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APPENDIX B – 24-HOUR MECHANICAL AND INTERSECTION TURNING MOVEMENT COUNT SHEETS

APPENDIX C – HIGHWAY FEATURES

APPENDIX D – ACCIDENT SUMMARY SHEETS AND COLLISION DIAGRAMS
ROUTE 63 CORRIDOR STUDY

DRAFT APPENDIX
TECHNICAL MEMORANDUM #1
FEATURES INVENTORY AND DATA COLLECTION
REPORT

March, 2003

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New York State Department
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APPENDIX

APPENDIX A – MEETING MINUTES AND PUBLIC COMMENT MATRIX

APPENDIX B – HIGHWAY FEATURES

APPENDIX C – ACCIDENT SUMMARY SHEETS AND COLLISION DIAGRAMS
I. INTRODUCTION

A. Study Origin

The purpose of the Route 63 Corridor Study is to investigate issues related to increasing commercial vehicle traffic using the Route 63 corridor between I-390 in Mt. Morris and the NYS Thruway (I-90) in Pembroke. With the 1994 passage of NAFTA, there has been a dramatic increase in the number of commercial vehicles using Route 63 as a “short cut”, instead of I-390 and the NYS Thruway. This corridor study will focus on identifying needs, issues and concerns relating to truck traffic and other traffic issues on the primary focus highways, and developing an effective set of improvements to solve the identified problems.

B. Study Team

The New York State Department of Transportation (NYSDOT) initiated this study, and is leading a study team consisting of Sear-Brown (lead consultant), Fisher Associates (data collection and analysis), and Howard/Stein-Hudson Associates (public involvement).

C. Study Area

The geographic area covered within this study is extensive, ranging from the Pembroke and Batavia Thruway exits in Genesee County, southeast to the Mt. Morris and Sonyea interchanges with I-390 in Livingston County. The study area covers sections of Livingston, Genesee and Wyoming Counties, including the City of Batavia.

As shown on Figure 1, the pink corridor includes the “primary focus highways”. This corridor, extending from Exit 48A in Pembroke southeast to I-390 at Mt. Morris and Sonyea, has been experiencing a dramatic increase in commercial truck traffic over the past 10 to 15 years. The Route 77 portion of the corridor also experiences high volumes of seasonal traffic generated by the Six Flags – Darien Lake Amusement Park.

Figure 1 illustrates the primary focus highways, which include:

- **Route 77** from I-90 Exit 48A to Route 20 in Darien (Genesee County);
- **Route 20** from Route 77 east to Route 63 in Pavilion (Genesee County);
- **Route 63** from Route 20 to I-390 Exit 7 in Mt. Morris (Genesee, Wyoming and Livingston Counties); and
- **Route 36** from Route 63 to I-390 Exit 6 in Sonyea (Livingston County).

The yellow corridors shown on Figure 1 are considered “secondary focus highways”. These highways (Routes 5, 63 and 20, extending north and east of the primary focus highways, and Routes 238 and 20A extending south into Attica and Warsaw) have been included in this study in an effort to measure any “spillover” effects as a result of the increase in truck travel on the primary focus highways and to identify any specific problems or needs.
D. Study Goals and Objectives

The general goal of this study is to address the problems and issues created by the increasing commercial vehicle traffic using the Route 63 corridor. In order to effectively guide this study, the following specific goals and objectives have been identified. These goals and objectives will be reviewed during the course of the study, by the Study Team and the Study Advisory Committee, to make sure that they remain appropriate:

**Goal #1:** Clearly identify and define the transportation-related problems, issues and needs that exist on the primary focus highways.
- Problems should be identified through the use of accepted engineering practices, including accident and capacity analyses, and sound engineering judgment.
- Establish a methodology to define the significance and extent of the problems.

**Goal #2:** Develop proposed solutions that address identified problems, issues and needs.
- Provide for improved safety by reducing the number and severity of accidents.
- Provide improved operational efficiency and mobility
- Identify proposed solutions to address the increased amount of truck traffic.
- Reduce seasonal traffic delays near the Six Flags-Darien Lake recreational facility.

**Goal #3:** Develop proposed solutions that incorporate community needs, both transportation and non-transportation.
- Avoid or minimize environmental impacts of proposed solutions.
- Facilitate economic development.
- Develop proposed solutions that are consistent with community values, resources and land use patterns.

**Goal #4:** Assure that solutions to identified problems maximize the return on resources invested.
- Maximize added user benefits derived from capital costs expended
- Maximize cost-effectiveness

These goals will be accomplished through the following phases of this planning study:

**Phase I:** Investigation of Existing Conditions

**Phase II:** Forecasting Growth and its Effects

**Phase III:** Develop Goals, Objectives and Needs

**Phase IV:** Develop and Evaluate Alternative Solutions

**Phase V:** Develop the Corridor Planning Report and Select the Preferred Investment Strategy.

This draft technical report, the *Features Inventory and Data Collection Report*, documents the Phase I data collection effort and evaluation of existing conditions.
II. PROJECT EVOLUTION/BACKGROUND

Communities located along Route 63 have been experiencing a steady increase in truck traffic for many years. Truck traffic volumes counted over the last ten years by the NYSDOT have been increasing steadily at most locations along Routes 77, 20 and 63. Along Route 63, south of Route 20, truck volumes have increased substantially from 750 to 1000 trucks per day in the early 1990’s to daily totals in excess of 2000 trucks by 1998. Figure 2 shows the number of commercial vehicles exiting I-90 at four Thruway Exits in proximity to the study area (Henrietta, Batavia, Pembroke and Depew) from 1990 – 2000. Review of Figure 2 shows that the trend in commercial vehicle usage at all four locations has been one of growth, and the Pembroke exit has experienced the sharpest increase.

The completion of I-390 in 1983 was hoped to alleviate truck traffic in the study area and provide increased mobility and connectivity to the major commercial centers in Western New York and the NYS Thruway; however, the alignment of I-390 is such that the Route 63 corridor has proven to be a shorter and less costly route. The Interstate Highway System, in general, helped to promote truck use for goods movement by significantly cutting truck travel times and associated costs. In the 1980’s and 1990’s, truck traffic continued to increase due to the shift to just-in-time delivery and the passage of NAFTA. Both of these factors have greatly increased the flow of goods between the USA and Canada and as a result, the number of trucks on the Route 63 corridor has increased. This increasing truck traffic along the primary focus highways has generated significant safety concerns for residents. The problems and issues generated by truck traffic, similar to those along the Route 63 corridor, are being experienced in many communities throughout the U.S. and Canada. These problems continue to escalate as the number of trucks on the road and truck vehicle-miles traveled have been, and are continuing to, increase.

The study of truck impacts in this region has a long history. As early as 1983, a group of concerned citizens and businessmen took notice of the effects that the increasing truck traffic was having on safety and quality of life along the corridor. In 1988, the Route 63 Bypass Committee was formed, consisting of citizens from Genesee, Wyoming and Livingston Counties. This committee's efforts partially led to the state obtaining funds for undertaking the current Route 63 Corridor Study.
III. PUBLIC PARTICIPATION PROCESS

In order to develop the most effective study recommendations, public participation in the study is essential. NYSDOT values the input of all interested parties, and recognizes the importance of such input in assuring that any transportation improvements developed support local and regional values, plans and initiatives. Given the large geographic area encompassed within the study area, an extensive public participation effort was developed and is being implemented to ensure that all interested parties have a reasonable opportunity to attend meetings, provide input and remain up-to-date on the project status.

The public participation process is based on effective two-way communication. To transmit information to the public, the Study Team is using several different modes to announce meetings and disseminate “up to date” information. Newspapers in Geneseo, Batavia and Warsaw are being used to notify the public on upcoming meetings, as well as the town “Penny Saver” newspapers. Newsletters are also being used to communicate key study information and are available at town and village halls, as well as in the local Penny Saver newspapers. Information concerning the study is also periodically updated on the NYSDOT website at www.dot.state.ny.us. Finally, a mailing list consisting of approximately 600 interested residents throughout the study area was created and is updated regularly. Those on the list receive newsletters, meeting notifications and any other information disseminated to the public. To obtain input and feedback from the public and local officials, several methods are being employed. One of the most effective methods is the use of a Study Advisory Committee (SAC). Study Advisory Committee members include representatives
from regional officials, local municipalities, special interest and development groups, and interested citizens within the study area. The SAC is described in more detail below.

A. Project Introduction Meetings

Introductory meetings were held with three separate groups, as shown on Table 1a. These meetings were designed to make key individuals and decision makers aware of the upcoming study and to solicit their input on the problems and conditions experienced along the Route 63 corridor. Additional meetings will be held with these groups as the study progresses.

Table 1a: Project Introduction Meetings

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Participants</th>
<th>Date Held</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elected Officials</td>
<td>Elected regional and local decision-makers from all towns, villages and counties within the study area.</td>
<td>12/11/01</td>
<td>31</td>
</tr>
<tr>
<td>Municipal/Public Agency Officials</td>
<td>Non-elected local, county and other agency decision-makers from within the study area.</td>
<td>12/11/01</td>
<td>27</td>
</tr>
<tr>
<td>Interested Stakeholders</td>
<td>Other agencies and people that were identified as having a significant interest in, or knowledge of the Route 63 corridor.</td>
<td>12/12/01</td>
<td>29</td>
</tr>
</tbody>
</table>

Meeting minutes for the group meetings listed above can be found in Appendix A.

