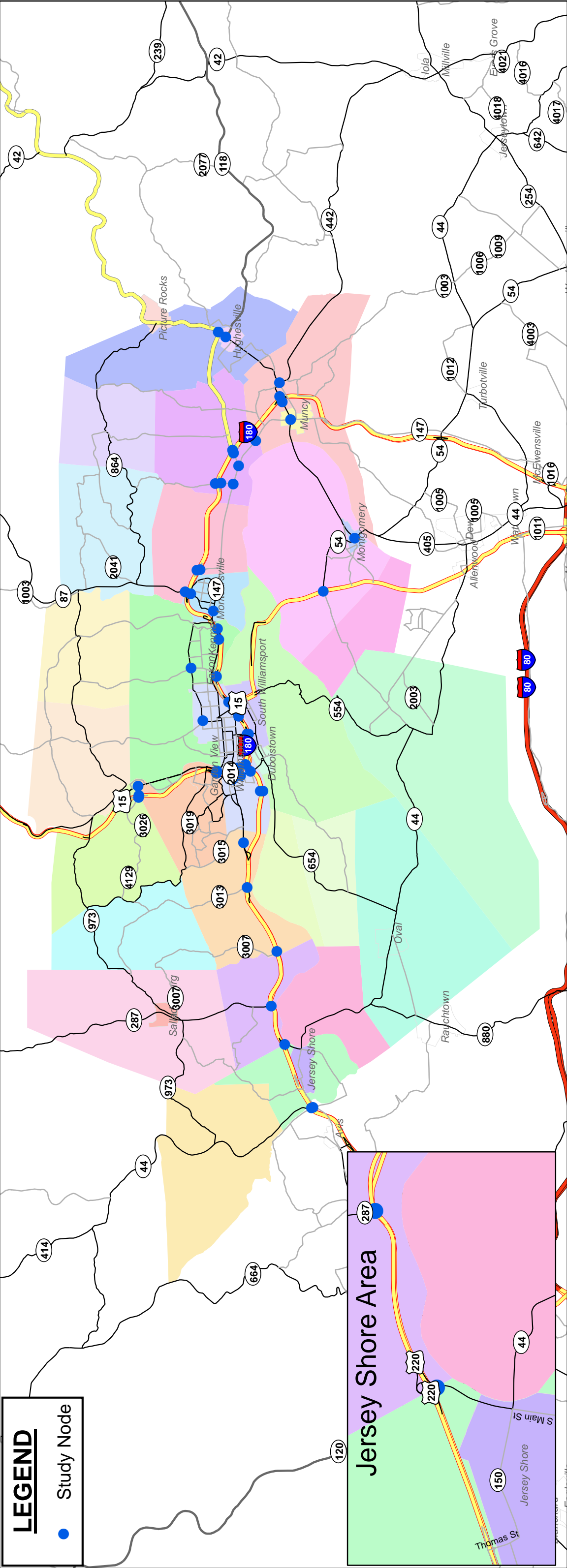


Figure 1 - Project Study Area



Transportation Analysis

New traffic associated with future land-use development can cause undesirable impacts on the surrounding transportation system. Progressive transportation planning is essential to identify future transportation system investments and ensure that new land development does not overburden the transportation system. The analysis methodology identifies key intersections in the roadway network and examines the existing and future ability of these intersections to accommodate future traffic demand. Intersections were selected for study because they represent the key junctures in a roadway system that typically exhibit congestion. It is noted however that roadway links may also be congested and that if a particular corridor, through this study, has several identified congested intersections a more detailed corridor study may be appropriate to examine roadway link needs in addition to intersections.

Traffic Analysis Techniques

A variety of analyses are presented in this report to document projected levels of congestion, identify substandard conditions, suggest improvements to return acceptable conditions, identify queue lengths, identify appropriate traffic controls, and evaluate the need for auxiliary turn lanes at key intersections. All traffic analyses presented in the report were conducted in accordance with PennDOT guidelines. Intersection capacity analyses followed the procedures of the *Highway Capacity Manual, Year 2000 Edition (HCM-2000)* by the Transportation Research Board as implemented by the *VISUM* software package. Queue lengths were identified from the 95th percentile values reported by *VISUM*. Auxiliary turn lane warrant analyses followed the procedures of PennDOT Strike-off Letter 470-08-7. Warrant analyses for traffic control devices followed the procedures of the *Manual on Uniform Traffic Control Devices – Year 2003 Edition* and *Publication 212 – Official Traffic Control Devices*.

The highway capacity analyses for this study were based on standard engineering practices as suggested in *HCM-2000*. The analysis interval for capacity calculations was set at 1-hour, consistent with the desired timeframe of traffic-volume projections for the HPAP study and trip generation forecasts for future land-use. Baseline and regional growth traffic were set equivalent to the field-documented values by movement for each specific analysis period and held constant through each of the traffic projection scenarios. The peak hour factor was set at 1.0 as suggested by the *Highway Capacity Manual* for a 1-hour analysis period.

For signalized intersections, the base saturation flow rate was set at 1900 passenger cars/hour/lane. Lost-time was set equal to the duration of the clearance interval (yellow-time plus all-red time) at the end of each signal phase. Signal timing conditions were referenced from the traffic signal permit plans provided by PennDOT for existing conditions. The signal timings were optimized for each of the future no-build conditions and held constant at the optimized no-build settings for corresponding future build scenarios.



For stop-controlled intersections, the base values for critical gap and follow-up times were set in accordance with Exhibit 17-5 of *HCM-2000* by type of vehicle movement. The impact of two-stage left-turn movements and upstream signals was not considered applicable in this analysis.

Roundabout analyses followed the method recommended by NCHRP Report 572 – Roundabouts in the United States. This operational assessment methodology for roundabouts is included in the *Highway Capacity Manual, Year 2010 Edition*.

Traffic signal warrant analyses considered the peak hour and four-hour volume warrants suggested by the *MUTCD and PennDOT publication 46 Traffic Engineering Manual*. Time periods for the four-hour warrant were limited to the morning/afternoon peak periods. The off-peak hour for each peak period was assumed to have 95 percent of the peak hour traffic.

Model Selection

A travel demand forecasting model was developed for the study area using the software package *VISUM 11-5*, published by PTV America. The *VISUM* software is a full-featured, state-of-the-art platform for travel demand modeling that forecasts traffic volumes by relating travel demand, as determined by land use characteristics, to transportation supply as determined by the characteristics of the transportation system. Travel activity is estimated at a transportation analysis zone (TAZ) level-of-detail as a function of the type and size of land-use development. Trip distribution is estimated from mathematical models of the intensity of development and travel-time impedance between TAZ pairings. Route assignment is based on trip-tables that represent the patterns of travel demand among the individual TAZs, and the “loaded” travel-time along the transportation linkages between the TAZs. Loaded travel-time is calculated in an iterative fashion as a function of the assigned volume and traffic-carrying capacity of the transportation linkages.

VISUM provides several unique features that make it well suited for travel demand modeling within subarea networks like the HPAP study area. These features include:

- Sensitivity to intersection-level travel delay based upon a faithful implementation of *Highway Capacity Manual* procedures;
- Dynamic storage of flow bundles that enable direct tracking of origin-destination patterns from traffic assignment results at the TAZ, segment, intersection, and turn movement levels-of-detail;
- Trip-table estimating capabilities that leverage readily available data sources such as automatic traffic recorder (ATR) counts, turn movement counts, and TAZ land use characteristics to develop origin-destination matrices;



- Data importing/exporting capabilities that support data transfer with other related software packages including *Microsoft Excel* and *Synchro 7* by Trafficware, Inc.

The *VISUM* sensitivity to intersection-level traffic delay insures accurate travel time measurements, reliable route assignment, and capabilities to test a variety of intersection-based improvements (change in traffic control, auxiliary turn lanes, better signal timings, etc.) to mitigate transportation deficiencies. The flow bundle functionality allows *VISUM* to quickly identify the origins and destinations of traffic using particular links, nodes, or turning movements. The trip table estimating functionality allows *VISUM* to avoid costly field studies of origin-destination patterns, while maximizing the use of readily available traffic data.

Model Coding

A baseline travel demand model was established within *VISUM* using traffic counts from a variety of sources, geographic information system data provided by Lycoming County, and the latest aerial imagery available at www.pasda.psu.edu. Peak period intersection traffic counts were completed by Lycoming County staff in Year 2010 at 51 intersections located throughout the study area. Additional traffic data was obtained from PennDOT count stations, as inventoried by the Internet Transportation Monitoring System (iTMS) website. This data, published as daily traffic counts, was converted to directional peak hour counts using a directional factor of 0.5 and an hourly factor of 0.08.

Transportation systems characteristics were identified through field views, Google street-view (where available), and supporting data available from other public agencies. Data included existing roadway conditions and physical features information such as speed limits, intersection traffic control, lane-use controls, lane widths, shoulder widths, approach gradients, length of auxiliary lanes, etc. Traffic signal permit drawings were obtained from the Pennsylvania Department of Transportation (PennDOT) to provide a source of existing phasing configuration and timing plans at signalized intersections within the study area. In total, transportation systems characteristics were identified for 525 centerline miles of roadway and 333 intersections.

Existing demographic information was obtained at a census block level of detail from the Year 2010 Census and the 2008 edition of the Census Longitudinal Employer Household Dynamics survey. TAZs were established to aggregate the data for use in the travel demand model. The TAZ boundaries were established from census block, block group, and tract geography based on a review of aerial imagery and the location of census blocks with respect to the study area transportation system. TAZ connectivity with the transportation system was established from a review of area imagery. Multi-point assignment methods were employed, where applicable, to proportion zonal trips among multiple TAZ connectors.

In total, 318 TAZs were established to represent the locations of travel activity within the study area. An additional 23 TAZs were defined to represent the external cordons of the



study area. Existing demographic totals included 43,392 occupied dwelling units and 36,999 jobs. For use in the travel demand model, the TAZ demographic information was converted to vehicle-trip generation using equations recommended by *NCHRP Report 365* for small suburban areas.

Following trip generation, production/attraction totals by trip type at each TAZ were allocated to individual trip pairings between TAZs using a gravity model based upon the free-flow travel-time between TAZ zones. Similar to Newtonian gravitational theory, the gravity model for trip distribution predicts the trips made between two geographical areas as a function of the magnitude of trip ends at the production and attraction zones and the impedance or travel-time between zones. The resulting trip matrices from the trip distribution step were converted from daily production-attraction format to peak-hour origin-destination format through diurnal distribution factors presented in *NCHRP Report 365*.

Model Calibration/Validation

To insure confidence with future travel forecasts, the preliminary peak hour trip tables were adjusted to more accurately replicate the existing turn movement and segment traffic counts identified in the study area. This model validation effort employed VISUM's "TFlowFuzzy" procedure, a matrix estimating tool based upon fuzzy logic. For this study, the "TFlowFuzzy" procedure was applied repetitively until the forecasted traffic assignment for links, turn movements, and zonal trip totals satisfied the calibration targets suggested in *Travel Model Improvement Program* from the Federal Highway Administration. Traffic assignment for "TFlowFuzzy" followed the user-equilibrium method.

Gravity model parameters were calibrated to fit the validated origin-destination matrices from "TFlowFuzzy". These calibration parameters support trip distribution for future-year conditions, assuming that existing trends in travel patterns will continue into the future. The fitted parameters for morning and afternoon peak hour conditions include:

Morning Peak Hour

$$f(U) = a*(U^b)*(e^{(c*U)}) - \text{Quality Rating (1.0 is ideal)} = 0.8675332$$

where: a = 0.3397282

b = -0.12592508

c = -0.14385326

U = free-flow travel time (minutes)

Afternoon Peak Hour

$$f(U) = a*(U^b)*(e^{(c*U)}) - \text{Quality Rating (1.0 is ideal)} = 0.84906141$$



where: a = 0.55773672
b = -0.72686679
c = -0.09944519
U = free-flow travel time (minutes)

Scatter plots and summary statistics for model validation are provided in **Appendix A**.

Traffic Assignment

Existing and future-year trip tables were assigned to the study area transportation network, following the user-equilibrium approach to traffic assignment. User-equilibrium represents the traffic assignment solution where each user of the system chooses the best route, in terms of transportation cost, and cannot lower this cost through unilateral action. At equilibrium the network-wide total journey time is at a minimum.

The transportation cost for user-equilibrium assumes that each user consumes a portion of transportation capacity, marginally increasing the journey time on the chosen route. This introduces the volume-sensitive impact of traffic congestion on the user-equilibrium solution. To achieve equilibrium, each user must behave cooperatively with one another to ensure the most efficient use of the whole system.

To provide realistic journey times and identify intersection-level improvements, transportation costs for the Lycoming County Growth Area model incorporated volume-sensitive delay at both the street-segment and turn movement level-of-detail. Street-segment delay was calculated using the Bureau of Public Roads function with the following parameters as suggested by *NCHRP Report 365*:

$$T_c = T_f \times (1 + (0.84 \times v/c)^{5.5})$$

where:

T_c = congested link travel-time;

T_f = free-flow link travel-time;

v/c = volume to capacity ratio.

At the turn movement level-of-detail, volume-sensitive delay was calculated in accordance with the *Highway Capacity Manual*, as discussed previously.

Traffic volumes associated with user-equilibrium traffic assignment are sensitive to the characteristics of the roadway system. A redistribution of traffic volume will occur as a result of transportation projects that alter journey times. Capacity adding projects such as new travel lanes, new traffic signals, or even a small change to the timing of a traffic signal



could lessen the congestion burden and open more attractive pathways for origin-destination travel.

Year 2010, Existing Traffic Conditions

Traffic conditions for existing Year 2010 conditions were identified from user-equilibrium assignment of the validated origin-destination matrices on the existing transportation system. **Figure 2** provides a summary of congested locations, defined as intersections where at least one turn-movement operates at congested LOS E or F conditions. Existing areas of traffic congestion were found at the following intersections.

- Main St At Us-220 East Exit Ramp To Main St (Jersey Shore);
- Us-220 At Pine Run Rd;
- Us-220 At Quenshukeny Rd;
- Broad St At I-180 East Ramp;
- Us-220 At I-180 West Ramp To Us-220;
- W 3rd St At Us-15 North Ramp To/From W. 3rd St;
- Foy Ave At Us-15 North Ramp To Foy Ave;
- Dewey Ave At W 4Th St;
- Broad St At N Loyalsock Ave;
- Pa Route 405 At Pa Route 442;
- Us-15 At Pa Route 54;
- W 4Th St At Fox Hollow Rd;
- Us-15 NB At 7Th Ave;
- Us-15 SB At 7Th Ave;
- Us-15 At Pa Route 554;
- Northway Rd At Lincoln Dr; and
- Broad St At I-180 East Ramp To Broad St.

Lycoming County staff has confirmed that these intersections represent current problem areas.

Forecasted Trip Generation

As discussed previously in this report, Lycoming County expects significant changes in land-use within the designated growth areas during the next 20-years. County staff has forecasted the expected changes in land-use at a parcel level-of-detail based on the suitability of available land and existing County and municipal ordinances. The land-use forecasts list the intensity of new development by land-use type in terms of new households for residential land-uses and square footage/acreage/rooms for retail, office, hotel, and industrial land-uses.

Appendix B provides a summary of estimated trip generation for the forecasted new land-uses. The trip generation rates presented in *Trip Generation, 8th Edition* by the Institute of



Transportation Engineers by land-use type were used to estimate the trip generation. In total, the forecasted changes in land-use would create 19,769 new trips during the morning peak hour of travel and 25,674 during the afternoon peak hour of travel. Of particular note, the new trips estimated for non-residential land-uses would outweigh the trips estimated for residential/hotel uses by a ratio of about 6 to 1. This difference implies that the study area will become a regional center of employment with many workers commuting from outside the study area.

Year 2030 trip matrices for morning and afternoon peak hour conditions were estimated following the assumption existing trip making and travel pattern trends within Lycoming County would continue into the future. Following the build-up method for estimating trip generation, the expected trip generation from the forecasted changes in land-use provided by Lycoming County was added to the TAZ trip generation totals from the Year 2010 baseline travel demand models. Trip generation at the external cordons was adjusted to balance proportionally against the new trips estimated for the internal TAZs. Each new internal-external exiting trip associated with an internal TAZ was assumed to create a corresponding entering trip at the cordon TAZs. Vice-versa, each new external-internal entering trip associated with an internal TAZ was assumed to create a corresponding new exiting trip at the cordon TAZs. Year 2030 internal-internal trips for new land-use within the study area were assumed to follow a similar proportion as the baseline trip tables.

Traffic without an origin or destination located with the study area (through traffic) was estimated to grow at 0.39 percent per year or 8.1 percent total during the 2010 to 2013 time period. This growth rate is suggested by the PennDOT Bureau of Planning and Research for urban non-interstate roadways in Lycoming County.

Table 1 provides a comparison of travel demand between Year 2010 and Year 2030. Trips are listed by type, broken out as follows:

- ◆ E-E - Trips with both the origin and destination outside the study area. An example would be a trip that begins on I-180 south of Lycoming County and on US Route 15 north of the study area.
- ◆ E-I - Trips with an origin outside the study area and a destination within the study area. An example would be a trip that begins on I-180 south of the county line and ends in Williamsport.
- ◆ I-E - Trips with an origin inside the study area and a destination outside the study area. An example would be a trip that begins in Williamsport and ends on I-180 south of the county line.
- ◆ I-I - Trips with both origin and destination inside the study area. An example would be a trip that begins in Williamsport and ends in Montoursville.

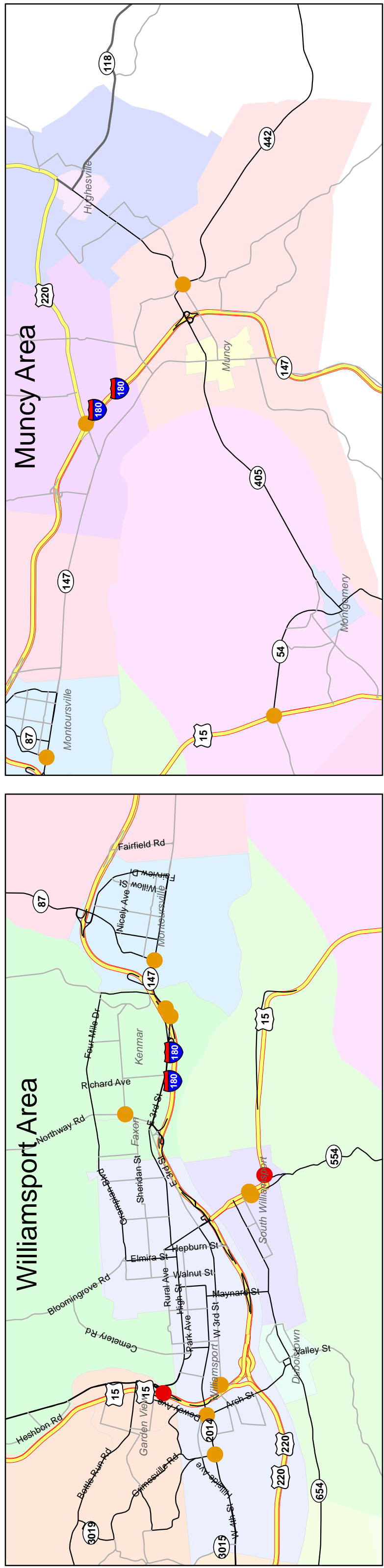
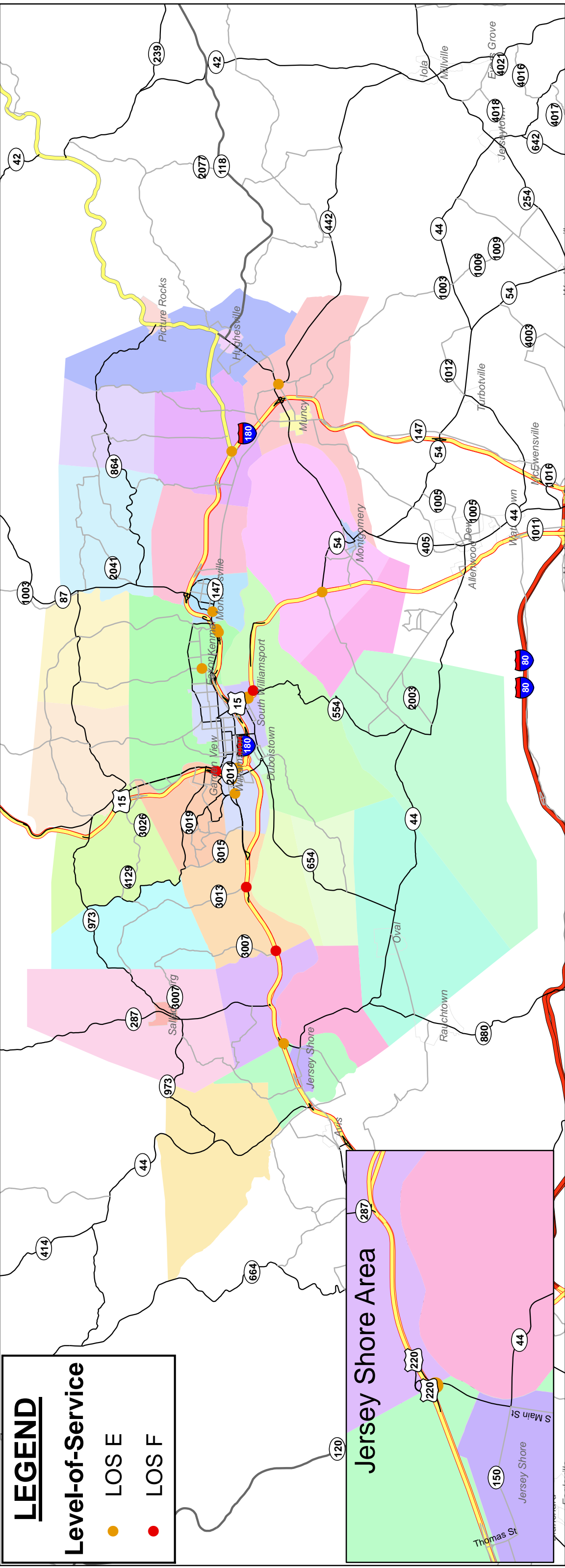


Figure 2 - Congestion Map, Year 2010 Conditions



Table 1. Travel Demand Comparison

Trip Type	Morning Peak Hour (veh/hr)			Afternoon Peak Hour (veh/hr)		
	2010	2030	Change	2010	2030	Change
Internal-Internal	18641	23488	4847 (+26%)	26028	33310	7282 (+28%)
External-Internal	2078	10995	8917 (+429%)	3440	5301	1861 (+54%)
Internal-External	2393	3507	1114 (+47%)	3342	12577	9235 (+276%)
External-External	901	974	73 (+8%)	553	598	45 (+8%)
TOTAL	24013	38964	14951 (+62%)	33363	51786	18423 (+55%)

Year 2030, Forecasted Baseline Traffic Conditions

Traffic conditions for Year 2030 baseline conditions were identified from user-equilibrium assignment of the forecasted Year 2030 origin-destination matrices on the existing transportation system. **Figure 3** provides a summary of congested locations. Traffic congestion was identified throughout the transportation system, particularly at locations near the I-180, US-220, and US-15 corridors. To support forecasted land-development, roadway improvements or additional land-development controls would be required.

Forecasted areas of traffic congestion for Year 2030 conditions were found at the following intersections:

- Us-220 At Pa Route 287;
- Us-220 At Pine Run Rd;
- Us-220 At Quenshukeny Rd;
- Market St At I-180 West Ramp To Us-15 Sb;
- Broad St At I-180 East Ramp;
- Pa Route 87 At Fairview Dr;
- Pa Route 87 At I-180 West Ramp To/From N Loyalsock Ave;
- Rakestraw Rd At I-180 West Ramp To Fairfield Rd;
- S Lycoming Mall Rd At Lycoming Mall Cir;
- Lycoming Mall Rd At I-180 West Ramp To/From Lycoming Mall Rd;
- Us-220 At I-180 East Ramp To Us-220;
- Us-220 At I-180 West Ramp To Us-220;
- Pa Route 405 At I-180 East Ramp To Pa 405 Wb;
- Pa Route 405 At I-180 West Ramp To/From Pa-405;
- W 3Rd St At Us-15 North Ramp To/From W. 3Rd St;
- W 4Th St At Us-15 South Ramp To W. 4Th St;
- Foy Ave At Us-15 North Ramp To Foy Ave;
- Dewey Ave At W 4Th St;
- Broad St At N Loyalsock Ave;



- Lycoming Mall Dr At S Lycoming Mall Rd;
- John Brady Dr At Industrial Park Rd;
- Pa Route 405 At N Main St;
- Pa Route 405 At Pa Route 405;
- Pa Route 405 At Pa Route 118;
- Us-220 At Us-220;
- Pa Route 405 At Pa Route 54;
- Us-15 At Pa Route 54;
- Main St At Baer St;
- W 4Th St At Fox Hollow Rd;
- I-180 Eb At Us-15 Sb To I-180 Eb;
- W 4Th St At Maynard St;
- W 3Rd St At Maynard St;
- W Southern Ave At S Maynard St;
- Us-15 At I-180 East Ramp To Us-15 Sb;
- Us-15 At E Southern Ave;
- Us-15 At E Southern Ave;
- Us-15 NB At 7Th Ave;
- Us-15 SB At 7Th Ave;
- Us-15 At Pa Route 554;
- Us-15 At Fairmont Ave;
- Us-15 At Old Montgomery Pike;
- Us-15 At Pa Route 44;
- Us-15 At Pinchtown Rd;
- Fairfield Rd At Brushy Ridge Rd;
- Lycoming Mall Dr At Fairfield Rd;
- Pa Route 54 At Pinchtown Rd;
- Lycoming Mall Dr At Cemetery Rd;
- Us-220 At Quaker Church Rd;
- Industrial Pkwy At Industrial Park Rd;
- Pa Route 405 At Sherman St;
- N Main St At Industrial Park Rd;
- S Main St At E Penn St;
- Us-220 At Rabbittown Rd;
- Pa Route 405 At Chippewa Rd;
- Pa Route 405 At Lime Bluff Rd;
- Us-220 At Lime Bluff Rd;
- Broad St At I-180 East Ramp To Broad St;
- Thomas St At Us-220 West Exit Ramp To Thomas St;
- Allegheny St At Bridge St;
- E Lime Bluff Rd At E Lime Bluff Rd; and
- Pa Route 405 At Pa Route 44.

