



Congestion Management System (CMS)

for the

Syracuse Metropolitan Transportation Council

**Final Report
2004-2005 UPWP**



Congestion Management System

for the

Syracuse Metropolitan Transportation Council

Final Report

May 2005

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Congestion Management System

Executive Summary

Introduction

The Syracuse Metropolitan Transportation Council's (SMTC) Congestion Management System (CMS) is currently designed to identify and monitor congestion biennially at selected locations throughout Onondaga County and is required by federal legislation. This process aids in identifying locations that may need improvements to relieve congestion.

The locations analyzed through the CMS process were reevaluated in the fall of 2003 by the CMS Study Advisory Committee (SAC). Data collected for the CMS consisted of Annual Average Daily Traffic (AADT) counts at approximately two hundred road segment locations and turning movement counts at thirty-one intersections. Another decision made by the SAC was to no longer collect AADT counts in 15-minute intervals. Because the SMTC area has minimal congestion, the SAC determined that hourly intervals were sufficient for the CMS analysis.

Analysis and Results

There are two tiers of analysis involved in evaluating congestion on road segments identified in the CMS report. The first level of analysis, Tier 1, consists of performance measures that are used to determine the volume to capacity (v/c) ratios at peak one-hour intervals. The CMS SAC determined that if the v/c ratio was greater than (>) 0.90, the location was considered to be congested. The CMS analysis revealed that fifty-seven road segments were congested in the PM peak hour.

Tier 2 analysis is a more detailed analysis that further examines congested locations that have been identified as having a v/c ratio > 0.90. The Transportation Research Board defines excess delay as "the amount of time spent at a given location that exceeds the maximum amount of time that is generally considered acceptable." The excess delay formula utilizes speed limits, pm peak hour volumes, and directional capacity to determine the extent of the congestion. This formula was applied to the fifty-seven congested road segment locations identified in the Tier 1 analysis. The five road segments with the highest level of congestion (known as excess delay) are listed below. Please note that the magnitude of excess delay did not rate as significant for any of these locations:

- I-690 from Access West St. to Access I-81 southbound
- I-690 from Access I-81 eastbound to Access Teall Ave.
- I-81 from Junction E. Adams St. to Access I-690
- State Route 92 from End Route 5 Overlap to Woodchuck Hill Rd.
- State Route 936 C/D from Syracuse East City Line to Junction Route 930P

In addition to the congested road segments noted above, thirteen intersections were determined to be congested, showing a Level of Service (LOS) E or F. While LOS E is an acceptable level of service for most intersections, it can indicate that an intersection is congested. Eight intersections

had a LOS of E. A LOS F indicates that an intersection is failing. Seven intersections were considered to be failing. Some intersections showed LOSs of both E and F (depending on the whether it was during the AM or PM peak period).

Through this year's CMS report, the SMTC also obtained speed counts from the New York State Department of Transportation (NYSDOT) at thirteen locations. The relationship between these speed counts and the traffic volume congestion analysis is best shown at Segment 12, Southbound Interstate 481, where sixty percent of vehicles are shown as traveling five miles per hour or more below the posted speed limit during the PM peak hour. The v/c ratio on this road segment is 1.0, further supporting that there is congestion here.

Conclusion

Various improvement projects that will most likely benefit the identified congested areas have been included on various municipal capital programs and the SMTC Transportation Improvement Program (TIP). Also, planning for such future improvements can take place through the SMTC Unified Planning Work Program (UPWP). Once completed, these projects should help to alleviate some of the congestion that has been identified through the CMS.

The Congestion Management System is an ongoing project that is to be completed on a biennial basis. The SAC agreed that moving the CMS reporting to a biennial task would be most supportive of and beneficial to the TIP process. This would assist the SMTC's Planning and Policy Committees in determining which potential TIP projects may help to alleviate congestion.

The SAC also agreed that the CMS should be improved so that it functions as a more useful tool for the SMTC and its member agencies. To that end, the SMTC is hosting a collaborative effort with all of the New York State Metropolitan Planning Organizations (NYSMPOs) to work with a consultant that will complete an examination of CMS's. For the smaller and medium-sized MPOs, such as the SMTC, the CMS has not developed a close fit with existing planning practices. Currently, where congestion is a marginal or absent issue, the CMS appears to offer limited benefits while consuming staff and member agency time and resources. In addition, a lack of federal guidance on this subject exacerbates the burden of satisfying the CMS requirement. Because the NYSMPOs and their member agencies are interested in making the CMS requirement more useful as a planning tool, the NYSMPOs have determined that undertaking a Shared Cost Initiative (SCI) relative to CMS best practices and products will be beneficial. The purpose of this SCI is to seek out examples from around the country of innovative approaches to satisfying the CMS requirement in which auxiliary benefits of the tasks and products associated with the CMS can be capitalized on. This study will be contracted, administered, and managed by the SMTC but will serve the interests of all the NYSMPOs. Through the Request for Proposals process, a consultant has been hired and work on the CMS SCI will begin in mid-2005.

Pending the results of the SCI, the SMTC will continue to collect and analyze data for the monitoring of congestion in the SMTC MPO area on a biennial basis. However, the project will remain on the SMTC's yearly Unified Planning Work Program (UPWP) so that traffic counts can be obtained each year for the CMS project.

SECTION 1

Congestion Management System Report

Introduction

The Syracuse Metropolitan Transportation Council's (SMTC) Congestion Management System (CMS) is a systematic process for managing congestion that provides information on the performance of the transportation system. Congestion is described in 23 CFR Part 500.109 as "the level at which transportation system performance is no longer acceptable due to traffic interference." The CMS is currently designed to identify and monitor congestion biennially at selected locations throughout Onondaga County and is required by federal legislation. This process aids in identifying locations that may need improvements to relieve congestion. The SMTC will offer assistance to its member agencies to establish strategies for addressing congestion at the identified locations. These strategies could be included in various municipal capital programs, the SMTC Transportation Improvement Program (TIP), or the SMTC Unified Planning Work Program (UPWP).

There are two tiers of analysis involved in the CMS process. The first level of analysis, Tier 1, consists of performance measures that are used to determine the volume to capacity (v/c) ratios at peak one-hour intervals. The second level of analysis, Tier 2, consists of a more detailed performance measure, excess delay.

Data Acquisition

The specific road segments and intersection locations to be analyzed were initially selected in the fall of 1997 by the CMS Study Advisory Committee (SAC), which consisted of the following agencies:

- City of Syracuse Department of Public Works (DPW)
- Onondaga County Department of Transportation (OCDOT)
- Syracuse-Onondaga County Planning Agency (SOCPA)
- Central New York Regional Transportation Authority (CNYRTA)
- New York State Department of Transportation (NYSDOT)
- New York State Thruway Authority (NYSTA)

In the fall of 2003, these same agencies reviewed and revised the road segment and intersection locations to be analyzed through the CMS, because the SAC is in the process of working towards coordinated use of the CMS report with the TIP and Long Range Transportation Plan (LRTP). In an effort to determine which road segment and intersection locations to add or remove from the CMS report, the SAC agreed to forward suggestions for additional CMS locations, as well as the removal of some locations, to the SMTC. In addition, SMTC staff reviewed T-Model results for locations that are expected to have volume-to-capacity (v/c) ratios greater than 0.50 by the year 2025. Both sets of locations were added as potential locations to be included in the CMS monitoring process. Then the SAC and SMTC jointly reviewed all of the locations together to determine which locations would be included in the 2004-2005 CMS report.

Another decision made by the SAC was to no longer collect Annual Average Daily Traffic (AADT) counts in 15-minute intervals. In the past, the CMS utilized fifteen-minute interval AADT counts to try to reveal a more defined period of time and volumes indicative of peak hour

traffic. However, because the SMTC area has minimal congestion, the SAC determined that hourly intervals were sufficient for the CMS analysis.

Data collected for the CMS now consists of AADT counts at approximately two hundred road segment locations collected in one-hour intervals, by direction (approximately 100 road segment locations were analyzed in the 2001-2002 CMS). The counts are currently collected on a rotating three-year cycle, where one-third of the counts are collected new each year. At this time, the NYSDOT provides the road segment counts to the SMTC. Given that the NYSDOT already completes their entire traffic count program on a three-year cycle, it was deemed most appropriate to continue with this traffic count collection cycle. Because of the quantity of new road segment traffic counts needed, the SMTC delayed completion of this CMS report until the 2004-2005 Unified Planning Work Program (UPWP). The SMTC obtained the necessary traffic counts through the NYSDOT's traffic count consultant in the late summer and fall of 2004. The locations of the road segment traffic counts are shown in *Figure 1*.

In addition to the road segment traffic counts, thirty-one intersections are included in the CMS (nineteen intersections were analyzed in the 2001-2002 CMS). The intersection locations are counted and analyzed during the two-hour morning (7-9 AM) and two-hour evening (4-6 PM) peak periods. These intersections are fundamental to the regional transportation system and have either a high volume of traffic moving through them, or are constrained by geometry and/or adjacent land use. The SAC also reviewed and revised the intersection count locations in the fall of 2003. The newly added intersection counts for the 2004-2005 CMS were completed by the NYSDOT's traffic count consultant. The SAC plans to update one-half of the intersection counts each time the CMS is completed. *Figure 2* identifies the locations of the intersection counts.

To reflect the efficiency of the transportation network independent of its capacity for vehicles, twenty-one peak period vehicle occupancy counts were collected at locations shown in *Figure 3*. The peak periods counted were 7-9 AM and 4-6 PM.

Tier 1 Data Analysis

Upon completion of the data collection, *Table 1, Road Segment Traffic Counts*, was compiled. Table 1 contains a description of each road segment count location, traffic volumes, and volume-to-capacity (v/c) ratios. As previously mentioned, traffic volumes were reported in one-hour intervals. The traffic counts available for the seven locations along the Thruway (I-90) were AADT counts by direction.

The next step in the Tier 1 process was to evaluate the level of congestion at all of the count locations by examining the v/c ratios for both the AM and PM peak hours. The CMS SAC determined that if the v/c ratio was greater than ($>$) 0.90, the location was considered to be congested. The Level of Service was derived for both the AM and PM peak hours as well. The Institute of Transportation Engineers (ITE) defines Level of Service as "the operational conditions within a traffic stream as perceived by users of the facility." Level of Service factors range from A - F. Level of Service A represents a free flow with individual vehicles unaffected by other vehicles, while a Level of Service E represents operating conditions at capacity, and a

Level of Service F defines a breakdown in the flow of traffic. The Level of Service for each road segment location was determined by using the table in *Appendix A*. Highway Capacity Software (HCS), as well as information from the Florida Department of Transportation, was used to create this table.

The NYSDOT completed the newly added intersection counts. Approximately one-half of the intersection count locations were previously completed by a consultant. The AM and PM peak hour intersection counts were recorded and compiled into *Table 2, Intersection Traffic Counts*. The counts were entered into either Highway Capacity Software (HCS) or Synchro traffic signal timing software to determine the existing Level of Service that each intersection was operating at for both the AM and PM peak hours. The Level of Service for intersections is based on seconds of vehicle delay. *Appendix B* contains the HCS and Synchro calculations and printouts for each of the thirty-one intersections for both the AM and PM peak hours.

Vehicle occupancy counts were previously collected at selected locations for both the AM and PM peak hours. These counts indicate the number of people traveling in each vehicle. The vehicle occupancy counts are found in *Table 3, Vehicle Occupancy Counts*, along with the location of the counts, percentage of single occupancy vehicles (SOV), and the AM and PM average number of occupants per vehicle.

Tier 1 Results

Of the approximate two hundred road segment count locations analyzed, fifty-seven had a v/c ratio > 0.90 for the PM peak hour. *Table 4, Congested Road Segment Locations*, lists these fifty-seven locations and *Figure 4* displays the location of these road segments. The PM peak hour was analyzed to determine congestion in lieu of the AM peak hour, as a majority of the locations had higher traffic volumes during the PM peak hour. *Appendix C* outlines typical congested conditions, by facility type, and lists a number of contributing factors for congestion.

Of the thirty-one intersection count locations, thirteen were determined to have a Level of Service (LOS) E or F. These intersections are listed in *Table 5, Intersection LOS by Approach*. Some intersections showed LOSs of both E and F (depending on the whether it was during the AM or PM peak period). According to the ITE Transportation Planning Handbook, LOS E indicates that long delays, from about 55 to 80 seconds per vehicle, occur at these intersections. While LOS E is an acceptable level of service for most intersections, it can indicate that an intersection is congested. The following intersections have a LOS E:

- Morgan Rd/Buckley Rd (during the PM peak)
- S Salina St/Seneca Tnpk (during the AM peak)
- SR 5 & 92/Lyndon Rd (during the PM peak)
- SR 290/SR 635 (during both AM and PM peaks)
- SR 5/SR 635 (during the PM peak)
- Access I-81/SR 931J/SR 31 (during the PM peak)
- Old Rt 57/John Glenn Blvd (during the PM peak)
- Henry Clay Blvd/Buckley Rd (during the AM peak)

A LOS F indicates that an intersection is failing. The following intersections are considered to be failing:

- SR 370/Old Liverpool Rd (during the PM peak)
- S Salina St/Seneca Tnpk (during the PM peak)
- SR 5 & 92/Lyndon Rd (during the AM peak)
- SR 257/Salt Springs Rd (during the AM peak)
- Buckley Rd/7th North St (during both AM and PM peaks)
- W Onondaga St/Geddes St (during both AM and PM peaks on W Onondaga St)
- Bellevue Ave/Geddes St (during both AM and PM peaks on Bellevue Ave)

Figure 5, Congested Intersections, displays the thirteen intersections that are congested or failing.

The average number of occupants per vehicle for the twenty-one locations counted was 1.29 during the PM peak period from 4-6 PM. According to the 1995 Nationwide Personal Transportation Survey (NPTS) the average vehicle occupancy for New York State was 1.50. In addition, the findings of the 2000 Census Transportation Planning Package (CTPP) support the concept that the number of persons per vehicle continues to remain relatively low, as 75.2% of Onondaga County residents drive alone to work. The CTPP also indicated that 12.2% of Onondaga County workers carpooled to work and 4.5% utilized public transportation to get to work.

Tier 2 Data Analysis

Tier 2 analysis is a more detailed analysis that further examines congested locations that are identified as having a v/c ratio > 0.90. Tier 2 uses the concept of “excess delay” as a performance measure for congestion.

The Transportation Research Board defines excess delay as “the amount of time spent at a given location that exceeds the maximum amount of time that is generally considered acceptable.” The following formula was applied to the fifty-seven congested road segment locations identified in the Tier 1 analysis:

$$ExcessDelay_{segment}^{**} = FreeflowTime * (1 + 0.15 * (\frac{DirectionalVolume}{DirectionalCapacity_{LOS"C"}^{***}})^4 - 1.366)$$

**The excess delay equation was not used to determine the values for intersections because HCS and Synchro compute a more accurate result with the data given.

***Segment capacities at LOS “C” are 80% of the LOS D/E thresholds shown in the Excess Delay Thresholds chart on the following page.

$$\begin{aligned}
 Free\ flow\ Time &= \text{Speed limit of the road segment} \\
 Directional\ Volume &= \text{PM Peak Hour Volume} \\
 Directional\ Capacity &= \text{Number of lanes} \times (.80)(\text{Excess Delay Threshold})
 \end{aligned}$$

Excess Delay Thresholds	
<u>Facility Type</u>	<u>Excess Delay Threshold, LOS D/E</u>
Freeway	1500 vehicles/lane, one direction/hour
Multi-lane arterial w/ median	1400 vehicles/lane, one direction/hour
Multi-lane arterial w/o median	1250 vehicles/lane, one direction/hour
Two-lane arterial and collector	1000 vehicles/direction/hour
Local (residential) road	625 vehicles/direction/hour

Magnitude of PM Peak Hour Excess Delay	
<u>Magnitude</u>	<u>Qualifications</u>
0	0.0 hours excess delay
1	0.01 – 29.9 hours
2	30.0 – 59.9 hours
3	60.0 – 199.9 hours
4	200 or more hours
A value of 2 rates as significant	
A value of 3 or 4 rates as critical	

Following the research of methods used to determine excess delay, the SMTC decided to utilize the excess delay segment equation and thresholds utilized by the Capital District Transportation Committee (CDTC) in their CMS report. In terms of population, the CDTC MPO is similar to the SMTC MPO; therefore the equation and thresholds are reasonable for use in the Syracuse MPO area. With input from the member agencies and assistance from other MPOs, the SMTC will continue to refine the thresholds and the excess delay equation.

Tier 2 Results

Of the fifty-seven congested road segment locations identified in the Tier 1 analysis, five locations experienced excess delay:

- I-690 from Access West St. to Access I-81 southbound
- I-690 from Access I-81 eastbound to Access Teall Ave.
- I-81 from Junction E. Adams St. to Access I-690
- State Route 92 from End Route 5 Overlap to Woodchuck Hill Rd.
- State Route 936 C/D from Syracuse East City Line to Junction Route 930P

One location was identified as also experiencing excess delay through the 2001-2002 CMS report (I-81 from the Junction at East Adams Street to the Access at I-690). However, it is important to recall that this CMS did not utilize 15-minute peak hour counts in the analyses of the road segment locations for the 2004-2005 CMS. *Figure 6* displays the five locations

experiencing excess delay. According to the Magnitude of PM peak Hour Excess Delay chart on the previous page, each of these five locations has a magnitude of '1', indicating less substantial excess delay time than if the locations received a magnitude score greater than '1' (*refer to the highlighted locations in Table 4*).

Speed Data

According to guidance received from the NYSDOT, MPOs will need to begin converting from the old measure of effectiveness (Level of Service) to the new method (excess delay) for their CMS reports. For congested roads, the NYSDOT indicates that accurate determination of excess delay can only be done by collecting hourly speed data. The NYSDOT also indicates that using volume to determine excess delay has been found to be inaccurate on congested roads. In order to reduce duplication of volume and speed counts, the NYSDOT has requested that this data be collected in cooperation with the NYSDOT, and preferably by the NYSDOT traffic count stations. This will also allow MPOs to utilize the NYSDOT's roadway characteristics file, which is linked to the speed and volumes files by station number.

To that end, as a starting point, speed counts at thirteen locations throughout the county were provided to the SMTC by the NYSDOT. The thirteen locations, shown in *Figure 7*, are as follows:

Speed counts taken prior to the 2001-2002 CMS report:

- 1) NY 5 between the NY 174 interchange and the Newport Road interchange.
- 2) Interstate 81 between Interchanges 25A and 26.
- 3) NY 298 between Midler Avenue Extension and NY 635 (between GM Circle and Carrier Circle).

Speed counts taken prior to the 2004-2005 CMS report:

- 4) NY 5 between the Hinsdale Road and NY 173 interchanges.
- 5) Interstate 690 Westbound between Interchanges 4 and 5.
- 6) Interstate 690 between Interchanges 8 and 9.
- 7) Interstate 690 between Interchange 17 and Interstate 481.
- 8) SR 930P (Bridge Street in DeWitt) between NY 5 and Interstate 690
- 9) Interstate 81 between Interchanges 27 and 28.
- 10) Interstate 81 between Interchanges 29 and 30.
- 11) Interstate 81 between Interchanges 31 and 32.

Speed counts taken prior to both CMS reports:

- 12) Interstate 481 between Interchanges 3 and 4.
- 13) NY 695 between the NY 5 interchange and the Interstate 690 interchange.

Segments 1, 2, 4, 5, 9, 10, 11, 12, and 13 are urban freeways with four or more lanes and a 65-mile per hour (mph) speed limit. Segments 6 and 7 are urban freeways with four or more lanes and a 55 mph speed limit. Segment 3 is a divided arterial with four or more lanes and a 55 mph speed limit. Segment 8 is an undivided arterial with four or more lanes and a 45 mph speed limit. *Charts 1 through 13* display the percentage of vehicles traveling within a certain speed

interval. These percentages are shown for the AM peak (7AM to 9AM) and the PM peak (4PM to 6PM) for both cardinal directions on each roadway.

Five of these road segments have been identified in the Tier 1 analysis as having a v/c ratio above .90. This indicates that there may be congestion at these five locations, which include the Segments 2, 6, 9, 10, and 12. The relationship between these speed counts and the traffic volume congestion analysis is best shown at Segment 12, Southbound Interstate 481, where sixty percent of vehicles are shown as traveling five miles per hour or more below the posted speed limit during the PM peak hour. The v/c ratio on this road segment is 1.0, further supporting that there is congestion here.

Improvement Projects

Some improvement projects that will most likely benefit the identified congested areas have been included on various municipal capital programs and the SMTC Transportation Improvement Program (TIP). Also, planning for such future improvements can take place through the SMTC Unified Planning Work Program (UPWP). The limited amount of capital resources and the need to maintain the existing infrastructure are major factors to consider when programming projects to relieve congestion.