B. Study Advisory Committee

To successfully conduct this study, significant input, communication and coordination by involved agencies and individuals is essential. To help accomplish this, the Route 63 Corridor Study Advisory Committee (SAC) was established. This committee includes individuals from the NYSDOT, local municipalities, special interest and development groups, and interested citizens from within the study area. The role of this committee was defined to:

- help the Study Team focus on problems and issues experienced along the corridor
- propose, review and evaluate possible solutions
- incorporate the local communities’ goals and objectives as the Study progresses
- act as the liaison/conduit for interested individuals to find out about the study, and to convey their input.

The SAC will meet throughout the Study to provide input, review project findings, refine goals and objectives, and advise the Study Team on public outreach efforts. As one piece of the Study’s overall public outreach effort, the SAC serves as a conduit for communicating ideas on local issues, needs and future development plans, as well as provides information on the Study back to the public, local governments, and functional areas or organizations they represent. The SAC is not a decision-making body, but is one of the many public outreach efforts that will guide the Study as transportation solutions are pursued that best meet the public’s needs.
To form this committee, the Study Team initially developed a list of municipalities, groups and organizations, which were deemed to have a significant interest in solving the problems of truck traffic in the study area. Approximately 75 such entities were originally identified. However, in an effort to keep the SAC at a manageable size, the list was screened and narrowed to include 25 entities. The following is a listing of organizations that are represented on the SAC:

- Town of Alexander
- Town of Batavia
- Town of Bethany
- Town of Covington
- Town of Darien
- Town of Geneseo
- Town of Leicester
- Town of Mt. Morris
- Town of Pavilion
- Town of York
- Town of Pembroke
- Village of Corfu
- Village of Warsaw
- Cornell Coop. Extension of Wyoming Co.
- Genesee Co. Chamber of Commerce
- Genesee County Highway Department
- Hanson Aggregates
- New York State Motor Truck Association
- Livingston Co. Chamber of Commerce
- Livingston Co. Planning Department
- Route 63 Bypass Committee
- Wyoming Co. Chamber of Commerce
- Wyoming County Planning
- Rural Preservation League for Wyoming Co.
- New York State Police

With input received during the Project Introduction Meetings, specific individuals from each of these groups and organizations, plus known interested citizen representations, were identified and contacted to ascertain their willingness to serve on the SAC.

Table 1b: Study Advisory Committee Meetings

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Date Held</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAC Meeting #1</td>
<td>1/29/02</td>
</tr>
<tr>
<td>SAC Meeting #2</td>
<td>7/17/02</td>
</tr>
<tr>
<td>SAC Meeting #3</td>
<td>11/20/02</td>
</tr>
</tbody>
</table>

Minutes for the meetings listed above can be found in Appendix A.

C. Focus Groups

In order to gain further insight into the problems and needs within the study area, it was determined that specific focus groups with special needs and interests should be contacted and met with separately. These focus group meetings provided the opportunity to discuss in detail the specific problems noted by these groups and to listen closely to their views on existing and future operations along the corridor.

The focus groups identified initially by the Study Team represented Emergency Service Providers, Agricultural Interests, Business Development Interests, School Districts and Shippers/Truck drivers. In addition, a newly formed group, the Rural Preservation League for Wyoming County, was included.
### Table 1c: Focus Group Meetings

<table>
<thead>
<tr>
<th>Meeting</th>
<th>Participants/Input</th>
<th>Date Held</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Service Providers</td>
<td>This group helped to identify locations of high accident potential, as well as concerns with emergency access. All fire, ambulance and police departments within the Study Area were invited.</td>
<td>3/20/02</td>
<td>11</td>
</tr>
<tr>
<td>Shippers/Truck drivers</td>
<td>This group assisted in identifying some of the concerns of the local and regional truck drivers. Representatives of several local businesses and international trucking firms were invited.</td>
<td>3/22/02</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Representatives</td>
<td>This group provided insight on the needs of the agriculture industry, their trucking operations, and future plans. Members of the three county agricultural boards, as well as the Cornell Cooperative Extension, were invited.</td>
<td>4/03/02</td>
<td>2</td>
</tr>
<tr>
<td>Economic Development Agencies</td>
<td>This group provided opinions on possible future development locations, as well as planned economic development initiatives. Members of the three county planning departments, economic development agencies, and the chambers of commerce were invited.</td>
<td>3/27/02</td>
<td>7</td>
</tr>
<tr>
<td>School Districts</td>
<td>This group conveyed safety and other concerns with truck and other traffic around schools, and with student/bus operations. Representatives from all school districts in the study area were invited.</td>
<td>5/01/02</td>
<td>9</td>
</tr>
<tr>
<td>Wyoming Co. Rural Preservation League</td>
<td>This group presented their desire to preserve the existing rural character of the area, and the agricultural economic base. Representatives from this group were invited.</td>
<td>4/12/02</td>
<td>6</td>
</tr>
</tbody>
</table>

Minutes from the meetings listed above can be found in Appendix A.

## D. Public Information Meetings

In order to introduce the project to the public, three public information meetings were held – one each in Genesee, Wyoming and Livingston Counties. The content of each meeting was essentially the same. The purpose of these meetings was to introduce the study team members, describe the study process and give the attendees an opportunity to provide their input on problems and issues that should be addressed by the study.

### Table 1d: Public Information Meetings

<table>
<thead>
<tr>
<th>Meeting Location</th>
<th>Date Held</th>
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</thead>
<tbody>
<tr>
<td>Batavia</td>
<td>2/06/02</td>
</tr>
<tr>
<td>Geneseo</td>
<td>2/07/02</td>
</tr>
<tr>
<td>Warsaw</td>
<td>2/19/02</td>
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</table>

Minutes for the meetings listed above can be found in Appendix A.
E. Public Comment Matrix

At each of the meetings held, attendees were offered the chance to complete a comment form to share their input and suggestions. These forms could be completed and returned at the meeting, or returned via fax or mail at a later time. In addition, comments can be submitted at any time directly to the project team via a link on the NYSDOT website. Over the past ten months, numerous comment forms or e-mailed messages have been received.

A Public Comment Evaluation Matrix was constructed to summarize the input received during this first set of meetings, separating the responses into identified problem area categories. The key points, focusing on safety through the corridor, are shown below. This matrix (updated periodically) is included in Appendix A.

F. Major Issues Raised by the Public:

- **Route 77**
  - travel speed
  - congestion in the vicinity of Six-Flags Darien Lake
  - truck turning movements at the major intersections (Route 5, Route 33, NYS Thruway, Route 20)
  - bottleneck caused by the CSX Railroad bridge in Corfu
  - safety issues – particularly at Route 20, Sumner Road, Six Flags entrance, Route 33 and Route 5 intersections

- **Route 20**
  - travel speeds – particularly at night
  - conflicts between truck traffic and farm traffic
  - local intersections located on/near hills and curves
  - geometry at the East Road intersection
  - safety issues– particularly at East Road, Francis Road, Route 238, Route 63 intersections

- **Route 63**
  - high number of accidents at Peoria Curve
  - effect of hills leading into Pavilion
  - safety issues and impacts on the York school near the Route 36 intersection
  - effects of railroad bridge in Greigsville
  - alignment of Route 20A/Route 63 intersection
  - overall impacts of truck volumes, travel speeds and driver habits on quality of life along the corridor
  - safety issues – particularly at Peoria Curve, Route 36, Route 19, Chandler Road, Bethany Center Road, Route 5 in Batavia and Route 20A overlap in Geneseo

These issues will be examined as the study progresses.
IV. EXISTING CONDITIONS

A. Culture and Economic Characteristics

Communities within the study area are primarily rural in nature, with a long-standing economic base in agriculture and dairy farming. The character of these communities reflects this agricultural and farming lifestyle. Local industries of importance include food and dairy processing/distribution, feed production and other agricultural-related businesses. Stone/gravel mining, salt mining and logging/milling occur within the region, as well. Newer light-industrial facilities tend to be located in the northern section of the study area in Genesee County, in close proximity to I-90. Established food processors and manufacturers, such as Archway Cookies in Perry, are located in commercial/industrial zones in Cities and Villages throughout the study area.

B. Traffic Characteristics

1. Average Daily Traffic (ADT)

Classification traffic counts were provided by the NYSDOT. These bi-directional counts, divided into one-hour intervals, were conducted for 24-hour periods at twenty-three locations in the Study Area in April 2002. The bi-directional volumes are shown on Figure 3. From the classification counts, the Average Annual Daily Traffic (AADT) and the percent of heavy vehicles (defined in the next section) within that volume have been determined. Review of Figure 3 shows that in most cases, the primary focus highways have higher AADT and volumes of trucks present than the secondary focus highways.