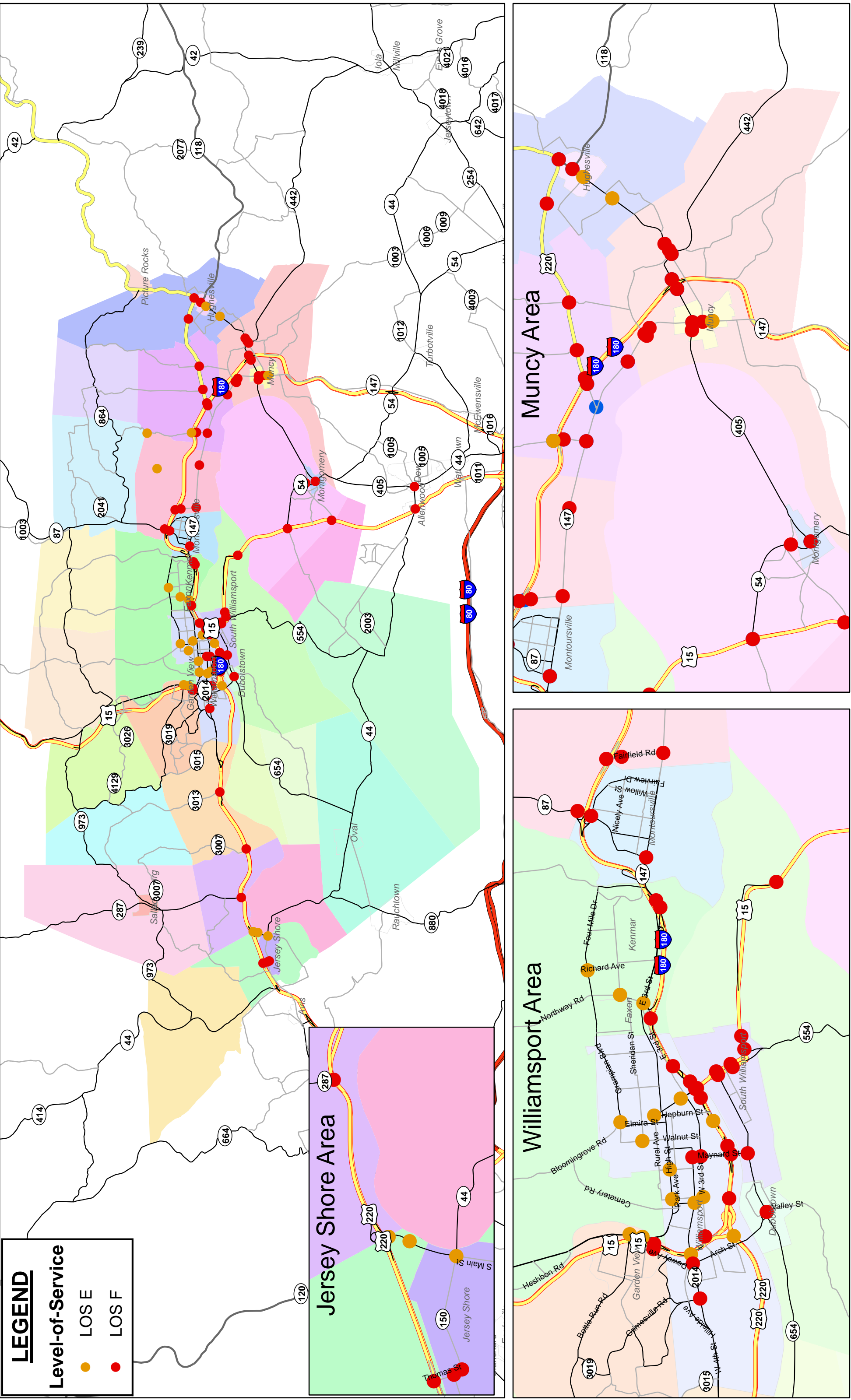


Figure 3 - Congestion Map, Year 2030 Forecasted Conditions



Capital Improvements Program

A capital improvements program was developed to identify roadway improvements that would remediate forecasted level-of-service deficiencies throughout the study area. The projects included in the Capital Improvements Program would restore LOS E or better conditions throughout the study area and, in most cases, provide LOS D or better conditions. The identified projects considered construction feasibility and applicable warranting criteria for traffic signals and auxiliary turn lanes.

Table 2 provides a summary of the capital improvements program with anticipated project costs and funding priorities. **Figure 4** provides a summary of congestion locations with implementation of the recommended capital improvements program. **Figure 5** provides a location map for the projects listed in the capital improvement program.

Appendix C provides an overview of the transportation forecasts and roadway assessment for the Lycoming County Growth Area model. The Appendix includes a turn-movement level summary of assigned traffic volume, level-of-service, queue length, and signal/auxiliary turn lane warrant status. Locations with level-of-service deficiencies are highlighted in the Appendix along with suggested capital improvement projects to remediate these deficiencies.

Project costs were developed on a limited programming basis considering project type and approximating limits of scope. Cost estimate development generally took into account line items for design (PE, FD), utilities, right-of-way, environmental clearance, construction, mobilization, construction services, construction inspection and a contingency (30%) based on similar past projects. Construction items took similar projects costs for signals, pavement, excavation, drainage, and other items that are typical to construction projects along with approximate limits of project length/width to arrive at a construction cost. Items such as utilities, right-of-way, and environmental impacts are difficult to define without detailed scopes of work and diligent review of the site conditions. These cost estimates did not include a diligent review of each project site. Estimates (2011) were prepared with no assumption for escalation. Should any of these projects be advanced to the WATS Transportation Improvement Program (TIP), detailed investigation of each project site should be conducted and further refinement of estimates should be developed for each phase.



Funding Sources

The purpose of a comprehensive transportation study is to identify the long range transportation needs of an MPO such as Lycoming County. These transportation needs are then translated into funding needs. The identification of potential funding sources for individual projects is critical when defining a capital improvements program. This study has identified the overall needed funding level for the next 20 years.. Update of the MPO Transportation Improvement Plan (TIP) should consider and prioritize these needs when it is updated every two years. If specific funding sources seem appropriate they can be targeted

Funding responsibility for some transportation projects can be placed on developers if required by the municipality as part of the land-development approval process. The Pennsylvania Municipal Planning Code (MPC) does permit the creation of traffic impact fees and transportation development districts (TDD). These types of local funding sources are typically used to create local matching funds for federal or state transportation funding.

In addition they place a portion of the burden of an expanded transportation system on the users that create the demand.

A Traffic Impact Fee must be created through municipal ordinances. Collection of the fees would be based on a detailed study of future needs, trip generation calculations, and would be collected upon issuance of a building permit. The development of a TDD encourages concurrence those benefiting from the improvements to be constructed. Collection of the funds typically occurs on an annual basis for a specified number of years from both current and future property owners in the District. TDD funding allows the issuance of bonds or other funding mechanisms to create the funds needed in advance, to permit construct the transportation projects concurrent with the demands created by the land development

More traditional funding sources such as the TIP and other FHWA designated funding categories can also be utilized. However due to decreased levels of federal transportation funding,, transportation projects that benefit a region should consider local funding sources by the municipality, county, MPO, or by the Commonwealth. The Governor's commission on Marcellus Drilling recently recommended consideration be given to an impact fee on roadways this maybe one future sources of local funding.

Although funding recommendations are not part of this study, the study has identified significantly levels of funding needed over the next 20 years. Innovative funding sources should be considered in addition to traditional federal and state funding sources.



Table 2 – Capital Improvements Program

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

Lycoming County Growth Area Land-Use and Transportation Plan



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





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

- (1) Study of traffic access management issues in this area is currently programmed by PennDOT.
- (2) Signal retiming was recommended by PennDOT in 2012, but has not yet been implemented. The intersection should be reviewed after the timing is modified.
- (3) Projects are not listed in priority order.
- (4) Project added by PennDOT.

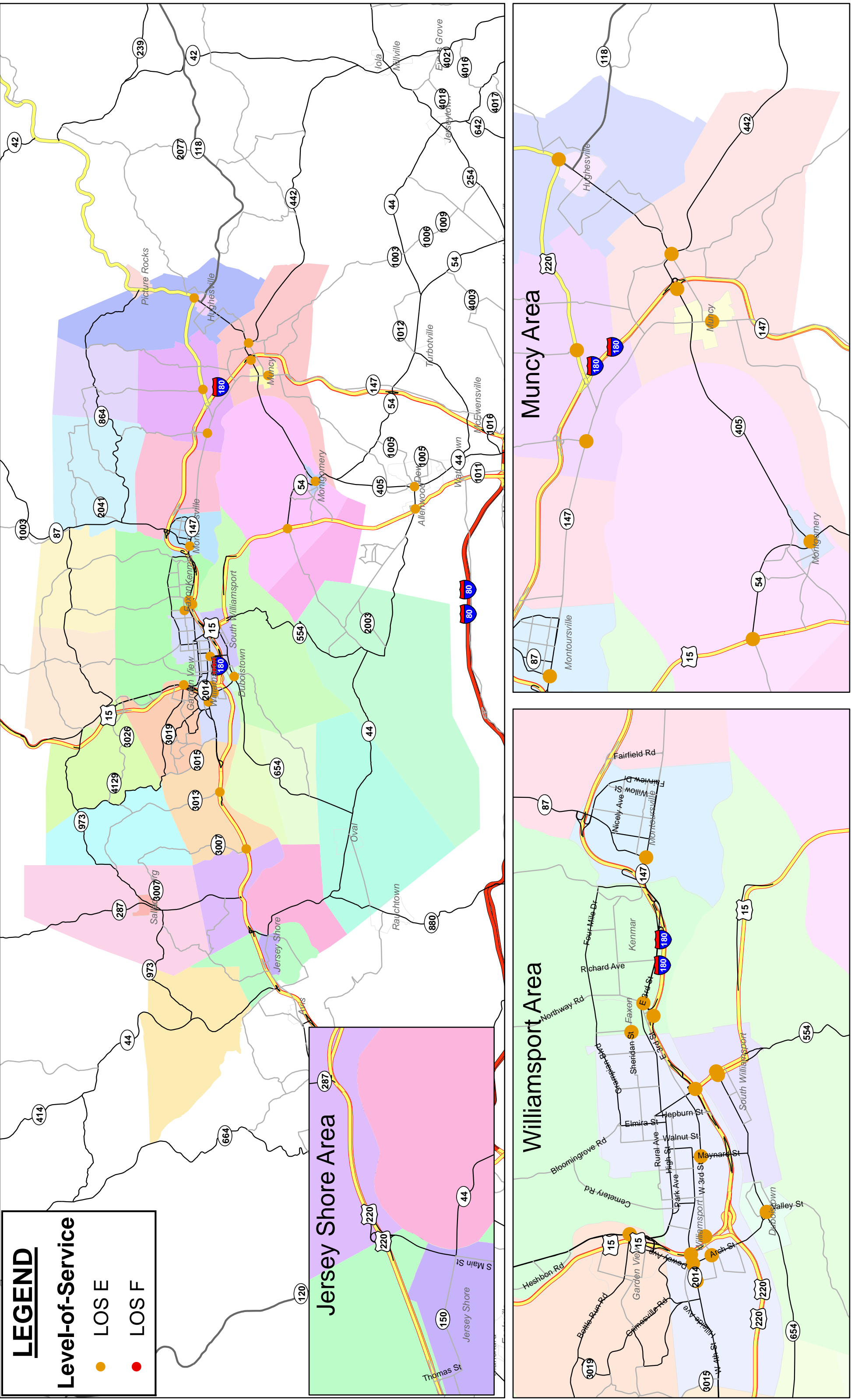
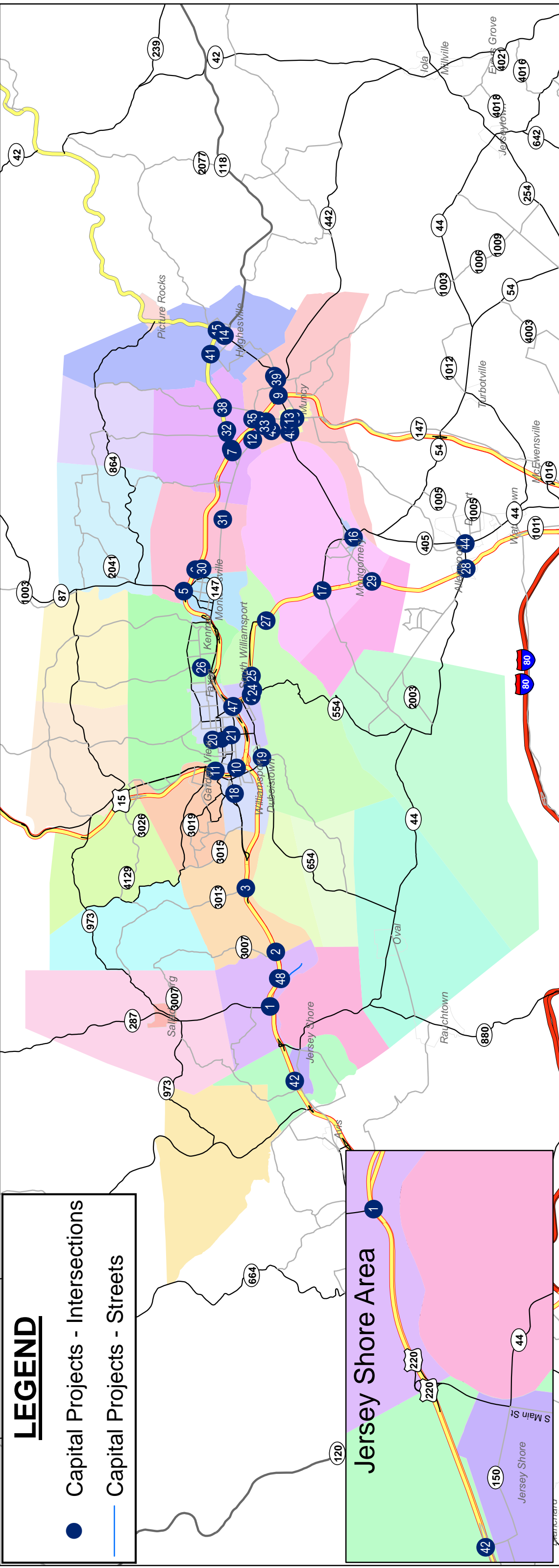


Figure 4 - Congestion Map, Year 2030 Forecasted Conditions with Capital Improvements Program



LEGEND

- Capital Projects - Intersections
- Capital Projects - Streets

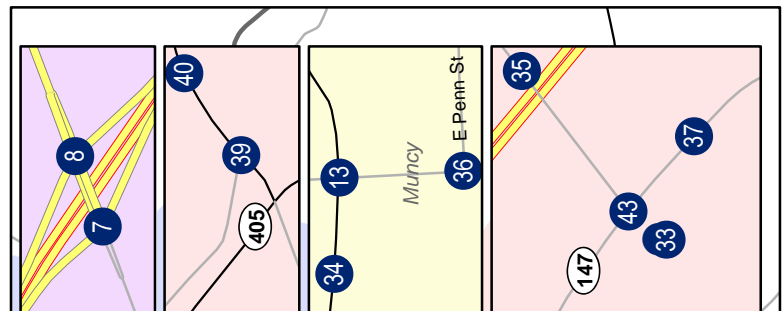
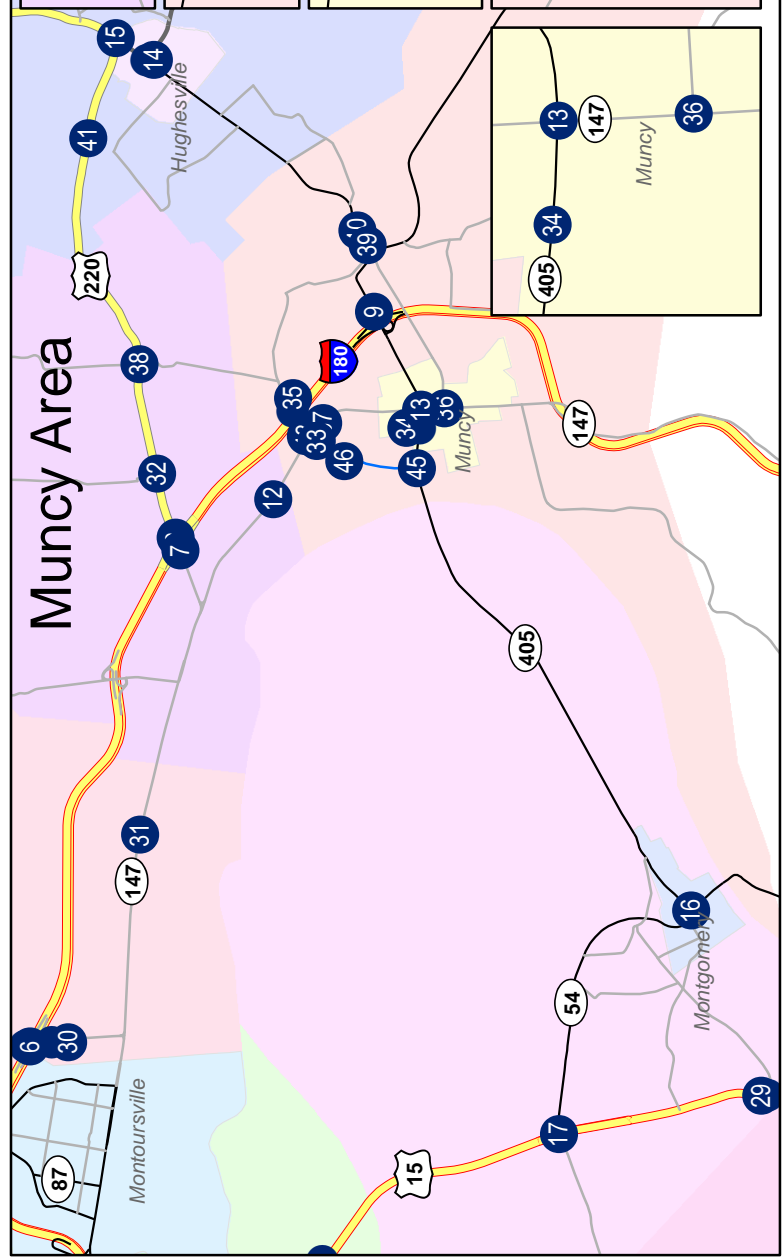
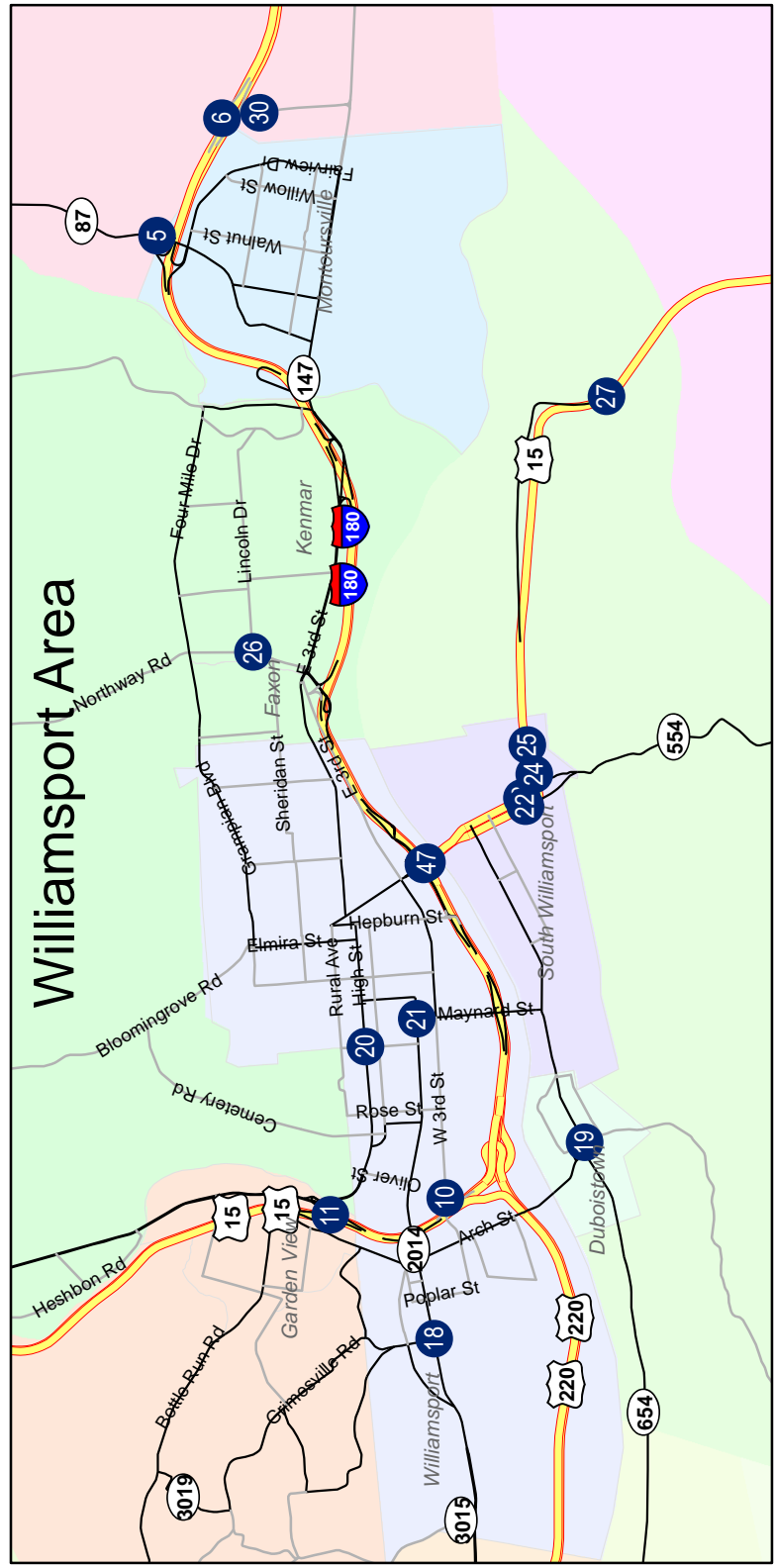
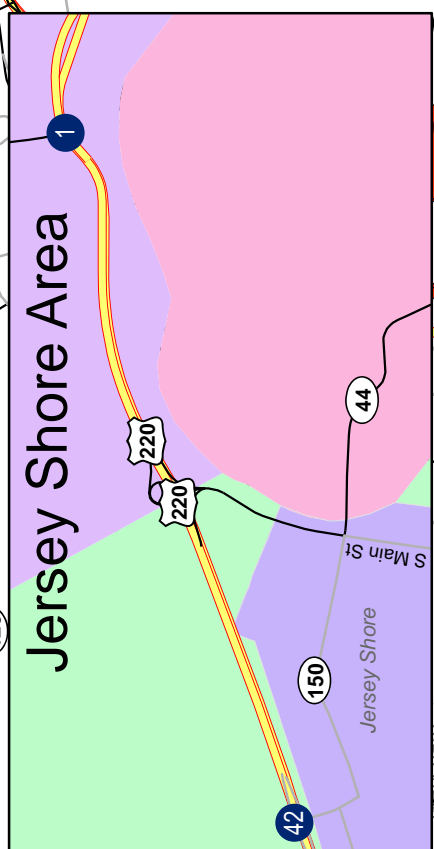


Figure 4 - Congestion Map, Year 2030 Forecasted Conditions with Capital Improvements Program