The following list of projects has been programmed within the 2001-2006 SMTC TIP and/or the 2003-2006 SMTC TIP. The locations of these projects are in close proximity to CMS identified congested locations:

Route # or Road Name	PIN	Project Name	Project Status
5/92	303472	Routes 5 & 92 Demo Project	- Letting Date*: 6/05 - PS & E
31	303753	Route 31, Route 481 to Henry Clay Blvd, Phase I	- Let: 2/03 - Under construction
31	303756	Route 31 over Seneca River (Belgium Bridge)	- Let: 09/02 (delays due to archeological reasons) - Under construction
I-81	350138	Interstate 81 ITS Downtown	- Let: 01/04 - Under construction
173	301912	Route 173 (W Genesee St to Syracuse City Line)	- Let: 10/02 - Complete
173/175	301921	Route 173, OCC to Broad Rd, Route 175, OCC to Route 173	- Let: 1/04 - Under construction
Old Rt 57	303251	Liverpool to Blackberry	- Completed 2005 - Will be re-examined in next CMS
Intersection	375269	Henry Clay at Buckley – Intersection Improvements	- Completed 2005 - Will be re-evaluated in next CMS

Route # or Road Name	PIN	Project Name	Project Status
Intersection	375286	Henry Clay at Wetzel – Intersection Improvements	- Completed 2005 - Will be re-evaluated in next CMS
Taft Rd	375298	South Bay Rd to I-81	- Letting Date: FFY 06/07
N/A	375438	Variable Message Board ITS Project	- Start in FFY 04/05 - These are portable signs used in maintenance & incident management
Intersection	375272	Lodi St/N Salina Signal Improvements	- Preliminary Design 03/04 - Awaiting RFP response (due 4/18/05)
Intersection	375281	Kirkpatrick / Court / Solar St Improvements	- Let 2/04 - Nearly complete (except for a short stretch of Solar St)
Intersection	375285	Geddes/Genesee Sts Signal Interconnection	- Preliminary Design, Detailed Design: 03/04 - Awaiting RFP response (due 4/18/05)
Hiawatha Blvd.	375307	Hiawatha Blvd. Improvement, State Fair Blvd. to Park	- No activity to date
N/A	380471	Downtown Signal Interconnect System Operation	- Complete and operational (funding through 2010)
Rt 92	301016	Syracuse City Line to Route 5	- Letting Date: 6/05 - PE & E
Rt 370	328717	Onondaga Lake Parkway	- Letting Date: 4/07 - Pre-scoping
I-81	350144	I690 to Rt 11 Mattydale	- Letting Date: 1/08 - Preliminary Design

* All letting dates are for the letting of the construction contracts

The following list of projects have been identified as candidate projects for the 2005-2010 TIP, and are located in close proximity to CMS identified congested locations:

Route # or Road Name	PIN	Sponsor	Project Name	Project Status
I-690	350633	NYSDOT	ITS	- Let: 1/05 - Under Construction
I-481	305617	NYSDOT	Freeway Incident Management System (F.I.M.S.) Phase III	- Letting Date: 10/06 - Scoping

Route # or Road Name	PIN	Sponsor	Project Name	Project Status
I-481	305618	NYSDOT	F.I.M.S. Phase IV	- Letting Date: 10/07 - Scoping
N/A	380523	NYSDOT	TMC/ITS	- Letting Dates: 10/05, 10/06, 10/07, 10/08, 10/09, 10/10
N/A		City	Traffic Control Center Operations	- Letting Dates: 06/07, 08/09 - Operational

Once completed, the aforementioned TIP projects should help to alleviate some of the congestion that has been identified through the CMS.

The Liverpool Area – Onondaga Lake Parkway Transportation Study, a 1999-2000 SMTC Unified Planning Work Program (UPWP) task, analyzed transportation and mobility issues within and surrounding the Village of Liverpool. Many of the congested road segment locations and intersections listed in the CMS for the Liverpool area were included as part of the study area for the Liverpool Area – Onondaga Lake Parkway Transportation Study. The SMTC’s consultant for this project analyzed various alternatives and recommended a series of alternatives that would be effective in addressing the needs presented in The Liverpool Area – Onondaga Lake Parkway Transportation Study. The final recommended alternative made by the consultant included the following:

- Combining the benefits of the Onondaga County Settlement Plan** along with the development of a Liverpool Bypass from NYS Route 370 to Electronics Parkway
- Traffic Calming
- Pedestrian Signal Timings
- Reduced Speed Limit on Onondaga Lake Parkway

**The Onondaga County Settlement Plan, prepared by a consultant to Onondaga County, addresses the Village of Liverpool issues such as reducing congestion, strengthening the businesses, and providing a pedestrian and bicycle friendly environment, while the proposed bypass will provide alternative commuter and truck routes.

In November 2000, the NYSDOT decided to reduce the speed limit along Onondaga Lake Parkway from 55 miles per hour to 45 miles per hour from November 1st to April 1st annually. In addition, in June 1999 the Village of Liverpool requested and received Enhancement money to complete the Liverpool Commuter Corridor Beautification Project, a TEA-21 Enhancement Project (PIN 395015), which is now complete. The Village of Liverpool enhanced the streetscape in the village along a major commuter corridor (where Route 370 and County Route 57 divide in the center of the village business district), installed sidewalks and improved crosswalks in the corridor.

Reporting on the CMS in the Future

The Congestion Management System is an ongoing project that is to be completed on a biennial basis. The SAC agreed that moving the CMS reporting to a biennial task would be most supportive of and beneficial to the TIP process. This would assist the SMTC's Planning and Policy Committees in determining which potential TIP projects may help to alleviate congestion.

The SAC also agreed that the CMS should be improved so that it functions as a more useful tool for the SMTC and its member agencies. To that end, the SMTC is hosting a collaborative effort with all of the New York State Metropolitan Planning Organizations (NYSMPOs) to work with a consultant that will complete an examination of CMS's. For the smaller and medium-sized MPOs, such as the SMTC, the CMS has not developed a close fit with existing planning practices. Currently, where congestion is a marginal or absent issue, the CMS appears to offer limited benefits while consuming staff and member agency time and resources. In addition, a lack of federal guidance on this subject exacerbates the burden of satisfying the CMS requirement. Because the NYSMPOs and their member agencies are interested in making the CMS requirement more useful as a planning tool, the NYSMPOs have determined that undertaking a Shared Cost Initiative (SCI) relative to CMS best practices and products will be beneficial. The purpose of this SCI is to seek out examples from around the country of innovative approaches to satisfying the CMS requirement in which auxiliary benefits of the tasks and products associated with the CMS can be capitalized on. This study will be contracted, administered, and managed by the SMTC but will serve the interests of all the NYSMPOs. Through the Request for Proposals process, a consultant has been hired and work on the CMS SCI will begin in mid-2005.

Pending the results of the SCI, the SMTC will continue to collect and analyze data for the monitoring of congestion in the SMTC MPO area on a biennial basis. However, the project will remain on the SMTC's yearly Unified Planning Work Program (UPWP) so that traffic counts can be obtained each year for the CMS project.

SECTION 3

Tables 1 - 5

TABLE 1

ROAD SEGMENT
TRAFFIC COUNTS

Count Loc Ref Marker	Sta #	Road #	Link Name	From/To	Year of DOT Counts	Exist Road*	Functional Class	Factored AM Peak Hour				Factored PM Peak Hour				Existing Road Service Volume "D"	PM PK V/C Ratio	V/C >.90 Requires Tier 2	PM Peak Hour LOS	
								NB	SB	EB	WB	Total	NB	SB	EB					WB
481133012010	087	I 481	Int 1/Int 2	Syracuse E City Ln/Acc Jamesville Rd	Oct-00	4UF	PA	586	997			1,583	927	1,025	1,952	3,671	0.53		A-B	
481133012052	072	I 481	Int 3/Int 4	Acc Rts 5 92/Acc Rt 690I	Nov-02	6UF	PA	2,988	2,030			5,018	2,263	3,093	5,356	5,506	0.97	x	C-D	
481133012060	102	I 481	Int 4/Int 5	Acc Rt 690I/Acc Kirkville Rd	Jul-01	4UF	PA	1,939	2,400			4,339	2,623	1,944	4,567	3,671	1.24	x	F	
481133012083	103	I 481	Int 5/Int 6	Acc Kirkville Rd/Acc Rt 90I	Apr-01	4UF	PA	999	2,090			3,089	2,066	1,336	3,402	3,671	0.93	x	C-D	
481133012095	243	I 481	Int 6/Int 7	Acc Rt 90I/Acc Rt 298	Jul-01	4UF	PA	997	1,632			2,629	1,591	1,078	2,669	3,671	0.73		C-D	
481133012135	245	I 481	Int 8/Int 9	Jct Northern Blvd/Start Rt 481 Jct 81I End 481I	Jul-01	4UF	PA	815	2,121			2,936	1,944	836	2,780	3,671	0.76		C-D	
690133014008	549	I 690	Int 1/Int 5	Int 39 90I Rt 690/Rt 90I is Under	Apr-02	4UF	PA		1,948	856		2,804		1,032	1,984	3,016	3,671	0.82		C-D
690133011041	545	I 690	Int 6/CSB	Jct Rt 695/Syracuse W City Ln	Apr-01	6UF	PA	4,560	1,510	6,070			2,038	4,965	7,003	5,506	1.27	x	F	
690133011041	545	I 690	CSB/Int 8	Syracuse W City Ln/Acc Hiawatha Blvd	Apr-01	6UF	PA	4,560	1,510	6,070			2,038	4,965	7,003	5,506	1.27	x	F	
690133012008	546	I 690	Int 8/Int 9	Acc Hiawatha Blvd/Acc Rt 298 Bear St Art	Apr-00	6UF	PA	4,577	1,482	6,059			1,814	4,181	5,995	5,506	1.09	x	E	
690133012014	059	I 690	Int 9/Int 10	Acc Rt 298 Bear St Art/Acc Geddes St Half Int	Jul-02	6UF	PA	4,061	1,184	5,245			1,619	3,906	5,525	5,506	1.00	x	E	
690133012018	060	I 690	Int 10/Int 11	Acc Geddes St Half Int/Acc West St	Apr-01	6UF	PA	4,410	1,674	6,084			2,092	4,206	6,298	5,506	1.14	x	E	
690133012022	061	I 690	Int 11/81 SB OFF	Acc West St/Acc 81I SB	Jul-02	4UF	PA	3,084	2,477	5,561			2,891	3,863	6,754	3,671	1.84	x	F	
690133012030	062	I 690	81 SB OFF/Int 13	Acc 81 SB/Acc McBride St EB	Apr-00	6UF	PA	3,188	2,695	5,883			3,415	3,770	7,185	5,506	1.30	x	F	
690133012032	063	I 690	Int 13/81 NB ON	Acc McBride St EB/Acc 81I EB	Apr-01	6UF	PA	3,102	3,905	7,007			3,918	4,620	8,538	5,506	1.55	x	F	
690133012036	064	I 690	81 NB On/Int 14	Acc 81I EB/Acc Teall Ave	Apr-99	6UF	PA	4,075	3,690	7,765			5,103	4,544	9,647	5,506	1.75	x	F	
690133012045	065	I 690	Int 14/Int 15	Acc Teall Ave/Acc Midler Ave	Apr-02	6UF	PA	3,473	3,843	7,316			4,722	3,786	8,508	5,506	1.55	x	F	
690133012054	074	I 690	Int 15/Int 16	Acc Midler Av/Syracuse E C L Rt 635	Apr-01	6UF	PA		2,928	3,629	6,557			3,734	3,775	7,509	5,506	1.36	x	F
81133031008	311	I 81	Int 13/Int 14	Onondaga Co Ln/Jct Rt 80	May-00	4UF	PA	793	721	1,514	916	1,019			1,935	3,671	0.53		A-B	
81133031062	585	I 81	Int 14/Int 15	Jct Rt 80/Jct Rt 20	Nov-02	4UF	PA	442	222	664	364	521			885	3,671	0.24		A-B	
81133031093	548	I 81	Int 15/Int 16	Jct Rt 20/Jct Rt 11	Jul-01	4UF	PA	1,286	830	2,116	1,086	1,400			2,486	3,671	0.68		C-D	
81133031137	054	I 81	Int 16/CSB	Jct Rt 11/Syracuse S City Ln	Jul-02	4UF	PA	1,537	935	2,472	1,200	1,763			2,963	3,671	0.81		C-D	
81133031137	054	I 81	CSB/Int 16A	Syracuse S City Ln - Rt 11/Acc 481I	Jul-02	4UF	PA	1,537	935	2,472	1,200	1,763			2,963	3,671	0.81		C-D	
81133032017	007	I 81	Int 16A/Int 17	Acc 481I/Jct Brighton Av	Apr-01	6UF	PA	2,036	852	2,888	1,624	2,047			3,671	5,506	0.67		C-D	
81133032024	010	I 81	Int 17/Int 17A	Jct Brighton Ave/Jct Colvin St	Sep-02	6UF	PA	3,057	878	3,935	2,080	2,012			4,092	5,506	0.74		C-D	
81133032031	011	I 81	Int 17/Int 18	Jct Colvin St/Jct E Adams St	Mar-99	6UF	PA	3,443	2,147	5,590	2,514	3,296			5,810	5,506	1.06	x	E	
81133032042	015	I 81	Int 18/Int 19	Jct E Adams St/Acc 690I	Nov-01	4UF	PA	2,371	3,424	5,795	4,016	2,808			6,824	3,671	1.86	x	F	
81133032056	586	I 81	Int 19/Int 22	Acc Rt 690I/Jct Rt 298 Bear St	Sep-01	6UF	PA	2,491	5,082	7,573	5,301	2,990			8,291	5,506	1.51	x	F	
81133032066	041	I 81	Int 22/Int 23	Jct Rt 298 Bear St/Rt 370	Sep-02	6UF	PA	2,623	5,280	7,903	5,089	2,842			7,931	5,506	1.44	x	F	
81133033007	017	I 81	Int 23/CSB	Acc Rt 370/Syracuse N City Ln	Jun-01	6UF	PA								3,551	5,506	0.64		C-D	
81133033007	035	I 81	CSB/Int 25A	Syracuse N City Ln/Jct Rt 90I	Sep-01	6UF	PA	1,919	4,634	6,553	4,186	2,800			6,986	5,506	1.27	x	F	
81133033020	550	I 81	Int 25A/Int 26	Jct Rt 90I/Jct Rt 11	Nov-02	6UF	PA	1,678	4,265	5,943	3,602	2,754			6,356	5,506	1.15	x	E	
81133033029	551	I 81	Int 26/Int 27	Jct Rt 11/Airport Rd Jct	Sep-01	6UF	PA	1,294	3,272	4,566	3,323	1,853			5,176	5,506	0.94	x	C-D	
81130333040	133	I 81	Int 27/Int 28	Airport Rd Jct/Taft Rd Jct	Apr-00	6UF	PA	1,235	3,319	4,554	3,407	1,856			5,263	5,506	0.96	x	C-D	
81133033048	134	I 81	Int 28/Int 29	Jct Taft Rd/Jct Rt 481	Apr-00	6UF	PA	913	3,408	4,321	3,557	1,631			5,188	5,506	0.94	x	C-D	
81133033066	552	I 81	Int 29/Int 30	Jct Rt 481/Jct Rt 31	Sep-01	6UF	PA	3,378	1,024	4,402	1,349	2,980			4,329	5,506	0.79		C-D	
81133033110	553	I 81	Int 30/Int 31	Jct Rt 31/Bartell Rd Jct	Nov-02	6UF	PA	740	611	1,351	685	662			1,347	5,506	0.24		A-B	
81134041005	315	I 81	Int 31/Int 32	Acc Bartell Road/Acc Rt 49	Apr-00	6UF	PA	631	1,894	2,525	1,803	876			2,679	5,506	0.49		A-B	
11 33031095	168	US 11	S Salina St	Rt 173/Acc Rt 81I	Jun-00	2UU-I	MA	553	451	1,004	590	852			1,442	1,267	1.14	x	E	
11 33032047	013	US 11	S Salina St	Rt 92/Rt 5	Oct-01	4UU-I	PA	238	524	762	622	297			919	2,692	0.34		A-B	
11 33032063	032	US 11	N Salina St	Rt 298/Rt 370	Mar-99	2UU-I	MA	241	140	381	241	372			613	1,267	0.48		C-D	
11 33032007	213	US 11	Wolf St	City of Syracuse/Lemoyne Ave	Jun-00	4UU-I	MA	344	314	658	420	430			850	2,692	0.32		A-B	
11 33033016	224	US 11	Brewerton Rd	Lemoyne Ave/Acc 81I	Apr-02	6UD-I	MA	622	1,369	1,991	1,118	1,457			2,575	4,902	0.53		A-B	
11 33033028	225	US 11	Brewerton Rd	Acc 81I/Taft Rd	Sep-02	2UU-I	MA	294	800	1,094	785	778			1,563	1,267	1.23	x	E	
11 33033039	226	US 11	Brewerton Rd	Taft Rd/SR 913H	Oct-00	2UU-I	MA	365	507	872	676	527			1,203	1,267	0.95	x	C-D	

**TABLE 1
(continued)**

**ROAD SEGMENT
TRAFFIC COUNTS**

Count Loc Ref Marker	Sta #	Road #	Link Name	From/To	Year of DOT Counts	Exist Road*	Functional Class	Factored AM Peak Hour				Factored PM Peak Hour				Existing Road Service Volume "D"	PM PK V/C Ratio	V/C >.90 Requires Tier 2	PM Peak Hour LOS	
								NB	SB	EB	WB	Total	NB	SB	EB					WB
11 33033055	220	US 11	Brewerton Rd	SR 931H/Caughdenoy Rd	May-00	4UU-I	MA	450	1,168			1,618	1,387	880		2,267	2,692	0.84		C-D
11 33033059	228	US 11	Brewerton Rd	Caughdenoy Rd/SR 31	May-00	4UU-U	MA	433	472			905	881	587		1,468	2,692	0.55		A-B
11 33033078	231	US 11	Brewerton Rd	SR 31/Bartell Rd	May-00	2UU-U	MA	218	261			479	504	270		774	1,267	0.61		C-D
11 33033116	048	SR 11	Brewerton Rd	Acc811 Bartell Rd/Oswego County Line	Jul-02	2UU-I	MA	227	564			791	798	410		1,208	1,267	0.95	x	C-D
173 33011086	154	SR 173	Warners Rd	Rt 297/Genesee St Fairmount	Aug-00	2UU-U	MA	354	437			791	586	682		1,268	1,267	1.00	x	E
173 33011100	189	SR 173	Onondaga Rd	Genesee St Fairmount/Split Rock	Jun-01	2UU-I	MA			471	377	848		579	600	1,179	1,267	0.93	x	C-D
173 33012002	110	SR 173	Seneca Tpke	City of Syracuse/RT 80 Valley Dr	Sep-02	2UU-U	MA			682	733	1,415		609	893	1,502	1,267	1.19	x	E
173 33012006	160	SR 173	Seneca Tpke	Rt 80 Valley Dr/Rt 11 S Salina St	Aug-00	2UU-I	MA			627	525	1,152		716	811	1,527	1,267	1.21	x	E
173 33012013	159	SR 173	Seneca Tpke	Rt 11 S Salina St/Brighton Ave	Jun-00	2UU-I	MA			547	456	1,003		538	834	1,372	1,267	1.08	x	E
173 33012020	162	SR 173	Seneca Tpke	Brighton Av/Syracuse E City Ln	Oct-02	2UU-I	MA			195	497	692		375	298	673	1,267	0.53		C-D
173 33012028	171	SR 173	Seneca Tpke	Syracuse E City Ln/Rt 91 Jamesville	May-01	2UU-U	MA			312	324	566		312	328	640	1,267	0.51		C-D
173 33013067	181	SR 173	Seneca Tpke	Sweet Rd/Stirt Rt 92 OLP Manlius	May-01	2UU-U	MA			254	271	525		440	154	594	1,267	0.47		C-D
175 33011095	020	SR 175	Seneca Tpke	End 174 Olp Marcellus/Bussey Rd	Aug-00	2UU-U	MA			495	166	661		255	485	740	1,267	0.58		C-D
175 33011133	147	SR 175	Seneca Tpke	Bussey Rd/Jct Rt 173 OLAP	May-01	2UU-U	MA			721	353	1,074		439	669	1,108	1,267	0.87		C-D
175 33011134	158	SR 175	South Ave	SR 173 OLAP/Syracuse S City Line	Sep-02	2UU-U	MA			449	245	694		192	512	704	1,267	0.56		C-D
175 33012003	242	SR 175	South Ave	Syracuse S City Ln/Rt 80	May-01	2UU-U	MA			556	258	814		335	485	820	1,267	0.65		C-D
20 33081101	142	US 20	Genesee St	Rt 41/Rt 321 Skaneateles	Jul-01	2UU-I	PA			404	376	780		496	512	1,008	1,267	0.80		C-D
290 33012006	219	SR 290	Manlius St	E Syracuse W Village Line/Upton St	Jun-00	2UU-I	MA			202	178	380		286	287	573	1,267	0.45		C-D
290 33011024	190	SR 290	Manlius St	Upton St/Bridge St	Jul-02	2UU-I	MA			558	433	991		686	706	1,392	1,267	1.10	x	E
290 33012032	036	SR 290	Manlius Center Rd	Bridge St/Fremont Rd	Jun-00	2UU-I	MA			313	960	1,273		1,094	630	1,724	1,267	1.36	x	E
298 33011002	031	SR 298	Bear St	RT 690 Bear St/ Jct RT 811	Jul-01	2UU-U	MA			277	336	613		277	671	948	1,267	0.75		C-D
298 33011024	030	SR 298	Court St	Jct Rt 811/Rt 11 N Salina St	Sep-02	2UU-I	MA			146	182	328		227	193	420	1,267	0.33		C-D
298 33012031	593	SR 298	Carrier Pkwy	Rt 635 Acc 901/Kinne St	May-97	4UU-I	MA			737	687	1,424		866	627	1,493	2,692	0.55		A-B
298 33012037	091	SR 298	Kinne St	Kinne St/CR 82 N Blvd	Jun-00	2UU-I	MA			511	879	1,390		1,004	598	1,602	1,267	1.26	x	E
298 33012050	092	SR 298	Collamer Rd	CR 82 N Blvd/Fly Rd Collamer	Jun-00	2UU-U	MA			221	535	756		520	275	795	1,267	0.63		C-D
298 33012061	093	SR 298	Collamer Rd	Acc 481I/Fremont Rd	Jul-02	2UU-U	C			170	708	878		690	233	923	1,267	0.73		C-D
298 33012075	028	SR 298	Collamer Rd	Fremont Rd/Schepps Cor Rd	Oct-02	2UU-U	C			102	631	733		487	194	681	1,267	0.54		C-D
298 33012108	027	SR 298	Minoa-Bridgeport Rd	Schepps Cor Rd/Rt 31 End 298	May-01	2UU-U	C			125	593	718		606	230	836	1,267	0.66		C-D
31 33031061	070	SR 31	Genesee St	Start 370 OLAP/RT 48	Aug-02	2UU-I	PA			203	268	471		350	307	657	1,267	0.52		C-D
31 33031076	200	SR 31	Genesee St	Rt 48/ End 370 OLAP	Jun-01	2UU-I	PA			703	422	1,125		745	730	1,475	1,267	1.16	x	E
31 33091169	209	SR 31	Belgium Rd	End Rt 370 OLP/CR 91 Old Rt 57	May-00	2UU-I	PA			563	446	1,009		724	895	1,619	1,267	1.28	x	E
31 33091180	215	SR 31	Route 31	CR 91 Old Rt 57/Acc SR 481	May-00	4UU-I	PA			635	362	997		715	925	1,640	2,692	0.61		C-D
31 33091195	076	SR 31	Route 31	Acc Rt 481/Euclid Morgan Rd	Nov-02	4UU-U	PA			498	569	1,067		811	816	1,627	2,692	0.60		C-D
31 33091220	227	SR 31	Route 31	Euclid Morgan Rd/US 11	May-00	2UU-U	PA			316	331	647		507	469	976	1,267	0.77		C-D
31 33091249	229	SR 31	Route 31	Rt 11 Cicero/Jct Rt 811	May-01	4UU-I	PA			818	659	1,477		970	972	1,942	2,692	0.72		C-D
31 33091265	232	SR 31	Route 31	Jct Rt 811/S Bay Rd	Aug-01	4UU-I	MA			151	360	511		577	324	901	2,692	0.33		A-B
31 33091339	115	SR 31	Route 31	Rt 298 Bridgeport/Madison County Line	May-01	2UU-I	MA			225	624	849		754	404	1,158	1,267	0.91	x	C-D
321 33011079	909	SR 321	Bennetts Corners Rd	Bennetts Cor Rd Junction Ol/Jct Rt 5 End 321	May-00	2UU-U	MC			317	176	493		199	417	616	1,267	0.49		C-D
370 33031024	192	SR 370	W Genesee Rd	Plainville Rd/Dunham Rd	Jul-00	2UU-U	PA			423	113	536		201	416	617	1,267	0.49		C-D
370 33031056	212	SR 370	W Genesee Rd	Dunham Rd/Rt 690	Nov-02	2UU-U	PA			539	170	709		253	514	767	1,267	0.61		C-D
370 33031105	203	SR 370	Cold Springs Rd	End 31 OLAP/River Rd Cold Springs	Sep-02	2UU-U	MA			210	510	720	450	283		733	1,267	0.58		C-D
370 33031122	058	SR 370	Cold Springs Rd	River Rd Cold Springs/John Glenn Blvd	May-00	2UU-I	MA			753	289	1,042		439	978	1,417	1,267	1.12	x	E
370 33031149	034	SR 370	Cold Springs Rd/2nd St	John Glenn Blvd/Old Rt 57	Aug-02	2UU-I	MA			414	223	637		425	476	901	1,267	0.71		C-D
370 33031167	222	SR 370	Onondaga Lake Pkwy	Rt 931G Old Rt 57/Syracuse N City Ln	Aug-00	4UU-U	PA			1,694	519	2,213		1,163	1,816	2,979	2,692	1.11	x	E
370 33032004	221	SR 370	Park St	Syracuse N City Ln/Rt 11 End 370	Jul-00	2UU-I	MA			244	406	650		382	802	1,184	1,267	0.93	x	C-D