2. Heavy Truck Percentage

For the purposes of this study, heavy vehicles were classified using standard NYSDOT vehicle classification codes. All vehicles having 6 or more tires, including buses, are considered heavy vehicles. These are the vehicles, which are creating the more significant impacts along the primary focus highways. Those not considered to be heavy vehicles include cars, motorcycles, pick-up trucks, vans and motorhomes. To illustrate, the following are considered heavy vehicles:
The following are not considered heavy vehicles:

The heavy truck percentages shown on Figure 3, and also on Table 2, were compared to data recorded by the NYSDOT to determine trends in truck percentages along the corridor. The functional classifications of each corridor roadway or roadway section, and heavy vehicle percentages, were taken from the NYSDOT Highway Sufficiency Ratings – 2000 publication (NYSDOT annually publishes this data for all state highways). Table 3 presents the highways within the study area, their functional classification and the 1999 and April, 2002 heavy truck percentages. Review of Table 3 shows that in most cases, the truck percentages seen today are similar to those recorded by the NYSDOT two years ago, although increases can be seen on many segments.

Typically, a rural highway of this type experiences 3-5% heavy vehicles. Truck percentages on the Route 63 corridor are significantly higher than this typical figure, and contribute directly to many of the concerns that were voiced by the public.
2002 24-Hour Volumes and Heavy Vehicle Percentages

Figure 3
Table 2: 2002 24-Hour Traffic Volumes and Heavy Vehicle Percentages

<table>
<thead>
<tr>
<th>Route/Section</th>
<th>Average Daily Traffic (ADT)</th>
<th>Number and Percent Heavy Vehicles: 24-Hour Total</th>
<th>Number and Percent Heavy Vehicles: 6 PM to Midnight Total Veh.</th>
<th>Trucks</th>
<th>% Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>NY 63</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US 20A Overlap</td>
<td>13,100</td>
<td>1703 (13%)</td>
<td>1172</td>
<td>331</td>
<td>(28%)</td>
</tr>
<tr>
<td>End US 20A Overlap - Court St.</td>
<td>5,600</td>
<td>1624 (29%)</td>
<td>1211</td>
<td>493</td>
<td>(41%)</td>
</tr>
<tr>
<td>Court St. - NY 36</td>
<td>5,700</td>
<td>1368 (24%)</td>
<td>1175</td>
<td>431</td>
<td>(37%)</td>
</tr>
<tr>
<td>NY 36 - Wyoming Co. Line</td>
<td>4,400</td>
<td>1892 (43%)</td>
<td>933</td>
<td>588</td>
<td>(63%)</td>
</tr>
<tr>
<td>NY 246 - NY 19</td>
<td>6,700</td>
<td>2077 (31%)</td>
<td>1570</td>
<td>666</td>
<td>(42%)</td>
</tr>
<tr>
<td>NY 19 - US 20</td>
<td>6,600</td>
<td>2046 (31%)</td>
<td>1562</td>
<td>677</td>
<td>(43%)</td>
</tr>
<tr>
<td>US 20 - CR 15</td>
<td>5,300</td>
<td>1060 (20%)</td>
<td>1160</td>
<td>316</td>
<td>(27%)</td>
</tr>
<tr>
<td>US 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NY 63 - NY 19</td>
<td>2,100</td>
<td>315 (15%)</td>
<td>527</td>
<td>53</td>
<td>(10%)</td>
</tr>
<tr>
<td>NY 98 - CR 15</td>
<td>3,900</td>
<td>1443 (37%)</td>
<td>962</td>
<td>408</td>
<td>(42%)</td>
</tr>
<tr>
<td>NY 238 - NY 98</td>
<td>4,700</td>
<td>1645 (35%)</td>
<td>869</td>
<td>409</td>
<td>(47%)</td>
</tr>
<tr>
<td>NY 77 - NY 238</td>
<td>7,200</td>
<td>1800 (25%)</td>
<td>1380</td>
<td>429</td>
<td>(31%)</td>
</tr>
<tr>
<td>CR 4 - NY 77</td>
<td>4,800</td>
<td>624 (13%)</td>
<td>812</td>
<td>103</td>
<td>(13%)</td>
</tr>
<tr>
<td>NY 77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US 20 - NY 33</td>
<td>6,000</td>
<td>1440 (24%)</td>
<td>1068</td>
<td>315</td>
<td>(29%)</td>
</tr>
<tr>
<td>NY 33 - NY 5</td>
<td>7,000</td>
<td>1400 (20%)</td>
<td>1209</td>
<td>284</td>
<td>(23%)</td>
</tr>
<tr>
<td>NY 36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NY 63 - CR 35</td>
<td>2,700</td>
<td>270 (10%)</td>
<td>357</td>
<td>14</td>
<td>(4%)</td>
</tr>
<tr>
<td>NY39/20A Overlap - NY 63</td>
<td>4,160</td>
<td>874 (21%)</td>
<td>569</td>
<td>164</td>
<td>(29%)</td>
</tr>
<tr>
<td>NY 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erie Co. Line - NY 77</td>
<td>5,600</td>
<td>560 (10%)</td>
<td>1053</td>
<td>105</td>
<td>(10%)</td>
</tr>
<tr>
<td>NY 33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erie Co. Line - NY 77</td>
<td>4,800</td>
<td>960 (20%)</td>
<td>1011</td>
<td>188</td>
<td>(19%)</td>
</tr>
<tr>
<td>US 20A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NY 36 Overlap - CR 37</td>
<td>5,079</td>
<td>203 (4%)</td>
<td>772</td>
<td>15</td>
<td>(2%)</td>
</tr>
<tr>
<td>NY 39 Overlap - NY 36 Overlap</td>
<td>8,700</td>
<td>870 (10%)</td>
<td>1152</td>
<td>146</td>
<td>(13%)</td>
</tr>
<tr>
<td>NY 246 - Liv. Cnty Line</td>
<td>3,463</td>
<td>242 (7%)</td>
<td>569</td>
<td>24</td>
<td>(4%)</td>
</tr>
<tr>
<td>Warsaw Village Line - CR 3</td>
<td>4,800</td>
<td>240 (5%)</td>
<td>564</td>
<td>22</td>
<td>(4%)</td>
</tr>
<tr>
<td>NY 238 - NY 19</td>
<td>4,600</td>
<td>230 (5%)</td>
<td>743</td>
<td>18</td>
<td>(2%)</td>
</tr>
<tr>
<td>CR 31 - NY 238</td>
<td>2,700</td>
<td>190 (7%)</td>
<td>463</td>
<td>15</td>
<td>(3%)</td>
</tr>
<tr>
<td>NY 408</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NY 36 Overlap - I-390</td>
<td>3,714</td>
<td>222 (6%)</td>
<td>440</td>
<td>3</td>
<td>(1%)</td>
</tr>
<tr>
<td>NY 238</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US 20A - NY 19</td>
<td>1,600</td>
<td>112 (7%)</td>
<td>253</td>
<td>9</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

Note: Primary Focus Highways are in Bold.
3. **Nighttime Truck Operations**

Throughout the preliminary project introduction meetings and public outreach process, concern was raised regarding nighttime truck operations. Most key area representatives and residents felt that truck traffic at night is a significant problem, as it appears that truck volumes remain relatively steady into the evening hours, well after typical commuter traffic has tailed off. In an effort to determine the effects of truck traffic throughout the 24-hour data-collection period, and to compare this traffic to general traffic using the primary focus highways, heavy vehicle volumes and percentages were broken out of the 24-hour totals for the 6:00 PM to 12:00 midnight time period. These totals are also shown on Table 3. Review of Table 2 shows that along most of Route 63 and Route 20 through the primary focus area, heavy vehicle percentages increase by 5 – 20% after 6:00 PM. By comparison, truck percentages along all other corridor roadways, either increase only slightly (Route 77), remain constant or decrease slightly.

The increases in truck percentage along Routes 20 and 63 show that truck traffic volumes continue to be relatively high into the evening hours. Although the number of trucks does decrease, the truck percentages increase, as car traffic through the area subsides more significantly. Field observations show that through-truck traffic generally avoids the Batavia area during busy daytime hours. However, after approximately 7:00 PM, truck volumes increase in and around Batavia, as through-trucks use Route 63 and Route 98 to access I-90 at Exit 48.

4. **Seasonal Traffic Variations**

Seasonal traffic variations can occur when large seasonal traffic generators are present along the corridor, or within the study area. At the west end of the study area, the Six Flags - Darien Lake Amusement Park is located along Route 77 between Route 20 and Route 33. Annually, the park attracts 1.4 to 1.6 million visitors. This translates into a substantial increase in traffic along the Route 77 Corridor during the on-season (Memorial Day - Labor Day). The seasonal traffic generated by the park, as presented in the NYSDOT Route 77 Expanded Project Proposal, was reviewed to determine the impacts on the surrounding roadway network.

As shown in the Table 4 below, daily traffic volumes along Route 77 experience an average increase of 74% during the on-season. Heavy vehicles, however, either increase or decrease slightly, depending on location.