APPENDIX A
MODEL CALIBRATION

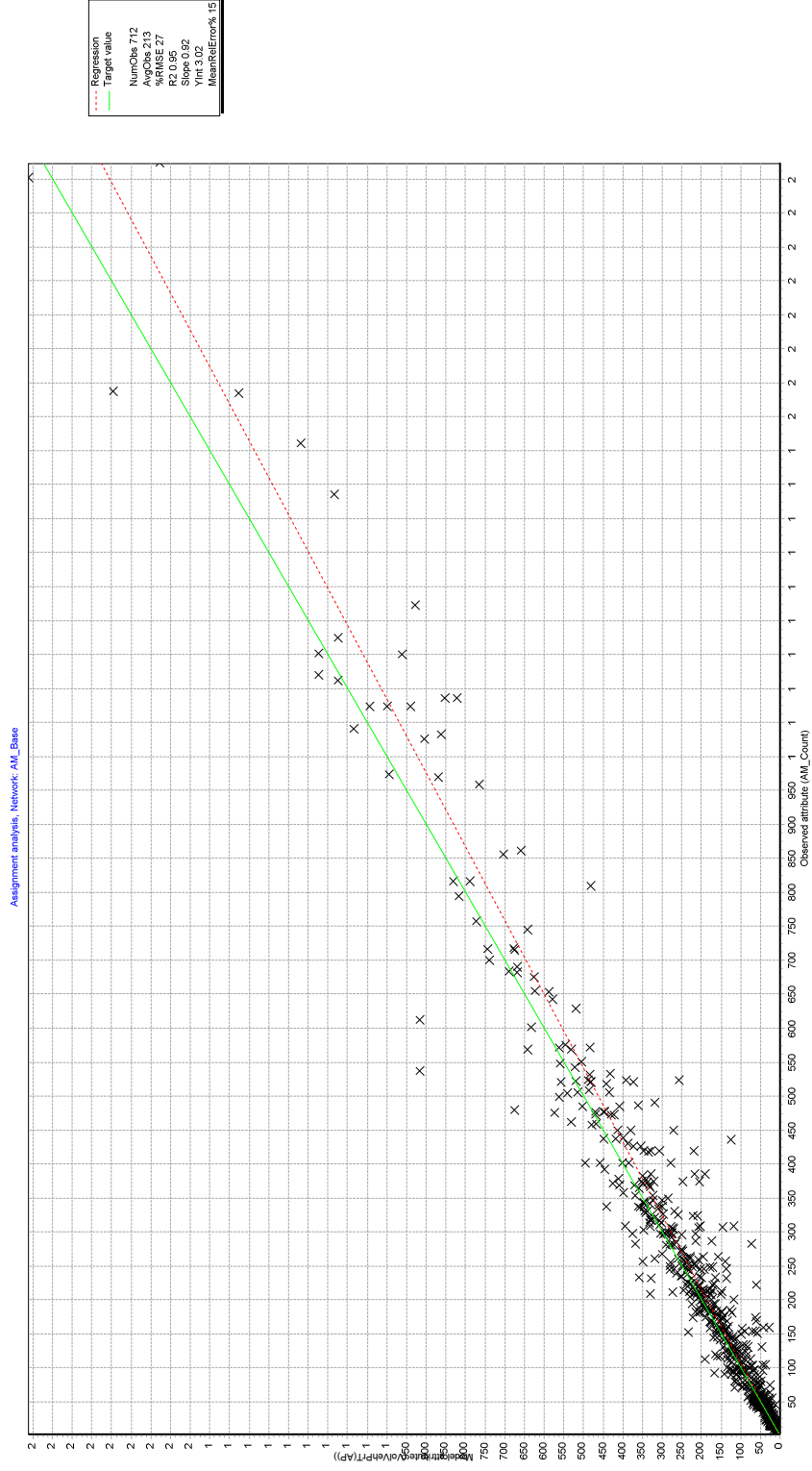


Lycoming County Growth Area Land-Use and Transportation Plan



AM Peak Hour

Observed versus Modeled Counts



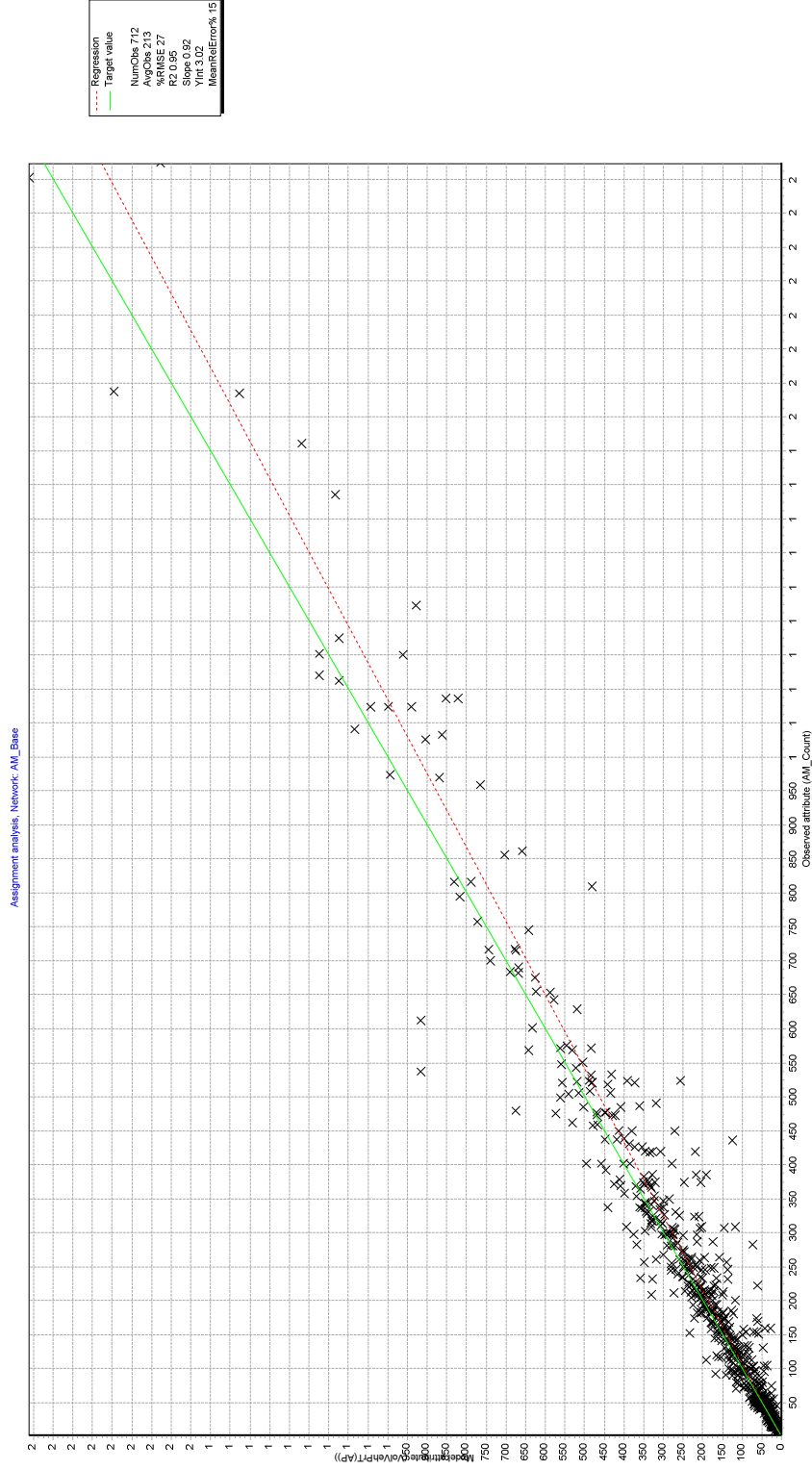
Transportation Solutions
for Today and Tomorrow

Lycoming County Growth Area Land-Use and Transportation Plan



PM Peak Hour

Observed versus Modeled Counts



Transportation Solutions
for Today and Tomorrow



APPENDIX B

Trip Generation Forecasts



Lycoming County Growth Area Land-Use and Transportation Plan



TAZ	Tax_ID	SIZE		TYPE	AVG DAILY TRAFFIC	MORNING PEAK HOUR (veh/hr)			AFTERNOON PEAK HOUR (veh/hr)		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
7	67-025-702	100	Dwellings	Single Family Homes	957	19	56	75	64	37	101
9	43-349-129	46	Dwellings	Single Family Homes	440	9	26	35	29	17	46
9	43-329-249.D	16	Dwellings	Single Family Homes	153	3	9	12	10	6	16
9	43-017-141.A	5	Dwellings	Single Family Homes	48	1	3	4	3	2	5
9	43-349-142	19	Dwellings	Single Family Homes	182	4	11	15	12	7	19
9	43-349-134	23	Dwellings	Single Family Homes	220	4	13	17	15	9	24
9	43-349-121	60	Dwellings	Single Family Homes	574	11	34	45	38	22	60
9	43-349-123	20	Dwellings	Single Family Homes	191	4	11	15	13	7	20
9	43-014-104.B	9	Dwellings	Single Family Homes	86	2	5	7	6	3	9
9	43-349-149	6	Dwellings	Single Family Homes	57	1	3	4	4	2	6
9	43-349-157	11	Dwellings	Single Family Homes	105	2	6	8	7	4	11
9	43-014-180	13	Dwellings	Single Family Homes	124	2	7	9	8	5	13
10	41-373-173.E	176	Dwellings	Single Family Homes	1684	33	99	132	112	66	178
10	41-373-173.E	176	Dwellings	General light industrial	6552	761	104	865	109	802	911
13	51-004-701	14	Dwellings	Townhomes	81	1	5	6	5	2	7
13	51-004-708	20	KSF	Miniwarehouse	33	1	1	2	2	2	4
14	62-002-400	22	KSF	Drinking Place	1663	0	0	0	165	85	249.48
14	62-001-800	15	KSF	General Office Building	165	20	3	23	4	19	23
15	63-002-800	60	KSF	Free Standing Discount Superstore	3188	56	44	100	136	141	277
16	62-001-101	53	Dwellings	Apartment	352	5	22	27	21	12	33
21	41-353-168	5	KSF	Convenience Market with Gas Pumps	4228	110	110	220	149	149	298
21	41-353-168	5	KSF	High Turnover Sit Down Restaurant	1526	72	66	138	79	55	134
21	41-353-168	5	KSF	Hotel	642	28	20	48	25	26	51
21	41-352-107.A	125	Dwellings	Single Family Homes	1196	23	70	93	80	47	127
21	41-352-114.D	110	KSF	Free Standing Discount Superstore	5844	103	81	184	248	259	507
21	41-352-114.D	110	KSF	Motel	656	17	29	46	22	20	42
21	41-352-114.D	110	KSF	High Turnover Sit Down Restaurant	1526	72	66	138	79	55	134
22	40-373-161	800	KSF	General light industrial	5576	648	88	736	93	683	776
22	40-373-161	800	KSF	Industrial Park	5912	585	125	710	153	577	730
27	40-394-148	50	Dwellings	Single Family Homes	479	9	28	37	32	19	51
79	43-329-225	6	Dwellings	Single Family Homes	57	1	3	4	4	2	6
83	71-010-935	30	Acres	General Heavy Industrial	203	52	7	59	8	57	65
91	24-249-156	9	Dwellings	Single Family Homes	86	2	5	7	6	3	9



Lycoming County Growth Area Land-Use and Transportation Plan



TAZ	Tax_ID	SIZE		TYPE	AVG DAILY TRAFFIC	MORNING PEAK HOUR (veh/hr)			AFTERNOON PEAK HOUR (veh/hr)		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
93	04-431-112	200	KSF	Industrial Park	1392	138	30	168	36	136	172
93	04-431-112.A	400	KSF	General light industrial	2788	324	44	368	47	341	388
93	07-412-119	3	Dwellings	Single Family Homes	29	1	2	3	2	1	3
99	53-002-502	4	Dwellings	Single Family Homes	38	1	2	3	3	1	4
114	67-002-501	159	KSF	Shopping Center	6827	97	62	159	291	302	593
117	70-015-203	9	Acres	County Park	21	0	0	0	0	0	0
117	70-015-204	2	Acres	County Park	5	0	0	0	0	0	0
117	66-019-200	48	Rooms	Hotel	428	19	14	33	16	17	33
117	66-019-200	48	Rooms	Shopping Center	7944	113	72	185	338	352	690
117	66-019-102	62	Rooms	Hotel	553	24	17	41	21	22	43
117	66-019-102	62	Rooms	High Turnover Sit Down Restaurant	2861	135	124	259	148	103	251
117	66-019-102	62	Rooms	Multiplex Movie Theater	2340	0	0	0	49	60	109
117	66-019-102	62	Rooms	Shopping Center	4380	62	40	102	186	194	380
117	66-019-102	62	Rooms	Supermarket	5623	120	77	197	295	283	578
117	66-018-353	32	KSF	New Car Sales	1067	48	17	65	32	51	83
124	70-010-106	82	Dwellings	Townhomes	476	6	30	36	29	14	43
125	70-007-103	32	Dwellings	Apartment	213	3	13	16	13	7	20
130	43-011-600	134	KSF	General light industrial	934	108	15.0	123.0	16	114	130
131	43-005-316	42	Rooms	Motel	383	10	17	27	13	11	24
135	N/A	#N/A	#N/A	Single Family Homes	96	2	6	8	6	4	10
153	65-012-100	10	KSF	Fast Food Restaurant with Drive-Thru	4961	252	242	494	176	162	338
153	65-008-300	10	KSF	High Turnover Sit Down Restaurant	1272	60	55	115	66	46	112
155	52-001-164	10	KSF	Manufacturing	38	6	2	8	3	5	8
155	52-001-317	10	KSF	Shopping Center	429	6	4	10	18	19	37
169	72-002-316	170	KSF	General light industrial	1185	138	19	157	20	145	165
169	72-004-900	27	Dwellings	Townhomes	157	2	10	12	9	5	14
169	72-004-900	27	Dwellings	Apartment	665	10	41	51	40	22	62
172	63-003-612	32	Dwellings	Townhomes	186	2	12	14	11	5	16
172	63-003-612	32	Dwellings	High Turnover Sit Down Restaurant	509	24	22	46	26	18	44
192	63-002-501	2	KSF	General Office Building	22	3	0	3	1	2	3
192	63-002-501	2	KSF	Apartment	266	4	16	20	16	9	25
192	63-002-410	10	KSF	General Office Building	110	14	2	16	3	12	15
192	63-002-410	10	KSF	General Office Building	110	14	2	16	3	12	15



Lycoming County Growth Area Land-Use and Transportation Plan



TAZ	Tax_ID	SIZE		TYPE	AVG DAILY TRAFFIC	MORNING PEAK HOUR (veh/hr)			AFTERNOON PEAK HOUR (veh/hr)		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
192	63-002-410	10	KSF	High Turnover Sit Down Restaurant	1272	60	55	115	66	46	112
192	63-002-410	10	KSF	Apartment	133	2	8	10	8	4	12
193	63-001-101	35	Rooms	All Suites Hotel	218	11	6	17	8	11	19
193	63-002-308.A	35	Rooms	Hotel	312	14	10	24	12	12	24
193	63-001-112	90	KSF	General Office Building	991	123	17	140	23	111	134
193	63-001-110	100	KSF	General Office Building	1101	136	19	155	25	124	149
193	63-002-300	46	KSF	General Office Building	506	63	9	72	12	57	69
193	63-002-614	20	KSF	General Office Building	220	27	4	31	5	25	30
193	63-002-602	20	KSF	General Office Building	220	27	4	31	5	25	30
193	63-002-602	20	KSF	Shopping Center	215	3	2	5	9	10	19
194	62-002-304	90	KSF	General Office Building	991	123	17	140	23	111	134
200	62-004-102	20	KSF	General Office Building	220	27	4	31	5	25	30
206	62-003-100	5	KSF	High Turnover Sit Down Restaurant	572	27	25	52	30	21	51
206	69-008-105	110	Rooms	Hotel	981	43	31	74	38	39	77
206	69-008-105	110	Rooms	High Turnover Sit Down Restaurant	4069	192	177	369	211	146	357
206	69-008-105	110	Rooms	Apartment	266	4	16	20	16	9	25
206	69-006-604	5	KSF	Fast Food Restaurant with Drive-Thru	2233	113	109	222	79	73	152
207	69-006-321	12	KSF	General Office Building	132	16	2	18	3	15	18
211	51-002-314	32	KSF	Assisted Living	90	4	2	6	4	5	9
211	51-001-509	7	KSF	Shopping Center	301	4	3	7	13	13	26
211	51-001-509	7	KSF	General Office Building	22	3	0	3	1	2	3
211	51-001-509	7	KSF	Townhomes	46	1	3	4	3	1	4
212	51-005	38	Rooms	Recreational Homes	120	4	2	6	4	6	10
226	26-330-179	60	Dwellings	Townhomes	349	4	22	26	21	10	31
226	26-330-179	60	Dwellings	Senior Adult Housing-Detached	139	2	3	5	4	3	7
226	26-330-187.E	90	Dwellings	Apartment	599	9	37	46	36	20	56
227	02-350-156	15	Acres	General Heavy Industrial	101	26	4	30	4	29	33
228	26-016-328	120	Rooms	Hotel	1070	47	34	81	41	43	84
228	26-016-328	120	Rooms	High Turnover Sit Down Restaurant	1526	72	66	138	79	55	134
228	26-016-328	120	Rooms	General Office Building	495	61	8	69	11	56	67
228	26-005-322	6	KSF	High Turnover Sit Down Restaurant	763	36	33	69	39	27	66
228	26-010-201	5	KSF	Fast Food Restaurant with Drive-Thru	2481	126	121	247	88	81	169
228	26-106-500	6	KSF	High Turnover Sit Down Restaurant	763	36	33	69	39	27	66



Lycoming County Growth Area Land-Use and Transportation Plan



TAZ	Tax_ID	SIZE		TYPE	AVG DAILY TRAFFIC	MORNING PEAK HOUR (veh/hr)			AFTERNOON PEAK HOUR (veh/hr)		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
228	26-005-315	120	KSF	General Office Building	1321	164	22	186	30	148	178
231	26-351-213	85	Dwellings	Townhomes	494	6	31	37	30	15	45
235	26-330-143	50	Dwellings	Townhomes	291	4	18	22	17	9	26
235	26-330-143	50	Dwellings	Single Family Homes	383	8	23	31	25	15	40
237	26-331-221	23	Dwellings	Single Family Homes	220	4	13	17	15	9	24
252	04-600-100.A	590	Acres	General Heavy Industrial	3983	1028	140	1168	153	1121	1274
252	07-411-200	110	Students	University/College	262	18	5	23	7	16	23
253	07-411-168	12	Dwellings	Townhomes	70	1	4	5	4	2	6
253	07-391-175	26	KSF	New Car Sales	867	39	14	53	26	41	67
253	07-411-177	25	Dwellings	Townhomes	145	2	9	11	9	4	13
254	07-411-169.C	100	KSF	Industrial Park	696	69	15	84	18	68	86
254	07-391-134.A	250	KSF	Miniwarehous	413	15	13	28	23	19	42
254	07-411-145.A	36	Dwellings	Single Family Homes	345	7	20	27	23	13	36
254	07-391-135.A	30	Dwellings	Townhomes	174	2	11	13	10	5	15
254	07-391-129	12	Dwellings	Townhomes	70	1	4	5	4	2	6
255	35-001-634	50	Dwellings	Single Family Homes	96	2	6	8	6	4	10
255	35-001-634	50	Dwellings	Single Family Homes	479	9	28	37	32	19	51
260	33-351-154	72	Dwellings	Apartment	479	7	29	36	29	16	45
260	33-002-706	60	Dwellings	Townhomes	349	4	22	26	21	10	31
260	33-002-701	45	Dwellings	Townhomes	261	3	16	19	16	8	24
261	26-331-192	125	Dwellings	Single Family Homes	1196	23	70	93	80	47	127
261	26-331-234	48	Dwellings	Single Family Homes	459	9	27	36	31	18	49
262	26-331-201.F	52	Dwellings	Single Family Homes	498	10	29	39	33	19	52
275	35-006-215	10	Acres	General Heavy Industrial	68	17	2	19	3	19	22
275	35-006-215	10	Acres	Recreational/Community Center	57	2	2	4	1	2	3
275	35-006-217	26	KSF	General Office Building	286	35	5	40	7	32	39
275	35-006-604	15	KSF	Shopping Center	644	9	6	15	27	29	56
277	07-391-114.A	20	Dwellings	Single Family Homes	191	4	11	15	13	7	20
277	07-392-210	30	Dwellings	Single Family Homes	287	6	17	23	19	11	30
277	07-392-213	42	Dwellings	Townhomes	244	3	15	18	15	7	22
277	07-392-221	29	Dwellings	Single Family Homes	278	5	16	21	18	11	29
277	07-392-136.15	140	KSF	General light industrial	976	113	15	128	16	120	136
277	07-392-134	130	KSF	Warehousing	463	31	8	39	10	31	41



Lycoming County Growth Area Land-Use and Transportation Plan



TAZ	Tax_ID	SIZE		TYPE	AVG DAILY TRAFFIC	MORNING PEAK HOUR (veh/hr)			AFTERNOON PEAK HOUR (veh/hr)		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
278	07-392-183.W	115	KSF	Manufacturing	439	65	18	83	30	54	84
278	07-392-119	75	KSF	General light industrial	523	61	8	69	9	64	73
278	07-392-122	105	KSF	General light industrial	732	85	12	97	12	90	102
278	07-392-115.B	98	KSF	General light industrial	683	79	11	90	11	84	95
279	07-392-101	90	KSF	Industrial Park	626	62	13	75	16	61	77
282	12-352-119.Z	1000	KSF	General light industrial	6970	810	110	920	116	854	970
283	41-352-114.J	100	KSF	Free Standing Discount Superstore	5313	94	73	167	226	235	461
283	41-352-114.F	80	Rooms	Hotel	714	31	23	54	27	29	56
283	41-352-118.19	278	KSF	Warehousing	990	66	18	84	22	67	89
283	41-352-118.21	15	Acres	Truck Terminal	1229	45	64	109	42	56	98
283	41-352-118	209	KSF	Warehousing	744	50	13	63	17	50	67
283	41-352-118	209	KSF	Manufacturing	199	30	8	38	14	24	38
285	41-352-111.11	35	KSF	High Turnover Sit Down Restaurant	4450	210	194	404	230	160	390
308	40-393-112.B	200	KSF	Shopping Center	8588	122	78	200	366	380	746
308	40-393-112.A	24	Dwellings	Single Family Homes	230	5	14	19	15	9	24
308	40-393-112.A	24	Dwellings	Townhomes	186	2	12	14	11	5	16
308	40-394.1-168.Q	9	Dwellings	Single Family Homes	86	2	5	7	6	3	9
309	41-353-205	229	KSF	General light industrial	1596	185	25	210	27	195	222
309	41-353-205	229	KSF	Shopping Center	9833	140	89	229	419	436	855
309	41-373-173	100	KSF	Shopping Center	4294	61	39	100	183	190	373
309	41-373-173	100	KSF	General Office Building	1101	136	19	155	25	124	149
309	41-373-184.C	352	KSF	General light industrial	2453	285	39	324	41	300	341
309	41-373-181.A	718	KSF	Manufacturing	2743	409	115	524	189	335	524
310	40-003-101.08	6	Acres	Truck Terminal	491	18	26	44	17	22	39
310	40-003-101.05	20	KSF	Shopping Center	859	12	8	20	37	38	75
313	59-374-161	32	Dwellings	Single Family Homes	306	6	18	24	20	12	32
313	59-374-161	32	Dwellings	Medical-Denal Offic Building	1084	55	14	69	28	76	104
314	59-374-157	200	KSF	Shopping Center	8588	122	78	200	366	380	746
314	59-354-192.B	50	Dwellings	Townhomes	291	4	18	22	17	9	26
315	59-354-195	37	Dwellings	Single Family Homes	354	7	21	28	24	14	38
319	59-374-143.J	30	KSF	General light industrial	209	24	3	27	3	26	29
319	59-374-149.F	80	Rooms	Hotel	714	31	23	54	27	29	56
319	59-374-152	200	KSF	General light industrial	1394	162	22	184	23	171	194



Lycoming County Growth Area Land-Use and Transportation Plan



TAZ	Tax_ID	SIZE		TYPE	AVG DAILY TRAFFIC	MORNING PEAK HOUR (veh/hr)			AFTERNOON PEAK HOUR (veh/hr)		
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
319	59-374-149.G	14	Acres	General heavy industrial	91	24	3	27	3	26	29
323	59-354-200.M	26	Dwellings	Single Family Homes	249	5	15	20	17	10	27
326	59-354-158.04	4	KSF	High Turnover Sit Down Restaurant	509	24	22	46	26	18	44
326	59-354-135	26	Dwellings	Single Family Homes	249	5	15	20	17	10	27
326	59-004-501	16	Dwellings	Townhomes	93	1	6	7	6	3	9
327	59-354-131.05	26	Rooms	Hotel	232	10	7	17	9	9	18
343	76-004-307	32	Dwellings	Apartment	213	3	13	16	13	7	20
346	12-352.2-194	400	Dwellings	Single Family Homes	3828	75	225	300	255	149	404
346	12-352.2-194	400	Dwellings	Townhomes	436	6	27	33	26	13	39
347	26-350-127	44	KSF	General Office Building	484	60	8	68	11	54	65
SUB TOTALS		3758	Dwellings	RESIDENTIAL	30226	544	1795	2338	1943	1106	3050
		1832	KSF	RETAIL/SERVICE	111985	2830	2308	5138	4990	4681	9671
		10864	KSF	INDUSTRIAL	68847	7791	1238	9029	1441	8033	9474
		659	Acres	INDUSTRIAL	4445	1147	156	1304	171	1252	1422
		21	Acres	TRUCK TERMINAL	1720	63	90	153	59	78	138
		782	Rooms	LODGING	6903	284	230	514	260	268	528
		802	KSF	OFFICE	9584	1108	158	1266	224	1031	1254
		132	Varies	OTHER	2685	21	6	27	58	79	137
TOTAL					236394	13787	5982	19769	9146	16528	25674