**TABLE 1
(continued)**

**ROAD SEGMENT
TRAFFIC COUNTS**

Count Loc Ref Marker	Sta #	Road #	Link Name	From/To	Year of DOT Counts	Exist Road*	Functional Class	Factored AM Peak Hour				Factored PM Peak Hour				Existing Road Service Volume "D"	PM PK V/C Ratio	V/C >.90 Requires Tier 2	PM Peak Hour LOS		
								NB	SB	EB	WB	Total	NB	SB	EB					WB	Total
48 33011047	079	SR 48	Syracuse St	CR 159 Van Buren Rd/CR 92 Old Rt 31	Jul-01	2UU-I	MA	262	294			556	416	544			960	1,267	0.76		C-D
48 33011053	080	SR 48	Syracuse St	CR 92 Old Rt 31/Rt 31 370	Jul-01	2UU-I	MA	365	445			810	604	555			1,159	1,267	0.91	x	C-D
48 33011112	052	SR 48	Oswego Rd	Lamson Rd/Oswego County Line	Jun-01	2UU-U	MA	219	351			570	400	265			665	1,267	0.52		C-D
481 33011003	105	SR 481	Int 9/Int 10	Rt 811 Onondaga Co/Rt 11 Conn	Apr-02	6UF	PA	1,038	3,102			4,140	3,128	1,394			4,522	5,506	0.82		C-D
481 33011047	100	SR 481	Int 10/Int 12	Rt 11 Conn/Acc Rt 31	Jul-01	4UF	PA	564	1,704			2,268	1,669	805			2,474	3,671	0.67		C-D
481 34021006	101	SR 481	Int 12/Int 13	Acc Rt 31/Oswego County Line	Jul-00	4UF	PA	430	686			1,116	1,028	683			1,711	3,671	0.47		A-B
5 33081000	044	SR 5	Genesee Tpke	Cayuga Co Ln/E Brutus St Rd	Jul-00	2UU-U	PA			318	301	619			418	512	930	1,267	0.73		C-D
5 33081065	024	SR 5	Genesee Tpke	Old Rt 368/Rt 321 Jct Bennetts Cor	May-00	2UU-U	PA			486	309	795			401	659	1,060	1,267	0.84		C-D
5 33081083	151	SR 5	Genesee Tpke	Jct Bennetts Cor/Rt 174 Camillus	Aug-02	2UU-I	PA			1,004	507	1,511			578	1,163	1,741	1,267	1.37	x	E
5 33081329	198	SR 5	Camillus Bypass	Jct Hinsdale Rd/Acc Rt 173	Apr-00	6UF	PA			1,482	752	2,234			871	2,212	3,083	5,506	0.56		C-D
5 33081154	155	SR 5	Genesee St	W Genesee St/Syracuse W City Line	Aug-02	4UU-I	PA			523	320	843			482	800	1,282	2,692	0.48		A-B
5 33081154	155	SR 5	Genesee St	Syracuse W City Ln/Syracuse W City Ln	Aug-02	4UU-U	PA			523	320	843			482	800	1,282	2,692	0.48		A-B
5 33081154	388	SR 5	Genesee St	City of Syracuse/West St Arterial	May-98	4UU-I	PA			759	342	1,101			517	888	1,405	2,692	0.52		A-B
5 33082030	386	SR 5	Erie Blvd	Rt 11/Rt 635 Syracuse E C L	Apr-00	4UU-I	PA			395	497	892			961	843	1,804	2,692	0.67		C-D
5 33083020	174	SR 5	Genesee St	Start Rt 92 OLAP Dewitt/Acc Rt 4811	Aug-02	4UD-I	PA			807	1,380	2,187			1,669	1,513	3,182	3,172	1.00	x	E
5 33083027	175	SR 5	Genesee St	Acc 4811/End Rt 92 OLP Lyndon	Oct-99	4UU-I	PA			1,333	2,375	3,708			2,824	1,680	4,504	2,692	1.67	x	F
5 33083042	106	SR 5	Genesee St	End Rt 92 OLP Lyndon/N Burdick St	Jul-00	4UU-I	MA			536	897	1,433			1,109	814	1,923	2,692	0.71		C-D
5 33083048	096	SR 5	Genesee St	Highbridge Rd/Salt Springs Rd	Jun-01	4UU-I	MA			566	1,051	1,617			1,379	775	2,154	2,692	0.80		C-D
5 33083096	045	SR 5	Genesee St	Rt 290 Mycenae/Madison County Line	Jun-00	2UU-U	MA			210	742	952			785	350	1,135	1,267	0.90		C-D
635 33011001	088	SR 635	Thompson Rd	Rt 5/Acc 690I Syracuse C Ln	Oct-00	6UD-I	PA	606	1,113			1,719	1,145	1,583			2,728	4,902	0.56		A-B
635 33011003	089	SR 635	Thompson Rd	Acc 690I Syracuse C Ln/Rt 290JCT Syracuse C	Oct-00	4UD-I	PA	1,107	672			1,779	880	1,122			2,002	3,172	0.63		C-D
635 33011015	090	SR 635	Thompson Rd	Rt 290JCT Syracuse City Ln/Rt 298 End 635	Jun-00	4UU-I	PA	1,027	640			1,667	788	958			1,746	2,692	0.65		C-D
695 33011007	135	SR 695	Route 695	Rt 5/690I End 695	Nov-02	6UF	PA	3,248	1,312			4,560	1,608	3,130			4,738	5,506	0.86		C-D
92 33011006	537	SR 92	Genesee St	Rt 11 State St Syracuse/Syracuse E City Ln	Aug-00	4UU-I	PA			204	511	715			525	387	912	2,692	0.34		A-B
92 33012023	164	SR 92	Highbridge Rd	End Rt 5 OLP/Woodchuck Hill Rd	Aug-02	2UU-U	PA			459	1,346	1,805			1,313	830	2,143	1,267	1.69	x	E
92 33012044	238	SR 92	Highbridge Rd	Woodchuck Hill Rd/Rt 257 Manlius	Oct-02	2UU-U	PA			512	1,265	1,777			1,150	720	1,870	1,267	1.48	x	E
92 33012055	006	SR 92	Fayette St	Rt 257 Manlius/Strt 173 OLP Manlius	Aug-02	4UU-I	PA			645	1,105	1,750			1,345	891	2,236	2,692	0.83		C-D
92 33012048	182	SR 92	Seneca St	Start 173 OLAP Manlius/End 173 OLAP	Aug-01	4UU-I	PA			636	1,076	1,712			1,399	765	2,164	2,692	0.80		C-D
92 33012063	183	SR 92	Washington St	End Rt 173 OLP/Pompey Ctr Rd	Jun-00	2UU-U	PA			408	898	1,306			977	536	1,513	1,267	1.19	x	E
92 33012100	184	SR 92	Cazenovia Rd	Oran-Delphi Rd/Madison County Line	Jun-00	2UU-U	PA			224	429	653			494	244	738	1,267	0.58		C-D
930B33011009	900	SR 930B	West St	Rt 5 W Conn/Onondaga Co City of Syracu	Jul-02	6UF	PA	1,050	2,663			3,713	2,988	1,596			4,584	5,506	0.83		C-D
930C33011005	912	SR 930C	Adams St	Rt 11 State St/Jct 811	Apr-00	4UU-I	MA			1,237		1,237			1,947		1,947	2,692	0.72		C-D
930J33011001	902	SR 930J	Bear Rd	Rt 11 Bear Rd Ext/End at So Bay Rd CR208	Sep-02	4UD-I	MA			1,140	302	1,442			765	345	1,110	3,172	0.35		A-B
930P33011004	904	SR 930P	Bridge St	Rt 5 Bridge St/Junction of Route 690I	Sep-02	4UU-I	PA	323	418			741	804	766			1,570	2,692	0.58		A-B
930P33011004	919	SR 930P	Bridge St	Junction of Route 690I/Village of E Syr Rt 290	Sep-02	4UD-I	PA			772	1,146	1,918			1,399	1,235	2,634	3,172	0.83		C-D
931G33011001	907	SR 931G	Old Route 57	Jct Rts 370-57/Onondaga Co Vill of Liverpool	May-00	4UU-I	PA	632	1,269			1,901	1,494	742			2,236	2,692	0.83		C-D
931H33011002	247	SR 931H	Circle Dr	Rt 11 E Circle Dr/End at Start Circle Dr	Jul-01	4UD-I	PA			242	155	397			661	383	1,044	3,172	0.33		A-B
931K33011001	339314	SR 931K	Soule Rd	Acc 481 SB/Rt 31	May-04	4UD-I	C			433	353	786			639	533	1,172	3,172	0.37		A-B
936C33011001	917/918	SR 936C/D	690I Collectors	Syracuse East City Line/Jct Rt 930P	Nov-00	2UF	PA			1,162	1,257	2,419			1,612	1,767	3,379	1,872	1.81	x	F
City Locations																					
			Grand Av	Avery Ave/Geddes St	Jun-04	2UU-I	MA			557	204	761			317	635	952	1,267	0.75		C-D
	502		Brighton Av	Salina St/State St	Apr-01	2UU-I	PA					561					626	1,267	0.49		C-D
	503		W Fayette St	Geddes St/West St	Apr-01	2UU-I	MA					1,131					1,358	1,267	1.07	x	E
	1139		Teall Av	James St/Grant Blvd	Oct-02	2UU-I	PA	357	395				546	456			1,002	1,267	0.79		C-D

**TABLE 1
(continued)**

**ROAD SEGMENT
TRAFFIC COUNTS**

Count Loc Ref Marker	Sta #	Road #	Link Name	From/To	Year of DOT Counts	Exist Road*	Functional Class	Factored AM Peak Hour				Factored PM Peak Hour				Existing Road Service Volume "D"	PM PK V/C Ratio	V/C >.90 Requires Tier 2	PM Peak Hour LOS						
								NB	SB	EB	WB	Total	NB	SB	EB					WB	Total				
			Midler Ave	Burnet Ave/James St	May-04	2UU-I	MA	547	462					1,009	637	545			1,267	0.93	x	C-D			
			Burnet Ave	Lodi St/Teall Ave	Jul-02	2UU-I	MA			272	417		689					525	338	863	1,267	0.68		C-D	
			Franklin St	Jefferson St/Solar St	Sep-03	4UU-I	C	340	534				874	640	342					982	2,692	0.36		A-B	
			Clinton St	Water St/Herald Pl	May-04	2UU-I	MA				639		639		305					305	1,267	0.24		A-B	
			Salina St	W Onondaga St/W Genesee St	May-04	2UU-I	MA	358	378				736	613	378					991	1,267	0.78		C-D	
			Warren St	W Onondaga St/James St	May-04	2UU-I	MA	287					287	541						541	1,267	0.43		C-D	
			Montgomery St	E Fayette St/Jefferson St	Aug-04	2UU-I	C			180			180		163					163	1,267	0.13		A-B	
			Jefferson St	S Franklin St/ S Salina St	May-99	2UU-I	C				214	231	445			155	231			386	1,267	0.30		C-D	
	1036		W Fayette St	S Salina St/S Franklin St	Nov-00	2UU-I	MA				253	139	392			163	298			461	1,267	0.36		C-D	
	6058		Washington St	West St/McBride St	Oct-00	2UU-I	C				36	164	200			78	439			517	1,267	0.41		C-D	
	1134		Harrison St	S Salina St/Almond St	Oct-00	4UU-I	PA						1,290	1,290						728	2,692	0.27		A-B	
			Adams St	Acc I81/Irving Ave.	Oct-01	2UU-I	MA				1,647	0	1,647			880	0			880	1,267	0.69		C-D	
			Almond St	Burt St/SR 930C (Adams)	Oct-01	2UU-I	MA	128	601				729	594	245					839	1,267	0.66		C-D	
			Irving Ave	VanBuren St/Waverly Ave	Nov-01	4UU-I	MA	245	612				857	457	322					779	2,692	0.29		A-B	
			Crouse Ave	Waverly Ave/Harrison Ave	Dec-02	2UU-I	C	329					329	468						468	1,267	0.37		C-D	
			Velasko Rd	Glenwood Ave/Avery Ave	Jun-04	2UU-I	MA	391	251				642	349	468					817	1,267	0.64		C-D	
	310		Geddes St	I-690/Kirkpatrick St.	Aug-00	4UU-I	PA	526	297				823	741	393					1,134	2,692	0.42		A-B	
	6043		W Brighton Ave	SR 175/US 11	Sep-02	2UU-I	PA				463	349	812			331	459			790	1,267	0.62		C-D	
			Colvin St	Comstock Ave/Skytop Rd	Nov-01	2UU-I	MA				653	681	1,334			680	908			1,588	1,267	1.25	x	E	
			Comstock Ave	Euclid Ave/University Pl	Mar-01	2UU-I	MA	451	128				579	396	418					814	1,267	0.64		C-D	
			Euclid Ave	Comstock Ave/Ostrum Ave	Mar-01	2UU-I	MA				91	385	476			290	236			526	1,267	0.42		C-D	
			Waverly Ave	Crouse Ave/University Ave	Dec-02	4UU-I	MA				131	601	732			266	794			1,060	2,692	0.39		A-B	
			Walnut Ave	Adams St/Fayette	May-04	2UU-I	L	109					109	344						344	1,267	0.27		A-B	
	1032		Westcott St	Clarke St/Lenox Ave	Oct-00	2UU-I	C	296	221				517	301	377					678	1,267	0.54		C-D	
	130		E Brighton Ave	Acc I-481 ramps/Rockcut Rd.	Nov-00	4UU-I	MA	894	587				1,481	522	1,046					1,568	2,692	0.58		A-B	
County & Town Locations																									
			Old Court St	Riddings Rd/Baker St	Aug-99	2UU-U	L			139	110	249			140	117	257			1,267	0.20			A-B	
		CR 75	Terry Rd	Onondaga Blvd./Onondaga Town Line	2001	2UU-I	C													564	1,267	0.45		C-D	
	07J/1114	CR 91	Old Route 57	Tulip St/N Village Ln	2002	2UU-I	PA													1,088	1,267	0.86		C-D	
		CR 91	Old Route 57	Liverpool Bypass/Clay Town Line	2002	4UU-I	PA							1,012	1,140					2,152	2,692	0.80		C-D	
		CR 91	Old Route 57	John Glenn Blvd/Blackberry	2002	4UU-I	PA							1,108	1,010					2,118	2,692	0.79		C-D	
		CR 91	Old Route 57	Blackberry/Wetzel Rd	2002	4UU-I	PA							1,170	955					2,125	2,692	0.79		C-D	
	506	CR 91	Old Route 57	Wetzel Rd/Soule Rd	2002	4UU-I	PA							1,169	929					2,098	2,692	0.78		C-D	
		CR 91	Old Route 57	Soule Rd/Gaskin	2002	4UU-I	PA							808	861					1,669	2,692	0.62		C-D	
	507	CR 208	South Bay Rd	I81/Thompson Road	Apr-01	2UU-I	MA						580							897	1,267	0.71		C-D	
	11J	CR 81	John Glenn Blvd	I690/SR 370	May-01	4UD-I	PA			643	1,151	1,794			979	942			1,921	3,172	0.61		C-D		
	508	CR 81	John Glenn Blvd	Old Route 57/End	Jun-01	4UD-I	PA			430	426	856			500	585			1,085	3,172	0.34		A-B		
	10J	CR 45	Henry Clay Blvd	Buckley Road/Wetzel Road	Nov-03	2UU-I	MA	224	492				716	534	225					759	1,267	0.60		C-D	
		CR 46	Morgan Rd	SR 31/Wetzel Rd	May-00	2UU-U	MA						964							1,179	1,267	0.93	x	C-D	
		CR 252	Wetzel Rd	Old Route 57/Morgan Rd	May-04	2UU-U	C				510	207	717			331	436			767	1,267	0.61		C-D	
		CR 96	Soule Rd	Old Route 57(Oswego Rd)/Rte 31	May-04	2UU-U	C				433	353	786			639	533			1,172	1,267	0.93	x	C-D	
		CR 37	River Rd	SR 31/Lamson Rd	May-04	2UU-U	C	65	276				341	252	143					395	1,267	0.31		C-D	
		CR 123	Lake Shore Rd	160' East of Snowshoe	May-04	2UU-U	C	109	313				422	335	224					559	1,267	0.44		C-D	
		CR 166	Bartell Rd	Miller Rd/Acc 811	2002	2UU-U	C													N/A	1,118	1,267	0.88		C-D