Intersection volumes along Route 77 were also compared for off-season and on-season periods. As shown on Figure 4, the volume of traffic during the on-season was significantly higher than during the off-season.
Table 3: Heavy Vehicle Percentage Comparison – 1999 NYSDOT Highway Sufficiency Ratings vs. NYSDOT 2002 Classification Counts

<table>
<thead>
<tr>
<th>HIGHWAY</th>
<th>FUNCTIONAL CLASS</th>
<th>HEAVY VEHICLE % 1999</th>
<th>HEAVY VEHICLE % 2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 5 – Route 33</td>
<td>Rural Major Collector</td>
<td>6%</td>
<td>20%</td>
</tr>
<tr>
<td>Route 33 – Route 20</td>
<td>Rural Major Collector</td>
<td>20%</td>
<td>24%</td>
</tr>
<tr>
<td>Route 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 77 – Route 238</td>
<td>Rural Principal Arterial</td>
<td>14%</td>
<td>25%</td>
</tr>
<tr>
<td>Route 238 – Route 98</td>
<td>Rural Principal Arterial</td>
<td>37%</td>
<td>35%</td>
</tr>
<tr>
<td>Route 98 – Route 63</td>
<td>Rural Principal Arterial</td>
<td>39%</td>
<td>37%</td>
</tr>
<tr>
<td>Route 63 – Route 19</td>
<td>Rural Principal Arterial</td>
<td>14%</td>
<td>15%</td>
</tr>
<tr>
<td>Route 63</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 20 – Route 19</td>
<td>Rural Principal Arterial</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td>Route 19 – Route 246</td>
<td>Rural Principal Arterial</td>
<td>14%</td>
<td>31%</td>
</tr>
<tr>
<td>Route 246 – Route 36</td>
<td>Rural Principal Arterial</td>
<td>41%</td>
<td>43%</td>
</tr>
<tr>
<td>Route 36 – Court St. Geneseo</td>
<td>Rural Principal Arterial</td>
<td>25%</td>
<td>24%</td>
</tr>
<tr>
<td>Court St. – Route 20A</td>
<td>Urban Principal Arterial</td>
<td>25%</td>
<td>29%</td>
</tr>
<tr>
<td>Route 20A Overlap</td>
<td>Urban Principal Arterial</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>Route 238</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CR 39 – Route 20A</td>
<td>Rural Minor Arterial</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Route 20A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Route 238 – Route 19</td>
<td>Rural Minor Arterial</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Route 19 – Route 246</td>
<td>Rural Minor Arterial</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Route 39 – Route 36</td>
<td>Rural Minor Arterial</td>
<td>7%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 4: Route 77 Seasonal Traffic Volumes

<table>
<thead>
<tr>
<th>Location</th>
<th>Off-Season AADT (April 1999)</th>
<th>On-Season AADT (July 1999)</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Vehicles</td>
<td>Heavy Vehicles</td>
<td>Total Vehicles</td>
</tr>
<tr>
<td>NYS Thruway to Route 5</td>
<td>8,547</td>
<td>1,556</td>
<td>12,407</td>
</tr>
<tr>
<td>Route 5 to Route 33</td>
<td>6,504</td>
<td>1,300</td>
<td>11,392</td>
</tr>
<tr>
<td>Route 33 to Sumner Road</td>
<td>5,745</td>
<td>1,400</td>
<td>12,065</td>
</tr>
<tr>
<td>Sumner Road to Route 20</td>
<td>5,233</td>
<td>1,384</td>
<td>8,541</td>
</tr>
</tbody>
</table>
5. Slow-Moving Vehicles

In addition to the concern with high travel speeds experienced along the corridor, the disparate speeds of vehicles traveling on the primary focus highways were also noted as a prime issue. One traffic component, which brings safety concerns to the forefront, is school buses. These large vehicles often travel at speeds below the posted speed limit, and make frequent stops to load and unload school children. Trucks, in particular those that are not familiar with the area, may not be expecting to encounter these stopped school buses, creating a significant safety concern. This concern was noted repeatedly throughout the initial public outreach effort.

Another component of the traffic traveling on the primary focus highways is slow-moving farm traffic. Along Routes 20 and 63 south of Batavia in particular, local farm traffic routinely uses the corridor to travel between fields. These vehicles are often oversized and travel at speeds well below the posted speed limit. Agriculture and farming-related businesses account for a significant portion of the areas' economic base and as such, the area experiences a high volume of these slow-moving farm vehicles.

This potential conflict between slow moving school buses/large farm vehicles and fast moving passenger cars/trucks is compounded by the numerous vertical curves present through the corridor, creating potentially dangerous conditions at several locations.

6. Peak Hours

A review of the 24-hour machine volume counts revealed that the peak hours in the study area varied by location, ranging from 2:00 to 6:00 PM during typical weeks. During the summer "on-season", the peak hour tends to be even later along Route 77 due to the effect of Six Flags-Darien Lake. For the purposes of this study, the weekday evening (PM) peak hour of traffic at each individual intersection will be used for the intersection analyses, as this will represent the typical "worst case" scenario at each location. A weekday morning (AM) peak travel hour was also identified, but in all cases, traffic volumes were lower than in the PM peak hour. For intersections along Route 77, both an "on-season” and “off-season” analysis was completed.

7. Turning Movement Counts

Turning movement counts were obtained for 21 key intersections located throughout the study area (listed below). These counts were conducted for the PM peak travel hour at each location, which varies between 2:00 PM and 6:00 PM. Count data was collected starting in the Fall of 2002 by the NYSDOT Traffic Counting Consultant and was completed in the winter of 2003. At some intersections, count data was obtained from previous studies. Turning movement volumes for the 21 intersection counts are displayed on Figure 4.
Route 63
- Route 19
- Route 36
- Route 408
- Route 942D (Mary Jamison)

Route 20
- Route 238
- Route 63
- Route 77 (2/99)

Route 20A
- Route 19
- Route 36 (west)
- Route 36 (east)
- Route 63 (north)
- Route 63 (south)

Route 238
- Route 98 (north) (4/99)
- Route 98 (south) (4/99)
- Exchange Street (4/99)

Route 36
- Route 98 (north) (4/99)
- Route 98 (south) (4/99)
- Exchange Street (4/99)

Route 408
- I-390 (NB ramps)
- I-390 (SB ramps)
- Route 36

Review of Figure 4 shows that traffic volumes tend to be highest along the primary focus highways – Routes 77, 20 and 63, as well as near population centers such as Geneseo, Attica and Warsaw. The four count locations along Route 77 also show peak-season volumes, shown in the green boxes. The significant volume increases represent travel to and from Six Flags when evening concerts are scheduled. Notice in these cases that the PM peak hour is later in the evening (5 PM to 6 PM or 6 PM to 7 PM) than under normal travel conditions.

Overall, the traffic volumes collected do not appear out of character with the nature of the study area, and there are no locations that appear to be supporting unusually high traffic volumes that would negatively affect capacity.

C. Existing Level of Service

In order to measure the quality of traffic flow through the study area, intersection capacity analysis was conducted at each of the counted intersections. Using the collected traffic volumes shown on Figure 4, transportation models were used to simulate existing conditions and provide measures of effectiveness such as the Level of Service (LOS) and periods of delay. The transportation model used for analyzing both signalized and unsignalized intersections was the Highway Capacity Software (HCS-2000). The LOS of an intersection can range from “A” to “F”, which can be roughly compared to a school report card grade. Generally, overall intersection LOS of "A" to “D” is considered acceptable. The Level of Service for all study area intersections is shown in Table 5 and also on Figure 5.

Review of Table 5 and Figure 5 shows that during a typical weekday, both signalized and unsignalized intersections through the study area are operating at satisfactory levels.

1. Seasonal Traffic Impacts

The Six Flags-Darien Lake facility puts a strain on the area roadway network, particularly during concerts and special events, as several thousand vehicles may be approaching the
Figure 5

Intersection Level of Service (LOS)

- Primary Focus Area Roadways
- Secondary Focus Area Roadways
- City
- Village
- Town
- Non-State Roads
- State Roads

Route 63 Corridor Study
New York State Department of Transportation

Sumner Road & Rt. 77 - Off-Peak
PM PEAK HOUR: 4 TO 5

Rt. 5 & 77 - Off-Peak
PM PEAK HOUR: 4 TO 5

Rt. 5 & 77 - Peak
PM PEAK HOUR: 6 TO 7

Sumner Road & Rt. 77 - Peak
PM PEAK HOUR: 4 TO 5

Rt. 77 & 33 - Off-Peak
PM PEAK HOUR: 4 TO 5

Rt. 77 & 33 - Peak
PM PEAK HOUR: 6 TO 7

Rt. 238 & Rt. 20
PM PEAK HOUR: 4 TO 5

Rt. 238 & Rt. 20
PM PEAK HOUR: 3 TO 4

Rt. 238 & Exchange St.
PM PEAK HOUR: 4 TO 5

Rt. 238 & 98
PM PEAK HOUR: 3 TO 4

Rt. 238 & 98
PM PEAK HOUR: 4 TO 5

Rt. 20 & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 19 & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 19 & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20 & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 19 & Rt. 63
PM PEAK HOUR: 3 TO 4

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK HOUR: 5 TO 6

Rt. 20A & Rt. 63
PM PEAK HOUR: 4 TO 5

Rt. 20A & Rt. 63
PM PEAK Hour: 2 TO 3
Table 5: Existing Intersection PM Peak Level of Service