APPENDIX C

Transportation Analysis



Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
1	19	26	26	57	B(11.0)	B(10.9)	B(13.3)	B(12.1)	C(15.4)	2	3	5	3	12	12	12
1	0	0	0	0	B(11.0)	B(10.9)	B(13.3)	B(12.1)	C(15.4)	2	3	5	3	12	12	12
1	10	11	11	28	A(8.7)	A(8.9)	A(9.0)	B(11.1)	B(11.1)	1	1	1	2	4	4	4
1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
1	33	35	35	29	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0
1	99	496	496	189	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0
1	92	65	149	59	A(7.6)	A(8.7)	A(9.0)	A(7.7)	A(7.8)	10	16	26	15	45	43	100
1	86	122	122	442	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0
1	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
1	339	755	839	804	A(2.9)	A(1.3)	A(2.1)	A(3.0)	A(2.0)	A(1.3)	A(2.1)	A(2.0)	A(2.0)	A(2.0)	A(2.0)	---
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2	83	115	115	429	B(10.1)	B(10.3)	B(11.1)	B(10.8)	C(15.0)	9	13	15	14	91	88	---
2	0	0	0	0	B(10.1)	B(10.3)	B(11.1)	B(10.8)	C(15.0)	9	13	15	14	91	88	---
2	40	26	26	116	A(8.6)	A(8.5)	A(8.5)	A(8.9)	A(9.1)	3	2	2	7	9	10	100
2	24	26	26	16	A(7.5)	A(7.5)	A(7.6)	A(7.5)	A(7.5)	3	3	3	4	4	5	---
2	28	35	35	71	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
2	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
2	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
2	95	72	156	71	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
2	21	41	41	66	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
2	291	315	399	769	A(4.7)	A(5.1)	A(4.3)	A(5.1)	A(9.9)	A(4.7)	A(5.1)	A(4.3)	A(5.1)	A(9.9)	A(4.7)	4-Hour
3	16	87	88	52	B(10.6)	B(14.6)	B(13.7)	E(36.9)	D(32.5)	2	17	16	52	42	29	---
3	0	0	0	0	B(10.6)	B(14.6)	B(13.7)	E(36.9)	D(32.5)	2	17	16	52	42	29	---
3	77	502	230	313	A(9.4)	C(18.5)	B(11.1)	C(16.2)	D(28.1)	7	137	29	50	127	105	250
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
3	109	142	140	509	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
3	238	317	396	160	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
3	13	43	45	20	A(8.0)	A(8.4)	A(8.6)	A(8.3)	A(9.2)	12	30	26	88	341	124	75
3	152	277	222	565	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
3	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
3	605	1368	1121	1619	A(1.7)	A(8.0)	A(3.7)	A(5.6)	A(5.3)	A(1.7)	A(8.0)	A(3.7)	A(5.6)	A(5.3)	A(1.7)	4-Hour

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)									
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour							
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030						
14	Node	Approach	Existing Traffic Control	Lane	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate						
					2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030				
14	Market St At I-180 West Ramp To Us-15 Sb	Eastbound	Minor	EBL	132	284	115	122	163	C(26.1)	C(25.5)	C(25.7)	C(24.5)	C(22.7)	131	269	114	119	150			
14					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
14					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
14					223	498	465	792	613	C(28.6)	D(51.6)	C(32.2)	D(44.6)	F(600.0)	E(55.6)	224	679	483	583	4508	911	
14					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
14					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
14					358	372	394	478	683	D(36.8)	D(37.8)	D(38.3)	D(39.9)	F(98.4)	D(54.5)	399	420	274	458	901	524	
14					510	526	399	582	555	D(42.7)	D(43.5)	D(36.8)	D(38.7)	D(43.5)	D(37.8)	332	347	313	247	386	339	
14					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
14					133	152	144	171	96	C(27.4)	C(28.0)	C(31.2)	C(27.7)	C(31.3)	C(33.6)	135	155	31	146	181	109	175
14	337	500	542	879	641	D(37.2)	D(42.2)	D(36.6)	D(44.4)	F(292.5)	D(40.9)	205	323	306	362	1661	413	---				
14	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
14	1693	2160	2059	3024	2751	D(36.0)	D(42.1)	C(34.6)	D(40.3)	F(268.9)	D(45.6)	---	---	---	---	---	---	---				
15	I-180 West Ramp To Basin St At Basin St	Eastbound	Minor	EBL	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---		
15					157	178	108	116	152	B(17.6)	B(18.2)	D(43.4)	B(16.9)	D(38.9)	D(41.2)	129	163	89	138	182		
15					49	54	36	41	49	B(16.4)	B(16.4)	D(36.3)	B(16.2)	D(36.2)	D(36.2)	41	45	61	30	50	59	
15					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
15					41	64	52	171	164	B(16.2)	B(18.4)	A(6.2)	B(16.5)	A(6.5)	A(5.9)	34	57	82	44	88	83	---
15					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
15					270	274	312	403	478	C(20.4)	C(20.5)	A(6.9)	C(21.4)	A(6.8)	A(7.4)	235	238	226	276	217	269	---
15					0	0	0	0	0	C(23.8)	C(23.8)	C(21.0)	C(23.8)	C(21.0)	C(21.0)	0	0	0	0	0	0	---
15					38	310	77	296	235	C(24.5)	C(31.8)	C(26.4)	C(25.3)	C(27.0)	C(25.4)	39	321	263	77	286	223	---
15	168	212	100	233	266	C(28.4)	C(30.0)	C(27.2)	C(26.3)	C(26.7)	C(27.9)	171	219	242	102	228	265	---				
15	723	1111	685	1260	1344	C(21.3)	C(24.7)	C(20.6)	C(21.2)	B(19.1)	B(19.3)	---	---	---	---	---	---	---				
16	Northway Rd At Commerce Park Dr	Eastbound	Major	EBL	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---		
16					643	974	454	979	918	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	
16					101	117	31	44	45	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
16					103	87	58	44	43	A(9.7)	B(11.4)	B(12.0)	A(8.5)	B(10.6)	B(10.3)	10	12	13	4	5	5	---
16					141	183	260	186	225	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---
16					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
16					2	3	13	26	27	C(21.0)	D(31.9)	E(37.7)	C(16.8)	D(29.3)	D(28.4)	1	2	2	3	13	13	---
16					0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---
16					12	10	107	94	93	B(13.3)	C(18.1)	C(19.6)	B(12.3)	C(22.6)	C(20.7)	2	3	3	16	34	30	---
16					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
16	1002	1374	923	1373	1351	A(1.2)	A(0.9)	A(0.9)	A(2.2)	A(2.4)	A(2.3)	---	---	---	---	---	---	---				
16	AVG	OVERALL	Signal	2-way Stop	AVG	OVERALL	Signal	2-way Stop	AVG	OVERALL	Signal	2-way Stop	AVG	OVERALL	Signal	2-way Stop	AVG	OVERALL	Signal	2-way Stop		

Mitigation: 2nd US-15 NB Left-Turn Lane

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				Mitigation				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour						
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030					
PEAK HOUR	Node	Intersection	Approach	Existing Traffic Control	Lane	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate				
Pa Route 87 At I-180 West Ramp To/From N Loyalsock Ave	20	EBL	65	61	48	118	272	B(13.7)	C(23.7)	C(29.1)	D(28.2)	F(23.5)	D(53.6)	22	75	177	100	372	622		
	20	EBT	0	0	0	0	0														
	20	EBR	95	132	166	33	181	B(13.7)	C(23.7)	C(29.1)	D(28.2)	F(23.5)	D(53.6)	22	75	177	100	372	622	175	
	20	WBL																			
	20	WBT																			
	20	WBR																			
	20	NBL	154	177	274	240	199	A(8.7)	A(9.6)	B(16.3)	A(8.8)	A(8.8)	B(14.3)	B(14.3)	12	17	121	22	19	156	200
	20	NBT	179	145	480	627	416	A(0.0)	A(0.0)	A(9.8)	A(0.0)	A(0.0)	B(12.3)	B(12.3)	0	0	90	0	0	285	200
	20	NBR	0	0	0	0	0														
	20	SBL	0	0	0	0	0														
Fairfield Rd At I-180 East Ramp To Fairfield Rd	21	EBL	4	10	6	7	7	A(9.8)	C(17.1)	B(13.2)	A(10.0)	B(11.9)	B(11.3)	15	152	80	18	55	40		
	21	EBT	0	0	0	0	0	A(9.8)	C(17.1)	B(13.2)	A(10.0)	B(11.9)	B(11.3)	15	152	80	18	55	40		
	21	EBR	145	611	167	381	298	A(9.8)	C(17.1)	B(13.2)	A(10.0)	B(11.9)	B(11.3)	15	152	80	18	55	40	200	
	21	WBL																			
	21	WBT																			
	21	WBR																			
	21	NBL	0	0	0	0	0														
	21	NBT	192	295	205	554	557	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	200
	21	NBR	62	52	117	84	184	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	100
	21	SBL	2	4	3	4	5	A(7.7)	A(8.0)	A(8.2)	A(7.9)	A(8.8)	A(9.1)	A(9.1)	9	9	9	10	11	14	
Rakesitraw Rd At I-180 West Ramp To Fairfield Rd	22	EBL																			
	22	EBT																			
	22	EBR																			
	22	WBL	132	126	139	115	134	B(14.1)	C(20.6)	A(5.8)	C(15.0)	F(139.3)	A(8.1)	A(8.1)	25	42	13	29	230	20	
	22	WBT	0	0	0	0	0	B(14.1)	C(20.6)	A(5.8)	C(15.0)	F(139.3)	A(8.1)	A(8.1)	25	42	13	29	230	20	
	22	WBR	1	5	1	3	5	B(14.1)	C(20.6)	A(5.8)	C(15.0)	F(139.3)	A(8.1)	A(8.1)	25	42	13	29	230	20	
	22	NBL	180	293	197	550	555	A(7.5)	A(7.7)	A(5.7)	A(7.5)	A(8.4)	A(8.8)	A(8.8)	10	17	28	11	40	74	
	22	NBT	16	12	13	11	9	A(0.0)	A(0.0)	A(5.7)	A(0.0)	A(0.0)	A(8.8)	A(8.8)	0	0	28	0	74	74	
	22	NBR	0	0	0	0	0														
	22	SBL	0	0	0	0	0														
OVERALL	22	EBL	342	449	367	695	719	A(9.5)	B(11.0)	A(5.7)	A(9.8)	D(30.3)	A(8.7)	---	---	---	---	---	---	---	
	22	EBT																			
	22	EBR																			
	22	WBL	132	126	139	115	134	B(14.1)	C(20.6)	A(5.8)	C(15.0)	F(139.3)	A(8.1)	A(8.1)	25	42	13	29	230	20	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				Mitigation		
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour				
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030			
29	0	0	0	0															
29	222	513	274	371	A(0.0)	B(16.1)	A(0.0)	A(0.0)	C(25.5)	0	0	279	0	0	702				
29	31	88	87	295	A(0.0)	B(16.1)	A(0.0)	A(0.0)	C(25.5)	0	0	279	0	0	702	100	200	250	
29	51	21	19	173	A(7.8)	B(13.8)	A(8.5)	B(10.4)	D(41.4)	9	20	137	18	82	377		150	150	
29	92	188	166	290	A(0.0)	B(13.8)	A(0.0)	A(0.0)	D(41.4)	0	0	137	0	0	377				
29	0	0	0	0															
29	354	213	366	377	D(31.6)	E(58.2)	E(37.7)	F(176.2)	E(61.3)	242	514	906	181	401	944				
29	0	0	0	0															
29	126	191	231	227	D(31.6)	F(102.9)	E(58.2)	F(176.2)	E(61.3)	242	514	906	181	401	944	150	175	175	
29																			
29																			
29																			
29	876	1214	1143	887	D(34.3)	D(37.7)	B(14.0)	D(25.1)	D(42.1)							Pk Hour 4-Hour	Pk Hour 4-Hour	Pk Hour 4-Hour	
30	0	0	0	0															
30	102	262	176	192	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
30	412	222	647	382	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	275	175	250	375
30	63	65	175	202	A(8.6)	B(10.6)	A(9.1)	A(9.6)	B(10.5)	5	5	20	13	13	23		100	150	175
30	131	191	198	385	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
30	0	0	0	0															
30																			
30																			
30																			
30	45	203	97	42	B(12.0)	E(43.0)	C(20.3)	D(31.9)	D(31.5)	35	271	235	75	96	122				
30	0	0	0	0	B(12.0)	E(49.2)	C(20.3)	D(31.9)	D(31.5)	35	271	235	75	96	122				
30	197	194	200	192	B(12.0)	E(49.2)	C(20.3)	D(31.9)	D(31.5)	35	271	235	75	96	122				
30	950	1137	1493	1586	A(3.6)	C(15.5)	B(11.0)	A(4.9)	A(6.0)							4-Hour	Pk Hour 4-Hour	Pk Hour 4-Hour	
31	71	50	61	225	A(7.7)	A(7.8)	A(5.0)	A(8.2)	A(5.7)	4	3	19	13	14	28		175	175	
31	73	290	167	83	A(0.0)	A(0.0)	A(5.0)	A(0.0)	A(5.7)	0	0	19	0	0	28				
31	0	0	0	0															
31	0	0	0	0															
31	201	261	255	278	A(0.0)	A(6.5)	A(0.0)	A(0.0)	B(13.0)	0	0	27	0	0	62				
31	2	1	0	0	A(0.0)	A(6.5)	A(0.0)	A(0.0)	B(13.0)	0	0	27	0	0	62				
31	146	127	110	389	B(14.0)	C(19.0)	A(4.6)	F(57.9)	B(10.2)	34	45	12	231	248	70				
31	0	0	0	0	B(14.0)	C(19.0)	A(4.6)	F(57.9)	B(10.2)	34	45	12	231	248	70				
31	38	29	36	50	B(14.0)	C(19.0)	A(4.6)	F(57.9)	B(10.2)	34	45	12	231	248	70				
31																			
31																			
31																			
31																			
31	531	758	629	781	A(4.4)	A(5.5)	C(20.5)	C(21.0)	A(9.6)							4-Hour	Pk Hour 4-Hour	Pk Hour 4-Hour	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)						
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour				
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030			
38	Node	Approach	Existing Traffic Control	Lane	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour				
					Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate			
					2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030			
	38	Eastbound	Minor	EBL	16	1	20	23	9	14	1	4	18	20	8	---	---		
	38	Westbound	Minor	EBT	91	246	175	225	139	95	385	163	224	295	188	---	---		
	22				170	87	113	84	95	385	163	224	295	188	---	---			
	99				163	49	195	202	272	402	392	249	475	757	175	175			
	38	Northbound	Major	WBL	152	115	200	36	80	272	402	392	249	475	757	---	---		
	53				31	37	122	217	272	402	392	249	475	757	---	---			
	23				107	114	44	42	217	404	291	374	1017	763	100	75			
	38	Southbound	Major	WBT	125	48	168	210	182	217	404	291	374	1017	763	---	---		
	111				264	123	436	403	217	404	291	374	1017	763	---	---			
	44				150	66	102	82	38	144	67	39	118	84	---	---			
38	OVERALL	Signal	SBR	1035	1508	1135	1729	1649	---	---	---	---	---	---	4-Hour	Pk Hour 4			
73				106	98	193	201	64	95	76	88	229	187	150	150	200	200		
392				369	417	487	570	369	337	567	446	490	517	---	---	---	---	---	
39	Dewey Ave At W 4Th St	Eastbound	Minor	EBR	23	17	62	27	26	369	337	567	446	490	517	---	---		
96					109	58	57	100	133	148	135	78	91	150	150	100	100	150	
232					269	261	487	465	253	277	222	298	634	474	---	---	---	---	---
39		Westbound	Minor	WBR	18	3	28	5	5	253	277	222	298	634	474	---	---		
1					5	152	3	158	171	147	57	246	371	420	---	---	---	---	
112					22	9	188	62	147	57	246	371	420	---	---	---	---	---	---
39		Northbound	Major	NBR	63	41	38	98	138	147	57	246	371	420	---	---	---		
67					59	66	42	48	178	163	183	140	222	185	---	---	---	---	
144					135	104	219	147	178	163	183	140	222	185	---	---	---	---	---
39		Southbound	Major	SBR	65	92	77	134	235	55	77	82	113	201	175	---	---		
1286					1227	1513	2109	2086	---	---	---	---	---	---	---	---	---	---	---
0					0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
40		Grampian Blvd At Market St	Eastbound	Major	EBL	254	494	218	416	373	0	0	0	0	0	---	---		
116	110					113	74	102	97	0	0	0	0	0	0	0	100	100	
113	9					9	95	55	57	8	1	1	6	4	4	4	75	75	
40	Westbound		Major	WBL	195	300	271	309	433	0	0	0	0	0	---	---	---		
0					0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
42					4	4	48	22	33	18	3	2	20	10	12	---	---	---	---
40	Northbound		Minor	NBL	0	0	0	0	0	---	---	---	---	---	---	---	---	---	
56					11	12	62	12	12	18	3	2	20	10	12	---	---	---	---
---					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
40	Southbound		---	SBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
---					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
---					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
40	OVERALL		2-way Stop	SBR	776	928	806	1084	1005	---	---	---	---	---	---	---	---	---	
0		0			0	0	0	---	---	---	---	---	---	---	---	---	---	---	
254		494			218	416	373	0	0	0	0	0	0	0	0	100	100	100	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	
84	EBL																
84	EBT																
84	EBR																
84	WBL	0	0	0	0												
84	WBT	653	463	513	1860	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0			
84	WBR	0	0	0	0												
84	NBL																
84	NBT																
84	NBR																
84	SBL	0	0	0	0												
84	SBT	0	0	0	0												
84	SBR	59	157	160	618	B(0.0)	B(0.0)	B(0.0)	B(0.0)	45	45	45	45	45			
84	AVG	712	620	673	2478	(0.0)	(0.0)	(0.0)	(0.0)	2622	2478	673	2622	2478	673	2622	2478
85	EBL	22	79	48	36	B(12.4)	E(36.0)	D(25.8)	E(36.7)	15	53	15	36	21	35	7	
85	EBT	0	0	0	0					0	0	0	0	0			
85	EBR	0	0	0	1	B(12.4)	E(36.0)	D(25.8)	E(36.7)	0	1	0	0	13	35	7	
85	WBL																
85	WBT																
85	WBR																
85	NBL	2	0	0	2	A(7.6)	A(9.2)	A(8.2)	A(9.6)	1	2	1	2	46	271	150	
85	NBT	328	666	774	330	A(0.0)	A(0.0)	A(0.0)	A(0.0)	531	571	531	531	0	0	0	
85	NBR	0	0	0	0					0	0	0	0	0	0	0	
85	SBL	0	0	0	0					0	0	0	0	0	0	0	
85	SBT	196	380	313	708	A(0.0)	A(0.0)	A(0.0)	A(0.0)	697	582	697	697	0	0	0	
85	SBR	21	391	130	39	A(0.0)	A(0.0)	A(0.0)	A(0.0)	169	403	169	169	0	0	0	
85	AVG	569	1516	1265	1113	A(0.5)	A(1.9)	A(1.0)	A(1.2)	1413	1612	1113	1413	200	475	375	400
90	EBL	0	0	0	0					0	0	0	0	0	0	0	
90	EBT	59	157	160	268	A(0.0)	A(0.0)	A(0.0)	A(0.0)	578	618	578	578	0	0	0	
90	EBR	0	0	0	0					0	0	0	0	0	0	0	
90	WBL																
90	WBT																
90	WBR																
90	NBL																
90	NBT																
90	NBR																
90	SBL	0	0	0	0					0	0	0	0	0	0	0	
90	SBT	0	0	0	0					0	0	0	0	0	0	0	
90	SBR	120	269	221	552	A(8.7)	A(9.4)	A(9.1)	B(14.8)	9	25	19	76	145	200	475	375
90	AVG	179	426	381	820	A(5.8)	A(5.9)	A(5.3)	A(8.0)	1157	1344	820	1157	375	475	375	400

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate
126	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
126	107	309	182	240	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
126	56	50	51	102	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
126	1	32	31	78	A(7.5)	A(8.1)	A(7.7)	A(8.1)	A(7.7)	A(8.1)	A(8.2)	8	13	8	29	29
126	139	148	161	266	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
126	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
126	37	89	94	57	B(10.3)	B(14.1)	B(12.0)	B(11.1)	B(10.1)	C(15.5)	C(15.5)	4	35	7	16	16
126	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
126	0	98	93	16	B(10.3)	B(14.1)	B(12.0)	B(11.1)	B(10.1)	C(15.5)	C(15.5)	4	35	7	16	16
126	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
126	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
126	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
126	340	726	591	759	A(1.2)	A(4.0)	A(4.2)	A(1.5)	A(2.3)	A(2.3)	A(2.3)	---	---	---	---	---
127	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
127	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
127	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
127	2	9	6	53	A(8.8)	A(9.7)	A(9.0)	A(9.1)	A(9.6)	A(9.4)	A(9.4)	0	1	4	5	2
127	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
127	0	0	0	3	A(8.8)	A(9.7)	A(9.0)	A(9.1)	A(9.6)	A(9.4)	A(9.4)	0	1	4	5	2
127	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
127	26	170	69	80	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
127	41	9	8	7	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
127	0	0	0	3	A(7.3)	A(7.6)	A(7.3)	A(7.3)	A(7.4)	A(7.4)	A(7.4)	2	2	1	4	4
127	37	39	32	68	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
127	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
127	106	227	115	211	A(0.2)	A(0.4)	A(0.5)	A(3.6)	A(2.5)	A(1.3)	A(1.3)	---	---	---	---	---
130	45	94	100	103	A(9.7)	B(12.6)	B(11.1)	B(10.1)	B(12.6)	B(12.6)	B(12.6)	4	15	5	17	17
130	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
130	0	1	1	2	A(9.7)	B(12.6)	B(11.1)	B(10.1)	B(12.6)	B(12.6)	B(12.6)	4	15	5	17	17
130	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
130	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
130	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
130	0	2	2	3	A(7.4)	A(8.1)	A(7.7)	A(7.6)	A(7.7)	A(7.8)	A(7.8)	5	6	5	17	16
130	95	86	92	233	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
130	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
130	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
130	72	313	161	134	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
130	35	93	93	122	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
130	247	589	449	604	A(1.8)	A(2.1)	A(2.5)	A(1.4)	A(2.2)	A(2.2)	A(2.2)	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate
172	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
172	69	320	167	129	104	129	127	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
172	6	2	2	4	22	4	4	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
172	59	52	53	201	44	201	191	A(7.4)	A(8.0)	A(7.6)	A(7.8)	7	9	8	31	250
172	78	77	83	244	84	244	236	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
172	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
172	2	1	1	4	20	4	4	A(8.8)	B(11.3)	A(9.9)	A(9.8)	3	20	15	10	---
172	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
172	41	150	144	94	41	94	94	A(8.8)	B(11.3)	A(9.9)	A(9.7)	3	20	15	10	---
172	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
172	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
172	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
172	255	602	450	676	315	676	656	A(3.2)	A(3.5)	A(4.1)	A(3.7)	---	---	---	---	---
176	72	332	237	167	95	167	168	A(7.4)	A(7.9)	A(7.7)	A(7.8)	6	32	18	14	325
176	38	137	74	56	49	56	53	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
176	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
176	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
176	32	29	30	128	39	128	124	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
176	14	19	16	33	26	33	31	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
176	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
176	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
176	13	13	14	39	20	39	33	A(9.1)	B(10.4)	A(9.7)	B(12.0)	10	13	12	10	49
176	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
176	106	100	106	316	90	316	302	A(9.1)	B(10.4)	A(9.7)	B(12.0)	10	13	12	10	49
176	275	630	477	739	319	739	711	A(5.9)	A(6.0)	A(6.3)	A(7.8)	---	---	---	---	---
177	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
177	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
177	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
177	8	28	34	18	8	18	19	A(8.6)	A(9.4)	A(8.9)	A(9.0)	1	3	3	1	3
177	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
177	1	6	6	22	0	22	21	A(8.6)	A(9.4)	A(8.9)	A(9.0)	1	3	3	1	3
177	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
177	8	4	4	16	16	31	30	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
177	8	33	11	142	15	142	64	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
177	0	59	18	29	2	29	23	A(7.2)	A(7.4)	A(7.3)	A(7.6)	1	3	2	1	2
177	16	3	19	8	13	8	10	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---
177	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
177	41	133	92	250	54	250	167	A(2.0)	A(5.7)	A(5.3)	A(3.2)	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)			LEVEL-OF-SERVICE (delay/veh)			95th Percentile Queue Length (ft)			Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)		
	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour
	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate
187	2	3	4	A(8.4)	A(8.8)	A(8.7)	1	1	1	2	2	2
187	0	0	0	---	---	---	---	---	---	---	---	---
187	6	4	3	A(8.4)	A(8.8)	A(8.7)	1	1	1	2	2	2
187	0	0	0	---	---	---	---	---	---	---	---	---
187	5	31	15	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
187	3	61	14	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
187	2	10	5	A(7.2)	A(7.4)	A(7.3)	0	2	2	1	2	2
187	8	31	36	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
187	0	0	0	---	---	---	---	---	---	---	---	---
187	26	140	77	A(3.1)	A(1.0)	A(1.3)	---	---	---	---	---	---
192	2	4	5	A(8.5)	A(8.7)	A(8.8)	0	0	1	2	2	2
192	0	0	0	---	---	---	---	---	---	---	---	---
192	2	2	2	A(8.5)	A(8.7)	A(8.8)	0	0	1	2	2	2
192	0	0	0	---	---	---	---	---	---	---	---	---
192	7	10	10	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
192	5	25	9	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
192	2	5	11	A(7.2)	A(7.3)	A(7.3)	0	2	2	1	2	2
192	7	37	35	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
192	0	0	0	---	---	---	---	---	---	---	---	---
192	25	83	72	A(2.1)	A(1.1)	A(2.0)	---	---	---	---	---	---
194	0	0	0	---	---	---	---	---	---	---	---	---
194	0	0	0	---	---	---	---	---	---	---	---	---
194	0	1	1	A(9.5)	B(11.3)	B(10.5)	0	1	1	2	4	3
194	0	0	0	---	---	---	---	---	---	---	---	---
194	86	347	246	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
194	9	13	13	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
194	0	1	1	A(7.4)	A(8.0)	A(7.7)	6	7	6	5	24	22
194	105	97	100	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
194	0	0	0	---	---	---	---	---	---	---	---	---
194	204	466	368	A(0.2)	A(0.2)	A(0.3)	---	---	---	---	---	---
194	526	550	526	A(0.6)	A(0.6)	A(0.6)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
204	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
204	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
204	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
204	17	16	3	33	A(8.6)	A(9.3)	A(8.8)	A(9.5)	A(8.9)	2	2	0	5	4		
204	0	0	0	0												
204	5	5	3	21	A(8.6)	A(9.3)	A(8.8)	A(9.5)	A(8.9)	2	2	0	5	4		
204	0	0	0	0												
204	0	3	2	7	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
204	24	22	3	27	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
204	6	65	18	81	A(7.3)	A(7.3)	A(7.3)	A(7.4)	A(7.3)	0	4	1	5	1		
204	1	10	5	19	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
204	0	0	0	0												
204	53	121	60	188	A(4.5)	A(5.5)	A(5.2)	A(5.9)	A(5.9)							
207	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
207	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
207	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
207	0	0	0	0												
207	487	1028	1253	1676	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
207	0	0	0	0												
207	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
207	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
207	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
207	0	0	0	0												
207	0	0	0	0												
207	265	165	162	203	C(0.0)	C(0.0)	C(0.0)	C(0.0)	C(0.0)	47	47	47	47	47	200	
207	752	1193	1177	1456	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)						4-Hour	
207	7	99	40	7	A(7.3)	A(7.4)	A(7.3)	A(7.5)	A(7.5)	2	8	3	7	7		
210	42	45	29	28	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
210	0	0	0	0												
210	0	0	0	0												
210	28	44	45	41	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
210	1	1	1	3	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		
210	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
210	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
210	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
210	0	0	0	0												
210	0	0	0	0												
210	3	12	12	7	A(8.4)	A(8.5)	A(8.5)	A(8.7)	A(8.7)	0	1	1	1	1		
210	81	201	127	86	A(0.9)	A(4.2)	A(3.1)	A(3.5)	A(3.5)							