**TABLE 1
(continued)**

**ROAD SEGMENT
TRAFFIC COUNTS**

Count Loc Ref Marker	Sta #	Road #	Link Name	From/To	Year of DOT Counts	Exist Road*	Functional Class	Factored AM Peak Hour				Factored PM Peak Hour				Existing Road Service Volume "D"	PM PK V/C Ratio	V/C >.90 Requires Tier 2	PM Peak Hour LOS		
								NB	SB	EB	WB	Total	NB	SB	EB					WB	Total
		CR 92	Downer St	Rt 690/W Baldwins Village Line	Oct-01	2UU-I	C			271	203	474			406	361	767	1,267	0.61		C-D
		CR 222	McDonald Rd	Velasko Rd/Glenwood Rd	Nov-01	2UU-U	C			375	125	500			170	346	516	1,267	0.41		C-D
			Fay Rd	Salisbury Rd/SR 5	Jun-04	2UU-U	MA	228	152			380	218	206			424	1,267	0.33		C-D
		CR 51	Vine St	Commerce Blvd/Henry Clay Blvd	Nov-01	2UU-I	MA			402	362	764			536	519	1,055	1,267	0.83		C-D
		CR 45	7th North St	Buckley Road/Acc Rt 811	Nov-01	4UU-I	MA			784	1,238	2,022			1,066	923	1,989	2,692	0.74		C-D
		CR 48	Buckley Rd	SR 370/7th North St	Nov-01	2UU-U	MA	379	353			732	554	478			1,032	1,267	0.81		C-D
		CR 45	Buckley Rd	250' N of Hopkins Rd. (Taft/Hopkins)	May-04	2UU-U	MA	394	438			832	631	522			1,153	1,267	0.91	x	C-D
		CR 76	New Venture Gear Dr	SR 298/Fly Rd	May-04	4UU-U	C			283	372	655			237	237	474	2,692	0.18		A-B
		CR 251	Fly Rd	New Venture Gear Dr/SR 298	Nov-01	2UU-U	C	180	312			492	335	91			426	1,267	0.34		C-D
			Bailey Rd	Buckley Rd/US 11	May-04	2UU-U	C			557	365	922			470	674	1,144	1,267	0.90	x	C-D
	509	CR 19	Taft Road	Church St/Thompson Rd	May-01	4UU-I	PA			660	493	1,153			703	866	1,569	2,692	0.58		A-B
	511	CR 98	Old SR 5 (W Genesee St)	SR 930W/SR 173	May-01	4UU-I	MA			607	552	1,159			819	1,306	2,125	2,692	0.79		C-D
		CR 98	Old SR 5 (W Genesee St)	200' E of Whedon Rd (Hinsdale/Rt 173)	May-04	4UU-I	MA			597	359	956			691	862	1,553	2,692	0.58		A-B
	512	CR 98	Old SR 5 (W Genesee St)	Hinsdale Rd/Kasson Rd	May-04	4UU-I	MA			836	437	1,273			783	1,014	1,797	2,692	0.67		C-D
		CR 98	Old SR 5 (W Genesee St)	50' E of Windcrest Dr. (V-Camillus/Kasson Rd)	May-04	4UU-U	MA			435	300	735			470	528	998	2,692	0.37		A-B
	16E	CR 53	Kirkville Rd	Girden Rd/Fremont Rd	May-00	2UU-U	C			434	956	1,390			1,002	505	1,507	1,267	1.19	x	E
Thruway Locations								AADT volumes													
	306	I 90	Exit 34/Exit 34A	Inter 34A Rt 481I/Madison Co Line	2003	4UF	PA					40,200									
	305	I 90	Exit 34A/Exit 35	Inter 35 Rt 298/Inter 34A Rt 481I	2003	4UF	PA					28,700									
	304	I 90	Exit 35/Exit 36	Inter 36 Rt 81I/Inter 35 Rt 298	2003	4UF	PA					33,500									
	303	I 90	Exit 36/Exit 37	Inter 37 Electronics Pkwy/Inter 36 Rt 81I	2003	4UF	PA					39,200									
	302	I 90	Exit 37/Exit 38	Inter 38 Liverpool/Inter 37 Electronics Pkwy	2003	4UF	PA					37,600									
	301	I 90	Exit 38/Exit 39	Inter 39 Rts 690I & 690/Inter 38 Liverpool	2003	4UF	PA					34,500									
	300	I 90	Exit 39/Exit 40	Onondaga Co Line/Inter 39 Rts 690I & 690	2003	4UF	PA					38,200									

* The first value represents the number of lanes. The second value represents whether the roadway is Urbanized "U" or a Transitional area "T". The third value indicates whether the roadway segment is a Freeway "F", Undivided "U", or Divided "D". The fourth value, separated by a dash, indicates whether the segment is Uninterrupted "U" or Interrupted "I". Example: 4UU-I is a 4 lane, urban, undivided, interrupted (signalized), roadway segment

** PA = Principal Arterial
MA = Minor Arterial
C = Collector

*** Maximum values were obtained from Appendix A, Level of Service Tables

TABLE 2

INTERSECTION TRAFFIC COUNTS

Intersection	Signal Owner	Year of Traffic Counts	AM PEAK												Total AM Peak Hr Intersection Volume	AM Peak Hour LOS	PM PEAK												Total PM Peak Hr Intersection Volume	PM Peak Hour LOS
			Southbound			Westbound			Northbound			Eastbound					Southbound			Westbound			Northbound			Eastbound				
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Morgan Road @ Buckley Road	OCDOT	Jun-04	259	705	194	95	274	118	79	188	87	168	493	210	2,870	D	128	259	174	94	606	208	207	661	119	250	335	113	3,154	E
SR 370/Old Liverpool Rd	State	Oct-01	403	1,869	0	39	57	284	0	591	26	0	39	51	3,359	C	298	670	2	30	77	619	0	1,779	36	0	89	43	3,643	F
SR 931G @ Tulip St	State	Oct-01	0	800	28	676	44	1	5	270	263	11	33	8	2,139	C	4	415	47	287	64	12	0	966	601	46	71	6	2,519	C
Butternut @ Grant Blvd (North)	City	Oct-01	0	151	30	112	265	49	0	0	0	0	0	226	833	B	0	122	30	123	329	166	0	0	0	0	0	294	1,064	B
Butternut @ Grant Blvd (South)	City	Oct-01	59	68	0	0	0	0	0	0	56	0	0	0	183	A	88	52	0	0	0	0	0	0	73	0	0	0	213	A
Midler Ave @ James St	City	Oct-01	129	299	54	47	367	64	141	395	63	45	366	88	2,058	C	169	392	66	33	451	56	202	367	82	27	441	108	2,394	D
James St @ Teall Ave	City	Jan-02	6	328	150	68	422	11	138	279	92	56	210	111	1,871	C	11	333	83	98	320	13	113	368	105	160	445	102	2,151	C
Butternut @ Lodi St	City	Jun-04	147	280	40	52	136	55	19	159	49	29	312	28	1,306	B	118	221	41	90	282	121	66	316	84	65	232	28	1,664	C
Genesee St @ Erie Blvd West	City	Jun-04	25	188	154	0	337	18	38	31	7	1	831	385	2,015	C	19	63	212	1	815	67	198	99	16	2	592	102	2,186	C
W Onondaga St @ Geddes St	City	Oct-01	5	296	24	9	19	8	26	607	16	31	63	11	1,115	*	3	108	20	2	33	5	9	99	2	12	18	3	314	*
SR 173 (East) @ SR 175	State	Oct-01	8	17	226	43	675	9	51	25	54	486	784	76	2,454	B	13	12	370	27	865	11	29	8	22	249	664	41	2,311	B
SR 175 @ SR 173 (West)	State	Oct-01	483	0	6	0	543	335	0	0	0	0	929	0	2,296	C	527	0	5	0	790	478	0	0	0	0	480	0	2,280	C
S Salina St @ Seneca Tpke	City	Oct-01	41	187	82	90	375	28	166	290	202	106	506	158	2,231	E	60	275	160	226	504	33	164	203	117	117	417	200	2,476	F
Colvin St @ Comstock	City	Nov-01	97	49	42	116	356	209	30	234	239	166	317	7	1,862	C	241	199	189	226	432	250	14	109	212	72	227	15	2,186	C
Columbus @ Genesee St	City	Nov-01	106	40	26	0	632	74	6	17	4	46	171	3	1,125	C	161	43	26	2	283	68	5	25	5	126	591	6	1,341	C
S Geddes St @ Bellevue Ave	City	Oct-01	28	263	19	3	43	46	11	576	49	27	70	18	1,153	**	34	400	54	6	97	31	18	231	9	38	67	19	1,004	**
Salina St @ Castle St	City	Nov-01	10	196	15	53	56	17	41	424	54	32	150	22	1,070	A	12	442	38	152	162	20	51	339	67	41	70	25	1,419	A
Adams St @ Almond	State	Oct-01	950	655	0	0	0	0	0	1045	378	481	451	259	4,219	C	452	827	0	0	0	0	0	893	90	1176	436	591	4,465	D
Harrison St @ Almond St	City	Oct-01	0	1457	113	104	295	504	444	929	76	0	0	0	3,922	C	0	1086	90	357	295	1171	171	1911	13	0	0	0	5,094	D
Irving Ave @ Waverly Ave	City	Nov-01	204	380	0	232	0	64	0	122	123	0	0	0	1,125	B	182	179	0	150	0	92	0	206	265	0	0	0	1,074	B
SR 5 @ Lyndon Road	State	Jun-04	20	5	90	0	1172	21	32	7	16	34	654	22	4,020	F	48	6	90	0	947	25	57	11	17	92	1293	58	4,804	E
SR 92 @ Lyndon Road	State	Jun-04	26	0	0	0	1371	21	0	0	8	0	521	0	4,020	F	166	0	0	0	794	49	0	0	7	0	1144	0	4,804	E
SR 5 @ SR 257	State	Dec-03	30	110	29	23	462	34	524	125	39	5	222	0	1,603	D	60	114	28	35	397	40	300	112	73	15	563	1	1,738	D
SR 257 @ Salt Springs Road	State	Dec-03	28	84	0	13	0	393	0	310	9	1	78	133	1,049	F	48	97	0	22	0	208	0	274	16	32	367	148	1,212	C
SR 290 @ SR 635 (James/Thompson)	State	Jun-04	95	1011	198	159	254	79	50	1208	55	185	334	18	3,646	E	71	1023	157	200	377	79	108	1021	157	212	418	36	3,859	E
SR 5 @ SR 930P (Erie/Bridge St/Orrick)	State	Aug-02	162	57	112	38	212	143	21	86	26	120	261	11	1,249	C	481	148	293	129	790	403	45	129	46	346	940	13	3,763	D
SR 5 @ SR 635 (Erie/Thompson)	State	Jun-04	297	299	382	39	230	141	60	327	29	163	220	12	2,199	B	528	428	393	167	559	454	61	367	88	403	706	15	4,169	E
Acc I 81/SR 931J (Pardee Rd) @ SR 31	State	Oct-02	12	0	136	0	1056	93	146	44	221	99	571	0	2,378	C	14	0	99	0	945	242	348	94	534	306	924	0	3,506	E
Old Route 57 @ John Glenn Blvd	OCDOT	Apr-04	54	1095	347	115	285	47	66	450	93	240	344	252	3,388	D	92	687	383	138	363	101	173	1207	125	402	381	116	4,168	E
Henry Clay Blvd @ Wetzel Rd	OCDOT	Apr-04	81	443	47	29	111	53	114	122	19	17	136	55	1,227	C	75	218	24	25	207	113	144	432	26	86	142	79	1,571	D
Henry Clay Blvd @ Buckley Rd	OCDOT	Apr-04	36	466	87	54	209	31	157	210	29	17	314	375	1,985	E	45	219	43	31	376	42	357	605	74	56	376	198	2,422	D
South Bay Rd @ Taft Rd	State	Oct-02	51	242	65	161	523	96	74	142	78	28	429	149	2,038	C	71	213	97	141	674	189	306	424	162	110	576	126	3,089	D
US 11 @ Taft Rd	State	Oct-02	61	335	99	80	507	42	137	114	24	112	499	318	2,328	C	87	369	114	128	590	171	366	342	94	218	592	272	3,343	D
Buckley Rd @ 7th North St	OCDOT	Nov-01	267	188	41	115	501	622	104	211	64	82	453	50	2,698	F	385	255	68	164	404	355	97	332	125	87	556	59	2,887	F

* and **: The intersections of W Onondaga St @ Geddes St and Bellevue Ave @ Geddes St operate with a flashing traffic light, red flashing on W Onondaga St and Bellevue Ave and yellow flashing on Geddes St. Because of the flashing traffic lights, the intersections essentially operate as unsignalized two-way stop intersections. Therefore, each intersection was evaluated as an unsignalized two-way stop intersection using HCS software. In HCS, Level of Service (LOS) for unsignalized intersections is determined for each approach, not for the intersection as a whole. In addition, for unsignalized intersections in HCS, the software only gives a LOS for conflicting movements. All other movements are considered to be free flow movements.

* W Onondaga St @ Geddes St:
 AM Peak LOS for W Onondaga St Westbound: E
 AM Peak LOS for W Onondaga St Eastbound: F

PM Peak LOS for W Onondaga St Westbound: E
 PM Peak LOS for W Onondaga St Eastbound: F

** Bellevue Ave @ Geddes St:
 AM Peak LOS for Bellevue Ave Westbound: D
 AM Peak LOS for Bellevue Ave Eastbound: F
 PM Peak LOS for Bellevue Ave Westbound: E
 PM Peak LOS for Bellevue Ave Eastbound: F

TABLE 3
VEHICLE OCCUPANCY COUNTS

Location Description	Segment	AM	PM	Count Week	AM Vehicle Occupancy							Total	Percent SOV*	AM Ave. # Occupants per Vehicle	PM Vehicle Occupancy							Total	Percent SOV*	PM Ave. # Occupants per Vehicle
					1	2	3	4	5	6	1				2	3	4	5	6					
SR 481 @ SR 31		481 SB entrance ramp	481 NB exit ramp	5/12/1998	2097	176	14	3	0	1	2291	91.53%	1.10	1429	216	23	9	1	0	1678	85.16%	1.17		
I81 @ SR 31		I81 SB entrance ramp	I81 NB exit ramp	6/11/1998	1351	142	16	6	0	0	1515	89.17%	1.13	1355	267	40	12	3	1	1678	80.75%	1.24		
I81 @ Taft Rd		I81 SB entrance ramp	I81 NB exit ramp	5/19/1998	930	116	3	0	0	0	1049	88.66%	1.12	1233	254	27	2	0	0	1516	81.33%	1.21		
I81 @ I90		both directions	both directions	7/7/1998	1322	302	52	19	1	0	1696	77.95%	1.28	1518	752	150	60	6	0	2486	61.06%	1.51		
I81 @ I90		both directions	both directions	8/19/1998	1202	281	43	25	6	1	1558	77.15%	1.30	1388	671	136	75	10	3	2283	60.80%	1.54		
I90 @ SR 57		I90 ramp both directions	I90 ramp both directions	5/26/1998	1152	124	19	4	0	0	1299	88.68%	1.13	1004	161	20	5	2	0	1192	84.23%	1.19		
Onondaga Lake Parkway	Near park entrance	both directions	both directions	7/1/1998	3306	423	25	5	1	0	3760	87.93%	1.13	3748	878	118	48	2	0	4794	78.18%	1.26		
SR 5 @ Hinsdale Rd		SR 5 entrance ramp	SR 5 exit ramp	6/8/1998	2155	217	23	2	1	0	2398	89.87%	1.11	1532	304	37	9			1882	81.40%	1.22		
W Genesee @ Erie Blvd		both directions	both directions	7/14/1998	2184	325	27	13	1	1	2551	85.61%	1.17	2225	583	110	36	0	1	2955	75.30%	1.31		
James St @ Teall Av		both directions	both directions	7/2/1998	1252	278	24	8	0	0	1562	80.15%	1.22	1576	528	68	29	5	1	2207	71.41%	1.35		
SR 5	Highbridge/Rt 257	both directions	both directions	6/17/1998	1957	214	10	3	0	0	2184	89.61%	1.11	1710	520	105	31	6	0	2372	72.09%	1.36		
SR 92	Highbridge/Rt 257	both directions	both directions	6/24/1998	2396	258	28	7	3	0	2692	89.00%	1.13	2000	521	113	26	9	3	2672	74.85%	1.33		
E Genesee @ Salt Springs Rd		both directions	both directions	7/8/1998	1075	181	19	3	0	0	1278	84.12%	1.18	1269	404	64	24	6	1	1768	71.78%	1.36		
S Salina St @ Seneca Tnpk		both directions	both directions	6/25/1998	1021	195	13	2	1	0	1232	82.87%	1.19	1432	523	102	20	7	1	2085	68.68%	1.39		
South Av	SR 173/ Valley Dr			6/10/1998	1343	166	17	6	0	0	1532	87.66%	1.14	1226	249	37	14			1526	80.34%	1.24		
I81 @ Harrison/Almond		SB on Almond & ramp	WB on Harrison	8/5/1998	2921	511	41	14	0	0	3487	83.77%	1.18	2267	563	85	21	4	1	2941	77.08%	1.28		
I81 @ Adams/Almond		NB on Almond from ramp	Adams EB & 81 SB ramp	8/12/1998	1775	303	42	9	2	0	2131	83.29%	1.20	3332	611	86	30	7	2	4068	81.91%	1.22		
I 690 @ Townsend/McBride		exit ramp @ Townsend	entrance ramp @ McBride	8/26/1998	2333	376	28	8	1	1	2747	84.93%	1.17	1356	250	22	7	0	0	1635	82.94%	1.19		
I81 @ Clinton/Salina Exit		Clinton/Salina	I81 on ramp @ Pearl St	7/22/1998	2284	328	9	2	0	0	2623	87.08%	1.13	1877	368	57	12	6	1	2321	80.87%	1.24		
I81 @ Franklin/West Exit		I81 off ramp @ West St	I81 on ramp @ Butternut	7/29/1998	1291	104	8	2	0	0	1405	91.89%	1.09	1596	296	37	13	2	0	1944	82.10%	1.21		
I690 off ramp @ Genesee St		ramp & Genesee	ramp & Genesee	7/15/1998	2111	329	29	3	2	0	2474	85.33%	1.16	1426	384	56	17	7	1	1891	75.41%	1.31		
Totals					37,458	5,349	490	144	19	4	43,464	86.01%	1.16	36,499	9,303	1,493	500	83	16	47,894	76.56%	1.29		

* Single Occupancy Vehicle

TABLE 4

CONGESTED ROAD SEGMENT LOCATIONS

Count Location Reference Marker	Station #	Road # or Road Name	From/To	Year of DOT Counts	Exist Road*	Functional Class**	Factored AM Peak Hour					Factored PM Peak Hour					Existing Road Service Vol "D"****	PM PK V/C Ratio	AM Peak Hour LOS	PM Peak Hour LOS	Excess Delay
							NB	SB	EB	WB	Total	NB	SB	EB	WB	Total					
48I33012052	072	I 481	Acc Rts 5 92/Acc Rt 690I	Nov-02	6UF	PA	2,988	2,030			5,018	2,263	3,093			5,356	5,506	0.97	C-D	C-D	-20.80
48I33012060	102	I 481	Acc Rt 690I/Acc Kirkville Rd	Jul-01	4UF	PA	1,939	2,400			4,339	2,623	1,944			4,567	3,671	1.24	F	F	-15.80
48I33012083	103	I 481	Acc Kirkville Rd/Acc Rt 90I	Apr-01	4UF	PA	999	2,090			3,089	2,066	1,336			3,402	3,671	0.93	C-D	C-D	-21.33
690I33011041	545	I 690	Jct Rt 695/Syracuse W City Ln	Apr-01	6UF	PA		4,560	1,510	6,070			2,038	4,965	7,003	5,506	1.27	E	F	-12.75	
690I33011041	545	I 690	Syracuse W City Ln/Acc Hiawatha Blvd	Apr-01	6UF	PA		4,560	1,510	6,070			2,038	4,965	7,003	5,506	1.27	E	F	-12.75	
690I33012008	546	I 690	Acc Hiawatha Blvd/Acc Rt 298 Bear St Art	Apr-00	6UF	PA		4,577	1,482	6,059			1,814	4,181	5,995	5,506	1.09	E	E	-16.16	
690I33012014	059	I 690	Acc Rt 298 Bear St Art/Acc Geddes St Half Int	Jul-02	6UF	PA		4,061	1,184	5,245			1,619	3,906	5,525	5,506	1.00	C-D	E	-17.27	
690I33012018	060	I 690	Acc Geddes St Half Int/Acc West St	Apr-01	6UF	PA		4,410	1,674	6,084			2,092	4,206	6,298	5,506	1.14	E	E	-12.52	
690I33012022	061	I 690	Acc West St/Acc 8II SB	Jul-02	4UF	PA		3,084	2,477	5,561			2,891	3,863	6,754	3,671	1.84	F	F	9.99	
690I33012030	062	I 690	Acc 81 SB/Acc McBride St EB	Apr-00	6UF	PA		3,188	2,695	5,883			3,415	3,770	7,185	5,506	1.30	E	F	-9.78	
690I33012032	063	I 690	Acc McBride St EB/Acc 8II EB	Apr-01	6UF	PA		3,102	3,905	7,007			3,918	4,620	8,538	5,506	1.55	F	F	-3.12	
690I33012036	064	I 690	Acc 8II EB/Acc Teall Ave	Apr-99	6UF	PA		4,075	3,690	7,765			5,103	4,544	9,647	5,506	1.75	F	F	6.46	
690I33012045	065	I 690	Acc Teall Ave/Acc Midler Ave	Apr-02	6UF	PA		3,473	3,843	7,316			4,722	3,786	8,508	5,506	1.55	F	F	-4.04	
690I33012054	074	I 690	Acc Midler Av/Syracuse E C L Rt 635	Apr-01	6UF	PA			2,928	3,629	6,557			3,734	3,775	7,509	5,506	1.36	F	F	-10.37
81I33032031	011	I 81	Jct Colvin St/Jct E Adams St	Mar-99	6UF	PA	3,443	2,147		5,590	2,514	3,296			5,810	5,506	1.06	E	E	-13.61	
81I33032042	015	I 81	Jct E Adams St/Acc 690I	Nov-01	4UF	PA	2,371	3,424		5,795	4,016	2,808			6,824	3,671	1.86	F	F	11.10	
81I33032056	586	I 81	Acc Rt 690I/Jct Rt 298 Bear St	Sep-01	6UF	PA	2,491	5,082		7,573	5,301	2,990			8,291	5,506	1.51	F	F	-4.60	
81I33032066	041	I 81	Jct Rt 298 Bear St/Rt 370	Sep-02	6UF	PA	2,623	5,280		7,903	5,089	2,842			7,931	5,506	1.44	F	F	-7.98	
81I33033007	035	I 81	Syracuse N City Ln/Jct Rt 90I	Sep-01	6UF	PA	1,919	4,634		6,553	4,186	2,800			6,986	5,506	1.27	F	F	-15.15	
81I33033020	550	I 81	Jct Rt 90I/Jct Rt 11	Nov-02	6UF	PA	1,678	4,265		5,943	3,602	2,754			6,356	5,506	1.15	E	E	-17.87	
81I33033029	551	I 81	Jct Rt 11/Airport Rd Jct	Sep-01	6UF	PA	1,294	3,272		4,566	3,323	1,853			5,176	5,506	0.94	C-D	C-D	-21.19	
81I33033040	133	I 81	Airport Rd Jct/Taft Rd Jct	Apr-00	6UF	PA	1,235	3,319		4,554	3,407	1,856			5,263	5,506	0.96	C-D	C-D	-21.01	
81I33033048	134	I 81	Jct Taft Rd/Jct Rt 48I	Apr-00	6UF	PA	913	3,408		4,321	3,557	1,631			5,188	5,506	0.94	C-D	C-D	-21.16	
11 33031095	168	US 11	Rt 173/Acc Rt 8II	Jun-00	2UU-I	MA	553	451		1,004	590	852			1,442	1,267	1.14	C-D	E	-8.01	
11 33033028	225	US 11	Acc 8II/Taft Rd	Sep-02	2UU-I	MA	294	800		1,094	785	778			1,563	1,267	1.23	C-D	E	-8.03	
11 33033039	226	US 11	Taft Rd/SR 931H	Oct-00	2UU-I	MA	365	507		872	676	527			1,203	1,267	0.95	C-D	C-D	-11.13	
11 33033116	048	SR 11	Acc 8II Bartell Rd/Oswego County Line	Jul-02	2UU-I	MA	227	564		791	798	410			1,208	1,267	0.95	C-D	C-D	-11.10	
173 33011086	154	SR 173	Rt 297/Genesee St Fairmount	Aug-00	2UU-U	MA	354	437		791	586	682			1,268	1,267	1.00	C-D	E	-10.74	
173 33011100	189	SR 173	Genesee St Fairmount/Split Rock	Jun-01	2UU-I	MA		471	377	848			579	600	1,179	1,267	0.93	C-D	C-D	-11.26	
173 33012002	110	SR 173	City of Syracuse/RT 80 Valley Dr	Sep-02	2UU-U	MA		682	733	1,415			609	893	1,502	1,267	1.19	E	E	-7.49	
173 33012006	160	SR 173	Rt 80 Valley Dr/Rt 11 S Salina St	Aug-00	2UU-I	MA		627	525	1,152			716	811	1,527	1,267	1.21	C-D	E	-7.25	
173 33012013	159	SR 173	Rt 11 S Salina St/Brighton Ave	Jun-00	2UU-I	MA		547	456	1,003			538	834	1,372	1,267	1.08	C-D	E	-8.55	
290 33011024	190	SR 290	Upton St/Bridge St	Jul-02	2UU-I	MA		558	433	991			686	706	1,392	1,267	1.10	C-D	E	-8.40	
290 33012032	036	SR 290	Bridge St/Fremont Rd	Jun-00	2UU-I	MA		313	960	1,273			1,094	630	1,724	1,267	1.36	E	E	-6.55	
298 33012037	091	SR 298	Kinne St/CR 82 N Blvd	Jun-00	2UU-I	MA		511	879	1,390			1,004	598	1,602	1,267	1.26	E	E	-9.69	
31 33031076	200	SR 31	Rt 48/ End 370 OLAP	Jun-01	2UU-I	PA		703	422	1,125			745	730	1,475	1,267	1.16	C-D	E	-7.73	
31 33091169	209	SR 31	End Rt 370 OLP/CR 91 Old Rt 57	May-00	2UU-I	PA		563	446	1,009			724	895	1,619	1,267	1.28	C-D	E	-9.39	
31 33091339	115	SR 31	Rt 298 Bridgeport/Madison County Line	May-01	2UU-I	MA		225	624	849			754	404	1,158	1,267	0.91	C-D	C-D	-9.75	
370 33031122	058	SR 370	River Rd Cold Springs/John Glenn Blvd	May-00	2UU-I	MA		753	289	1,042			439	978	1,417	1,267	1.12	C-D	E	-10.95	
370 33031167	222	SR 370	Rt 931G Old Rt 57/Syracuse N City Ln	Aug-00	4UU-U	PA		1,694	519	2,213			1,163	1,816	2,979	2,692	1.11	C-D	E	-14.39	
370 33032004	221	SR 370	Syracuse N City Ln/Rt 11 End 370	Jul-00	2UU-I	MA			244	406	650			382	802	1,184	1,267	0.93	C-D	C-D	-9.63