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Existing PM Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 77 and Route 5</td>
<td>B</td>
</tr>
<tr>
<td>Route 77 and Route 33</td>
<td>B</td>
</tr>
<tr>
<td>Route 77 and Sumner Road</td>
<td>A</td>
</tr>
<tr>
<td>Route 77 and Route 20</td>
<td>B</td>
</tr>
<tr>
<td>Route 20 and Route 63</td>
<td>B</td>
</tr>
<tr>
<td>Route 20 and Route 238</td>
<td>B</td>
</tr>
<tr>
<td>Route 63 and Route 19</td>
<td>B</td>
</tr>
<tr>
<td>Route 63 and Route 36</td>
<td>B</td>
</tr>
<tr>
<td>Route 63 and Route 942D</td>
<td>A</td>
</tr>
<tr>
<td>Route 63 and Route 20A (south)</td>
<td>B</td>
</tr>
<tr>
<td>Route 63 and Route 20A (north)</td>
<td>C</td>
</tr>
<tr>
<td>Route 63 and Route 408</td>
<td>B</td>
</tr>
<tr>
<td>Route 408 and Ramp to I-390 (NB)</td>
<td>B</td>
</tr>
<tr>
<td>Route 408 and Ramp to I-390 (SB)</td>
<td>B</td>
</tr>
<tr>
<td>Route 408 and Route 36</td>
<td>B</td>
</tr>
<tr>
<td>Route 36 and Route 20A/Route 39 (east)</td>
<td>C</td>
</tr>
<tr>
<td>Route 36 and Route 20A/Route 39 (west)</td>
<td>B</td>
</tr>
<tr>
<td>Route 20A and Route 19</td>
<td>B</td>
</tr>
<tr>
<td>Route 238 and Exchange St.</td>
<td>A</td>
</tr>
<tr>
<td>Route 238 and Route 98 (south)</td>
<td>B</td>
</tr>
<tr>
<td>Route 238 and Route 98 (north)</td>
<td>A</td>
</tr>
</tbody>
</table>

facility simultaneously. Given the current site layout and access design, all traffic enters/exits the site off of Route 77.

Capacity analysis for the evening peak period was also conducted for the on-season scenario. The results of this analysis, as presented in the NYSDOT Route 77 Expanded Project Proposal, are presented in Table 6.

Table 6: Existing PM Peak Level of Service (Off-Season vs. On-Season)

<table>
<thead>
<tr>
<th>Direction</th>
<th>Intersection of Route 77 at:</th>
<th>Route 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Route 33</td>
<td>Sumner Rd</td>
</tr>
<tr>
<td></td>
<td>Off-Season</td>
<td>Off-Season</td>
</tr>
<tr>
<td></td>
<td>On-Season</td>
<td>On-Season</td>
</tr>
<tr>
<td>Northbound</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Southbound</td>
<td>B</td>
<td>F</td>
</tr>
<tr>
<td>Eastbound</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>Westbound</td>
<td>C</td>
<td>E</td>
</tr>
</tbody>
</table>

20
Problems develop along Route 77 during the Six Flags-Darien Lake on-season, as seen at the intersections of Route 77/Route 33 and Route 77/Sumner Road, where intersection LOS drops substantially. This is indicative of the large volumes of traffic traveling from the thruway in order to access Six Flags-Darien Lake for concerts and evening events. The PM peak hour during the on-season also extends later into the evening (6 to 7 PM), once again due to the effect of the park.

In addition to the seasonal variation due to everyday activities at the park, “special events” such as concerts and shows also result in traffic increases. On average, 16 entertainment events are scheduled during the on-season. To assess the traffic impacts of these events, aerial observations were made on Tuesday, August 14, 2001, during the peak arrival period of a “Matchbox Twenty” concert. During the fly-over, excessive queuing was detected along the surrounding network. On the NYS Thruway Exit 48A, the queue in the eastbound direction extended from the tollbooth, along the length of the off-ramp, past the gore, and onto the mainline of the Thruway. On the Thruway, the queued vehicles destined to the off-ramp used the shoulder as a travel lane so not to impede mainline traffic. In the westbound direction, the queue only extended from the tollbooth, back past the Thruway overpass.

At the Route 77/Route 33 intersection, queues were observed on Route 33 in both the eastbound and westbound directions. In addition, at the Six Flags-Darien Lake jughandle entrance, vehicles on Route 77 in the southbound direction queued beyond the McVean Road/Reynolds Road/Route 77 intersection. In the northbound direction, the queue extended beyond the Sumner Road intersection.

Queues were also observed at the Route 77/Route 20 intersection. In particular, vehicles were backed up on the eastbound and westbound approaches of Route 20. During this period, trucks were having a noticeable problem completing turning movements at this location. Trucks traveling in the westbound direction and attempting to turn right to continue north on Route 77 had the most difficulty. Stopped vehicles in the southbound direction were seen reversing so as to allow additional room for the turning trucks to maneuver.
D. Truck Travel Patterns

1. Truck Origin/Destination Survey

Truck travel patterns are a key component to understanding the existing issues within the primary focus area. To estimate these patterns, and determine the commodities hauled and truck types that are typically operating through the area, a mail-back postcard survey of commercial vehicles was distributed to truck drivers at key locations throughout the study area. The postcard survey asked questions regarding the origin, destination, stop locations, frequency of trip, truck size, state routes traveled, and primary commodities hauled.

The postage-paid survey cards were distributed to truck drivers at 24 locations. Twenty-two (22) of the locations were selected to capture heavy vehicles entering the study area. The remaining two locations (on I-390) captured both entering and exiting heavy vehicles. At each location, all trucks entering into the study area were stopped momentarily, handed a survey card, and asked to “complete the card today and drop it in the mail.” Figure 6 shows the location of all 24 survey distribution points.

The survey cards were distributed at each location for four consecutive hours from 1:00 PM to 5:00 PM on various days in late November/early December, 2001. The only exceptions were the two I-390 locations. At these locations, NYSDOT set up at truck inspection stations in January 2002, where all trucks were required to exit the expressway at rest areas near Mt. Morris. Survey cards were handed out for the entire day as the inspections were occurring (approximately eight hours). Survey cards were returned via mail during the months of December 2001 and January-March 2002.

The response rate for the Origin-Destination Study was approximately 19%, or 415 completed survey forms of approximately 2,000 distributed. Based on the results of the survey, 16 origin/destination regions were created, as shown in Table 7:

<table>
<thead>
<tr>
<th>Region</th>
<th>Origin/Destination Survey Regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Canada</td>
<td>7 – Western USA</td>
</tr>
<tr>
<td>2 – Northeastern USA</td>
<td>8 – Northeastern New York</td>
</tr>
<tr>
<td>3 – New Jersey</td>
<td>9 – Southeastern New York</td>
</tr>
<tr>
<td>4 – Pennsylvania</td>
<td>10 – Southwestern New York</td>
</tr>
<tr>
<td>5 – Southeastern USA</td>
<td>11 – Geneseo</td>
</tr>
<tr>
<td>6 – The Midwest</td>
<td>12 – Rochester</td>
</tr>
<tr>
<td>13 – Warsaw</td>
<td>14 – Batavia</td>
</tr>
<tr>
<td>15 – Attica</td>
<td>16 – Buffalo</td>
</tr>
</tbody>
</table>

a. Heavy Vehicle Origins/Destinations

Figure 7 presents a summary of the truck origins and destinations, providing a snapshot of interaction between the study area and other areas within the United States and Canada. A series of lines are shown linking the study area to each of the sixteen regions listed in Table 7. The number on each line, indicates the number of trips that either originated in, or were destined for, that particular region. Each trip
may be counted again along another line corresponding to the other end of the trip. For example, a trip originating in Canada and destined for Pennsylvania is included once in the 36 trips attached to Canada, and again in the 69 trips to Pennsylvania. *Figures 8 and 9* break the data down further, providing a summary of origins/destinations for the corridor-wide, western New York and Northeastern U.S./Canadian Trade trips.

The 16 regions shown above were then divided into two groups, internal and external. The internal regions are those within the project study area (Regions 11 through 15). The external regions are all those located outside the study area (Regions 1-10 and 16).

There are basically three types of truck traffic flow patterns that this study has identified; *Corridor-Wide, Western New York* and *Northeast U.S./Canadian Trade*

- **Corridor Wide patterns** – These are trucks that either originate inside the Corridor Wide area and do business within the Corridor Wide area (internal to internal), trucks that originate outside the Corridor Wide area and conduct business within the Corridor Wide area (external to internal), and trucks that originate inside the Corridor Wide area and conduct business outside the Corridor Wide area (internal to external). This truck traffic contributes substantially to the area’s economy.

- **Western New York patterns** – These are the trucks that originate and/or terminate somewhere within Western NY (defined as the portion of New York west of I-81) and travel **through** the Route 63 corridor. Examples within this category include truck traffic originating in Canada and terminating in Elmira or Binghamton. This truck traffic does not contribute significantly to the economy of the immediate study area, however, they do contribute to the economy of Western New York.

- **Northeastern US/Canadian Trade Area patterns** – These are trucks that are traveling between points outside of the Corridor Wide and Western NY areas, travel **through** the corridor and contribute to a much broader community or international trade area. Examples include trucks traveling between Canada and the Eastern Seaboard or Southeast. This truck traffic does not contribute significantly to the economy of either the Corridor-Wide Area or Western New York area.