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
220	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0
220	73	69	53	49	53	47	47	47	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	44	22	22	70	60	63	63	63	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	2	91	121	9	156	147	147	147	A(9.0)	A(9.4)	A(9.5)	A(10.0)	0	11	14	20
220	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
220	0	33	33	7	44	44	44	44	A(9.0)	A(9.4)	A(9.5)	A(10.0)	0	11	14	20
220	119	215	229	135	313	301	301	301	A(0.2)	A(5.4)	A(6.4)	A(6.3)	0	0	0	0
222	9	7	6	38	11	6	6	6	A(7.4)	A(7.3)	A(7.3)	A(7.4)	2	2	3	3
222	32	41	47	15	56	52	52	52	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	4	10	13	16	38	40	40	40	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
222	68	36	40	70	73	78	78	78	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	258	69	63	80	165	68	68	68	B(10.6)	A(9.2)	A(9.2)	A(9.6)	31	7	6	7
222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
222	13	6	5	38	11	5	5	5	B(10.6)	A(9.2)	A(9.2)	A(9.6)	31	7	6	7
222	384	169	174	257	354	249	249	249	A(7.6)	A(4.4)	A(3.9)	A(3.0)	0	0	0	0
223	8	104	45	13	99	98	98	98	A(8.8)	A(9.5)	A(9.0)	A(10.0)	1	10	4	10
223	0	0	0	0	0	0	0	0	A(8.8)	A(9.5)	A(9.0)	A(10.0)	1	10	4	10
223	0	0	0	0	0	0	0	0	A(8.8)	A(9.5)	A(9.0)	A(10.0)	1	10	4	10
223	0	0	0	0	0	0	0	0	A(8.8)	A(9.0)	A(8.8)	A(9.4)	0	0	0	0
223	0	0	0	0	0	0	0	0	A(8.8)	A(9.0)	A(8.8)	A(9.4)	0	0	0	0
223	0	0	0	0	0	0	0	0	A(8.8)	A(9.0)	A(8.8)	A(9.4)	0	0	0	0
223	43	39	39	19	129	129	129	129	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
223	0	0	0	0	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
223	0	0	0	0	0	0	0	0	A(5.0)	A(5.0)	A(5.0)	A(5.0)	0	0	0	0
223	0	44	5	0	11	11	11	11	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
223	3	14	14	7	18	18	18	18	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
223	54	201	103	39	257	256	256	256	A(1.3)	A(4.9)	A(3.9)	A(3.8)	0	0	0	0

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)			LEVEL-OF-SERVICE (delay/veh)			95th Percentile Queue Length (ft)						Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)					
	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour		
	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate
402	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
402	404	856	540	361	527	465	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
402	44	30	27	38	15	23	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
402	6	15	14	9	19	18	A(8.2)	A(9.8)	A(8.6)	A(8.1)	A(8.5)	A(8.4)	38	34	22	40	73	56
402	376	224	213	399	495	447	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
402	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
402	43	21	40	41	59	71	C(16.0)	C(20.5)	C(15.6)	C(15.5)	C(23.0)	C(20.5)	12	14	13	12	74	32
402	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
402	9	24	22	12	142	30	C(16.0)	C(20.5)	C(15.6)	C(15.5)	C(23.0)	C(20.5)	12	14	13	12	74	32
402	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
402	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
402	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
402	882	1170	856	860	1257	1054	A(1.0)	A(0.9)	A(1.3)	A(1.0)	A(3.8)	A(2.1)	---	---	---	---	---	---
404	83	176	120	29	116	112	A(8.2)	A(8.3)	A(7.9)	A(8.0)	A(8.9)	A(8.8)	30	93	37	26	91	60
404	237	507	305	272	395	313	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
404	28	24	24	9	59	54	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
404	35	33	33	118	86	90	A(7.8)	A(8.6)	A(8.0)	A(8.1)	A(8.5)	A(8.2)	33	35	7	44	96	37
404	139	79	78	202	297	305	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
404	226	224	151	158	250	201	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
404	0	1	1	2	3	3	C(15.2)	D(30.1)	C(16.0)	B(12.9)	E(45.0)	D(30.6)	30	68	31	18	91	61
404	42	43	42	15	49	48	C(15.2)	D(30.1)	C(16.0)	B(12.9)	E(45.0)	D(30.6)	30	68	31	18	91	61
404	97	90	91	93	65	67	C(15.2)	D(30.1)	C(16.0)	B(12.9)	E(45.0)	D(30.6)	30	68	31	18	91	61
404	60	14	63	61	0	15	D(28.7)	F(54.0)	D(27.8)	D(32.1)	D(34.5)	E(43.3)	29	15	30	36	0	13
404	0	1	1	3	0	1	D(28.7)	F(54.0)	D(27.8)	D(32.1)	D(34.5)	E(43.3)	29	15	30	36	0	13
404	0	0	0	0	0	0	D(28.7)	F(54.0)	D(27.8)	D(32.1)	D(34.5)	E(43.3)	29	15	30	36	0	13
404	947	1192	909	962	1320	1209	A(5.1)	A(5.5)	A(5.6)	A(4.8)	A(5.3)	A(5.0)	---	---	---	---	---	---
408	15	18	19	23	137	35	A(7.8)	A(8.0)	A(8.2)	A(8.1)	B(10.3)	A(9.3)	12	76	35	30	91	38
408	162	588	352	311	312	258	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
408	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
408	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
408	208	313	333	299	728	629	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
408	70	56	79	92	98	110	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
408	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
408	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
408	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
408	39	60	38	66	57	42	B(11.1)	C(19.4)	B(13.8)	B(14.6)	E(47.5)	C(20.0)	11	24	15	26	73	32
408	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
408	45	21	45	64	30	60	B(11.1)	C(19.4)	B(13.8)	B(14.6)	E(47.5)	C(20.0)	11	24	15	26	73	32
408	539	1056	866	855	1362	1134	A(1.9)	A(1.6)	A(1.5)	A(2.4)	A(4.1)	A(2.1)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
411	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
411	302	740	477	541	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
411	137	201	149	175	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	150	175	150	150
411	61	234	166	280	A(8.4)	B(12.2)	A(9.5)	A(8.3)	44	137	51	53	100	175	100	200
411	357	249	229	410	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
411	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
411	5	5	16	50	B(11.5)	D(26.9)	C(18.3)	C(16.3)	5	75	53	105	64	---	---	---
411	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
411	35	165	179	86	B(11.5)	D(26.9)	C(18.3)	C(16.3)	5	75	53	105	64	---	---	---
411	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
411	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
411	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
411	897	1594	1216	1702	A(1.1)	A(4.6)	A(4.2)	A(2.7)	A(5.4)	A(4.2)	A(4.2)	A(4.2)	---	---	---	---
415	26	120	107	55	B(16.2)	B(19.5)	C(21.8)	B(17.1)	B(18.4)	C(23.3)	22	108	102	48	5	85
415	125	436	158	301	B(18.0)	C(26.2)	C(23.1)	C(20.5)	C(24.8)	C(21.4)	148	523	260	279	343	193
415	53	97	129	72	B(18.0)	C(26.2)	C(23.1)	C(20.5)	C(24.8)	C(21.4)	148	523	260	279	343	193
415	86	93	46	27	B(17.9)	C(30.6)	C(20.0)	B(16.7)	C(21.9)	B(20.0)	75	102	44	23	58	54
415	146	215	194	472	B(17.5)	B(18.5)	C(20.9)	B(18.0)	C(27.9)	C(23.7)	122	181	174	153	472	305
415	2	3	4	5	B(17.5)	B(18.5)	C(20.9)	B(18.0)	C(27.9)	C(23.7)	122	181	174	153	472	305
415	80	37	106	128	B(17.6)	B(17.9)	B(18.0)	C(21.9)	C(31.5)	D(44.6)	93	121	199	263	514	629
415	14	53	87	82	B(17.6)	B(17.9)	B(18.0)	C(21.9)	C(31.5)	D(44.6)	93	121	199	263	514	629
415	15	54	45	82	B(17.6)	B(17.9)	B(18.0)	C(21.9)	C(31.5)	D(44.6)	93	121	199	263	514	629
415	53	107	45	52	B(18.5)	C(24.8)	B(18.0)	B(18.6)	C(23.0)	B(19.6)	156	403	252	148	401	288
415	80	197	151	36	B(18.5)	C(24.8)	B(18.0)	B(18.6)	C(23.0)	B(19.6)	156	403	252	148	401	288
415	52	120	113	85	B(18.5)	C(24.8)	B(18.0)	B(18.6)	C(23.0)	B(19.6)	156	403	252	148	401	288
415	732	1532	1185	1058	B(17.9)	C(23.7)	C(20.1)	B(19.9)	C(26.8)	C(28.8)	---	---	---	---	---	---
418	38	115	131	124	A(7.6)	A(7.6)	A(8.0)	A(8.2)	A(9.6)	A(9.1)	2	6	8	8	33	25
418	235	497	283	177	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
418	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
418	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
418	65	75	148	154	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
418	83	23	110	159	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
418	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
418	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
418	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
418	45	88	133	75	B(10.8)	C(17.5)	C(22.5)	B(14.7)	E(41.7)	D(32.0)	26	97	115	26	165	119
418	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
418	171	291	195	55	B(10.8)	C(17.5)	C(22.5)	B(14.7)	E(41.7)	D(32.0)	26	97	115	26	165	119
418	637	1089	1000	744	A(4.1)	A(6.9)	A(8.4)	A(3.9)	A(8.9)	A(7.2)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
423	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
423	28	91	75	152	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
423	13	82	72	69	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
423	48	100	99	66	A(7.3)	A(7.7)	A(7.4)	A(7.8)	5	11	11	13	---	---	---	---
423	48	83	84	129	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
423	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
423	11	28	28	87	A(8.9)	B(10.4)	A(9.3)	B(12.7)	5	8	8	31	---	---	---	None
423	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
423	48	46	43	107	A(8.9)	B(10.4)	A(9.3)	B(12.5)	5	8	8	31	---	---	---	---
423	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
423	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
423	196	430	401	613	A(4.5)	A(3.6)	A(4.4)	A(4.7)	A(4.4)	A(3.7)	A(4.8)	A(4.8)	---	---	---	4-Hour
431	24	33	32	91	A(7.3)	A(7.4)	A(7.4)	A(7.6)	2	6	5	4	---	---	---	---
431	26	76	57	120	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
431	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
431	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
431	40	66	68	118	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
431	4	3	3	5	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
431	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None
431	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
431	1	2	2	3	A(8.6)	A(9.0)	A(9.0)	A(9.3)	2	7	7	3	---	---	---	---
431	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
431	24	83	80	39	A(8.6)	A(9.0)	A(9.0)	A(9.3)	2	7	7	3	---	---	---	---
431	119	263	242	376	A(3.3)	A(3.8)	A(2.8)	A(2.7)	A(2.8)	A(4.0)	A(2.9)	A(2.9)	---	---	---	---
436	3	8	8	11	A(6.9)	A(7.5)	A(7.4)	A(7.6)	0	0	0	0	---	---	---	---
436	8	59	37	45	A(6.9)	A(7.5)	A(7.4)	A(7.6)	0	0	0	0	---	---	---	---
436	8	15	13	12	A(6.9)	A(7.5)	A(7.4)	A(7.6)	0	0	0	0	---	---	---	---
436	4	5	5	5	A(7.0)	A(7.2)	A(7.0)	A(7.4)	0	0	0	0	---	---	---	---
436	17	11	11	39	A(7.0)	A(7.2)	A(7.0)	A(7.4)	0	0	0	0	---	---	---	---
436	8	9	9	32	A(7.0)	A(7.2)	A(7.0)	A(7.4)	0	0	0	0	---	---	---	---
436	8	7	6	14	A(7.2)	A(7.4)	A(7.2)	A(7.8)	0	0	0	0	---	---	---	None
436	20	27	27	75	A(7.2)	A(7.4)	A(7.2)	A(7.8)	0	0	0	0	---	---	---	---
436	0	2	2	7	A(7.2)	A(7.4)	A(7.2)	A(7.8)	0	0	0	0	---	---	---	---
436	4	23	24	11	A(7.1)	A(7.7)	A(7.1)	A(7.5)	0	0	0	0	---	---	---	---
436	13	65	64	26	A(7.1)	A(7.7)	A(7.1)	A(7.5)	0	0	0	0	---	---	---	---
436	2	5	5	10	A(7.1)	A(7.7)	A(7.1)	A(7.5)	0	0	0	0	---	---	---	---
436	95	236	211	287	A(7.0)	A(7.5)	A(7.4)	A(7.6)	A(7.1)	A(7.4)	A(7.6)	A(7.6)	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)			LEVEL-OF-SERVICE (delay/veh)			95th Percentile Queue Length (ft)			Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)									
	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour							
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate							
Market St At Washington Blvd	Node	Intersection	Approach	Existing Traffic Control	Lane														
	531	Eastbound	---	EBL															
	531	Westbound	Minor	WBL	4	2	1	7	3	3	C(21.3)	C(16.6)	B(13.4)	C(18.9)	B(12.7)	B(12.5)	0	0	0
	531	Northbound	Major	NBL	0	0	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0
	531	Southbound	Major	SBL	307	268	139	236	84	73	A(8.3)	A(7.9)	A(7.7)	A(8.2)	A(7.9)	A(7.8)	36	27	22
	531	OVERALL	2-way Stop	AVG	856	541	472	832	528	511	A(5.7)	A(4.9)	A(4.8)	A(4.8)	A(2.2)	A(2.0)	---	---	---
	537	Eastbound	---	EBL															
	537	Westbound	Major	WBL	136	194	196	155	173	201	B(18.0)	B(18.5)	B(12.8)	B(18.2)	B(14.8)	B(14.5)	182	192	192
	537	Northbound	Minor	NBL	50	71	55	115	294	210	B(16.3)	B(16.6)	C(22.7)	B(17.1)	C(28.6)	C(26.1)	42	60	53
	537	Southbound	---	SBL															
	537	OVERALL	Signal	AVG	437	527	570	533	1171	1029	B(17.8)	B(18.2)	B(13.7)	B(18.0)	B(18.3)	B(16.8)	---	---	---
	548	Eastbound	Major	EBL	22	30	17	60	52	44	B(19.3)	C(21.1)	C(22.6)	B(18.9)	C(24.4)	C(23.1)	249	350	299
	548	Westbound	---	WBL															
	548	Northbound	Minor	NBL	0	0	0	0	0	0	B(17.6)	B(18.6)	B(17.8)	B(18.4)	C(21.4)	B(19.4)	115	167	227
548	Southbound	Minor	SBL	66	120	129	99	110	136	B(17.2)	B(19.3)	B(18.1)	B(18.5)	C(21.5)	C(20.5)	57	108	113	
548	OVERALL	Signal	AVG	823	1140	1094	858	1435	1257	B(18.6)	C(20.2)	C(20.4)	B(18.6)	C(22.7)	C(21.2)	---	---	---	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	
	Node	Approach	Existing Traffic Control	Lane	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	
Market St At I-180 West Ramp To Us-15 Nb	604	Eastbound	---	EBL	---	---	---	---	---	---	---	---	---	---	---	---	
	604	Westbound	Minor	WBL	0	0	0	0	0	0	0	0	0	0	0	0	0
	604	Northbound	Major	NBL	0	0	0	0	0	0	0	0	0	0	0	0	0
	604	Southbound	Major	SBL	0	0	0	0	0	0	0	0	0	0	0	0	0
	604	OVERALL	2-way Stop	AVG	1201	1651	1292	2177	1814	A(0.2)	A(1.5)	A(1.0)	A(0.4)	A(0.7)	A(0.5)	---	---
	606	Eastbound	Major	EBL	0	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	---	---
	606	Westbound	Major	WBL	27	134	127	98	103	A(8.2)	A(9.3)	A(9.0)	A(8.1)	A(8.7)	A(8.6)	---	---
	606	Northbound	Minor	NBL	3	26	3	19	26	B(11.3)	C(19.2)	B(12.9)	B(12.5)	B(15.0)	C(17.2)	---	---
	606	Southbound	---	SBL	---	---	---	---	---	---	---	---	---	---	---	---	---
	606	OVERALL	2-way Stop	AVG	769	1052	810	1079	1009	A(1.1)	A(2.2)	A(1.6)	A(1.0)	A(1.3)	A(1.8)	---	---
Elmsport Rd At Spring Creek Rd	609	Eastbound	Major	EBL	0	0	0	0	0	A(5.0)	A(5.0)	A(5.0)	A(5.0)	A(5.0)	0	0	
	609	Westbound	Major	WBL	0	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	
	609	Northbound	---	NBL	---	---	---	---	---	---	---	---	---	---	---	---	
	609	Southbound	Minor	SBL	1	2	2	11	9	A(8.8)	A(8.5)	A(8.8)	A(9.3)	A(9.1)	0	1	
	609	OVERALL	2-way Stop	AVG	65	116	75	167	133	A(0.1)	A(0.8)	A(0.2)	A(0.6)	A(0.6)	---	---	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)					LEVEL-OF-SERVICE (delay/veh)					95th Percentile Queue Length (ft)					Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)										
	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour				
	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate		
Node	Approach	Existing Traffic Control	Lane	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	4-Hour	4-Hour	4-Hour	4-Hour	4-Hour	4-Hour	4-Hour		
668	Eastbound	Minor	EBL	218	429	380	230	335	377	B(18.7)	C(23.2)	E(65.9)	B(18.9)	F(118.2)	E(64.3)	183	391	561	193	659	549					
668	Westbound	---	WBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
668	Northbound	Major	NBL	135	111	51	136	187	100	C(23.9)	C(32.2)	B(11.5)	C(24.1)	B(10.8)	B(14.8)	520	909	532	527	682	833					
668	Southbound	---	SBL	885	1257	1340	893	1525	1657	C(23.9)	C(32.2)	B(11.5)	C(24.1)	B(10.8)	B(14.8)	520	909	532	527	682	833				None	
668	OVERALL	Signal	AVG	1238	1797	1771	1259	2047	2134	C(23.0)	C(30.1)	C(23.2)	C(23.1)	C(28.4)	C(23.6)	---	---	---	---	---	---	---			4-Hour	Pk Hour 4
672	Eastbound	Minor	EBL	0	0	0	0	0	0	D(28.4)	F(52.2)	D(37.8)	E(43.7)	F(72.9)	D(35.0)	55	88	252	87	50	195					
672	Westbound	Minor	WBL	3	42	122	32	89	89	D(28.4)	F(52.2)	D(37.8)	E(43.7)	F(72.9)	D(35.0)	55	88	252	87	50	195					
672	Northbound	---	NBL	0	2	48	2	8	51	C(20.8)	E(49.4)	C(32.5)	D(30.4)	F(51.3)	C(33.9)	8	28	95	7	23	153					
672	Southbound	---	SBL	25	29	36	12	16	86	C(20.8)	E(49.4)	C(32.5)	D(30.4)	F(51.3)	C(33.9)	8	28	95	7	23	153					
672	OVERALL	2-way Stop	AVG	959	1482	1588	1161	1809	1696	A(4.7)	A(4.8)	B(15.9)	A(5.6)	A(2.3)	B(16.0)	---	---	---	---	---	---	---				
680	Eastbound	Minor	EBL	112	50	91	72	32	73	D(27.5)	F(61.2)	D(45.6)	E(41.9)	F(101.9)	C(25.9)	91	134	222	163	125	245					
680	Westbound	Minor	WBL	89	79	87	160	42	179	D(27.5)	F(61.2)	D(45.6)	E(41.9)	F(101.9)	C(25.9)	91	134	222	163	125	245					
680	Northbound	Major	NBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---				
680	Southbound	---	SBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---				
680	OVERALL	2-way Stop	AVG	1134	1491	1560	1207	1818	2078	A(6.5)	A(6.8)	B(18.5)	A(9.6)	A(6.6)	C(26.3)	---	---	---	---	---	---	---				
680	Eastbound	Minor	EBL	88	76	78	152	36	163	A(7.3)	A(7.3)	B(11.1)	A(7.4)	A(7.2)	B(11.8)	25	53	472	35	85	537					
680	Westbound	Major	WBL	658	1244	1168	801	1592	1117	A(0.0)	A(0.0)	B(11.1)	A(0.0)	A(0.0)	B(11.8)	0	0	472	0	0	537					
680	Northbound	---	NBL	72	36	36	80	119	103	A(0.0)	A(0.0)	B(11.1)	A(0.0)	A(0.0)	B(11.8)	0	0	472	0	0	537					
680	Southbound	---	SBL	959	1482	1588	1161	1809	1696	A(4.7)	A(4.8)	B(15.9)	A(5.6)	A(2.3)	B(16.0)	---	---	---	---	---	---	---				
680	OVERALL	2-way Stop	AVG	1134	1491	1560	1207	1818	2078	A(6.5)	A(6.8)	B(18.5)	A(9.6)	A(6.6)	C(26.3)	---	---	---	---	---	---	---				