**TABLE 4
(continued)**

CONGESTED ROAD SEGMENT LOCATIONS

Count Location Reference Marker	Station #	Road # or Road Name	From/To	Year of DOT Counts	Exist Road*	Functional Class**	Factored AM Peak Hour					Factored PM Peak Hour					Existing Road Service Vol "D"***	PM PK V/C Ratio	AM Peak Hour LOS	PM Peak Hour LOS	Excess Delay
							NB	SB	EB	WB	Total	NB	SB	EB	WB	Total					
48 33011053	080	SR 48	CR 92 Old Rt 31/Rt 31 370	Jul-01	2UU-I	MA	365	445			810	604	555			1,159	1,267	0.91	C-D	C-D	-9.74
5 33081083	151	SR 5	Jct Bennetts Cor/Rt 174 Camillus	Aug-02	2UU-I	PA			1,004	507	1,511			578	1,163	1,741	1,267	1.37	E	E	-8.56
5 33083020	174	SR 5	Start Rt 92 OLAP Dewitt/Acc Rt 481I	Aug-02	4UD-I	PA			807	1,380	2,187			1,669	1,513	3,182	3,172	1.00	C-D	E	-13.11
5 33083027	175	SR 5	Acc 481I/End Rt 92 OLP Lyndon	Oct-99	4UU-I	PA			1,333	2,375	3,708			2,824	1,680	4,504	2,692	1.67	F	F	-4.99
92 33012023	164	SR 92	End Rt 5 OLP/Woodchuck Hill Rd	Aug-02	2UU-U	PA			459	1,346	1,805			1,313	830	2,143	1,267	1.69	E	E	5.84
92 33012044	238	SR 92	Woodchuck Hill Rd/Rt 257 Manlius	Oct-02	2UU-U	PA			512	1,265	1,777			1,150	720	1,870	1,267	1.48	E	E	-4.31
92 33012063	183	SR 92	End Rt 173 OLP/Pompey Ctr Rd	Jun-00	2UU-U	PA			408	898	1,306			977	536	1,513	1,267	1.19	E	E	-9.84
936C33011001	917/918	SR 936C/D	Syracuse East City Line/Jct Rt 930P	Nov-00	2UF	PA			1,162	1,257	2,419			1,612	1,767	3,379	1,872	1.81	F	F	12.29
	503	W Fayette St	Geddes St/West St	Apr-01	2UU-I	MA					1,131					1,358	1,267	1.07	C-D	E	-8.64
		Midler Ave	Burnet Ave/James St	May-04	2UU-I	MA	547	462			1,009	637	545			1,182	1,267	0.93	C-D	C-D	-9.64
		Colvin St	Comstock Ave/Skytop Rd	Nov-01	2UU-I	MA			653	681	1,334			680	908	1,588	1,267	1.25	E	E	-6.61
		Morgan Rd	SR 31/Wetzel Rd	May-00	2UU-U	MA					964					1,179	1,267	0.93	C-D	C-D	-14.48
		Soule Rd	Old Route 57(Oswego Rd)/Rte 31	May-04	2UU-U	C			433	353	786			639	533	1,172	1,267	0.93	C-D	C-D	-11.30
		Buckley Rd	250' N of Hopkins Rd. (Taft/Hopkins)	May-04	2UU-U	MA	394	438			832	631	522			1,153	1,267	0.91	C-D	C-D	-11.39
		Bailey Rd	Buckley Rd/US 11	May-04	2UU-U	C			557	365	922			470	674	1,144	1,267	0.90	C-D	C-D	-9.80
	16E	Kirkville Rd	Girden Rd/Fremont Rd	May-00	2UU-U	C			434	956	1,390			1,002	505	1,507	1,267	1.19	E	E	-11.16

Note: Locations with Excess Delay are highlighted. A location has Excess Delay when the value is > .01 (refer to Magnitude of PM Peak Hour Excess Delay, pg. 4-5)

* The first value represents the number of lanes. The second value represents whether the roadway is Urbanized "U" or a Transitional area "T". The third value indicates whether the roadway segment is a Freeway "F", Undivided "U", or Divided "D". The fourth value, separated by a dash, indicates whether the segment is Uninterrupted "U" or Interrupted "I".
Example: 4UU-I is a 4 lane, urban, undivided, interrupted (signalized), roadway segment

** PA = Principal Arterial
MA = Minor Arterial
C = Collector

*** Maximum values were obtained from Appendix A, Level of Service Tables

TABLE 5

INTERSECTION LEVEL OF SERVICE (LOS) BY APPROACH

Intersection	Signal Owner	Year of Traffic Counts	AM PEAK LOS by Approach				AM Peak Entire Intersection	PM PEAK LOS by Approach				PM Peak Entire Intersection
			Southbound	Westbound	Northbound	Eastbound		Southbound	Westbound	Northbound	Eastbound	
Morgan Road @ Buckley Road	County	Jun-04	C	D	D	D	D	D	E	E	D	E
SR 370@Old Liverpool Rd	State	Oct-01	C	C	B	C	C	B	C	F	C	F
SR 931G @ Tulip St	State	Oct-01	C	C	C	D	C	A	B	C	B	C
Butternut @ Grant Blvd (North)	City	Oct-01	B	B		B	B	B	B		B	B
Butternut @ Grant Blvd (South)	City	Oct-01	A		A		A	A		A		A
Midler Ave @ James St	City	Oct-01	C	C	D	C	C	D	C	E	C	D
James St @ Teall Ave	City	Jan-02	C	B	C	B	C	C	C	C	C	C
Butternut @ Lodi St	City	Jun-04	B	C	B	C	B	B	E	C	C	C
Genesee St @ Erie Blvd West	City	Jun-04	D	B	D	B	C	D	C	C	B	C
W Onondaga St @ Geddes St	City	Oct-01	*	E	*	F	*	*	E	*	F	*
SR 173 (East) @ SR 175	State	Oct-01	B	C	E	A	B	B	C	D	A	B
SR 175 @ SR 173 (West)	State	Oct-01	D	A		B	C	F	B		B	C
S Salina St @ Seneca Tpke	City	Oct-01	D	C	F	D	E	E	F	D	E	F
Colvin St @ Comstock	City	Nov-01	B	C	C	C	C	C	D	B	C	C
Columbus @ Genesee St	City	Nov-01	D	B	C	B	C	D	B	C	C	C
S Geddes St @ Bellevue Ave	City	Oct-01	*	D	*	F	*	*	E	*	F	*
Salina St @ Castle St	City	Nov-01	A	B	A	B	A	A	B	A	B	A
Adams St @ Almond St	State	Oct-01	B		D	D	C	C		C	F	D
Harrison St @ Almond St	City	Oct-01	D	C	B		C	C	E	B		D
Irving Ave @ Waverly Ave	City	Nov-01	B	C	B		B	B	B	C		B
Route 635 @ Route 290	State	Jun-04	D	D	F	D	E	E	F	E	F	E
Route 5 @ Route 635	State	Jun-04	B	B	C	C	B	F	C	E	D	E
Route 5 @ Route 930P	State	Aug-02	B	C	B	C	C	D	E	C	D	D
I-81 @ 31 @ 931J	State	Oct-02	E	C	C	B	C	E	F	D	E	E
Old Rt 57@John Glenn Blvd	County	Apr-04	C	C	B	F	D	C	C	D	F	E
Wetzel Rd@Henry Clay Blvd	County	Apr-04	C	B	C	B	C	B	C	F	C	D
Buckley Rd@Henry Clay Blvd	County	Apr-04	F	E	C	D	E	D	D	C	D	D
7th North St@Buckley Rd	County	Nov-01	F	F	E	E	F	F	F	E	F	F
US 11 @ Taft Rd	State	Oct-02	C	C	C	C	C	D	D	D	D	D
Taft Rd @ South Bay Rd	State	Oct-02	C	C	C	C	C	E	D	C	D	D
NY 5 @ NY 92	State	Jun-04	E	5: F, 92: F	D	C	F	F	5: E, 92: D	D	E	E
NY 5 @ NY 257	State	Dec-03	D	D	D	C	D	E	D	B	E	D
NY 257 @ Salt Springs Rd	State	Dec-03	A	F	C	B	F	B	E	C	B	C

* The intersections of W Onondaga St @ Geddes St and Bellevue Ave @ Geddes St operate with a flashing traffic light, red flashing on W Onondaga St and Bellevue Ave and yellow flashing on Geddes St. Because of the flashing traffic lights, the intersections essentially operate as unsignalized two-way stop intersections. Therefore, each intersection was evaluated as an unsignalized two-way stop intersection using HCS software. In HCS, Level of Service (LOS) for unsignalized intersections is determined for each approach, not for the intersection as a whole. In addition, for unsignalized intersections in HCS, the software only gives a LOS for conflicting movements. All other movements are considered to be free flow movements.

SECTION 4

Charts 1 - 13

CHART 1

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

NY 5 Between NY 174 and Newport Road

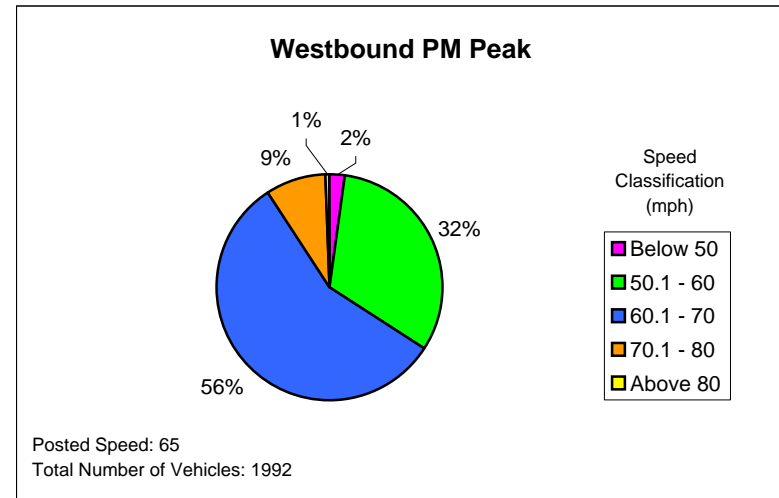
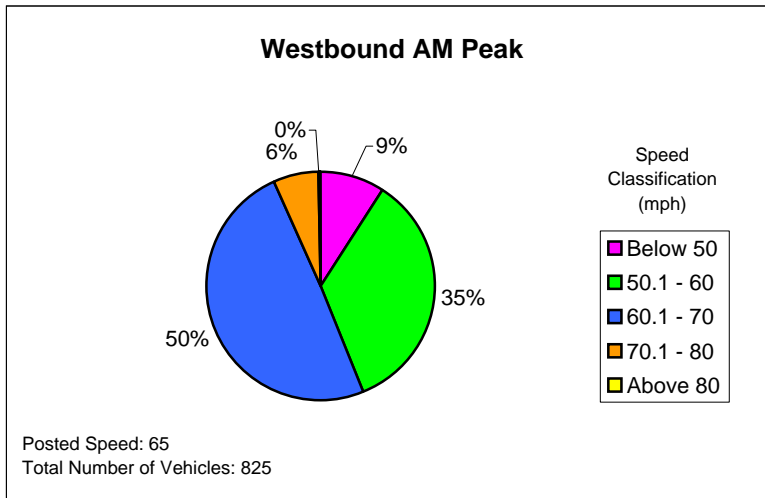
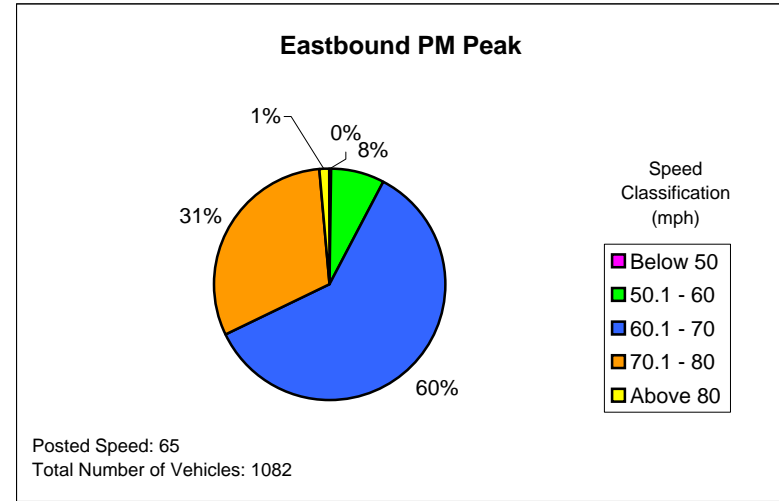
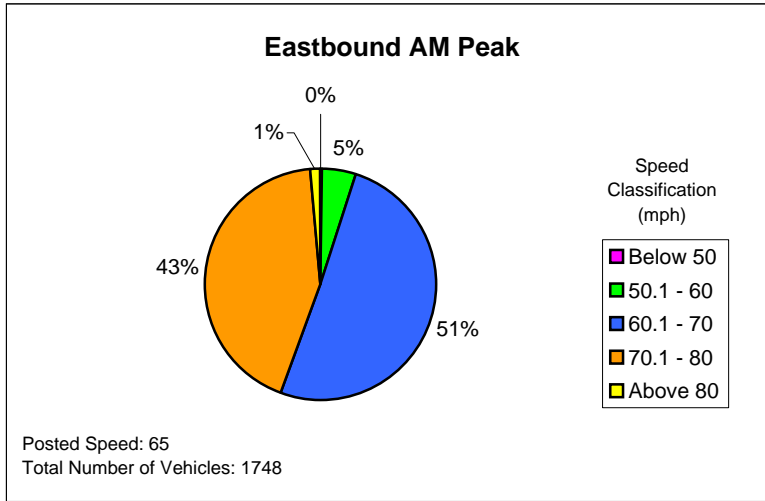


CHART 2

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 81 Between Interchanges 25A and 26

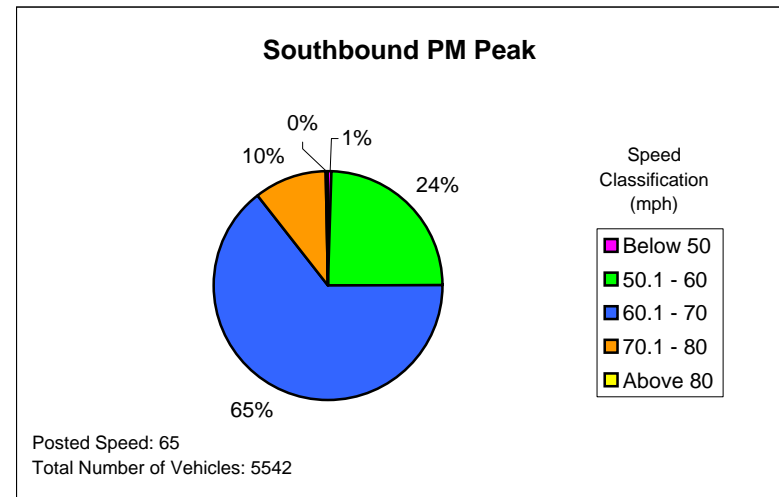
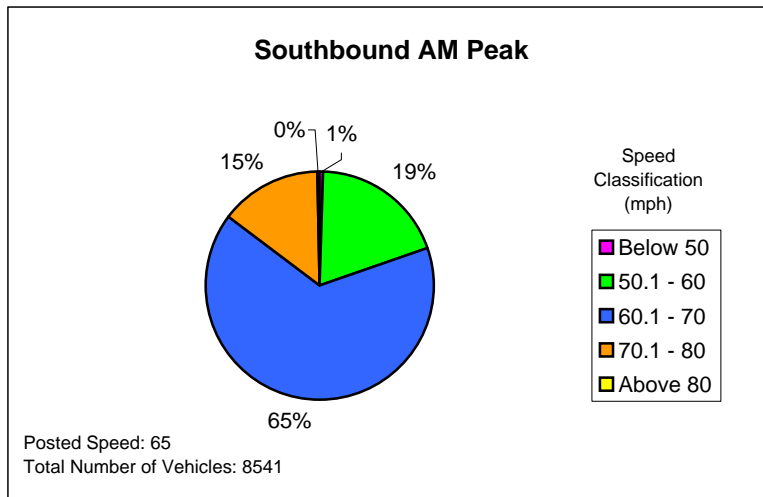
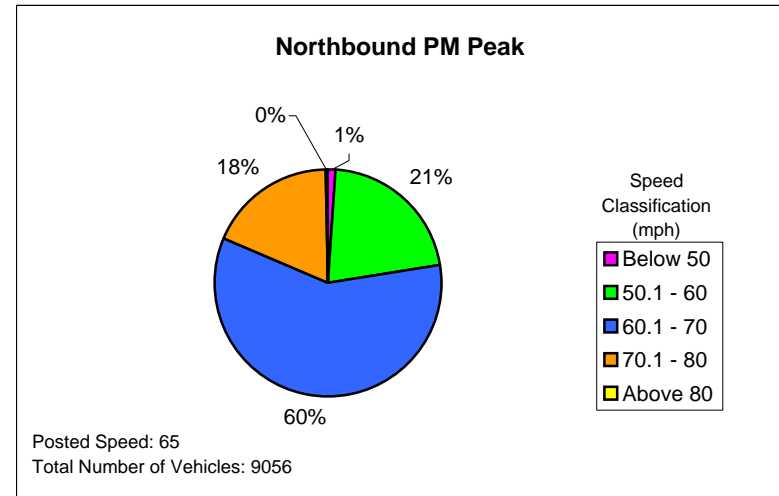
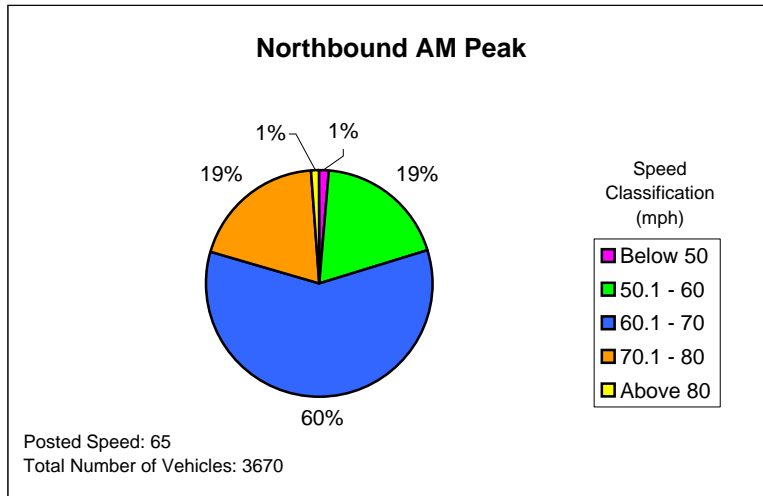