Some results from the returned surveys are shown on *Figure 10.*
Origin/Destination of Northeast Trade Area Trucks

<table>
<thead>
<tr>
<th>Region</th>
<th>Region</th>
<th>Trucks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Pennsylvania</td>
<td>13</td>
</tr>
<tr>
<td>Canada</td>
<td>Southeast USA</td>
<td>5</td>
</tr>
<tr>
<td>Canada</td>
<td>Northeast USA</td>
<td>3</td>
</tr>
<tr>
<td>Canada</td>
<td>New York Metro/ New Jersey</td>
<td>5</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Northeast USA</td>
<td>4</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>New York Metro/ New Jersey</td>
<td>3</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Western USA</td>
<td>1</td>
</tr>
<tr>
<td>Southeast USA</td>
<td>Northeast USA</td>
<td>2</td>
</tr>
<tr>
<td>Southeast USA</td>
<td>Western USA</td>
<td>1</td>
</tr>
<tr>
<td>Northeast USA</td>
<td>New York Metro/ New Jersey</td>
<td>1</td>
</tr>
<tr>
<td>Northeast USA</td>
<td>Western USA</td>
<td>1</td>
</tr>
<tr>
<td>New York Metro/ New Jersey</td>
<td>Western USA</td>
<td>5</td>
</tr>
</tbody>
</table>

Figure 9
Origin/Destination of Northeast Trade Area Trucks
Number of Trips

- 1 - 5
- 6 - 10
- 11 - 15

Route 63 Corridor Study
As shown on Figure 10, 55% of the trucks surveyed were doing business within the study area and are classified as follows:

- **28% of the trucks surveyed are Internal to Internal** - These trucks had both origins and destinations within the study area, relating them to local businesses.

- **14% of the trucks surveyed are Internal to External** - These trucks started the trips inside of the study area and ended them outside of the study area. A local farmer transporting crops to a distributor in Rochester or Pennsylvania would be an example of this trip type.

- **13% of the trucks surveyed are External to Internal** - Trucks began the trips outside of the study area and ended them within the study area. An example may be a supplier from Canada making a delivery to a business within Batavia or Warsaw.

43% of the trucks surveyed were external to external trips and did not stop within the study area.

- **25% of external to external are Western New York Trucks** - These trucks did not stop within the study area, but had origins or destinations within Western New York, defined to be the area west of I-81.

- **18% of the external to external are Northeastern US/Canadian Trade Trucks** - These are trucks that are traveling between points outside of the Corridor Wide and Western New York areas, traveling through the corridor and contributing to a much broader community or international trade area. These
trucks generally do not stop within the study area and contribute little to the area wide economy.

The remaining 2% of the trucks surveyed did not supply data concerning origin and destination.

In addition to the origin-destination survey, a license plate survey of commercial vehicles was conducted in February, 2003. Technicians placed at three locations recorded the plate numbers of every truck passing by in both directions for a two hour period extending from 2:00 PM to 4:00 PM on a weekday afternoon. The locations chosen were at Exits 6 and 7 on I-390 (both on- and off-ramps) and at the intersection of Route 20 and Route 77 in Darien.

The results of this survey were similar to those from the previous effort.

- **Eastbound** – Of the 45 eastbound trucks recorded at the Route 77/Route 20 location, 21 of 45 (46%) were recorded approximately one hour later at either Exit 6 or Exit 7, suggesting that these vehicles were simply passing through the corridor. This is very similar to the results from the postcard survey of 43%.

- **Westbound** - Of the 58 westbound trucks entering the corridor at either Exit 6 (Sonyea) or Exit 7 (Mt. Morris) on I-390, 14 of 58 (24%) were recorded approximately one hour later at Route 77/Route 20. A likely reason that this pass-through percentage is lower than the 43% postcard survey results is that a percentage of west bound truck traffic left the corridor wide area via a route other than Route 77/20, such as Route 63 north to Batavia and I-90 via Route 98.

- **Overall** - 35 of 103 recorded vehicles (34%) can be considered pass-through (or external to external) as they were recorded at both ends of the corridor within the 60-minutes (+/-) that it takes to traverse the corridor.

It is important to note that the trip distribution developed here applies to the daytime hours, when local businesses and industries are operating. At night, the trip patterns are likely quite different. Considering that most local businesses aren’t operating at night, the vast majority of trips through the corridor are Western New York and Northeast US/Canadian Trade pass-through trips. In addition, the percentage of Western New York and Northeastern US/Canadian Trade traffic increases at night as local passenger and truck traffic volumes decrease.
b. Heavy Vehicle Overall Trip Frequency

The heavy vehicle trip frequency for the surveyed daytime trucks was broken down into the categories of multiple times per week, weekly, bi-weekly, monthly, and yearly. As shown on Figure 11, the majority of the trucks surveyed (39%) made multiple trips within the study area per week.

![Figure 11: Heavy Vehicle Trip Frequency](image)

2. Truck Characteristics

A summary of the sizes of the trucks surveyed is represented in Figure 12. As shown, 59% of the trucks were tractor trailers (53', tandem-trailer, 6-axle and 5-axle). The remaining 41% were single-unit, two to three axle trucks that generally support local services and deliveries. The truck drivers were also asked if they were hauling a 53-foot trailer. These large trailers are becoming the industry standard for long-haul, full load operations as they have a higher capacity than standard 45 or 48-foot trailers. However, these vehicles are more difficult to maneuver in urban areas or around tight intersections. Only 14% of all surveyed trucks were hauling 53-foot trailers.
3. Commodities

A summary of the commodities hauled by the Corridor Wide, Western New York and Northeastern US/Canadian Trade trucks is represented in Figures 13 and 14. For trucks termed Corridor Wide, Figure 13 illustrates the various commodities hauled. The commodities hauled by Western New York and Northeastern US/Canadian Trade traffic are shown on Figure 14. Comparison of the two figures illustrates that corridor wide and Western New York/Northeast US/Canadian Trade commodities hauled are very similar.
Figure 13: Primary Commodities Hauled Within the Study Area - Corridor Wide

- Food/Drink: 16%
- Empty: 11%
- Wood/Paper/Pulp: 8%
- Transport Equipment: 7%
- Machinery/Electronics: 7%
- Other/Unidentified: 30%
- Metal Products: 5%
- Passengers: 7%
- Haz/Chemical/Gas: 5%
- Minerals: 4%
- Other/Unidentified: 30%

Figure 14: Primary Commodities Hauled Through the Study Area – Western New York and Northeastern US/Canadian Trade

- Food/Drink: 22%
- Metal Products: 9%
- Empty: 9%
- Machinery/Electronics: 8%
- Other/Unidentified: 31%
- Minerals: 3%
- Haz/Chemical/Gas: 5%
- Wood/Paper/Pulp: 6%
- Transport Equipment: 7%
3. **Batavia Truck Origin/Destination Survey**

Given the importance of the City of Batavia as the largest commercial center in the study area, and as the connecting point for several important state routes, it was determined that truck travel patterns within the City should be identified. To do this, a separate origin-destination study was conducted. This study involved recording heavy vehicle license plates at nine locations around the perimeter of the City over a two-hour period (2-4 PM). All heavy vehicle types were recorded. As shown on Figure 14, the nine locations were located along the several state routes that enter the City. The object of this survey was to determine the number of trucks entering the City during a typical weekday afternoon, how many were involved with local business, how many simply pass through the City and what routes are typically used.

The results are as follows:

- A total of 326 trucks entered the City over the two-hour study period.
- A total of 60 (18%) simply passed through the City, passing through a second survey point within 30-minutes of entering the City.
- The remaining 266 (82%) did not pass through a second survey point within the 30-minute timeframe, so it is assumed that they were doing business within the City limits.

The primary routes used by the pass-through trucks are also displayed on *Figure 15*. As shown, the heaviest travel occurs on the leg of Route 98 extending from downtown Batavia north to the Thruway. Route 33, both east and west of the City has the next highest volume of truck traffic passing through Batavia followed by the section of Route 63 south of the City. Interestingly, Route 5, both east and west of the City carries little pass-through truck traffic while Route 33 carries a relatively high volume. As expected, Route 63 north of the City and Route 98 south carried very low volumes of pass-through truck traffic.

In order to gain a better understanding of the pass-through truck patterns in Batavia, the results shown on *Figure 15* were also set up in a matrix showing the interaction between each of the nine entry/exit points. This matrix, displayed in Table 8, shows that pass-through trucks entering Batavia primarily used the Thruway (14 of 60, or 23%), followed by Route 33 east and west (10 of 60 each, or 17% each). Pass-through trucks leaving Batavia primarily used Route 33 west (21 of 60, or 35%).