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)			LEVEL-OF-SERVICE (delay/veh)			95th Percentile Queue Length (ft)			Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)					
	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Mitigation		
	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate
685	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
685	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
685	34	278	0	B(10.3)	C(22.8)	B(12.8)	B(11.0)	B(14.3)	B(12.4)	4	100	0	5	0	200
685															
685															
685															
685															
685															
685															
685															
685	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
685	626	1248	1299	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
685	26	33	32	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	75
685	686	1559	1331	A(0.5)	A(4.1)	A(0.0)	A(0.5)	A(0.0)	A(0.0)	---	---	---	---	---	Pk Hour
687	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
687	504	591	528	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
687	11	21	46	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
687	4	15	15	A(8.4)	A(8.7)	A(8.6)	A(8.2)	A(8.6)	A(8.5)	30	49	41	43	95	75
687	299	371	345	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
687	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
687	2	3	1	B(12.1)	B(13.4)	B(12.3)	B(12.7)	B(14.1)	B(13.7)	5	4	3	6	7	6
687	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
687	33	19	20	B(12.1)	B(13.4)	B(12.3)	B(12.7)	B(14.1)	B(13.7)	5	4	3	6	7	6
687	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
687	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
687	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
687	853	1020	955	A(0.5)	A(0.4)	A(0.4)	A(0.8)	A(0.5)	A(0.6)	---	---	---	---	---	---
693	50	120	76	B(17.5)	B(19.2)	C(20.5)	B(17.5)	C(20.6)	C(20.1)	110	178	172	106	163	143
693	80	85	113	B(17.5)	B(19.2)	C(20.5)	B(17.5)	C(20.6)	C(20.1)	110	178	172	106	163	143
693	3	2	7	B(17.5)	B(19.2)	C(20.5)	B(17.5)	C(20.6)	C(20.1)	110	178	172	106	163	143
693	8	2	8	B(16.7)	B(16.4)	B(17.9)	B(16.9)	B(18.6)	B(18.5)	71	55	47	86	90	84
693	76	61	45	B(16.7)	B(16.4)	B(17.9)	B(16.9)	B(18.6)	B(18.5)	71	55	47	86	90	84
693	2	3	2	B(16.7)	B(16.4)	B(17.9)	B(16.9)	B(18.6)	B(18.5)	71	55	47	86	90	84
693	3	4	8	B(15.9)	B(16.1)	B(14.6)	B(16.2)	B(14.9)	B(14.9)	18	27	30	32	48	50
693	8	22	23	B(15.9)	B(16.1)	B(14.6)	B(16.2)	B(14.9)	B(14.9)	18	27	30	32	48	50
693	10	7	7	B(15.9)	B(16.1)	B(14.6)	B(16.2)	B(14.9)	B(14.9)	18	27	30	32	48	50
693	39	42	68	B(16.8)	B(17.5)	B(16.3)	B(16.9)	B(17.4)	B(17.4)	67	103	124	77	227	200
693	2	15	66	B(16.8)	B(17.5)	B(16.3)	B(16.9)	B(17.4)	B(17.4)	67	103	124	77	227	200
693	38	66	20	B(16.8)	B(17.5)	B(16.3)	B(16.9)	B(17.4)	B(17.4)	67	103	124	77	227	200
693	319	429	443	B(17.0)	B(18.1)	B(18.2)	B(17.1)	B(18.5)	B(18.1)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	
	Base	Base	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	
698	8	33	28	39	54	64	A(7.6)	A(7.6)	A(7.5)	A(7.8)	A(7.7)	13	21	13	11	11	11
698	202	278	181	133	122	117	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
698	0	0	0	0	0	0											
698	0	0	0	0	0	0											
698	165	143	131	200	189	163	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
698	24	11	14	37	44	34	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
698																	
698																	
698	33	33	32	38	19	19	B(10.4)	B(10.7)	B(10.3)	B(11.1)	B(11.4)	10	11	16	8	32	26
698	0	0	0	0	0	0											
698	53	62	116	28	221	194	B(10.4)	B(10.7)	B(10.3)	B(11.1)	B(11.4)	10	11	16	8	32	26
698	485	560	502	475	649	591	A(2.0)	A(2.3)	A(3.5)	A(2.2)	A(4.9)						
699	75	308	36	89	84	54	A(9.2)	B(13.0)	A(8.5)	A(9.5)	B(13.6)	41	873	438	67	3174	396
699	557	1190	1237	734	1363	1083	A(0.0)	A(0.0)	A(8.5)	A(0.0)	A(8.6)	0	0	438	0	0	396
699	28	27	27	25	30	30	A(0.0)	A(0.0)	A(8.5)	A(0.0)	A(8.6)	0	0	438	0	0	396
699	0	4	5	4	6	8	A(8.6)	B(11.2)	A(6.9)	A(9.2)	B(12.3)	0	0	299	0	1	453
699	670	907	1015	719	1383	1350	A(0.0)	A(0.0)	A(6.9)	A(0.0)	A(8.4)	0	0	299	0	0	453
699	0	0	0	0	0	0											
699	30	0	91	24	108	100	F(50.1)	A(8.6)	D(37.8)	F(85.1)	F(600.0)	27	0	114	37	1468	126
699	0	0	0	0	0	0											
699	0	0	5	0	5	5	F(50.1)	A(8.6)	D(37.8)	F(85.1)	F(600.0)	27	0	114	37	1468	126
699																	
699																	
699																	
699	1360	2436	2416	1595	2979	2630	A(1.6)	A(1.7)	A(9.0)	A(1.8)	F(23.3)						
700	12	43	44	55	114	120	A(8.5)	A(8.1)	A(8.1)	A(8.4)	A(8.7)	33	41	29	46	89	73
700	304	378	290	378	474	428	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
700	0	0	0	0	0	0											
700	0	0	0	0	0	0											
700	468	356	345	331	420	394	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
700	77	27	27	112	75	75	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
700																	
700																	
700	128	81	83	131	60	60	C(20.9)	C(19.4)	C(17.1)	C(23.4)	D(31.5)	42	24	21	49	33	29
700	0	0	0	0	0	0											
700	62	124	122	40	92	91	B(11.7)	B(11.3)	B(11.2)	B(10.3)	B(11.6)	9	16	16	4	13	12
700	1051	1009	911	1047	1235	1168	A(3.3)	A(3.3)	A(3.5)	A(3.8)	A(3.2)						

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	
728	21	3	3	55	7	11	A(8.0)	A(7.9)	A(8.0)	A(8.0)	A(7.9)	12	5	4	20	9	9
728	150	70	66	216	114	119	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
728	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
728	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
728	332	311	300	276	363	321	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
728	26	1	4	24	12	12	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
728	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
728	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
728	16	3	1	12	1	1	B(11.3)	B(10.2)	B(11.0)	B(10.6)	B(10.3)	11	3	6	9	1	1
728	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
728	67	28	51	57	6	12	B(11.3)	B(10.2)	B(11.0)	B(10.6)	B(10.3)	11	3	6	9	1	1
728	612	416	425	640	503	476	A(1.8)	A(0.8)	A(1.9)	A(0.3)	A(0.5)	---	---	---	---	---	---
731	3	4	4	10	11	10	A(7.3)	A(7.3)	A(7.3)	A(7.4)	A(7.4)	5	6	5	4	8	7
731	43	84	65	34	107	91	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
731	49	29	29	34	21	21	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
731	8	13	12	6	10	10	A(7.4)	A(7.4)	A(7.3)	A(7.5)	A(7.4)	2	3	3	2	7	6
731	28	44	45	41	108	108	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
731	0	1	1	1	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
731	27	7	7	46	30	29	A(9.6)	A(9.5)	A(9.4)	A(9.6)	B(10.3)	4	1	1	6	6	5
731	11	3	3	6	11	9	A(9.6)	A(9.5)	A(9.4)	A(9.6)	B(10.3)	4	1	1	6	6	5
731	4	5	6	7	16	12	A(9.6)	A(9.5)	A(9.4)	A(9.6)	B(10.3)	4	1	1	6	6	5
731	0	0	0	1	0	0	A(9.7)	A(9.9)	A(9.7)	A(9.1)	A(9.8)	1	2	1	1	1	1
731	12	11	10	6	7	7	A(9.7)	A(9.9)	A(9.7)	A(9.1)	A(9.8)	1	2	1	1	1	1
731	3	3	4	11	7	7	A(9.7)	A(9.9)	A(9.7)	A(9.1)	A(9.8)	1	2	1	1	1	1
731	188	204	186	203	328	304	A(3.3)	A(2.1)	A(2.2)	A(4.2)	A(2.6)	---	---	---	---	---	---
732	0	1	1	1	2	2	A(9.1)	A(9.0)	A(8.7)	A(8.7)	A(8.7)	8	8	7	4	4	4
732	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
732	92	91	83	46	49	48	A(9.1)	A(9.0)	A(8.7)	A(8.7)	A(8.7)	8	8	7	4	4	4
732	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
732	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
732	50	18	19	80	71	67	A(7.4)	A(7.4)	A(7.4)	A(7.4)	A(7.4)	5	2	2	8	7	6
732	47	16	16	72	63	57	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
732	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
732	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
732	87	67	64	55	41	41	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
732	0	1	1	1	1	1	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
732	276	194	184	255	227	216	A(4.4)	A(5.0)	A(4.8)	A(3.9)	A(4.3)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate
745	0	0	0	0	0	0	0									
745	254	277	248	258	206	187	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	
745	137	133	160	190	259	263	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	150	200
745	24	57	237	13	255	230	2	A(8.1)	A(8.3)	A(8.9)	A(9.2)	4	19	1	22	19
745	246	126	108	268	126	123	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
745	0	0	0	0	0	0										
745	13	6	0	4	0	0	2	B(13.3)	B(13.0)	C(19.7)	C(21.5)	1	0	1	0	0
745	0	0	0	0	0	0										
745	37	112	122	2	94	104	4	B(10.3)	B(11.1)	B(11.0)	B(10.8)	4	14	15	0	13
745																
745																
745																
745	711	711	875	735	940	907		A(1.1)	A(2.5)	A(3.9)	A(3.6)					
746	122	49	43	26	77	92		B(17.8)	B(18.2)	B(18.1)	B(18.0)	129	171	163	114	134
746	169	338	319	172	222	196		B(17.8)	B(18.2)	B(18.1)	B(18.0)	129	171	163	114	134
746	0	2	8	62	0	3		A(0.0)	B(18.2)	B(18.1)	B(18.0)	0	171	163	114	131
746	25	111	99	118	171	148		C(25.8)	C(34.5)	C(27.6)	C(32.2)	102	128	141	196	357
746	111	63	91	183	195	157		C(25.8)	C(26.4)	C(27.6)	C(32.2)	102	118	141	196	357
746	55	54	67	54	198	187		C(25.8)	C(26.4)	C(27.6)	C(32.2)	102	118	141	196	357
746	136	88	113	75	102	102		D(48.9)	D(39.8)	D(40.4)	E(60.3)	547	573	562	548	938
746	266	374	338	448	491	368		D(48.9)	D(39.8)	D(40.4)	E(60.3)	547	573	562	548	938
746	273	532	575	86	411	412		C(20.4)	C(30.8)	C(34.7)	B(16.9)	237	576	672	72	388
746	19	50	65	24	35	44		C(27.0)	D(48.9)	E(57.8)	D(46.7)	21	66	90	29	46
746	376	362	338	240	284	324		D(35.0)	C(34.2)	C(33.1)	C(30.8)	408	388	357	242	291
746	22	32	141	22	84	94		C(24.3)	C(24.5)	C(27.5)	C(26.1)	23	33	144	23	85
746	1574	2055	2197	1510	2270	2127		C(31.5)	C(31.3)	C(32.2)	D(37.2)					
754	80	49	41	74	65	67		D(37.3)	D(35.8)	C(30.5)	D(37.2)	103	66	64	106	98
754	0	0	0	0	0	0										
754	6	5	16	15	17	23		D(37.3)	D(35.8)	C(30.5)	D(37.2)	103	66	64	106	98
754																
754																
754																
754	146	173	170	124	208	213		A(8.7)	A(9.3)	B(15.2)	A(8.5)	293	297	352	325	681
754	329	293	267	416	528	403		A(8.7)	A(9.3)	B(15.2)	A(8.5)	293	297	352	325	681
754	0	0	0	0	0	0										
754	0	0	0	0	0	0										
754	405	391	481	288	362	413		A(7.1)	A(6.9)	B(10.7)	A(6.7)	274	262	374	232	256
754	99	96	90	150	115	102		A(7.1)	A(6.9)	B(10.7)	A(6.7)	274	262	374	232	256
754	1065	1007	1065	1067	1295	1221		B(10.3)	A(9.6)	B(13.6)	B(10.1)					
754	1065	1007	1065	1067	1295	1221		B(10.3)	A(9.6)	B(13.6)	B(10.1)					

Table 1. Traffic Analysis Results

SCENARIO		TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
PEAK HOUR	Node	Intersection	Approach	Existing Traffic Control	Lane	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
						2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate
770	770	770	Eastbound	Major	EBL	0	0	0	0								
					EBT	217	408	225	396	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0		
					EBR	86	140	92	109	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	200	200
					WBL	4	18	15	20	A(7.8)	A(8.5)	A(8.3)	A(8.2)	19	28	30	44
					WBT	255	265	161	407	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
					WBR	0	0	0	0								
770	770	770	Northbound	Minor	NBL	91	38	69	187	B(13.3)	C(15.4)	C(16.0)	D(28.7)	17	11	19	121
					NBT	0	0	0	0								
					NBR	9	12	26	13	B(13.3)	C(15.4)	C(16.0)	D(28.7)	17	11	19	121
770	770	770	Southbound	---	SBL	---	---	---	---								
					SBT	---	---	---	---								
					SBR	---	---	---	---								
770	770	770	OVERALL	2-way Stop	AVG	662	881	593	1132	A(2.0)	A(1.0)	A(1.7)	A(5.6)				
774	774	774	Eastbound	Major	EBL	2	25	30	37	A(7.5)	A(7.5)	A(7.7)	A(8.2)	14	15	17	21
					EBT	221	223	114	232	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
					EBR	0	0	0	0								
774	774	774	Westbound	Major	WBL	0	0	0	0								
					WBT	88	82	138	162	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
					WBR	52	33	67	41	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	175
774	774	774	Northbound	---	NBL	---	---	---	---								
					NBT	---	---	---	---								
					NBR	---	---	---	---								
774	774	774	Southbound	Minor	SBL	36	146	146	119	B(10.3)	B(12.4)	B(13.8)	B(14.9)	6	27	32	5
					SBT	0	0	0	0								
					SBR	17	28	20	30	B(10.3)	B(12.4)	B(13.8)	B(14.9)	6	27	32	5
774	774	774	OVERALL	2-way Stop	AVG	416	537	639	768	A(1.3)	A(4.4)	A(4.1)	A(2.8)				
780	780	780	Eastbound	Major	EBL	0	0	0	0								
					EBT	136	192	107	134	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
					EBR	121	178	280	217	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	150
780	780	780	Westbound	Major	WBL	54	44	47	33	A(7.8)	A(8.1)	A(8.1)	A(8.0)	10	9	17	8
					WBT	106	86	186	248	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0
					WBR	0	0	0	0								
780	780	780	Northbound	Minor	NBL	33	29	29	102	B(10.9)	B(11.7)	B(11.8)	B(14.8)	7	5	5	19
					NBT	0	0	0	0								
					NBR	27	5	8	38	B(10.9)	B(11.7)	B(11.8)	B(14.8)	7	5	5	26
780	780	780	Southbound	---	SBL	---	---	---	---								
					SBT	---	---	---	---								
					SBR	---	---	---	---								
780	780	780	OVERALL	2-way Stop	AVG	477	534	625	772	A(2.3)	A(1.4)	A(1.2)	A(3.1)				

Table 1. Traffic Analysis Results

SCENARIO			TRAFFIC FORECAST (veh/hr)						LEVEL-OF-SERVICE (delay/veh)						95th Percentile Queue Length (ft)						Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)																
PEAK HOUR	Node	Intersection	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Mitigation												
			2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate									
839	839	839	0	0	0	0	0	0	A(8.8)	A(9.5)	A(9.0)	B(11.6)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
839	839	839	532	1184	725	1247	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0						
839	839	839	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---					
839	839	839	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---				
839	839	839	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
839	839	839	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
839	839	839	630	834	1009	1274	702	1355	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
839	839	839	2	11	12	4	15	16	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
839	839	839	0	21	0	41	2	41	B(12.6)	E(48.0)	B(10.2)	F(600.0)	2	66	0	3	1003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
839	839	839	0	0	1219	0	0	1060	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
839	839	839	11	56	0	14	110	0	B(12.6)	E(48.0)	C(15.2)	F(600.0)	2	66	3	1003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
839	839	839	1175	2106	2240	1447	2687	2431	A(0.1)	A(1.8)	A(0.2)	F(33.5)	1475	2106	2240	1447	2687	2431	A(0.1)	A(1.8)	A(0.2)	F(33.5)	1175	2106	2240	1447	2687	2431	1175	2106	2240	1447	2687	2431			
842	842	842	0	2	2	4	4	4	A(9.4)	B(10.2)	A(9.4)	B(10.2)	1	4	4	4	4	A(9.4)	B(10.2)	A(9.4)	B(10.2)	0	2	2	4	4	4	4	4	4	4	4	4	4	4		
842	842	842	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
842	842	842	28	72	69	44	44	44	A(9.4)	B(10.2)	A(9.4)	B(10.2)	28	72	69	44	44	44	A(9.4)	B(10.2)	A(9.4)	B(10.2)	28	72	69	44	44	44	44	44	44	44	44	44	44	44	
842	842	842	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
842	842	842	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
842	842	842	14	20	24	20	69	74	A(7.6)	A(7.8)	A(7.6)	A(7.8)	14	20	24	20	69	74	A(7.6)	A(7.8)	A(7.6)	A(7.8)	14	20	24	20	69	74	20	69	74	20	69	74	20	69	
842	842	842	192	161	171	191	313	308	A(0.0)	A(0.0)	A(0.0)	A(0.0)	192	161	171	191	313	308	A(0.0)	A(0.0)	A(0.0)	A(0.0)	192	161	171	191	313	308	192	161	171	191	313	308	192	161	
842	842	842	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
842	842	842	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
842	842	842	195	270	271	194	233	235	A(0.0)	A(0.0)	A(0.0)	A(0.0)	195	270	271	194	233	235	A(0.0)	A(0.0)	A(0.0)	A(0.0)	195	270	271	194	233	235	195	270	271	194	233	235	195	270	271
842	842	842	0	1	1	1	5	5	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	1	1	1	5	5	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	1	1	1	5	5	0	1	1	1	5	5	0	1	1
842	842	842	429	526	538	668	428	670	A(0.9)	A(1.7)	A(0.8)	A(1.5)	429	526	538	668	428	670	A(0.9)	A(1.7)	A(0.8)	A(1.5)	429	526	538	668	428	670	429	526	538	668	428	670	429	526	
844	844	844	1	3	3	6	6	6	A(9.0)	A(8.9)	A(8.8)	A(9.2)	1	3	3	6	6	6	A(9.0)	A(8.9)	A(8.8)	A(9.2)	1	3	3	6	6	6	1	3	3	6	6	6	1	3	3
844	844	844	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
844	844	844	0	1	1	2	2	2	A(9.0)	A(8.9)	A(8.8)	A(9.2)	0	1	1	2	2	2	A(9.0)	A(8.9)	A(8.8)	A(9.2)	0	1	1	2	2	2	0	1	1	2	2	2	0	1	1
844	844	844	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
844	844	844	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
844	844	844	0	0	0	1	4	1	A(7.3)	A(7.4)	A(7.3)	A(7.3)	0	0	0	1	4	1	A(7.3)	A(7.4)	A(7.3)	A(7.3)	0	0	0	1	4	1	2	5	4	2	5	4	2	5	
844	844	844	46	22	25	41	92	81	A(0.0)	A(0.0)	A(0.0)	A(0.0)	46	22	25	41	92	81	A(0.0)	A(0.0)	A(0.0)	A(0.0)	46	22	25	41	92	81	46	22	25	41	92	81	46	22	
844	844	844	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
844	844	844	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	---	---	---	---	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
844	844	844	58	86	79	54	58	55	A(0.0)	A(0.0)	A(0.0)	A(0.0)	58	86	79	54	58	55	A(0.0)	A(0.0)	A(0.0)	A(0.0)	58	86	79	54	58	55	58	86	79	54	58	55	58	86	
844	844	844	0	5	4	5	5	5	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	5	4	5	5	5	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	5	4	5	5	5	0	5	4	5	5	5	0	5	
844	844	844	105	117	112	107	164	150	A(0.1)	A(0.4)	A(0.5)	A(0.5)	105	117	112	107	164	150	A(0.1)	A(0.4)	A(0.5)	A(0.5)	105	117	112	107	164	150	105	117	112	107	164	150	105	117	

Table 1. Traffic Analysis Results

SCENARIO		TRAFFIC FORECAST (veh/hr)												LEVEL-OF-SERVICE (delay/veh)												95th Percentile Queue Length (ft)												Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)											
PEAK HOUR	Node	Intersection	Approach	Existing Traffic Control	Lane	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Mitigation																			
						2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate													
858	858	Eastbound		---	EBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---							
	858					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
	858					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
	858	Westbound		Minor	WBL	28	82	83	26	37	76	B(10.0)	A(9.8)	A(9.7)	B(10.1)	A(9.8)	B(10.3)	3	8	8	3	4	9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
	858				WBT	0	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
	858				WBR	0	0	0	0	3	2	2	2	B(10.0)	A(9.8)	A(9.7)	B(10.1)	A(9.8)	B(10.3)	3	8	8	3	4	9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
	858	Northbound		Major	NBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
	858				NBT	62	44	51	135	100	100	100	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
858	NBR				7	49	28	23	64	36	36	36	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
858	AVG				269	261	247	302	273	333	302	273	333	A(1.3)	A(3.2)	A(3.3)	A(0.9)	A(1.5)	A(2.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
869	Southbound		Major	SBL	7	3	2	0	2	2	A(7.3)	A(7.4)	A(7.4)	A(7.5)	A(7.5)	A(7.5)	9	5	4	7	4	7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
869				SBT	165	83	83	118	67	117	117	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
869				SBR	0	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
869				AVG	269	261	247	302	273	333	302	273	333	A(1.3)	A(3.2)	A(3.3)	A(0.9)	A(1.5)	A(2.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
869	Eastbound		Major	EBL	45	30	22	82	57	66	B(17.4)	B(16.5)	A(2.6)	C(20.3)	A(3.0)	A(3.0)	40	26	8	77	23	27	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
869				EBT	334	451	411	390	466	351	351	C(20.5)	C(23.1)	A(3.6)	C(21.6)	A(3.9)	A(3.4)	285	409	168	341	194	140	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
869				EBR	0	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
869				AVG	289	225	262	382	472	458	382	472	458	C(20.0)	B(18.7)	A(3.2)	C(21.5)	A(4.0)	260	193	105	337	222	210	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
869	Westbound		Major	WBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
869				WBT	18	7	9	4	46	36	36	C(20.0)	B(18.7)	A(3.2)	C(21.5)	A(4.0)	A(4.0)	260	193	105	337	222	210	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
869				WBR	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
869				AVG	757	788	757	930	1122	969	757	969	969	B(19.7)	C(20.9)	A(6.4)	A(7.3)	A(6.3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
869	Northbound		---	NBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
869				NBT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
869				NBR	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
869				AVG	14	18	12	2	15	20	15	20	20	B(16.6)	B(16.7)	D(46.1)	D(51.4)	D(46.8)	59	63	72	60	110	79	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
873	Southbound		Minor	SBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
873				SBT	57	57	41	70	66	38	38	B(16.6)	B(16.7)	D(46.1)	D(51.4)	D(46.8)	59	63	72	60	110	79	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
873				SBR	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
873				AVG	757	788	757	930	1122	969	757	969	969	B(19.7)	C(20.9)	A(6.4)	A(7.3)	A(6.3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
873	Eastbound		Minor	EBL	29	10	15	39	12	14	A(9.9)	A(9.8)	A(9.5)	B(10.6)	A(9.8)	A(9.8)	6	7	4	7	7	3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
873				EBT	19	53	26	16	46	15	15	A(9.9)	A(9.8)	A(9.5)	B(10.6)	A(9.8)	A(9.8)	6	7	4	7	7	3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
873				EBR	6	2	1	0	5	5	5	5	A(9.9)	A(9.8)	A(9.5)	B(10.6)	A(9.8)	A(9.8)	6	7	4	7	7	3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---								
873				AVG	1	2	1	0	25	3	3	3	A(9.4)	A(9.6)	A(9.6)	B(10.2)	A(9.8)	A(9.8)	5	5	4	5	5	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
873	Westbound		Minor	WBL	28	36	35	24	13	35	A(9.4)	A(9.6)	A(9.6)	B(10.2)	A(9.8)	A(9.8)	5	5	4	5	5	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
873				WBT	29	12	1	25	7	4	4	A(9.4)	A(9.6)	A(9.6)	B(10.2)	A(9.8)	A(9.8)	5	5	4	5	5	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
873				WBR	0	1	2	0	14	12	12	12	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	3	1	1	5	4	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
873				AVG	67	25	23	86	51	49	49	49	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
873	Northbound		Major	NBL	3	2	2	2	2	24	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
873				NBT	6	10	8	8	27	6	6	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	3	3	2	6	3	4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---											
873				NBR	39	31	16	76	26	34	34	34	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
873				AVG	5	24	23	36	11	29	29	29	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---										
873	Southbound		Major	SBL	232	208	153																																										