CHART 3

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

NY 298 Between Midler Ave Extension and NY 635 (between Military Circle and Carrier Circle)

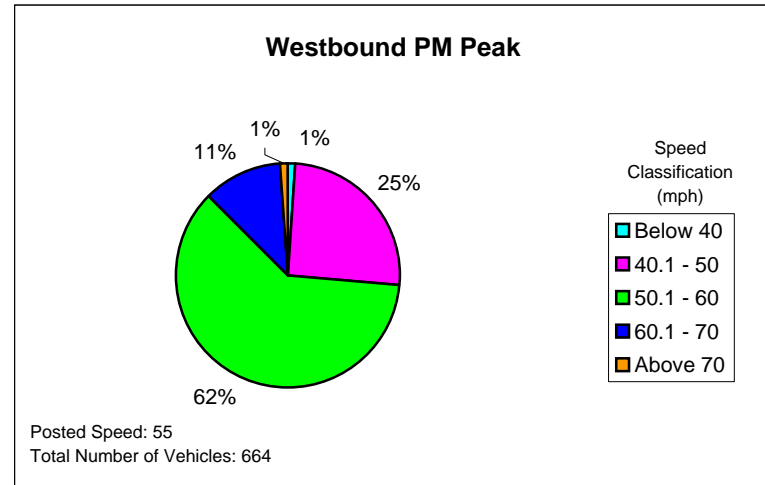
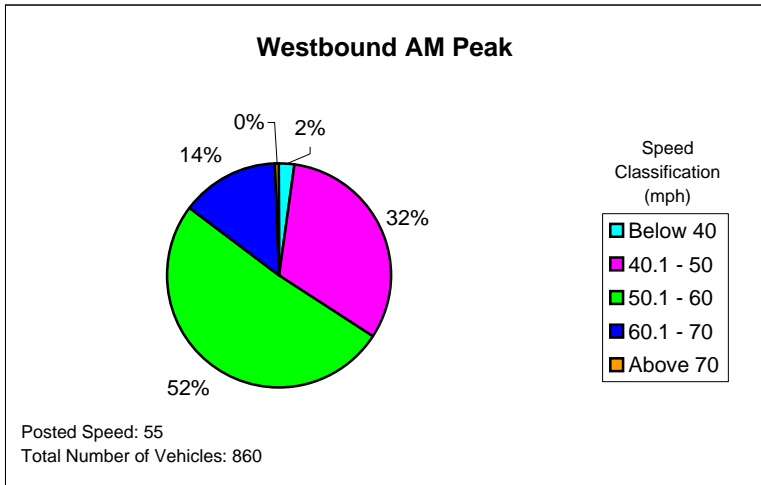
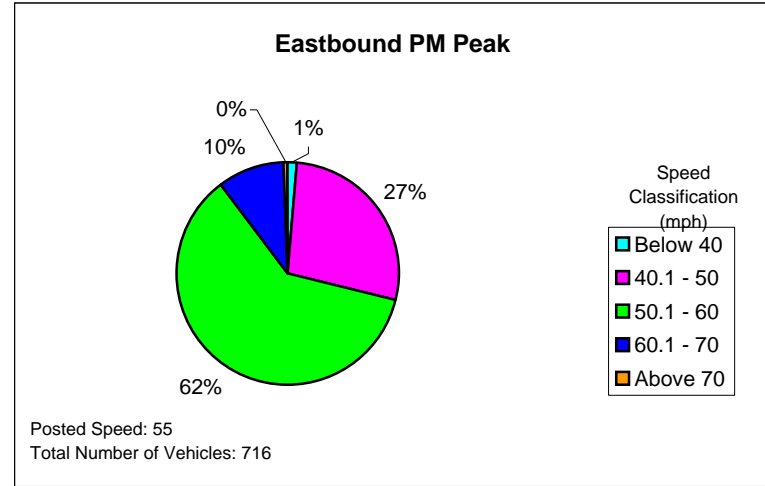
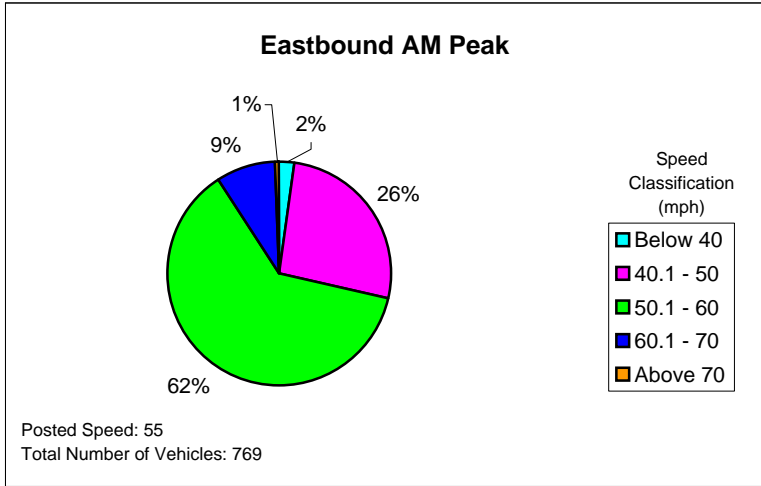


CHART 4

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

NY 5 Between Hinsdale Rd and NY 173

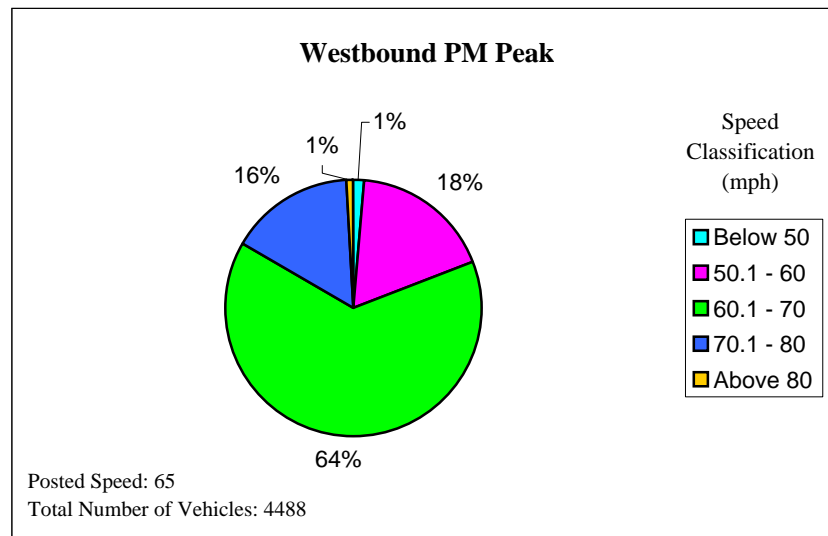
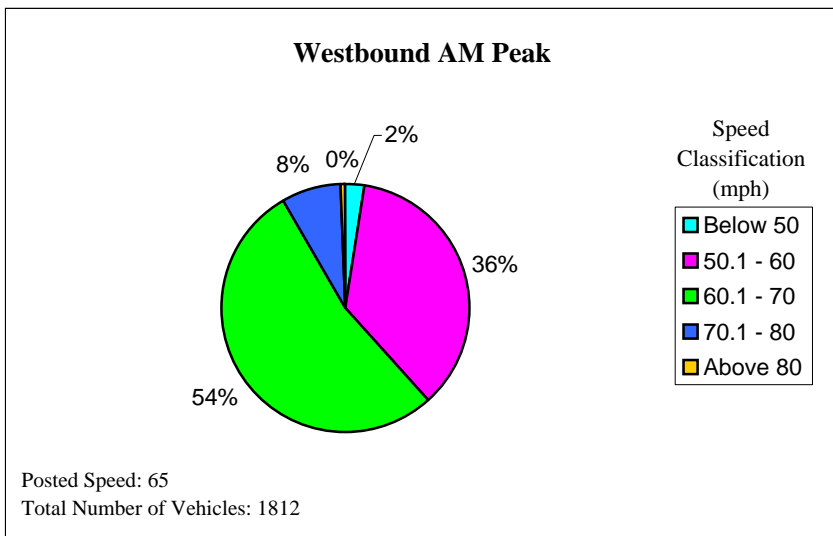
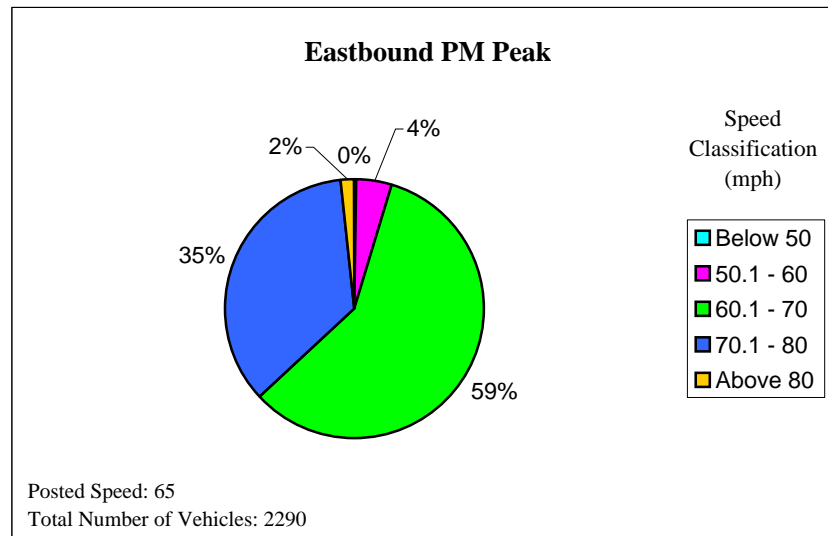
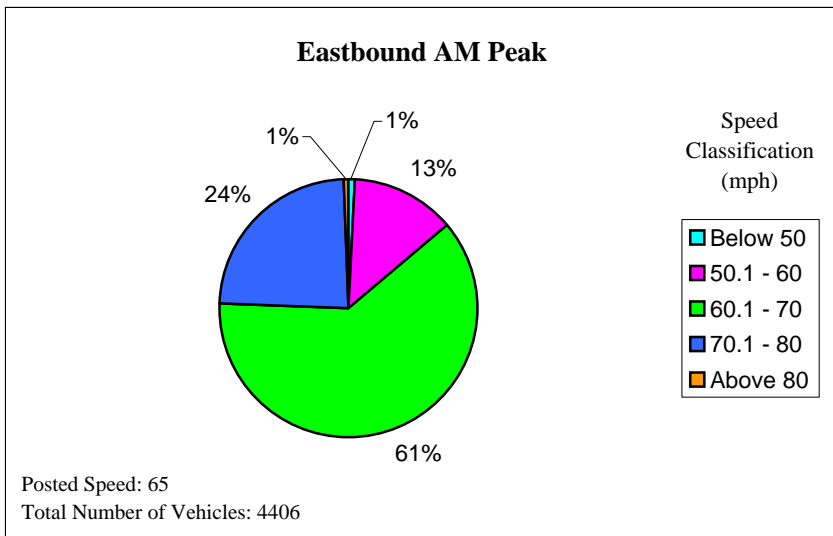


CHART 5

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 690 Westbound Between Interchanges 4 and 5

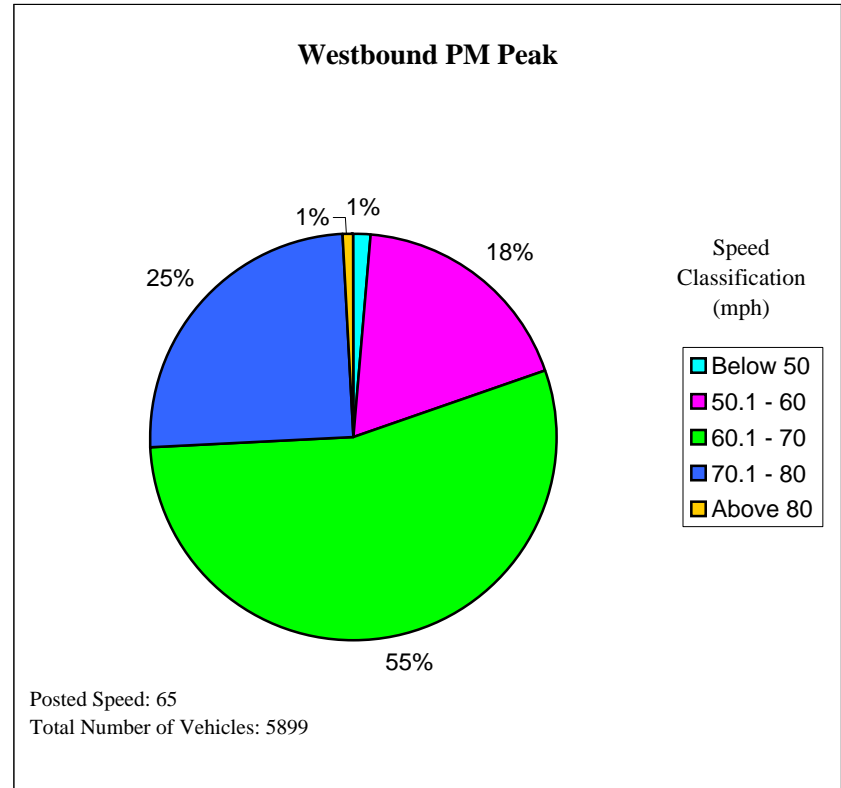
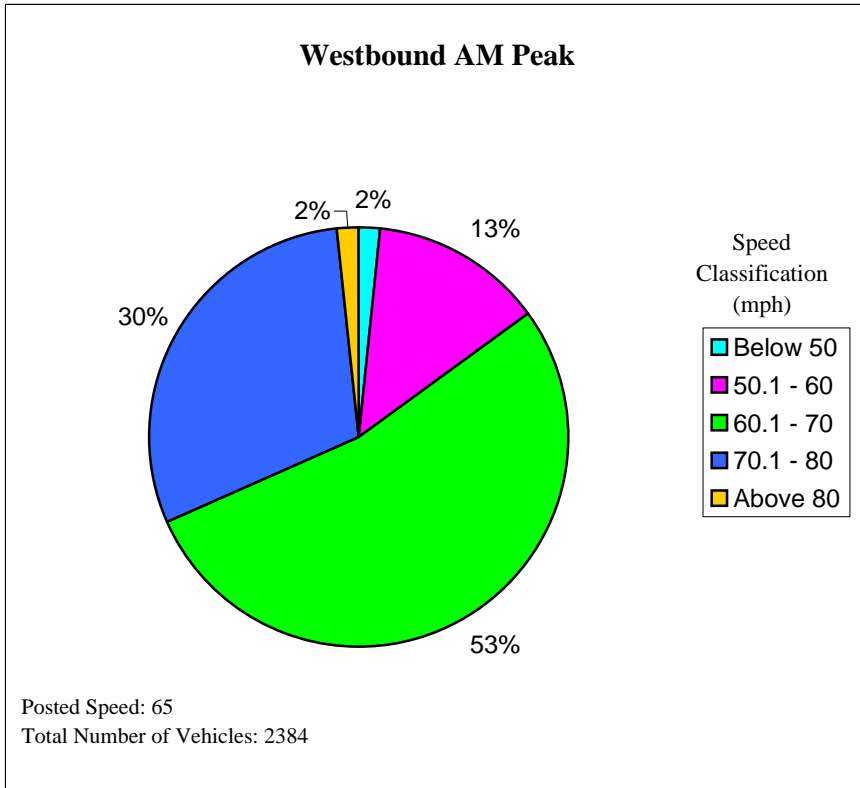


CHART 6

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 690 Between Interchanges 8 and 9

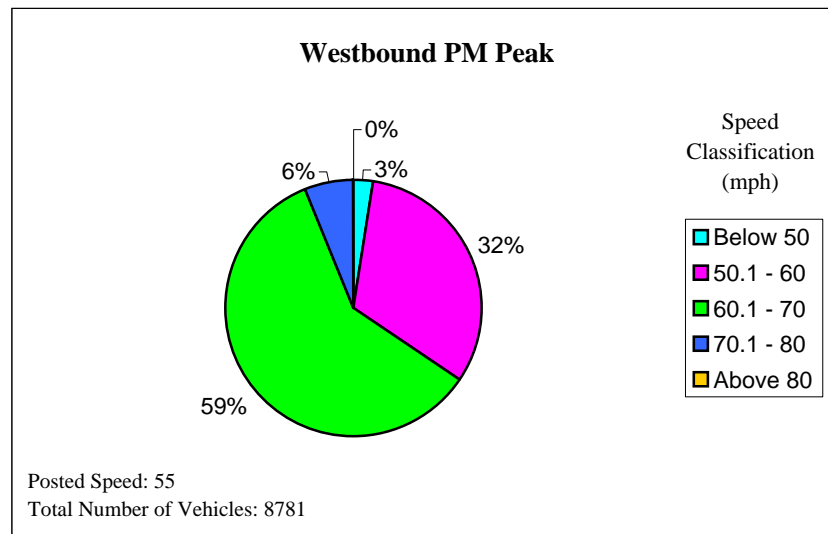
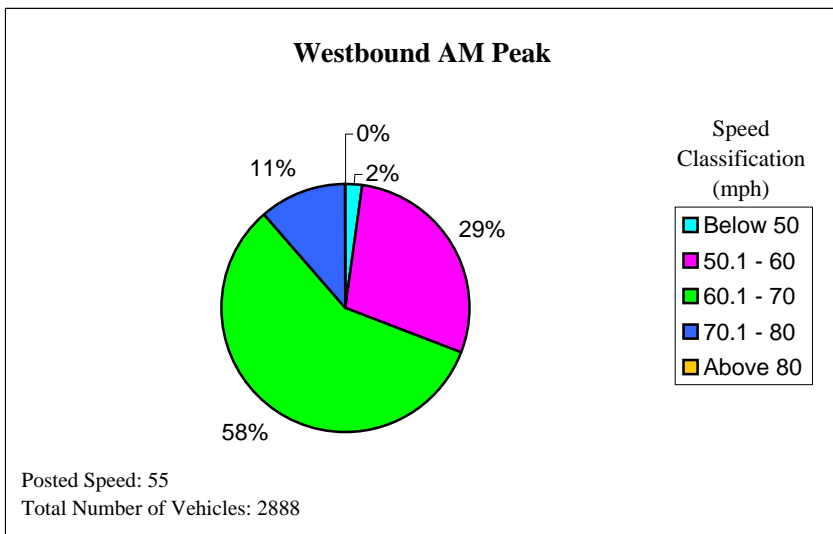
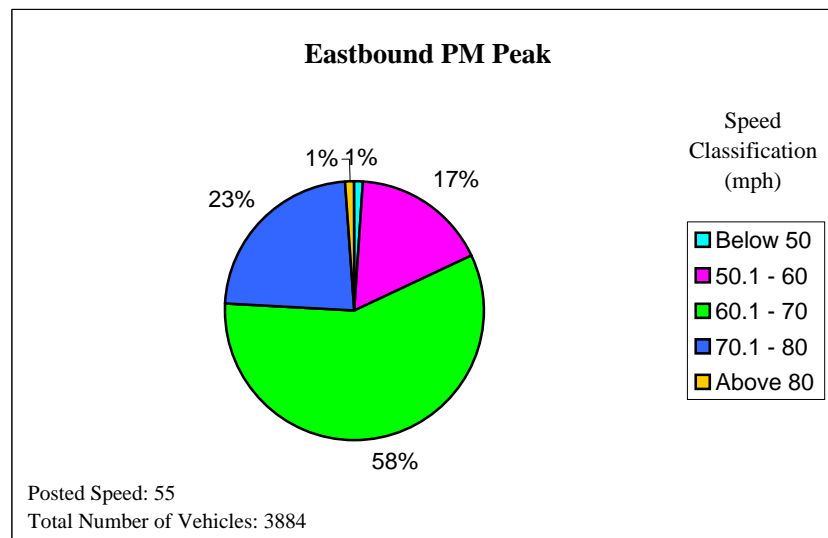
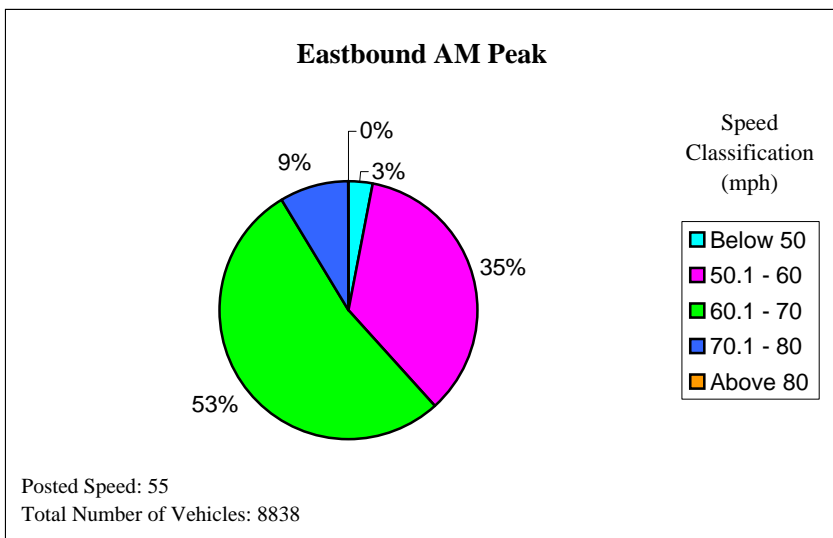