33
### Survey Locations:

<table>
<thead>
<tr>
<th>Location</th>
<th>Route Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location 1</td>
<td>Route 98 @ Northern Limits</td>
</tr>
<tr>
<td>Location 2</td>
<td>Route 63 @ Western Limits</td>
</tr>
<tr>
<td>Location 3</td>
<td>Route 5 @ Western Limits</td>
</tr>
<tr>
<td>Location 4</td>
<td>Route 33 @ Western Limits</td>
</tr>
<tr>
<td>Location 5</td>
<td>Route 98 @ Southern Limits</td>
</tr>
<tr>
<td>Location 6</td>
<td>Route 63 @ Eastern Limits</td>
</tr>
<tr>
<td>Location 7</td>
<td>Route 5 @ Eastern Limits</td>
</tr>
<tr>
<td>Location 8</td>
<td>Route 33 @ Eastern Limits</td>
</tr>
</tbody>
</table>

**Figure 15**

Batavia Origin-Destination Survey
Primary Routes of Pass-Through Trucks
Overall, the vast majority of trucks traveling through Batavia during the daytime hours (82%) appear to be doing business within the City. The Thruway/Route 98 gateway and Route 33 east and west appear to be the primary access routes used.

### Table 8: Pass-Through Truck Route Utilization in Batavia

<table>
<thead>
<tr>
<th>Exiting Location</th>
<th>98 North</th>
<th>63 North</th>
<th>33 West</th>
<th>5 West</th>
<th>98 South</th>
<th>63 South</th>
<th>5 East</th>
<th>33 East</th>
<th>Thruway</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>98 North</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
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<td>0</td>
<td>4</td>
</tr>
<tr>
<td>63 North</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>5 West</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>33 West</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
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</tr>
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<td>98 South</td>
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<td>0</td>
<td>3</td>
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<td>0</td>
<td>0</td>
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<td>1</td>
<td>5</td>
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<tr>
<td>63 South</td>
<td>1</td>
<td>0</td>
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<td>4</td>
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<td>2</td>
<td>8</td>
</tr>
<tr>
<td>5 East</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>33 East</td>
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<td>1</td>
<td>2</td>
<td>4</td>
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<td>0</td>
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<td>10</td>
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<td>Thruway</td>
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<td>0</td>
<td>7</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>3</td>
<td>6</td>
<td>21</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>60</td>
</tr>
</tbody>
</table>

#### 4. Hazardous Material Movements

The NYSDOT regulations on hazardous material transport are generally adopted from the Federal Motor Carrier Safety Administration Regulations – Code of Federal Regulations (CFR) Section 49, Part 397 – Transportation of Hazardous Materials; Driving and Parking. Based on these regulations, drivers are required to be properly licensed and possess current medical certification. The truck must be properly identified with the carrier name, plus city and state of origin. Cargo identification papers are required onboard with individual packages properly marked and labeled. The exterior of the vehicle must also be placarded on all four sides.

Part 397.67 of the CFR – Motor Carrier Responsibility for Routing serves as the applicable federal guideline for vehicle routing. New York State has not established non-radioactive hazardous material routing designations. Concerning hazardous material transport through the corridor, it appears that a minimal volume of hazardous cargo is being hauled through the study area, as shown on Figures 13 and 14. Five percent of the surveyed truck cargo was identified as chemicals, hazardous materials and gas for both the local and pass-through categories. Local shipments of fuels, including gasoline, oil and propane, as well as fertilizers and other farm related chemicals carry hazmat designation and are placarded accordingly. These and similar products are likely shipped through the corridor regularly.
E. Summary of Existing Traffic Characteristics (Primary Focus Highways)

- Average daily traffic (ADT) varies between 2,700 and 13,100 vehicles.
- Heavy truck volumes vary between 270 and 2,077 vehicles per day.
- Hourly heavy vehicle volumes remain relatively steady until after 11:00 PM.
- Existing level of service is acceptable at study area intersections (during off-season).
- Six Flags - Darien Lake creates a significant spike in seasonal traffic that leads to poor operations at several surrounding intersections and the Thruway Exit 48A - Pembroke during the on-season.
- The majority of trucks surveyed operate through the area multiple times per week.
- 59% of trucks surveyed were large trucks – 5 or 6 axle semi’s or tandem trailer.
- The most common primary commodities moving through the area were related to the food-drink industry.
- Commodities hauled appear to be similar for Corridor Wide, Western New York and Northeastern US/Canadian Trade trips.
- Only 5% of trucks surveyed carried goods classified as hazardous materials/chemicals/fuels.

V. TRUCK USE ON THE ROUTE 77/20/63 CORRIDOR

This section of the report focuses on identifying the reasons why high volumes of truck traffic, especially pass-through truck traffic, is seen on the primary focus highways. Discussions with area residents, shippers, truck drivers and economic development specialists in the initial public outreach stages have led to the following conclusion: **using Route 63 is faster, shorter, and cheaper.**

To assist in our investigation of truck use through the study area, the following studies, projects or initiatives have been reviewed:

- "Just in time" delivery
- NAFTA
- US 15 improvements in Pennsylvania
- Mid-Pennsylvania Study
- Continental One
- NYSDOT Route 77 EPP, Pavement Rehabilitation/Reconstruction, 2001
- I-86 Draft Environmental Impact Statement

This study will take the recommendations and/or results of these studies, projects or initiatives into consideration.

A. Route Mileage

Corridor mileage was determined either by driving the routes, or by measuring the distances using Arc Explorer Mapping. **The Route 63 corridor is approximately 25 miles shorter than using the I-390/I-90 route.**
B. Travel Speeds

1. Average Travel Speeds

Vehicle speed and delay data was collected along the primary focus highways and compared to travel times and speeds collected along the I-90/390 corridor from Exit 48A (Pembroke) to the Mt. Morris and Sonyea exits on I-390. The “Floating Car Technique” was used to measure average speeds and delays in the field. This method has the study vehicle “float” or drive along with traffic on a route at approximately the average speed. The travel time between major intersections and the length of any delay (due to traffic signals, stop signs, congestion, or other reasons) is recorded.

The floating car speed study was conducted along the following four (4) paths.

- **Path #1** – I-390 exit 6 onto Route 36, north to Route 63, west to Route 20, west to Route 77, north to Thruway exit 48A.
- **Path #2** – I-390 starting at exit 6 heading north to Thruway exit 46, then I-90 west to Thruway exit 48A.
- **Path #3** – I-390 exit 7 onto Route 63, west to Route 20, west to Route 77, north to Thruway exit 48A.
- **Path #4** – I-390 starting at exit 7 heading north to Thruway exit 46, then I-90 west to Thruway exit 48A.

These paths represent the main through truck travel routes of concern in the region. Two of the paths involve the Route 63 corridor and the other two utilize the I-390/Thruway system. Each path was run two (2) or three (3) times to help establish a representative sampling of the traffic flow. The two paths that utilize the Route 63 corridor (#1 and #3) were traveled and analyzed during both day and nighttime periods. The daytime runs generally occurred between the hours of 10 AM and 4 PM and the night runs occurred between the hours of 7 PM and 11 PM. The daytime analyses were conducted to determine both car and truck average travel times and speeds. The evening analysis focused specifically on truck travel as car traffic diminishes significantly after approximately 8 PM.

To capture the influence of trucks on speed and delay, a truck with no other vehicles hindering its speed was followed. To capture the influence without a truck, a car was followed with no other vehicles hindering its speed. The purpose for doing this was to determine if trucks are traveling either faster or slower through the corridor than passenger cars and if the overall travel time through the corridor varied depending on the vehicle type.

Along the I-390/NYS Thruway paths, toll booth delay was examined to see if it has a significant effect on truck travel times. Toll delays for trucks were determined at both the on- and off-ramps at exits 46 and 48A by observing toll booth operations during the weekday PM peak hour, and measuring the length of time that it took each truck to travel from the back of any queued vehicles encountered as it approached the toll plaza, to the point where it cleared the toll barrier.
Based on observations, a truck had to wait for other vehicles to pay their toll an average of 25 percent of the time and an average of 55 percent of the trucks used E-ZPass. The toll delay observed at both Exits 46 and 48a were insignificant when compared to the route travel times, varying between 23 and 40 seconds.

1A. Results of the Average Speed Studies

Using the information collected, the average travel times and speeds for cars and heavy vehicles were calculated for all four paths. The results of the speed study are summarized in Table 9. An in-depth review of the corridor paths traveled during the daytime reveals the following specific travel patterns:

- **Path #1 - Route 36 (from I-390 Exit 6)** Route 63/Route 20/Route 77 - From I-390 Exit 6 along Route 36 to the intersection with Route 63, the average truck speed was **47 MPH**. An average of 1.2 minutes of delay was experienced due to the traffic control devices present along this section in Mt. Morris, Leichester and Greigsville. A significant reduction in speed is seen within the Village of Mount Morris, where the posted speed limit is 30 mph and more cross streets and signalized intersections are present. For most of the remaining section along Route 63, Route 20 and Route 77, travel speeds increase as the route becomes more rural in nature. Along the Route 63 section, the average truck travel speed increased to 51 MPH. On Route 20, truck travel speed increased to 56 MPH. Along Route 77, the average truck travel speed decreased to 46 MPH due to additional delay associated with the Exit 48A toll booths and signalized intersections at Route 33, Route 5 and the Thruway entrance. Overall, this route is approximately **47 miles** long and the average time necessary for trucks to traverse this route was approximately **61 minutes**.