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
877	0	0	0	0	C(25.1)	C(24.7)	C(24.1)	C(26.8)	C(25.0)	C(24.9)	69	48	55	148	99	96
877	69	47	55	100	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	148	99	96
877	0	0	0	0	B(16.4)	B(16.2)	B(18.4)	B(17.3)	B(17.0)	B(17.0)	39	33	15	121	38	36
877	46	38	27	66	B(17.7)	B(16.5)	B(15.7)	B(17.3)	B(16.8)	B(16.8)	136	63	42	109	38	64
877	165	75	75	114	B(15.7)	B(15.7)	B(15.7)	B(15.7)	B(15.7)	B(15.7)	0	0	0	0	0	0
877	0	0	0	0	B(18.0)	B(16.4)	B(18.4)	B(18.4)	B(18.4)	B(18.4)	129	46	57	147	84	73
877	153	55	51	66	B(18.8)	B(18.2)	B(17.2)	B(18.8)	B(18.8)	B(16.8)	---	---	---	---	---	---
877	433	215	208	341	B(16.3)	B(16.0)	A(5.0)	B(18.1)	A(5.7)	A(5.4)	19	13	25	60	44	37
885	22	16	49	70	B(19.3)	C(21.7)	A(5.9)	B(19.4)	A(6.2)	A(5.7)	228	347	160	232	188	135
885	273	396	318	270	---	---	---	---	---	---	---	---	---	---	---	---
885	0	0	0	0	B(19.0)	B(17.8)	A(5.4)	B(19.7)	A(7.0)	A(6.7)	205	205	101	240	262	234
885	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
885	200	148	188	381	B(17.4)	B(18.5)	D(39.2)	B(17.3)	D(42.8)	D(38.4)	105	168	141	98	199	124
885	45	22	17	61	B(17.4)	B(18.5)	D(39.2)	B(17.3)	D(42.8)	D(38.4)	105	168	141	98	199	124
885	---	---	---	---	B(18.8)	B(19.9)	B(11.4)	B(19.1)	B(12.0)	B(10.0)	---	---	---	---	---	---
885	666	782	689	886	A(9.0)	A(9.2)	A(8.9)	A(9.7)	A(9.1)	A(9.2)	2	7	4	3	7	4
889	11	6	19	22	---	---	---	---	---	---	---	---	---	---	---	---
889	0	0	0	0	A(7.4)	A(7.5)	A(7.3)	A(7.5)	A(7.3)	A(7.3)	2	2	2	4	6	5
889	14	69	25	18	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
889	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
889	22	10	4	14	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
889	22	21	42	77	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
889	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
889	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
889	69	103	52	50	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
889	5	23	14	17	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
889	143	232	156	198	A(2.7)	A(3.3)	A(2.7)	A(1.5)	A(3.4)	A(2.4)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO		TRAFFIC FORECAST (veh/hr)						LEVEL-OF-SERVICE (delay/veh)						95th Percentile Queue Length (ft)						Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)																		
PEAK HOUR	Node	Intersection	Approach	Existing Traffic Control	Lane	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Mitigation														
						2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030		Mitigate	Base	2010	2030	Mitigate	Base								
	892		Eastbound	Major	EBL	15	20	19	12	50	42	A(7.3)	A(7.4)	A(7.4)	A(7.6)	A(8.0)	A(8.0)	8	13	11	5	19	16	---	---	---	---	---	---	---	---	---	---					
	892				EBT	131	198	168	73	205	178	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---						
	892				EBR	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---					
	892				WBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---				
	892		Westbound	Major	WBT	39	73	76	121	195	208	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---				
	892				WBR	24	30	30	57	110	118	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---			
	892	Pa Route 973 At Walls Run Rd			NBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None			
	892				NBT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
	892				NBR	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	892		Southbound	Minor	SBL	41	97	97	38	46	48	A(9.8)	B(11.2)	B(10.9)	A(9.9)	B(12.5)	B(12.3)	5	15	14	6	11	11	---	---	---	---	---	---	---	---	---	---	---	---			
	892				SBT	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	892				SBR	6	19	19	19	25	24	A(9.8)	B(11.2)	B(10.9)	A(9.9)	B(12.5)	B(12.3)	5	15	14	6	11	11	---	---	---	---	---	---	---	---	---	---	---	---	---		
	892		OVERALL	2-way Stop	AVG	256	437	409	320	631	618	A(2.2)	A(3.3)	A(3.4)	A(2.1)	A(2.0)	A(2.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	898		Eastbound	Major	EBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	898				EBT	38	171	91	35	83	96	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898				EBR	74	126	83	140	56	109	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898		Westbound	Major	WBL	6	4	3	23	33	8	A(7.4)	A(7.6)	A(7.6)	A(7.5)	A(7.6)	4	7	4	5	22	6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898				WBT	71	102	67	72	303	95	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898				WBR	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898	Fairview Dr At Walnut St			NBL	99	92	139	126	138	152	A(9.9)	B(11.4)	B(10.6)	B(10.7)	B(11.3)	10	13	17	18	27	21	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None	
	898				NBT	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898				NBR	4	3	6	27	9	10	A(9.9)	B(11.4)	B(10.6)	B(10.7)	B(11.3)	10	13	17	18	27	21	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
	898		Southbound		SBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898				SBT	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898				SBR	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	898		OVERALL	2-way Stop	AVG	292	498	389	423	622	470	A(3.6)	A(2.2)	A(4.0)	A(4.3)	A(3.7)	A(4.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	901		Eastbound	Minor	EBL	30	130	48	34	35	30	B(16.7)	C(28.1)	C(33.9)	B(16.7)	B(19.3)	C(29.0)	60	225	101	54	188	112	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	901				EBT	12	33	40	10	74	77	B(16.7)	C(28.1)	C(33.9)	B(16.7)	B(19.3)	C(29.0)	60	225	101	54	188	112	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901				EBR	29	53	52	19	112	88	B(16.7)	C(28.1)	C(22.2)	B(16.7)	B(19.3)	C(28.4)	60	225	50	54	188	93	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901		Westbound	Minor	WBL	45	80	72	87	162	235	B(18.9)	D(48.4)	D(35.6)	C(21.0)	C(29.3)	E(63.7)	168	903	135	252	419	423	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901				WBT	9	46	45	18	68	58	B(18.9)	D(48.4)	D(35.6)	C(21.0)	C(29.3)	E(63.7)	168	903	135	252	419	423	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901				WBR	144	508	467	181	170	171	B(18.9)	D(48.4)	D(44.2)	C(21.0)	C(29.3)	C(31.4)	168	903	590	252	419	182	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901		Northbound	Major	NBL	10	285	60	21	76	76	B(16.6)	C(26.7)	A(6.2)	B(17.0)	C(23.2)	C(21.4)	8	299	32	18	71	57	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	901				NBT	217	649	789	270	286	277	C(30.0)	F(600.0)	E(69.1)	C(34.4)	D(38.2)	B(19.9)	256	4321	1819	377	455	339	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	901				NBR	35	109	194	80	113	123	C(30.0)	F(600.0)	E(69.1)	C(34.4)	D(38.2)	B(19.9)	256	4321	1819	377	455	339	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	901		Southbound	Major	SBL	167	140	152	175	378	446	C(20.4)	C(28.3)	C(30.8)	C(23.4)	F(313.5)	C(30.0)	153	146	126	172	1409	515	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901				SBT	234	239	248	259	823	774	C(30.3)	C(30.0)	B(13.0)	C(31.4)	F(600.0)	E(57.0)	270	261	189	303	5670	1374	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901				SBR	31	18	19	34	15	69	C(30.3)	C(30.0)	B(13.0)	C(31.4)	F(600.0)	E(57.0)	270	261	189	303	5670	1374	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	901		OVERALL	Signal	AVG	963	2290	2186	1188	2312	2424	C(25.0)	F(223.1)	D(48.2)	C(27.6)	F(282.9)	D(41.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

PA-44 - WB Right Turn Lane, PA-44 EB Right Turn Lane

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	
903	15	33	33	77	69	A(9.4)	B(12.2)	B(11.8)	A(9.3)	C(17.4)	C(17.6)	16	44	37	10	64	59
903	0	0	0	0	0												
903	158	262	232	105	173	A(9.4)	B(12.2)	B(11.8)	A(9.3)	C(17.4)	C(17.6)	16	44	37	10	64	59
903																	
903																	
903																	
903	62	71	74	165	272	A(7.4)	A(7.8)	A(7.8)	A(7.6)	A(8.0)	A(8.0)	3	4	4	9	17	18
903	50	61	62	74	224	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
903	0	0	0	0	0												
903	0	0	0	0	0												
903	47	191	190	58	75	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
903	1	31	33	13	34	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
903	333	649	624	422	855	A(6.3)	A(6.4)	A(5.9)	A(5.4)	A(7.6)	A(7.4)						
904																	
904																	
904																	
904	0	0	0	0	0	A(9.0)	A(9.0)	A(9.0)	A(10.0)	B(11.6)	B(11.9)	0	0	0	0	2	2
904	0	0	0	0	0												
904	3	3	3	3	10	A(9.0)	A(9.0)	A(9.0)	A(10.0)	B(11.6)	B(11.9)	0	0	0	0	2	2
904	0	0	0	0	0												
904	119	128	129	299	514	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
904	0	0	0	0	0												
904	2	6	6	2	9	A(7.4)	A(7.5)	A(7.5)	A(7.8)	A(8.4)	A(8.5)	16	39	35	14	24	24
904	263	495	462	204	248	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
904	0	0	0	0	0												
904	387	632	600	508	781	A(0.1)	A(0.1)	A(0.1)	A(0.1)	A(0.3)	A(0.2)						
909																	
909																	
909																	
909	40	40	28	31	52	B(13.8)	C(18.3)	C(16.3)	C(16.8)	C(24.9)	C(18.4)	8	14	9	8	54	27
909	0	0	0	0	0												
909	2	9	9	0	80	B(13.8)	C(18.3)	C(16.3)	C(16.8)	C(24.9)	C(18.4)	8	14	9	8	54	27
909	0	0	0	0	0												
909	195	197	191	487	714	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
909	11	12	11	41	31	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
909	11	66	66	3	26	A(7.6)	A(7.8)	A(7.7)	A(8.4)	A(9.3)	A(9.0)	33	67	60	35	53	50
909	408	586	549	329	338	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
909	0	0	0	0	0												
909	667	910	854	891	1241	A(1.0)	A(1.6)	A(1.3)	A(0.6)	A(2.8)	A(1.7)						

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	
965																	
965																	
965																	
965	1	52	14	24	18	A(8.9)	B(14.9)	C(15.2)	A(9.5)	B(13.9)	B(12.9)	5	68	70	8	23	20
965	0	0	0	0	0												
965	63	280	70	101	107	A(8.9)	B(14.9)	C(15.2)	A(9.5)	B(13.9)	B(12.9)	5	68	70	8	23	20
965	0	0	0	0	0												
965	76	263	93	153	164	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
965	1	3	5	25	26	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
965	63	90	88	248	248	A(7.4)	A(8.0)	A(8.2)	A(7.5)	A(8.1)	A(8.1)	8	16	15	10	62	63
965	91	142	111	392	391	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
965	0	0	0	0	0												
965	295	830	375	943	954	A(3.5)	A(6.8)	A(6.5)	A(3.5)	A(4.0)	A(3.8)						
966	7	14	13	37	39	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	0	2	1	2	12	5
966	4	26	17	32	61	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
966	0	0	0	0	0												
966	0	0	0	0	0												
966	34	49	43	12	45	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
966	3	0	0	9	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
966																	
966																	
966	1	0	0	6	0	A(8.5)	A(8.6)	A(8.6)	A(8.7)	A(8.7)	A(8.6)	1	2	2	1	3	3
966	0	0	0	0	0												
966	17	30	28	7	35	A(8.5)	A(8.6)	A(8.6)	A(8.7)	A(8.7)	A(8.6)	1	2	2	1	3	3
966	66	119	101	78	176	A(3.1)	A(3.0)	A(3.3)	A(2.6)	A(2.0)	A(3.4)						
967	18	5	4	14	65	A(8.7)	B(10.3)	B(10.3)	A(8.7)	E(37.5)	A(9.7)	2	30	29	3	76	6
967	0	0	0	0	0												
967	4	264	255	26	54	A(8.7)	B(10.3)	B(10.3)	A(8.7)	E(37.5)	A(9.7)	2	30	29	3	76	6
967																	
967																	
967	11	68	45	18	373	A(7.2)	A(7.5)	A(7.5)	A(7.3)	A(7.9)	A(7.7)	1	6	3	1	78	24
967	7	45	13	7	443	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
967	0	0	0	0	0												
967	0	0	0	0	0												
967	8	101	112	4	16	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
967	6	8	10	23	14	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
967	54	491	439	92	963	A(5.0)	A(6.7)	A(6.9)	A(5.2)	A(7.6)	A(5.6)						

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	
1008	13	0	0	29	1	1	1	A(7.2)	A(7.2)	A(7.2)	A(7.3)	1	0	0	2	1	1
1008	3	6	7	3	14	15	15	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1008	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1008	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1008	2	7	7	0	20	18	18	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1008	1	6	7	3	18	17	17	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1008	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1008	3	5	6	1	10	11	11	A(8.5)	A(8.6)	A(8.6)	A(8.7)	1	0	0	2	1	1
1008	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1008	8	0	0	31	1	1	1	A(8.5)	A(8.6)	A(8.6)	A(8.7)	1	0	0	2	1	1
1008	30	24	27	67	64	63	63	A(6.1)	A(2.0)	A(1.9)	A(1.6)	---	---	---	---	---	---
1034	15	63	57	20	12	14	14	A(7.3)	A(7.3)	A(7.3)	A(7.3)	3	4	4	3	5	5
1034	44	27	33	48	84	82	82	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1034	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1034	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1034	36	25	25	45	23	23	23	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1034	0	0	0	6	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1034	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1034	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1034	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1034	0	0	0	0	0	0	0	A(8.5)	A(8.5)	A(8.5)	A(8.8)	1	3	3	2	10	10
1034	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1034	18	39	39	21	123	123	123	A(8.5)	A(8.5)	A(8.5)	A(8.8)	1	3	3	2	10	10
1034	113	154	154	140	242	242	242	A(2.3)	A(5.2)	A(4.9)	A(4.8)	---	---	---	---	---	---
1040	15	5	3	4	32	18	18	A(8.8)	A(8.8)	A(8.8)	A(9.8)	3	4	4	2	20	11
1040	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1040	17	44	52	22	164	93	93	A(8.8)	A(8.8)	A(8.8)	A(9.8)	3	4	4	2	20	11
1040	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1040	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1040	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1040	20	116	115	42	140	194	194	A(7.3)	A(7.4)	A(7.5)	A(7.6)	1	6	7	3	11	15
1040	1	8	12	24	63	74	74	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1040	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1040	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---
1040	32	16	34	16	5	28	28	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1040	7	21	21	12	16	12	12	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1040	92	210	237	120	420	419	419	A(4.7)	A(6.1)	A(5.7)	A(7.1)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)			LEVEL-OF-SERVICE (delay/veh)			95th Percentile Queue Length (ft)			Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)					
	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour	Morning Peak Hour		Afternoon Peak Hour			
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030			
1066	0	0	0	0	---	---	---	---	---	---	---	---			
1066	142	432	226	214	A(0.0)	A(5.7)	A(0.0)	A(0.0)	B(14.2)	0	0	138			
1066	0	55	0	0	A(0.0)	---	A(0.0)	A(0.0)	---	0	0	---			
1066	0	0	0	0	A(5.0)	---	A(5.0)	A(5.0)	---	0	0	---			
1066	209	1093	192	249	A(0.0)	A(7.9)	A(0.0)	A(0.0)	B(14.7)	0	0	161			
1066	0	0	0	0	---	---	---	---	---	---	---	---			
1066	0	0	0	318	A(9.0)	C(33.7)	A(9.7)	F(600.0)	A(0.0)	0	5	3896			
1066	0	0	0	0	---	---	---	---	---	---	---	---			
1066	4	0	42	534	A(9.0)	C(22.2)	A(9.7)	F(600.0)	B(18.6)	0	5	3896			
1066	---	---	---	---	---	---	---	---	---	---	---	---			
1066	---	---	---	---	---	---	---	---	---	---	---	---			
1066	---	---	---	---	---	---	---	---	---	---	---	---			
1066	355	1580	469	1645	A(0.1)	A(9.1)	A(1.0)	F(310.7)	B(16.1)	---	---	4-Hour			
1071	14	3	108	6	A(7.5)	A(9.4)	A(7.5)	A(7.3)	C(30.2)	4	12	93	5	70	455
1071	55	110	136	742	A(0.0)	A(0.0)	A(0.0)	A(0.0)	C(23.2)	0	0	94	0	0	773
1071	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1071	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1071	104	824	105	66	A(0.0)	D(35.5)	A(0.0)	A(0.0)	C(23.3)	0	0	732	0	0	311
1071	18	0	32	2	A(0.0)	A(0.0)	A(0.0)	A(0.0)	C(23.3)	0	0	732	0	0	311
1071	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1071	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1071	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1071	27	62	55	34	A(9.6)	D(30.7)	A(10.0)	C(17.4)	C(27.7)	3	107	455	4	14	242
1071	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1071	7	148	349	6	A(9.6)	D(30.7)	A(10.0)	C(17.4)	C(27.7)	3	107	455	4	14	242
1071	225	1147	1273	873	A(1.9)	A(5.6)	A(2.1)	A(1.2)	C(25.5)	---	---	---	---	---	---
1076	0	60	1	14	B(16.1)	C(21.5)	B(16.3)	F(313.0)	C(25.3)	30	284	20	42	2737	502
1076	25	167	6	15	B(16.1)	C(21.5)	B(16.3)	F(313.0)	C(25.3)	30	284	20	42	2737	502
1076	11	95	9	20	B(16.1)	C(21.5)	B(16.3)	F(313.0)	C(25.3)	30	284	20	42	2737	502
1076	62	120	58	78	B(17.9)	C(23.5)	B(17.5)	C(30.4)	B(18.9)	120	280	164	96	479	142
1076	18	112	34	13	B(17.9)	C(23.5)	B(17.5)	C(30.4)	B(18.9)	120	280	164	96	479	142
1076	63	66	42	22	B(17.9)	C(23.5)	B(17.5)	C(30.4)	B(18.9)	120	280	164	96	479	142
1076	21	131	322	34	B(19.1)	E(65.6)	B(18.9)	D(36.1)	D(44.9)	198	1227	929	177	484	563
1076	142	464	457	84	B(19.1)	E(65.6)	B(18.9)	D(36.1)	D(44.9)	198	1227	929	177	484	563
1076	74	130	63	92	B(19.1)	E(65.6)	B(18.9)	D(36.1)	D(44.9)	198	1227	929	177	484	563
1076	12	15	49	29	B(16.9)	B(17.3)	B(18.4)	F(254.3)	D(39.1)	82	101	166	168	2016	784
1076	86	105	253	171	B(16.9)	B(17.3)	B(18.4)	F(254.3)	D(39.1)	82	101	166	168	2016	784
1076	0	1	15	1	B(16.9)	B(17.3)	B(18.4)	F(254.3)	D(39.1)	82	101	166	168	2016	784
1076	514	1466	1309	573	B(18.1)	D(43.3)	B(18.2)	F(187.1)	C(34.6)	---	---	---	---	---	---

Traffic Signal, EB Left Turn Lane

Construct Project 13

Table 1. Traffic Analysis Results

SCENARIO		TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				Mitigation				
		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour						
PEAK HOUR	Node	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	
1100	Intersection																					
	Existing Traffic Control																					
	Approach																					
	Lane																					
1100	Eastbound																					
1100	EBL																					
1100	EBT																					
1100	EBR																					
1100	Westbound																					
1100	WBL	0	0	0	0	A(8.5)	A(8.5)	A(8.5)	A(8.7)	A(8.6)	B(10.1)	B(10.2)	2	0	4	1	0	12				
1100	WBT	0	0	0	0																	
1100	WBR	28	0	0	51	A(8.5)	A(8.5)	A(8.6)	A(8.7)	A(8.6)	B(10.1)	B(10.2)	2	0	4	1	0	12				
1100	Northbound																					
1100	NBL	0	0	0	0																	
1100	NBT	26	38	48	241	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1100	NBR	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1100	Southbound																					
1100	SBL	14	61	76	169	A(7.3)	A(7.4)	A(7.4)	A(7.4)	A(7.3)	A(7.6)	A(7.8)	7	19	7	4	10	11				
1100	SBT	124	263	51	106	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1100	SBR	0	0	0	0																	
1100	OVERALL	192	362	153	242	A(1.7)	A(1.7)	A(1.7)	A(1.7)	A(1.7)	A(5.3)	A(3.2)	526	226	242	526	242	526				
1101	Intersection																					
1101	Existing Traffic Control																					
1101	Approach																					
1101	Lane																					
1101	Eastbound																					
1101	EBL																					
1101	EBT																					
1101	EBR																					
1101	Westbound																					
1101	WBL	0	0	0	0	A(9.1)	A(9.2)	A(9.3)	A(9.2)	A(9.3)	A(9.3)	B(10.4)	2	2	1	2	0	2				
1101	WBT	23	19	11	15	A(9.1)	A(9.2)	A(9.3)	A(9.2)	A(9.3)	A(9.3)	B(10.4)	2	2	1	2	0	2				
1101	WBR	0	0	0	0																	
1101	Northbound																					
1101	NBL	4	19	37	50	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1101	NBT	0	0	0	0																	
1101	NBR	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1101	Southbound																					
1101	SBL	0	0	0	0																	
1101	SBT	14	11	8	12	A(7.2)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.7)	A(7.7)	6	15	3	3	1	6				
1101	SBR	110	252	43	94	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1101	OVERALL	151	301	99	120	A(2.1)	A(0.9)	A(1.7)	A(1.7)	A(2.8)	A(1.7)	A(0.7)	348	226	73	348	73	348				
1129	Intersection																					
1129	Existing Traffic Control																					
1129	Approach																					
1129	Lane																					
1129	Eastbound																					
1129	EBL	0	0	0	0																	
1129	EBT	30	28	19	34	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1129	EBR	21	11	15	57	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1129	Westbound																					
1129	WBL	1	16	11	8	A(7.3)	A(7.3)	A(7.3)	A(7.3)	A(7.4)	A(7.4)	A(7.4)	2	2	2	2	2	2				
1129	WBT	38	27	38	28	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0				
1129	WBR	0	0	0	0																	
1129	Northbound																					
1129	NBL	27	44	66	30	A(9.0)	A(9.1)	A(9.1)	A(9.2)	A(9.0)	A(9.1)	A(9.2)	2	6	6	3	3	3				
1129	NBT	0	0	0	0																	
1129	NBR	2	29	8	6	A(9.0)	A(9.1)	A(9.1)	A(9.2)	A(9.0)	A(9.1)	A(9.2)	2	6	6	3	3	3				
1129	Southbound																					
1129	SBL																					
1129	SBT																					
1129	SBR																					
1129	OVERALL	119	155	157	128	A(2.2)	A(5.0)	A(4.8)	A(4.8)	A(2.2)	A(1.9)	A(2.2)	178	226	188	178	188	178				