CHART 7

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 690 Between Interchange 17 and Interstate 481

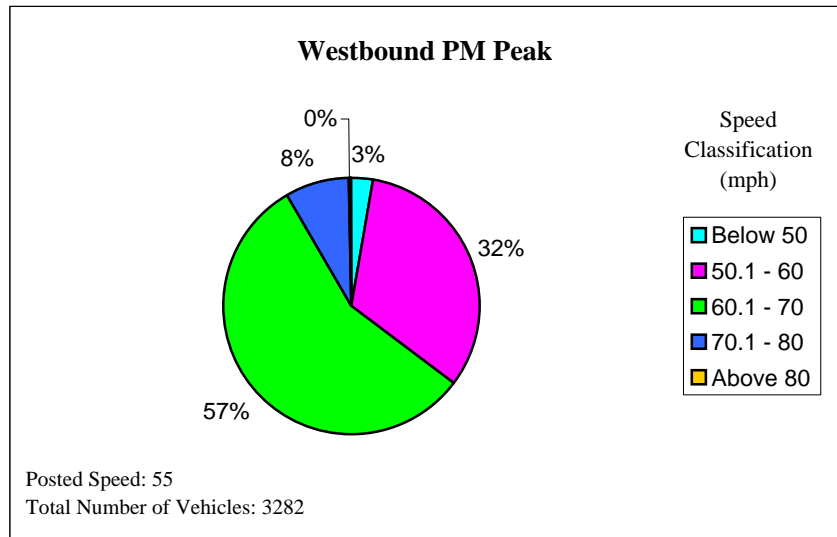
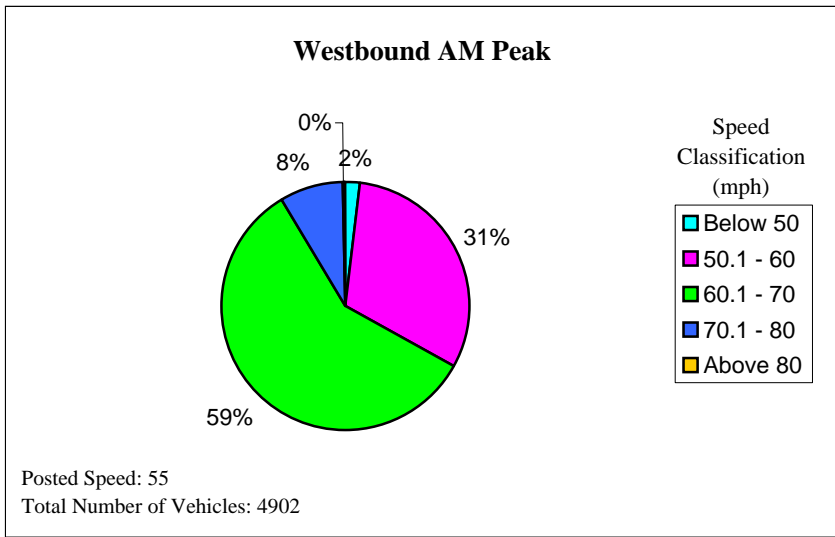
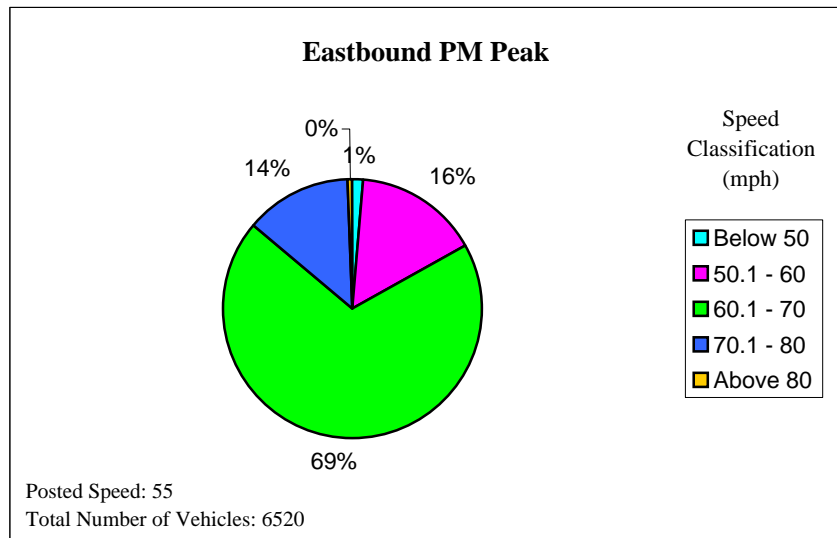
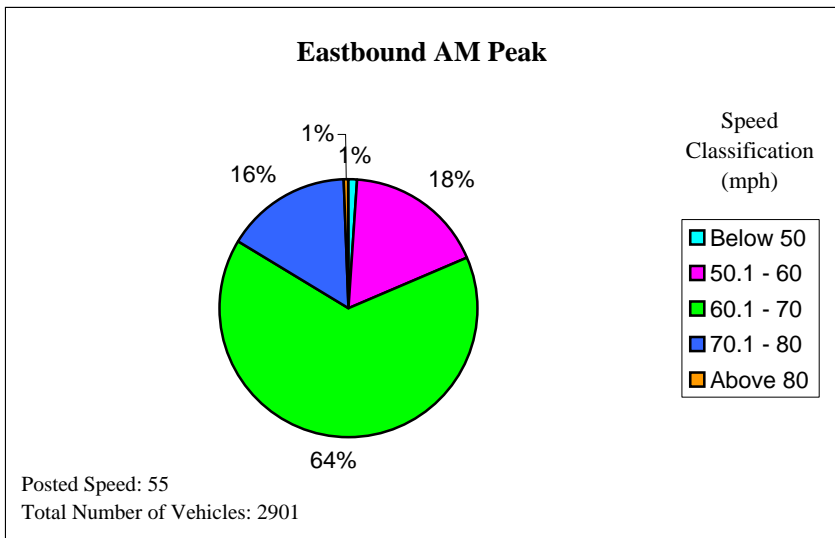


CHART 8

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

SR 930P Between NY 5 and I-690

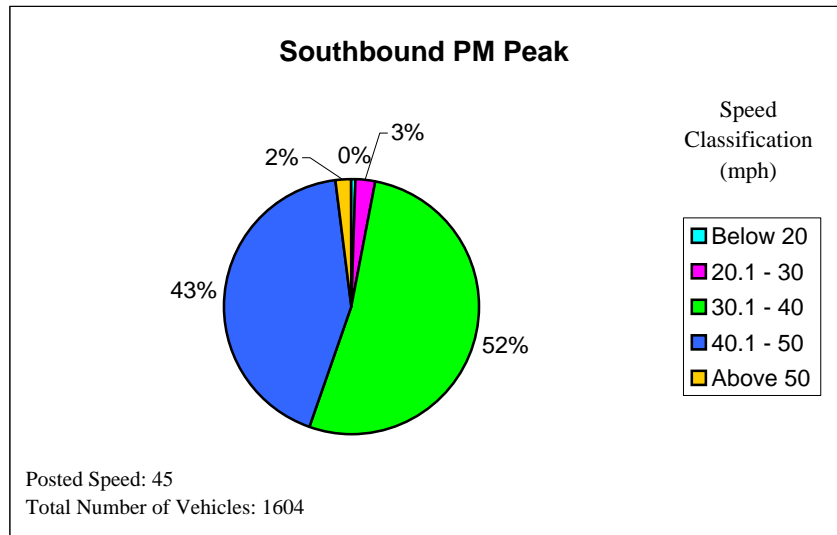
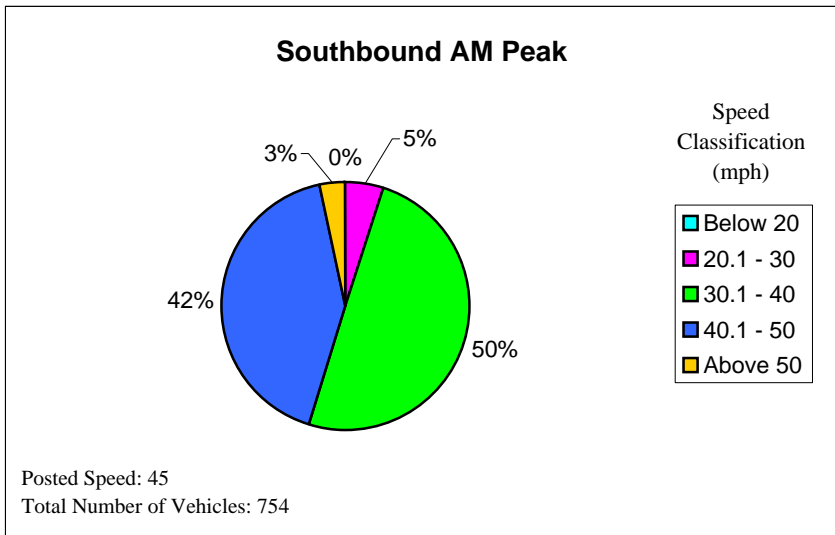
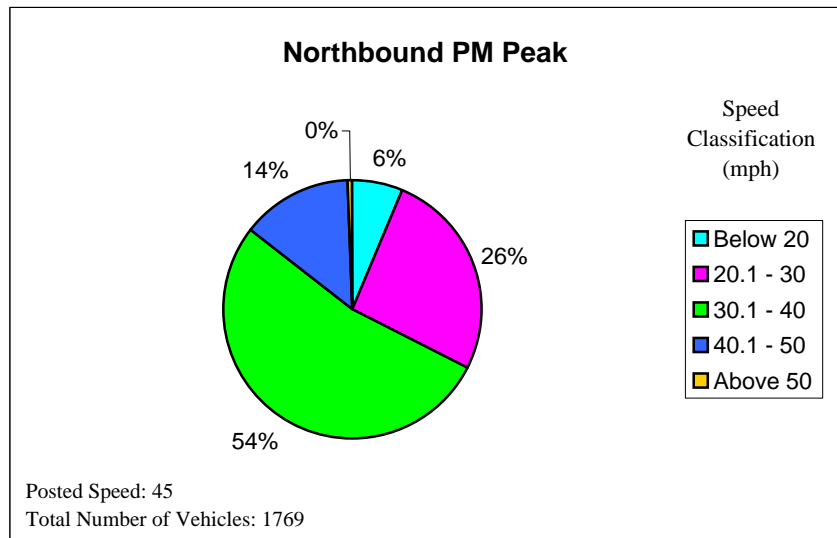
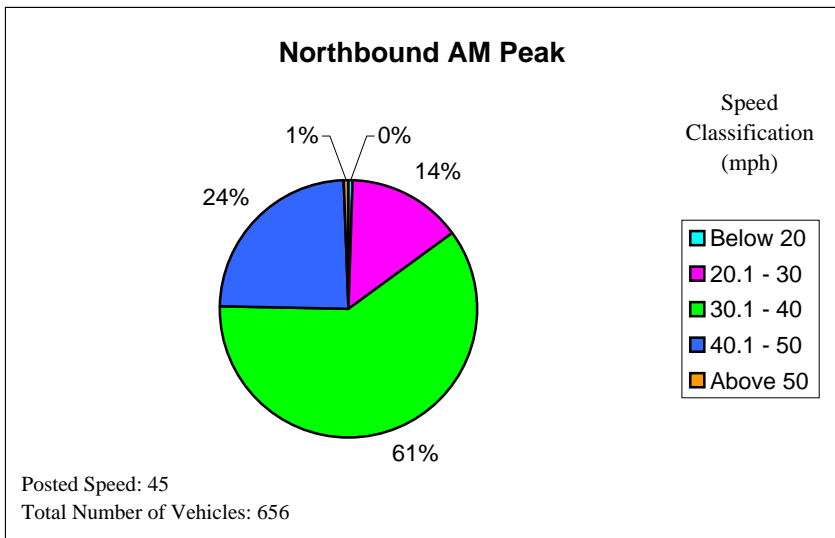
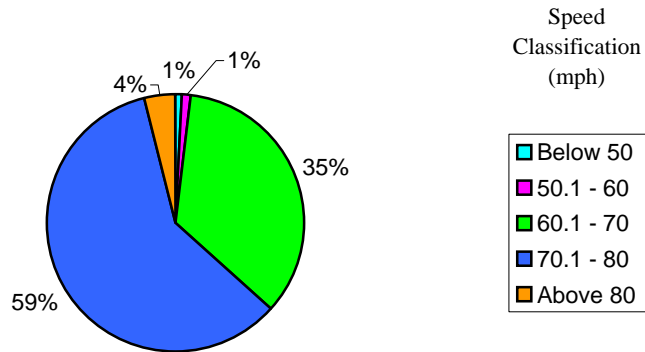


CHART 9

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

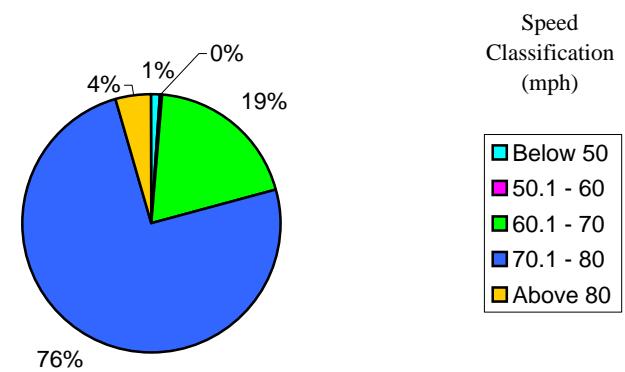
Interstate 81 Between Interchanges 27 and 28

Northbound AM Peak



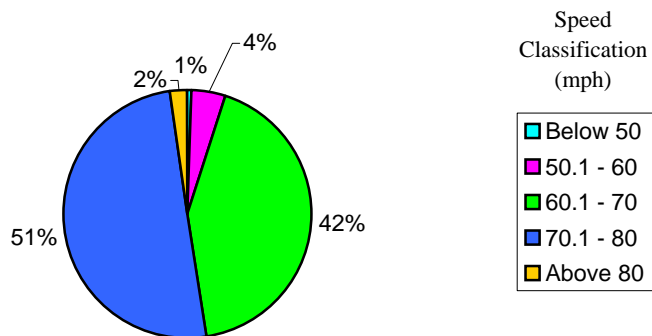
Posted Speed: 65
Total Number of Vehicles: 1928

Northbound PM Peak



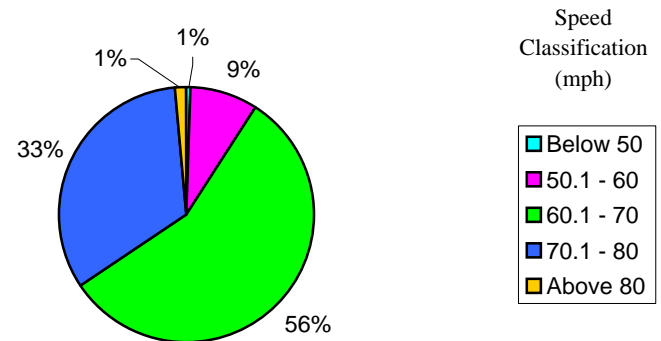
Posted Speed: 65
Total Number of Vehicles: 5729

Southbound AM Peak



Posted Speed: 65
Total Number of Vehicles: 7078

Southbound PM Peak



Posted Speed: 65
Total Number of Vehicles: 3712

CHART 10

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 81 Between Interchanges 29 and 30

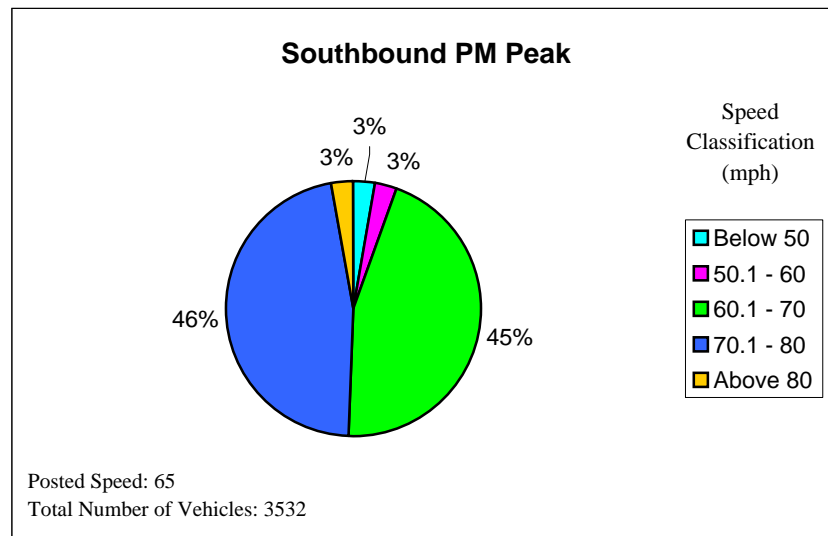
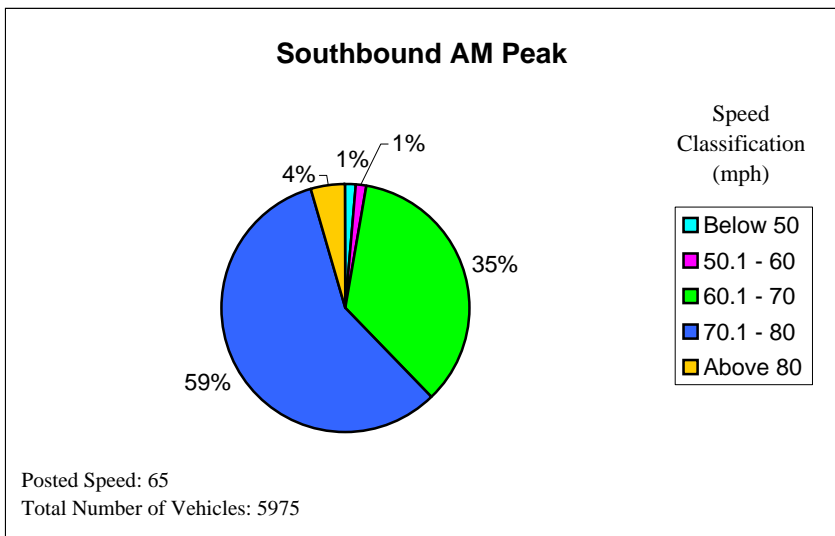
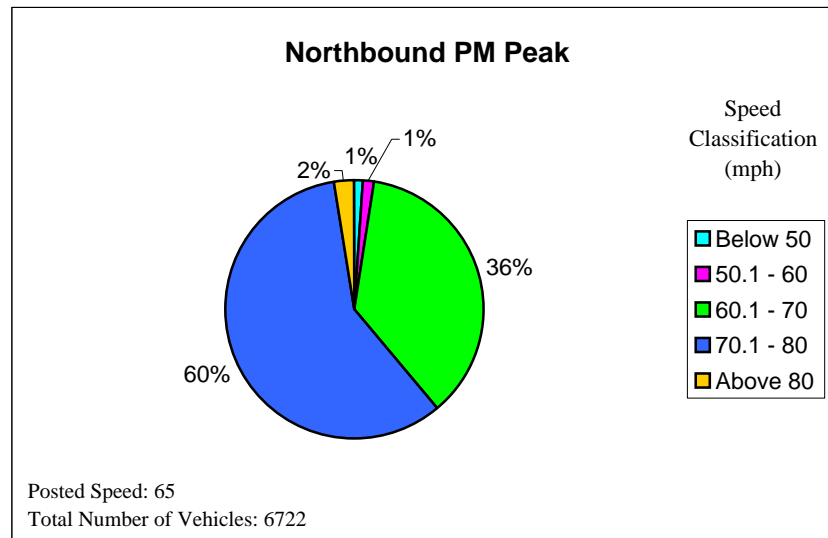
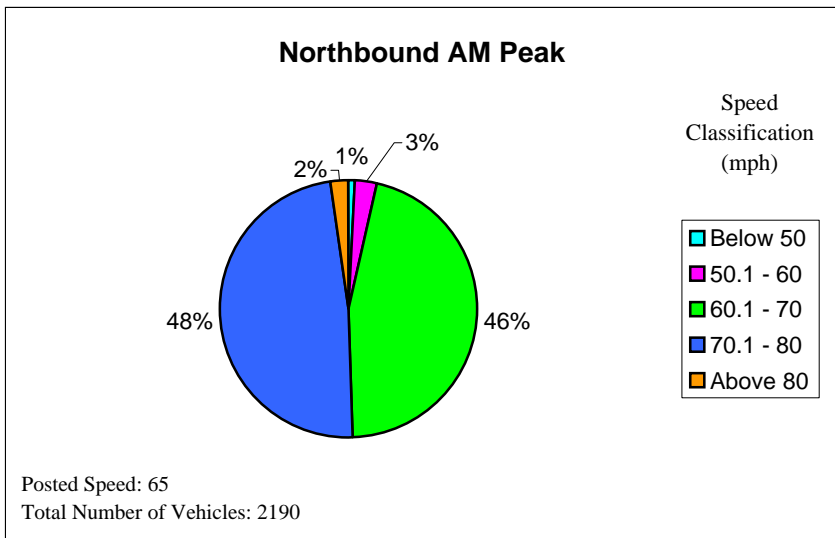


CHART 11

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 81 Between Interchanges 31 and 32

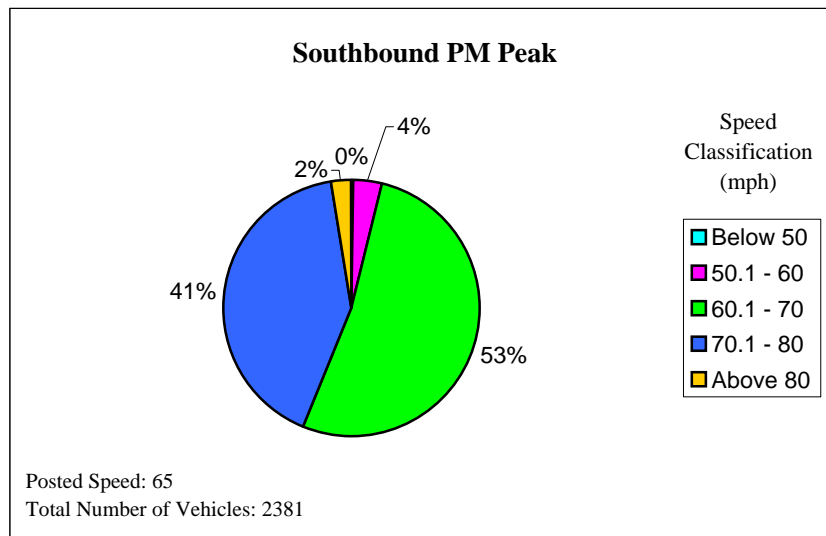
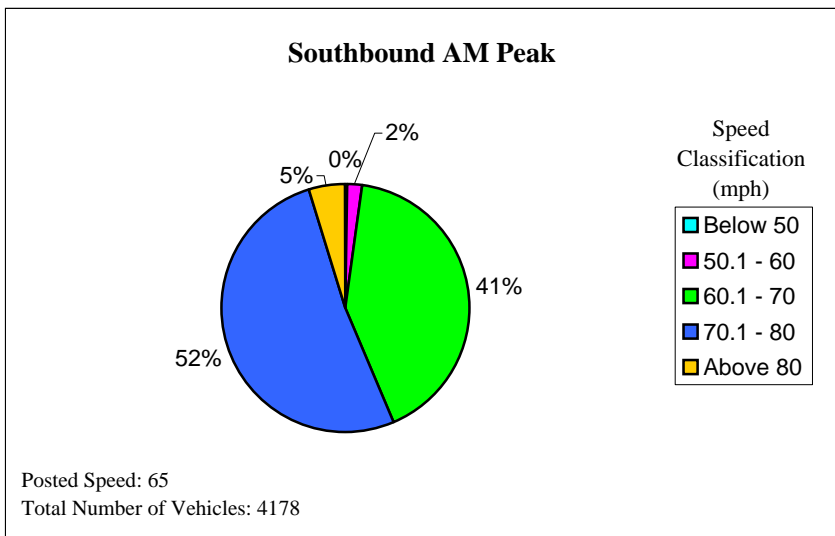
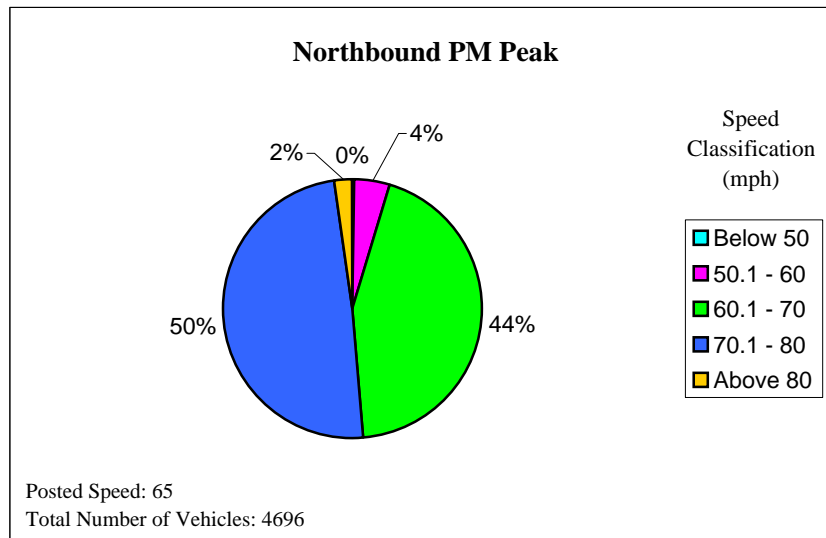
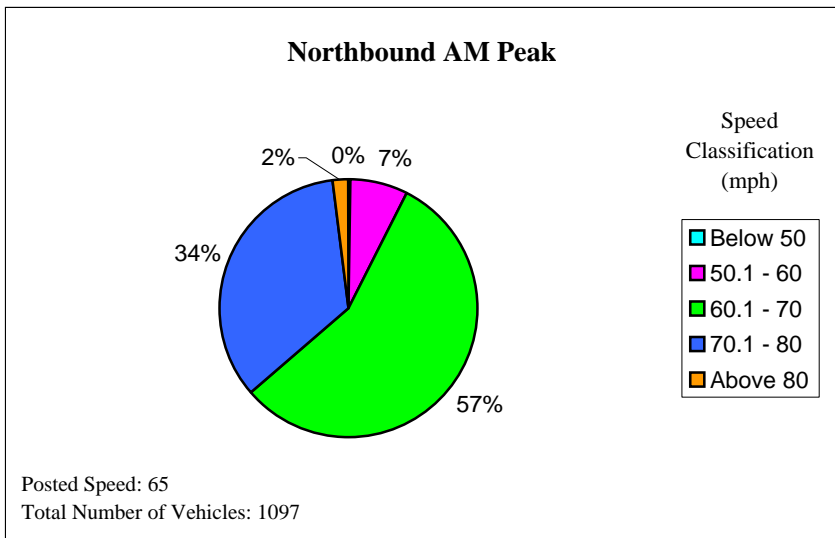


CHART 12

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

Interstate 481 Between Interchanges 3 and 4

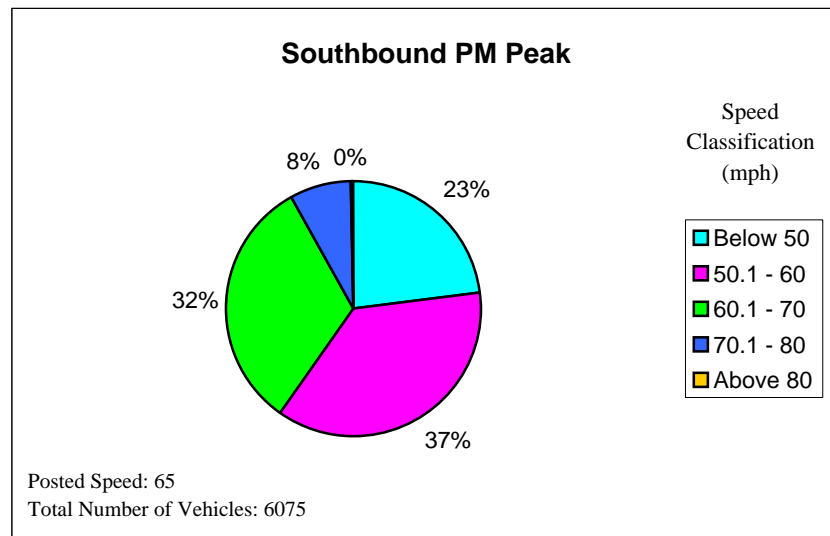
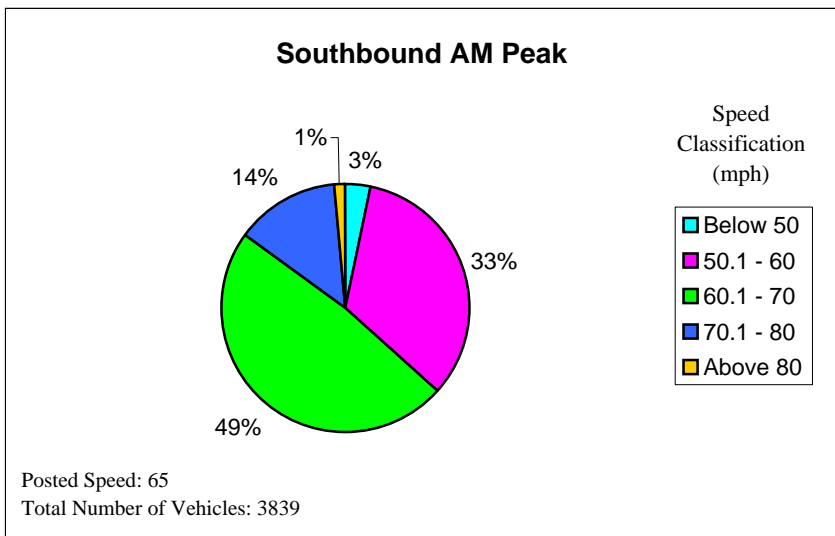
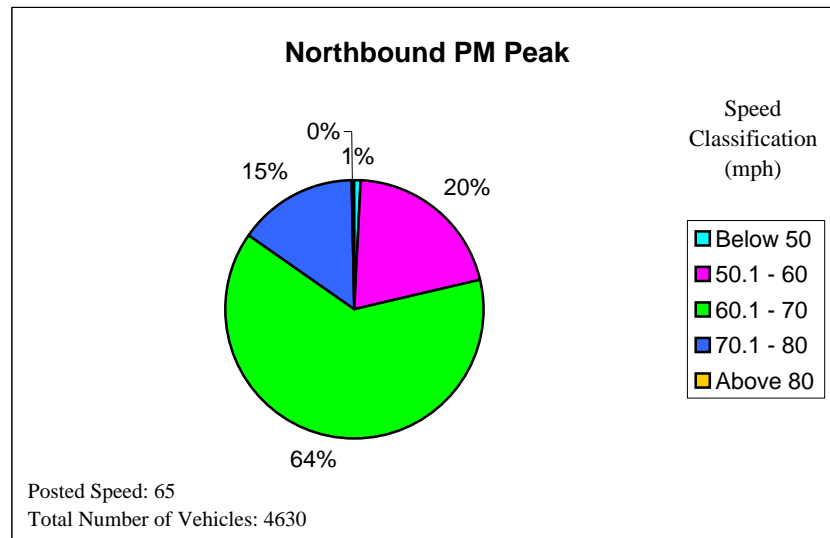
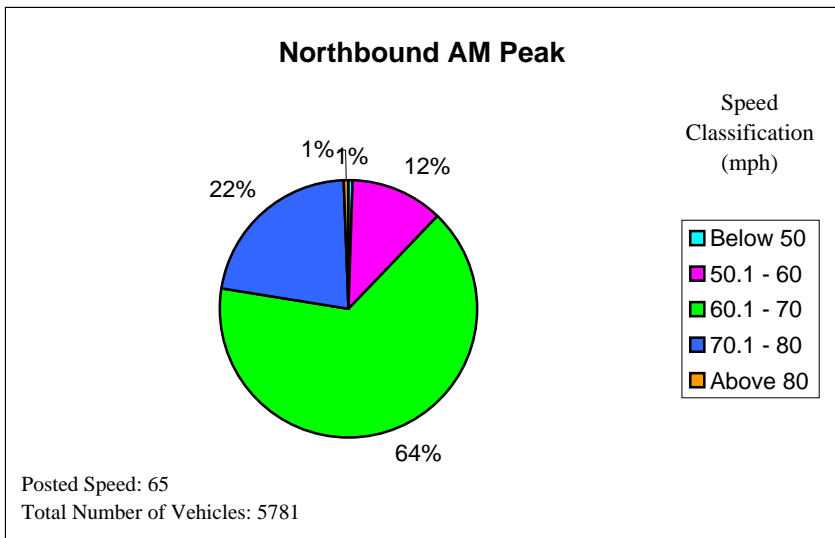
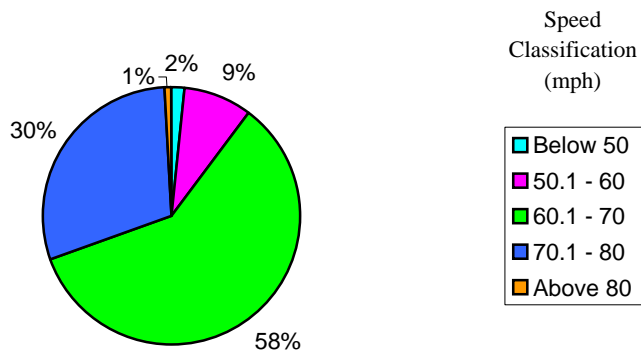


CHART 13

TRAFFIC VOLUMES BY SPEED CLASSIFICATION

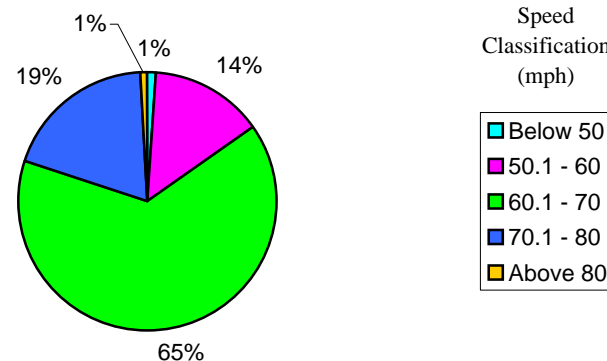
NY 695 Between NY 5 and Interstate 690

Northbound AM Peak



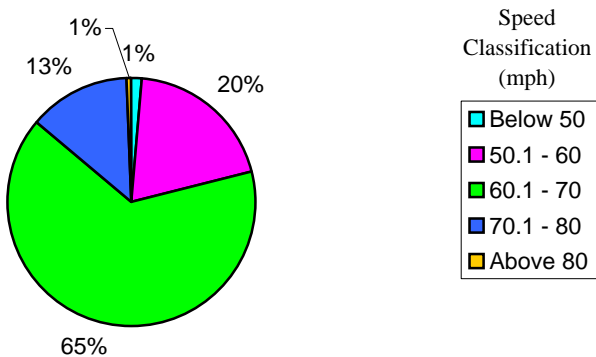
Posted Speed: 65
Total Number of Vehicles: 5755

Northbound PM Peak



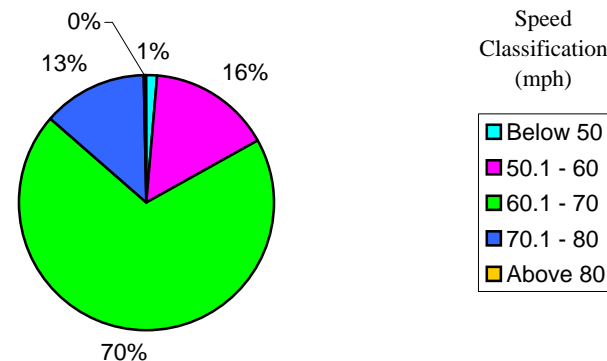
Posted Speed: 65
Total Number of Vehicles: 3782

Southbound AM Peak



Posted Speed: 65
Total Number of Vehicles: 2558

Southbound PM Peak



Posted Speed: 65
Total Number of Vehicles: 6548

APPENDIX A

Level of Service Tables

Level of Service Tables

Maximum Service Volumes for AADT

Roadway Class	LOS A	LOS B	LOS C	LOS D	LOS E
Urban Freeways					
4 lane	20,300	32,500	48,800	61,800	74,500
6 lane	30,600	48,900	73,400	93,000	117,300
8 lane	40,800	65,200	97,900	124,000	156,300
Urban Divided Streets (interrupted flow)					
4 lane	*	*	26,250	33,400	34,900
6 lane	*	*	39,850	50,600	52,550
8 lane	*	*	48,900	61,900	64,350
Urban Undivided Streets (uninterrupted flow)					
2 lane	8,900	13,900	18,900	24,800	33,100
4 lane	15,450	25,875	35,850	42,750	49,725
Urban Undivided Streets (interrupted flow)					
2 lane	*	*	12,000	15,450	16,450
4 lane	*	*	19,688	25,050	26,175
Transition to Urban Areas					
Undivided Streets (uninterrupted flow)					
2 lane	8,400	13,000	17,700	23,300	31,000

Maximum Service Volumes for Peak Hour Traffic

Roadway Class	LOS A	LOS B	LOS C	LOS D	LOS E
Urban Freeways					
4 lane	1,223	1,957	2,926	3,671	4,139
6 lane	1,835	2,936	4,389	5,506	6,491
8 lane	2,447	3,914	5,852	7,415	8,741
Urban Divided Streets (interrupted flow)					
4 lane	1,120	1,867	2,612	3,172	3,825
6 lane	1,731	2,885	4,036	4,902	6,200
Urban Undivided Streets (uninterrupted flow)					
2 lane	89	354	709	1,267	2,553
4 lane	950	1,584	2,216	2,692	3,168
6 lane	1,426	2,377	3,325	4,039	4,153
Urban Undivided Streets (interrupted flow)					
2 lane	89	354	709	1,267	2,553
4 lane	950	1,584	2,216	2,692	3,168
6 lane	1,426	2,377	3,325	4,039	4,153
Transition to Urban Areas					
Undivided Streets (uninterrupted flow)					
2 lane -rolling	185	493	907	1,348	2,385
2 lane -level	247	574	984	1,647	2,745

* Volumes were obtained by averaging volumes for road segments with >0.00 to 2.49 signalized intersections per mile and segments with 2.50 to 4.50 signalized intersections per mile

Source: Florida Department of Transportation, 1995

APPENDIX B

HCS/Synchro Intersection Analyses

Available Upon Request

Available Upon Request

Intersection Analyses are attached in the following order:

1. Morgan Road @ Buckley Road
2. SR 370/Old Liverpool Rd
3. SR 931G @ Tulip St
4. Butternut @ Grant Blvd (North)
5. Butternut @ Grant Blvd (South)
6. Midler Ave @ James St
7. James St @ Teall Ave
8. Butternut @ Lodi St
9. Genesee St @ Erie Blvd West
10. W Onondaga St @ Geddes St
11. SR 173 (East) @ SR 175
12. SR 175 @ SR 173 (West)
13. S Salina St @ Seneca Tpke
14. Colvin St @ Comstock
15. Columbus @ Genesee St
16. S Geddes St @ Bellevue Ave
17. Salina St @ Castle St
18. Adams St @ Almond
19. Harrison St @ Almond St
20. Irving Ave @ Waverly Ave
21. SR 5/SR 92 @ Lyndon Road
22. SR 5 @ SR 257 @ Salt Springs Rd
23. SR 290 @ SR 635 (James/Thompson)
24. SR 5 @ SR 930P (Erie/Bridge St/Orrick)
25. SR 5 @ SR 635 (Erie/Thompson)
26. Acc I 81/SR 931J (Pardee Rd) @ SR 31
27. Old Route 57 @ John Glenn Blvd
28. Henry Clay Blvd @ Wetzel Rd
29. Henry Clay Blvd @ Buckley Rd
30. South Bay Rd @ Taft Rd and US 11 @ Taft
31. Buckley Rd @ 7th North St

Available Upon Request

APPENDIX C

Congestion Factors

IDENTIFYING TYPES AND CAUSES OF CONGESTION

In evaluating the performance of the system, it is critical to determine the “type” of congestion and its cause(s) in order to properly evaluate the potential benefit to be derived from different strategies. The following section outlines typical congested conditions, by facility type, and offers a variety of factors that may contribute to the congestion.

Congestion on Freeway/Thruway Facilities

- High volumes on the mainline
- Ramp Congestion
 - Off-ramp back-ups (where ramp intersects @ cross street)
 - On-ramp backups (congested volumes on mainline)
- Tollbooth back-ups - high approach volumes (usually during peak hour - PKHR)
- Mainline to Mainline merges & exits (weaving)
 - High volumes of traffic switching mainlines
 - Converging mainlines
 - Diverging mainlines
- Lane closures/ramp closures
 - Construction
 - Incidents (crashes/break-downs)

Contributing Factors

- Long distance commuting
- High SOV usage
- Interchanges too close together
- Inadequate signage
- Excessive “local” traffic on facility
- Excessive “through” traffic on facility
- Ramp length inadequate
- Signal timing/cycle length inadequate at off-ramp and cross street intersection

Congestion on Arterial Highways

- High volumes – mainline – commuter & daily volumes
- High volumes intersections (signalized)
- Unsignalized intersections
- Excessive side friction (adjacent parcel access)
- Incidents (crashes/break-downs)
- Construction areas

- Lane closure
- Detours
- Reduced speed zones

Contributing Factors

- Lack of turn lanes at intersections
- Improper spacing of access points
- Access points too close to intersections
- Lack of deceleration lanes at major parcel access points
- Signal spacing inadequate
- Lack of signal coordination/interconnection
- Improper signal phase/cycle length
- Lack of interconnected land uses
- “Strip” commercial development

Congestion on Minor Arterial Highways and Collectors Streets

- High volumes – daily and peak hours
- High volume signalized intersections
- Multi-way stops
- “No Right Turn on Red” at intersection
- High volumes of pedestrian and bicycle traffic
- Incidents (crashes/breakdowns)
- Legal parking (parallel)
- Illegal parking (double parking, deliveries, etc.)
- Transit Stops
- Construction areas – lane closures, detours, etc.

Contributing Factors

- Lack of loading/unloading in business areas
- Lack of adequate off-street parking
- Improper spacing of access points
- Access points too close to intersections
- Signal spacing inadequate
- Lack of signal coordination/interconnections
- Improper signal phase/cycle length
- Lack of interconnected land uses
- “Strip” development patterns
- Improper/illegal pedestrian and bicycle movements

Source: 1997 SMTC Congestion Management System Report for Onondaga County