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate
1138	8	13	13	12	42	A(7.0)	A(7.2)	A(7.1)	A(8.4)	A(7.6)	0	0	0	0	0	0
1138	8	25	7	14	32	A(7.0)	A(7.2)	A(7.1)	A(8.4)	A(7.6)	0	0	0	0	0	0
1138	5	18	5	6	9	A(7.0)	A(7.2)	A(7.1)	A(8.4)	A(7.6)	0	0	0	0	0	0
1138	0	1	0	1	2	A(6.6)	A(7.0)	A(6.8)	A(7.3)	A(7.1)	0	0	0	0	0	0
1138	2	13	10	13	22	A(6.6)	A(7.0)	A(6.8)	A(7.3)	A(7.1)	0	0	0	0	0	0
1138	7	8	8	6	12	A(6.6)	A(7.0)	A(6.8)	A(7.3)	A(7.1)	0	0	0	0	0	0
1138	0	4	11	2	5	A(6.9)	A(7.1)	A(7.2)	A(7.7)	A(7.4)	0	0	0	0	0	0
1138	4	7	10	9	36	A(6.9)	A(7.1)	A(7.2)	A(7.7)	A(7.4)	0	0	0	0	0	0
1138	1	2	0	2	3	A(6.9)	A(7.1)	A(7.2)	A(7.7)	A(7.4)	0	0	0	0	0	0
1138	7	10	6	8	8	A(7.0)	A(7.1)	A(6.9)	A(7.5)	A(7.1)	0	0	0	0	0	0
1138	11	27	5	32	15	A(7.0)	A(7.1)	A(6.9)	A(7.5)	A(7.1)	0	0	0	0	0	0
1138	6	24	12	21	17	A(7.0)	A(7.1)	A(6.9)	A(7.5)	A(7.1)	0	0	0	0	0	0
1138	59	152	87	126	203	A(6.9)	A(7.1)	A(7.0)	A(8.1)	A(7.4)	---	---	---	---	---	---
1149	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1149	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1149	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1149	12	17	9	20	11	A(8.7)	A(8.8)	A(8.5)	A(8.9)	A(8.9)	1	2	2	1	1	1
1149	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1149	0	2	15	1	3	A(8.7)	A(8.8)	A(8.5)	A(8.9)	A(8.9)	1	2	2	1	1	1
1149	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1149	6	9	14	11	45	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1149	2	2	0	3	19	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1149	7	2	4	1	3	A(7.2)	A(7.2)	A(7.2)	A(7.3)	A(7.3)	1	2	2	1	1	1
1149	17	48	11	44	24	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1149	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1149	44	80	53	80	105	A(3.6)	A(2.3)	A(4.3)	A(1.4)	A(1.4)	---	---	---	---	---	---
1150	8	48	31	44	356	A(8.9)	B(13.0)	A(9.0)	C(18.3)	C(17.0)	1	9	9	3	148	113
1150	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1150	2	6	6	23	106	A(8.9)	B(13.0)	A(9.0)	C(18.3)	C(17.0)	1	9	9	3	148	113
1150	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1150	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1150	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1150	11	151	4	71	44	A(7.3)	A(8.2)	A(7.3)	A(7.4)	A(7.6)	1	12	9	2	5	6
1150	19	25	35	45	54	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1150	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1150	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---
1150	29	39	26	30	58	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1150	28	247	21	399	103	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
1150	97	516	123	612	721	A(1.8)	A(3.7)	A(2.9)	B(13.9)	B(11.4)	---	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
PEAK HOUR	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
Node	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate	Base	Mitigate
1175	0	0	0	0												
1175	174	26	303	174	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0				
1175	29	234	58	391	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0			389	235
1175	26	57	188	37	A(7.7)	A(8.5)	A(8.0)	A(8.7)	26	202	233	68	165	235	235	235
1175	325	914	740	433	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0			
1175	0	0	0	0												
1175	69	55	29	27	B(13.2)	D(28.6)	B(12.4)	F(67.0)	15	30	34	9	338			
1175	0	0	0	0												
1175	18	7	42	30	B(13.2)	D(28.6)	B(12.4)	F(67.0)	15	30	34	9	338			
1175																
1175																
1175																
1175	641	1293	1360	695	A(2.1)	A(1.7)	A(1.5)	C(18.3)	A(1.7)	A(1.7)	A(1.7)					
1180																
1180																
1180																
1180	4	180	169	2	A(8.7)	C(20.6)	B(14.7)	B(10.8)	6	69	33	2	21			
1180	0	0	0	0												
1180	69	36	31	28	A(8.7)	C(20.6)	B(14.7)	B(10.8)	6	69	33	2	21			
1180	0	0	0	0												
1180	18	26	39	29	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0			
1180	4	41	30	15	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0		200	
1180	30	246	62	79	A(7.3)	A(7.4)	A(7.4)	B(10.3)	3	17	14	5	52		275	
1180	24	46	185	26	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0			
1180	0	0	0	0												
1180	149	575	516	179	A(5.7)	B(11.1)	A(4.7)	A(5.4)	A(3.2)	A(5.9)	A(4.7)	A(3.2)				
1182	15	34	54	23	B(11.4)	C(15.3)	B(12.4)	E(46.8)	7	21	20	8	199			
1182	0	0	0	0												
1182	35	62	32	29	B(11.4)	C(15.3)	B(12.4)	E(46.8)	7	21	20	8	199			
1182																
1182																
1182																
1182	12	32	27	41	A(7.9)	A(8.4)	A(7.9)	A(8.5)	1	2	2	2	6	5	175	175
1182	261	380	260	343	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0		
1182	0	0	0	0												
1182	0	0	0	0												
1182	311	454	464	266	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0			
1182	17	13	44	22	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0			
1182	651	975	881	724	A(1.0)	A(1.8)	A(1.3)	A(9.4)	A(3.0)	A(1.8)	A(1.8)					

US-220, EB Right Turn Lane

None

None

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
14000	0	0	0	0	A(7.3)	A(7.3)	A(7.3)	A(7.3)	2	3	2	2	2	2	2	2
14000	42	52	52	43	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0
14000	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
14000	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
14000	27	31	31	53	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0
14000	1	1	1	2	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0
14000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
14000	2	2	2	1	A(8.8)	A(8.9)	A(8.9)	A(9.0)	0	0	0	0	0	0	0	0
14000	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
14000	0	0	0	0	A(8.8)	A(8.9)	A(8.9)	A(9.0)	0	0	0	0	0	0	0	0
14000	72	86	86	99	A(0.3)	A(0.2)	A(0.2)	A(0.1)	---	---	---	---	---	---	---	---
16666	196	227	213	150	C(27.9)	D(50.0)	B(12.0)	B(11.7)	C(24.8)	B(15.1)	B(12.3)	151	116	123	406	406
16666	451	750	847	342	C(23.1)	D(43.0)	B(15.1)	B(14.8)	C(20.6)	B(13.3)	293	674	573	---	---	---
16666	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
16666	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
16666	400	475	446	420	D(36.6)	D(44.0)	D(40.2)	D(41.2)	D(38.0)	D(43.6)	477	543	586	---	---	---
16666	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
16666	3	46	43	7	B(15.7)	B(16.3)	C(29.3)	C(28.7)	B(15.8)	C(28.7)	3	6	26	---	---	---
16666	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
16666	224	244	178	267	C(30.5)	C(31.5)	D(37.5)	D(37.1)	C(32.6)	C(34.2)	233	284	137	---	---	---
16666	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0
16666	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
16666	175	185	216	211	C(28.6)	C(29.0)	D(40.6)	D(37.9)	C(30.0)	D(40.6)	179	218	255	---	---	---
16666	1449	1927	1943	1397	C(29.3)	D(40.6)	C(25.7)	C(25.5)	C(30.0)	C(26.2)	---	---	---	---	---	---
19004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19004	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	275	350
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	---
19004	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
19004	200	405	490	367	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	---	---	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)			
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030	2010	2030
PEAK HOUR	Base		Mitigate		Base		Mitigate		Base		Mitigate		Base		Mitigate	
Node	Intersection		Approach		Existing Traffic Control		Lane		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour	
26000	0	2	2	5	6	5	5	A(7.2)	A(7.3)	A(7.3)	A(7.3)	1	2	2	3	3
26000	13	33	37	64	19	64	64	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
26000	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26000	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26000	19	61	61	33	24	33	33	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
26000	0	1	1	3	5	3	3	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
26000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26000	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26000	0	2	2	1	1	1	1	A(8.5)	A(8.7)	A(8.7)	A(8.6)	0	0	0	0	0
26000	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26000	1	4	4	3	2	3	3	A(8.5)	A(8.7)	A(8.5)	A(8.6)	0	0	0	0	0
26000	33	103	107	109	57	109	109	A(0.4)	A(0.6)	A(1.3)	A(0.7)	---	---	---	---	---
26002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26002	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26002	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26002	128	331	251	490	280	636	636	A(8.7)	A(9.3)	A(9.4)	B(11.0)	10	33	22	61	103
26002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26002	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
26002	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26002	107	177	195	346	109	451	451	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
26002	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
26002	235	508	446	836	389	1087	1087	A(4.7)	A(6.3)	A(6.8)	A(7.5)	---	---	---	---	---
27001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27001	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
27001	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
27001	98	371	251	277	130	289	289	A(8.6)	A(10.0)	A(8.7)	A(9.4)	7	39	22	10	26
27001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27001	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
27001	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
27001	123	50	172	385	129	216	216	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0
27001	0	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---
27001	221	421	423	662	259	505	505	A(3.8)	A(8.8)	A(4.4)	A(3.9)	---	---	---	---	---

Table 1. Traffic Analysis Results

SCENARIO		TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)							
PEAK HOUR	Node	Intersection	Approach	Existing Traffic Control	Lane	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour					
						2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate
28003	28003	I-180 East Ramp From Us-15 Sb At I-180 East Ramp From Us-15 Nb	Eastbound	Major	EBL	0	0	0	0	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
						133	152	144	171	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---
						0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---
	28003	Westbound	---	WBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	28003	Northbound	Minor	NBL	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
					0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
					176	647	612	615	A(9.8)	C(19.1)	B(13.1)	C(18.1)	18	182	102	128	---	---	---	---	
					309	799	639	711	A(5.6)	C(15.4)	B(12.6)	B(14.1)	---	---	---	---	---	---	---	---	
28004	28004	I-180 West Ramp From Us-15 Nb At I-180 West Ramp From Us-15 Sb	Eastbound	---	EBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
						---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
						---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	28004	Westbound	Major	WBL	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
					358	372	454	478	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	---	---	---	---	
					0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
	28004	Northbound	---	NBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
28004	Southbound	Minor	SBL	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---		
				0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---		
				66	160	191	284	B(10.8)	B(11.9)	B(13.6)	C(17.1)	8	23	34	120	---	---	---	---		
				424	532	645	967	A(1.7)	A(3.6)	A(4.0)	A(6.5)	---	---	---	---	---	---	---	---		
30000	30000	Thomas St At Us-220 West Exit Ramp To Thomas St	Eastbound	---	EBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
						---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
						---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	30000	Westbound	Minor	WBL	133	29	82	107	B(12.5)	C(17.5)	A(5.5)	B(14.5)	23	9	9	62	---	---	---	---	
					0	0	0	0	B(12.5)	C(17.5)	A(5.5)	B(14.5)	23	9	9	62	---	---	---	---	
					17	4	4	10	B(12.5)	C(17.5)	A(5.5)	B(14.5)	23	9	9	62	---	---	---	---	
	30000	Northbound	Major	NBL	138	335	336	735	A(7.4)	A(7.8)	A(6.3)	B(12.7)	8	22	36	144	---	---	---	---	
					16	29	29	15	A(0.0)	A(0.0)	A(0.0)	B(12.7)	0	0	36	144	---	---	---	---	
					0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
					0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	
30000	Southbound	Major	SBL	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---		
				20	14	14	33	A(0.0)	A(0.0)	A(5.1)	A(9.5)	0	0	2	6	---	---	---	---		
				1	8	8	22	A(0.0)	A(0.0)	A(5.1)	A(9.5)	0	0	2	6	---	---	---	---		
				325	419	473	1033	A(8.9)	A(7.7)	A(6.1)	C(21.6)	---	---	---	---	---	---	---	---		

Table 1. Traffic Analysis Results

SCENARIO		TRAFFIC FORECAST (veh/hr)						LEVEL-OF-SERVICE (delay/veh)						95th Percentile Queue Length (ft)						Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)						Mitigation																
PEAK HOUR		Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour																			
Node	Intersection	Approach	Existing Traffic Control	Lane	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010	2030	Mitigate	Base	2010		2030	Mitigate	Base	2010	2030	Mitigate	Base									
39000	Allegheeny St At Bridge St	Eastbound	Major	EBL	202	340	356	265	439	542	C(22.5)	C(26.0)	C(32.7)	C(28.2)	F(47.6.4)	D(51.8)	241	357	415	342	2141	842	---	---	---		---	---	---	---	---	---	---	---								
39000					59	24	17	67	0	23	C(22.5)	C(26.0)	C(32.7)	C(28.2)	A(0.0)	D(51.8)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
39000					0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---				
39000	Allegheeny St At Bridge St	Westbound	Major	WBL	0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---						
39000					113	23	17	136	63	14	C(28.3)	C(25.7)	C(28.6)	C(29.1)	D(38.6)	D(47.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---				
39000					78	63	164	82	307	242	C(28.3)	C(25.7)	C(28.6)	C(29.1)	D(38.6)	D(47.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
39000	Allegheeny St At Bridge St	Northbound	---	NBL	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---				
39000					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
39000					---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
39000	Allegheeny St At Bridge St	Southbound	Minor	SBL	159	142	155	154	259	110	C(22.0)	C(34.8)	D(46.6)	C(21.8)	C(32.0)	D(51.0)	320	710	942	312	655	775	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
39000					0	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
39000					200	461	515	199	329	443	C(22.0)	C(34.8)	D(46.6)	C(21.8)	C(32.0)	D(51.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
39000	OVERALL	OVERALL	Signal	AVG	811	1053	1224	903	1397	1374	C(23.7)	C(31.0)	D(39.7)	F(173.4)	D(50.7)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
43000	Locust St At Glover St	Eastbound	Major	EBL	27	27	28	32	29	31	A(7.4)	A(7.5)	A(7.5)	A(7.7)	A(7.8)	2	3	3	2	3	3	3	2	3	3	2	3	3	3	3	3	3	3	3	3	3	3					
43000					14	22	19	10	27	21	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000					1	1	1	2	1	1	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000	Locust St At Glover St	Westbound	Major	WBL	5	31	19	8	39	16	A(7.2)	A(7.3)	A(7.3)	A(7.3)	A(7.3)	4	9	8	7	13	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
43000					28	17	11	39	56	25	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000					48	126	132	93	147	247	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000	Locust St At Glover St	Northbound	Minor	NBL	0	0	0	1	2	2	B(10.2)	B(11.6)	B(11.3)	B(10.7)	B(14.1)	5	12	12	8	34	35	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
43000					45	79	81	58	148	153	B(10.2)	B(11.6)	B(11.3)	B(10.7)	B(13.8)	B(14.1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000					3	11	12	9	35	30	B(10.2)	B(11.6)	B(11.3)	B(10.7)	B(13.8)	B(14.1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000	Locust St At Glover St	Southbound	Minor	SBL	92	185	215	77	160	156	B(10.9)	C(17.1)	C(17.8)	B(11.5)	C(20.1)	19	84	101	21	77	83	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
43000					57	133	145	61	65	87	B(10.9)	C(17.1)	C(17.8)	B(11.5)	C(20.1)	C(19.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000					4	22	26	18	25	37	B(10.9)	C(17.1)	C(17.8)	B(11.5)	C(20.1)	C(19.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
43000	OVERALL	OVERALL	2-way Stop	AVG	324	654	689	408	734	806	A(7.4)	B(11.1)	B(12.0)	A(6.9)	B(11.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
44001	E Lime Bluff Rd At E Lime Bluff Rd	Eastbound	Major	EBL	14	40	43	20	360	282	A(7.6)	A(8.6)	A(9.1)	A(7.6)	B(12.3)	7	92	27	16	484	303	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
44001					62	161	63	158	211	171	A(0.0)	A(0.0)	C(21.3)	A(0.0)	A(0.0)	C(31.4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
44001					49	385	351	74	201	10	A(0.0)	A(0.0)	C(21.3)	A(0.0)	A(0.0)	C(31.4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
44001	E Lime Bluff Rd At E Lime Bluff Rd	Westbound	Major	WBL	12	571	204	14	119	57	A(7.4)	B(12.8)	B(12.7)	A(7.7)	A(8.5)	12	1448	151	12	233	52	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
44001					149	494	264	115	576	119	A(0.0)	A(0.0)	B(18.0)	A(0.0)	A(0.0)	C(32.3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
44001					48	29	48	63	195	73	A(0.0)	A(0.0)	B(18.0)	A(0.0)	A(0.0)	C(32.3)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
44001	E Lime Bluff Rd At E Lime Bluff Rd	Northbound	Minor	NBL	21	146	10	88	218	291	B(11.4)	F(600.0)	C(30.4)	B(14.0)	F(600.0)	4	2636	12	19	4665	314	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
44001					7	44	153	12	192	821	B(11.4)	F(600.0)	C(29.6)	B(14.0)	F(600.0)	D(40.1)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
44001					0	72	0	0	0	0	B(11.4)	F(600.0)	C(25.9)	B(14.0)	F(600.0)	B(13.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
44001	E Lime Bluff Rd At E Lime Bluff Rd	Southbound	Minor	SBL	80	254	77	69	11	44	B(12.0)	F(600.0)	C(31.2)	B(12.4)	F(600.0)	16	11902	87	17	341	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			
44001					25	296	695	10	24	254	B(12.0)	F(600.0)	D(47.0)	B(12.4)	F(600.0)	B(15.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
44001					6	421	170	33	32	123	B(12.0)	F(600.0)	D(47.0)	B(12.4)	F(600.0)	B(15.5)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
44001	OVERALL	OVERALL	2-way Stop	AVG	473	2913	2078	656	2139	2245	A(3.9)	F(256.7)	C(31.4)	A(4.6)	F(136.4)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---			

Traffic Signal, EB, WB, NB, SB left-turn lanes, Industrial Parkway NB Right Turn Lane, 2nd SB Lime Bluff Thru Lane

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)				LEVEL-OF-SERVICE (delay/veh)				95th Percentile Queue Length (ft)				Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)				Mitigation					
	Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour		Morning Peak Hour		Afternoon Peak Hour							
	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate	2010	2030	Base	Mitigate						
Fairview Ter At Bloomingrove Rd	50017	10	46	17	83	74	A(7.7)	A(7.9)	A(8.0)	A(8.6)	A(8.5)	17	45	33	13	53	41	75	100	100	100	
	50017	238	429	162	363	318	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0	0	0	
	50017	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	50017	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	50017	136	213	179	319	273	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0	0	0	
	50017	101	91	96	180	193	A(0.0)	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0	0	0	150	175	
	50017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None
	50017	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None
	50017	132	174	173	155	152	B(13.2)	D(25.7)	B(13.8)	E(38.8)	D(28.0)	24	96	71	28	140	100	---	4-Hour	4-Hour	4-Hour	
	50017	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	50017	11	57	57	65	65	B(13.2)	D(25.7)	B(13.8)	E(38.8)	D(28.0)	24	96	71	28	140	100	---	---	---	---	
	50017	628	1010	907	1159	1075	A(3.1)	A(6.2)	A(3.3)	A(7.8)	A(6.2)	---	---	---	---	---	---	---	4-Hour	4-Hour	4-Hour	
W 3Rd St At Campbell St	50053	52	164	122	423	182	B(17.8)	C(20.3)	B(17.4)	B(10.7)	A(9.1)	158	313	188	129	340	196	---	---	---	---	
	50053	311	525	467	551	427	B(17.8)	C(20.3)	B(17.4)	B(10.7)	A(9.1)	158	313	188	129	340	196	---	---	---	---	
	50053	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	50053	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	50053	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	50053	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None	
	50053	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	None
	50053	246	279	171	168	169	B(19.2)	B(19.8)	B(17.9)	C(32.1)	C(32.2)	207	236	184	140	176	181	---	---	---	---	
	50053	0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	50053	64	141	23	84	53	B(16.6)	B(17.8)	B(16.9)	C(28.8)	C(29.4)	54	119	25	70	58	77	150	---	---	---	
	50053	673	1109	783	1191	849	B(18.2)	B(19.9)	B(17.5)	B(14.4)	B(15.4)	---	---	---	---	---	---	---	4-Hour	4-Hour	4-Hour	
	Pa Route 405 At Pa Route 44	50075	47	89	185	104	120	B(10.2)	F(161.2)	B(11.7)	F(113.7)	D(37.2)	18	452	371	31	682	759	---	---	---	---
50075		0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
50075		121	159	169	432	500	B(10.2)	F(161.2)	B(11.7)	F(113.7)	D(37.2)	18	452	371	31	682	759	---	---	386	411	
50075		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50075		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50075		119	493	507	214	218	A(7.6)	A(9.0)	A(7.7)	A(8.8)	D(49.8)	8	69	1231	12	25	386	411	---	---	236	
50075		29	177	164	74	70	A(0.0)	A(0.0)	A(0.0)	A(0.0)	D(49.8)	0	0	1231	0	0	386	---	---	---	---	
50075		0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50075		0	0	0	0	0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
50075		31	59	50	42	193	A(0.0)	A(0.0)	A(0.0)	A(0.0)	C(23.0)	0	0	86	0	0	371	---	---	---	---	
50075		61	134	73	88	154	A(0.0)	A(0.0)	A(0.0)	A(0.0)	C(23.0)	0	0	86	0	0	371	---	---	---	---	
50075		408	1111	1148	1240	1317	A(6.4)	E(39.9)	A(7.0)	F(50.7)	D(35.5)	---	---	---	---	---	---	---	4-Hour	4-Hour	4-Hour	

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)						LEVEL-OF-SERVICE (delay/veh)						95th Percentile Queue Length (ft)						Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)											
	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour								
	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate		2010	2030	Mitigate		
PEAK HOUR																														
Node	Intersection	Approach	Existing Traffic Control	Lane																										
50178	S Arch St At Jacks Hollow Rd	Eastbound	Major	EBL	8	14	17	73	42	40	A(7.2)	A(7.3)	A(7.3)	A(7.3)	6	13	6	32	24											
50178				EBT	118	221	112	176	453	351	A(0.0)	A(0.0)	A(0.0)	A(0.0)	0	0	0	0	0	0										
50178				EBR	0	0	0	0	0	0																				
50178		Westbound	---	WBL																										
50178				WBT																										
50178				WBR																										
50178		Northbound	---	NBL																										
50178				NBT																										
50178				NBR																										
50178		Southbound	Minor	SBL	0	44	2	1	46	30	A(9.7)	B(11.6)	A(9.0)	B(11.8)	36	69	32	17	62	43										
50178	SBT			0	0	0	0	0	0																					
50178	SBR			357	460	327	197	396	339	A(9.9)	B(11.6)	A(9.7)	B(11.8)	36	69	32	17	62	43								275	250		
50178	OVERALL	2-way Stop	AVG	483	739	458	447	937	760	A(7.4)	A(8.1)	A(7.3)	A(5.9)	---	---	---	---	---	---	---	4-Hour	4-Hour	---	---	---	---	Pk Hour 4 Hour			
50230	Pa Route 405 At Industrial Park Connector	Eastbound	Major	EBL			317			388	C(32.2)								415											
50230				EBT			304		304			594	B(10.1)								535									
50230				EBR			0		0			0																		
50230		Westbound	Major	WBL			0			0																				
50230				WBT			478		289				D(36.4)								307									
50230				WBR			119		5				D(36.4)								307									
50230		Northbound	---	NBL																										
50230				NBT																										
50230				NBR																										
50230		Southbound	Minor	SBL			4			139		C(34.0)																		
50230	SBT					0		0																						
50230	SBR					226		431				C(34.0)								791										
50230	OVERALL	Signal	AVG			1448			1846		C(29.8)								---								Pk Hour 4 Hour			
50232	Industrial Parkway At Industrial Park Connector	Eastbound	Major	EBL			0			0																				
50232				EBT			215		215			1163	A(5.6)								1060									
50232				EBR			30		248					A(5.6)							1060									
50232		Westbound	Major	WBL			199			322		A(7.1)																		
50232				WBT			1076		1076			305	B(18.6)								177									
50232				WBR			0		0																					
50232		Northbound	Minor	NBL			243			39		D(47.1)																		
50232				NBT			0		0																					
50232				NBR			193		354				D(44.5)								326									
50232		Southbound	---	SBL																										
50232	SBT																													
50232	SBR																													
50232	OVERALL	Signal	AVG			1956			2431		C(21.9)								---								Pk Hour 4 Hour			

Construct intersection with Traffic-Signal control and auxiliary eastbound left-turn lane on PA Route 405.

Construct intersection with Traffic-Signal control, auxiliary westbound left-turn lane on Industrial Parkway, and second eastbound travel lane on Industrial Parkway.

Table 1. Traffic Analysis Results

SCENARIO	TRAFFIC FORECAST (veh/hr)						LEVEL-OF-SERVICE (delay/veh)						95th Percentile Queue Length (ft)						Signal/Auxiliary Turn Lane Warrant Tests (Turn Lane Storage, ft)												
	Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour			Morning Peak Hour			Afternoon Peak Hour									
	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate	2010	2030	Mitigate							
PEAK HOUR																															
Node	Intersection	Approach	Existing Traffic Control	Lane																											
50235	Us-220 Eb Ramp At Spook Hollow Interchange	Eastbound	Minor	EBL	10			15				B(11.8)				A(9.9)				51					8						
50235					0			0			B(11.8)				A(9.9)				A(9.9)			51					8				
50235					352			59			B(11.8)				A(9.9)				A(9.9)			51					8				
50235			Westbound	---	WBL	---			---				---				---			---					---						
50235		---						---			---				---				---			---					---				
50235		---						---			---				---				---			---					---				
50235			Northbound	Major	NBL	0			0				---				---			---					---						
50235		53						453			A(0.0)				A(0.0)				A(0.0)			0				0					
50235		76						115			A(0.0)				A(0.0)				A(0.0)			0				0					
50235			Southbound	Major	SBL	26			0				A(7.5)				A(8.5)			1				0							
50235	152						47			A(0.0)				A(0.0)				A(0.0)			0				0						
50235	0						0			---				---				---			---				---						
50235		OVERALL	2-way Stop	AVG	669			689				A(6.7)				A(1.1)			---				---								
50239	Us-220 Wb Ramp At Spook Hollow Interchange	Eastbound	---	EBL	---			---				---				---			---					---							
50239					---			---			---				---				---			---				---					
50239					---			---			---				---				---			---				---					
50239			Westbound	Minor	WBL	146			46				B(10.5)				C(23.5)			17				25							
50239		0						0			B(10.5)				B(10.5)				C(23.5)			17				25					
50239		5						21			B(10.5)				B(10.5)				C(23.5)			17				25					
50239			Northbound	Major	NBL	52			448				A(7.4)				A(8.1)			3				29							
50239		10						20			A(0.0)				A(0.0)				A(0.0)			0				0					
50239		0						0			---				---				---			---				---					
50239			Southbound	Major	SBL	0			0				---				---			---				---							
50239	32						2			A(0.0)				A(0.0)				A(0.0)			0				0						
50239	14						29			A(0.0)				A(0.0)				A(0.0)			0				0						
50239		OVERALL	2-way Stop	AVG	259			566				A(7.6)				A(9.2)			---				---								

Construct new grade separated interchange approximately 1-mile west of Pine Run Road. Construct 1.5 mile connector roadway to Pine Run Road. Construct SB left-turn lane on interchange overpass.

New grade separated interchange (Project 48). Construct connector roadway (1000-ft) to Spook Hollow Road. Construct NB left-turn lane on interchange overpass.