- **Path #2 – I-390 from Exit 6 (Sonyea) to I-90, then west to Exit 48A (Pembroke)** - For this section, the average truck travel speed was **68 MPH**. Delay associated with travel speeds on the exit/entrance ramps and toll collection at Thruway Exit 46 was minimal. This route is approximately **75 miles** long. The average time necessary for trucks to traverse this route was **66 minutes**.

- **Path #3 - Route 63 (from I-390 exit 7) / Route 20 / Route 77** – From I-390 Exit 7 to the intersection of Route 63 and Route 36 in Greigsville, the average truck and car speed was **48 MPH**. Delay was only experienced at the signalized and unsignalized intersections on the overlap of Route 20A and Route 39 in Geneseo. Travel speeds and locations of delay for the remaining sections of Path #3 are the same as those described for Path #1. Overall, this route is approximately **44 miles** long. The average time necessary for trucks to traverse this route was **55 minutes**.

- **Path #4 – I-390 from Exit 7 (Mt. Morris) to I-90, then west to Exit 48A (Pembroke)** – the average truck travel speed was **69 MPH**. Delay associated with travel speeds on the exit/entrance ramps and toll collection at Thruway Exit 46 was minimal. This route is approximately **69 miles** long and the average time necessary for trucks to traverse this route was approximately **60 minutes**.
1B. Comparison of Routes

Comparing the paths using the primary focus highways to the paths that utilize the Thruway/I-390 route reveals some significant reasons why truck drivers are traveling on Route 63. Using the Route 63 corridor appears to be 5 – 10 minutes faster than the I-390/Thruway route. Even though the Route 63 corridor has lower travel speeds and greater delays, the shorter distance results in modest time savings. Also, as shown below, the Path #3 route, extending along Route 63 between the Mt. Morris exit on I-390 and Thruway Exit 48A (Pembroke) using Route 63, 20 and 77, has the shortest distance and lowest travel time.

| Path #1 – Route 36/63/20/77 | Distance: 47 Miles | Travel Time: 61 Minutes |
| Path #2 – Interstate - Sonyea to Pembroke | Distance: 75 Miles | Travel Time: 66 Minutes |
| Path #3 – Route 63/20/77 | Distance: 44 Miles | Travel Time: 55 Minutes |
| Path #4 – Interstate – Mt. Morris to Pembroke | Distance: 69 Miles | Travel Time: 60 Minutes |

2A. Nighttime Speed Study

Truck speeds were also surveyed at night, using the same “floating car” technique. An in-depth comparison showed little difference between maximum speeds during the daytime and nighttime. Figure 16 displays the truck average speed and maximum speed during the day and night, and the car average speed and maximum speed during the day. Overall, the trucks do not appear to be driving faster during the 7-11 pm period. In fact, trucks were driving, on average, 3.8 mph slower at night.

In addition to the nighttime floating car study, NYSDOT performed a second survey of nighttime vehicles using radar. During the hours of 9 pm to midnight, speed studies were performed at three different locations along the Route 63 corridor: Route 20 east of Alexander, Route 63 north of Pavilion and Route 63 south of Pavilion. The nighttime speed study recorded the number of cars and heavy vehicles and their speeds. Based on this information, the 85th percentile speeds, the percent over the posted speed limit, and the percentage of cars and heavy vehicles over the posted speed limits were calculated. The results are summarized in Table 10.
## Table 9: Speed and Delay Summary

<table>
<thead>
<tr>
<th>Path #1: I-390 exit 6 onto Route 36 northbound, to Route 63 westbound, to Route 20 westbound, to Route 77 northbound, to Thruway exit 48A</th>
<th>Path #2: I-390 exit 6 heading north to Thruway exit 46, then I-90 westbound to Thruway exit 48A</th>
<th>Path #3: I-390 exit 7 onto Route 63 westbound, to Route 20 westbound, to Route 77 northbound, to Thruway exit 48A</th>
<th>Path #4: I-390 exit 7 heading north to Thruway exit 46, then I-90 westbound to Thruway exit 48A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Westbound</strong></td>
<td><strong>Eastbound</strong></td>
<td><strong>Westbound</strong></td>
<td><strong>Eastbound</strong></td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>56.3</td>
<td>47.1</td>
<td>50.2</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>59.9</td>
<td>47.1</td>
<td>47.2</td>
</tr>
<tr>
<td><strong>Night</strong></td>
<td>61.4</td>
<td>47.1</td>
<td>46.0</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>56.2</td>
<td>47.1</td>
<td>50.3</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>62.0</td>
<td>47.1</td>
<td>45.6</td>
</tr>
<tr>
<td><strong>Night</strong></td>
<td>61.7</td>
<td>47.1</td>
<td>45.8</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>65.4</td>
<td>75</td>
<td>68.8</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>67.5</td>
<td>75</td>
<td>66.6</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>64.0</td>
<td>75</td>
<td>70.3</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>64.6</td>
<td>75</td>
<td>69.6</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>51.4</td>
<td>43.8</td>
<td>51.1</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>53.0</td>
<td>43.8</td>
<td>49.6</td>
</tr>
<tr>
<td><strong>Night</strong></td>
<td>54.7</td>
<td>43.8</td>
<td>48.0</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>51.5</td>
<td>44.0</td>
<td>51.3</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>56.3</td>
<td>44.0</td>
<td>46.9</td>
</tr>
<tr>
<td><strong>Night</strong></td>
<td>56.8</td>
<td>44.0</td>
<td>46.5</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>58.9</td>
<td>69.0</td>
<td>70.2</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>60.9</td>
<td>69.0</td>
<td>67.9</td>
</tr>
<tr>
<td><strong>Car</strong></td>
<td>57.8</td>
<td>69.0</td>
<td>71.6</td>
</tr>
<tr>
<td><strong>Truck</strong></td>
<td>58.4</td>
<td>69.0</td>
<td>70.8</td>
</tr>
</tbody>
</table>

## Table 10: Nighttime Radar Speed Study Results

<table>
<thead>
<tr>
<th># of Cars</th>
<th># of Trucks</th>
<th>Posted Speed Limit</th>
<th>85% Speed**</th>
<th>% Over Speed Limit</th>
<th>% Over 60 mph</th>
<th>% Cars &gt; Speed Limit</th>
<th>% Trucks &gt; Speed Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 20</td>
<td>67</td>
<td>33</td>
<td>55</td>
<td>58.8</td>
<td>37</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Route 63 North</td>
<td>55</td>
<td>49</td>
<td>55</td>
<td>59.7</td>
<td>45</td>
<td>8</td>
<td>23</td>
</tr>
<tr>
<td>Route 63 South</td>
<td>48</td>
<td>52</td>
<td>55</td>
<td>61.4</td>
<td>53</td>
<td>17</td>
<td>35</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
<td><strong>Average</strong></td>
</tr>
</tbody>
</table>

**The 85th percentile speed is the speed at which 85 percent of the vehicles are traveling.
As illustrated in Table 10, each segment had a significant number of vehicles that exceeded the posted speed limits ranging from 37% to 53%, although a much smaller percentage was traveling over 60 MPH (8% to 17%). For each location, the percentage of cars that exceeded the posted speed limit was higher than the percentage of trucks that exceeded the posted speed limit. On average, 27% of the cars exceeded the posted speed limit while only 18% of the heavy vehicles exceeded the posted speed limit. These results are consistent with the results of the floating car study.

2B. Summary of Nighttime Radar Speed Study

Route 20 East of Alexander
- The 85% speed was 58.8 MPH and the posted speed limit is 55 MPH
- 37% of the vehicles exceeded the posted speed limit
- 23% of the cars exceeded the posted speed limit
- 14% of the heavy vehicles exceeded the posted speed limit
- 33% of the vehicles were heavy vehicles

Route 63 North of Pavilion
- The 85% speed was 59.7 MPH and the posted speed limit is 55 MPH
- 45% of the vehicles exceeded the posted speed limit
- 23% of the cars exceeded the posted speed limit
- 22% of the heavy vehicles exceeded the posted speed limit
- 47% of the vehicles were heavy vehicles

Route 63 South of Pavilion
- The 85% speed was 61.4 MPH and the posted speed limit is 55 MPH
- 53% of the vehicles exceeded the posted speed limit
- 35% of the cars exceeded the posted speed limit
- 18% of the heavy vehicles exceeded the posted speed limit
- 52% of the vehicles were heavy vehicles

C. Route Cost Comparison

1. Costs Per-Mile

The next step in determining what makes Route 63 advantageous to truck drivers was to calculate an average cost of using both the corridor and the interstate route. The first step in doing this was to determine average per-mile truck operating costs. To do so, we used a software package called PC Miler that is used within the industry to calculate truck-operating costs. This system used an average cost of $1.36 per mile as a base (includes fuel, wages, taxes, etc.). This average cost varies, often daily, as many of the inputs (such as fuel prices) vary.

The average cost assumes a relatively flat (or typical) roadway surface, and near continuous free-flow operating conditions, similar to what would be experienced on an interstate or the Thruway. Along Route 63, however, there are numerous hills, speed zones and traffic
signals present that will both slow down a heavy commercial vehicle and result in above average fuel consumption. To account for this, a higher per mile cost of $1.64 (approximately 20% higher than average) was used for operations along this roadway. This cost is about halfway between the average (typical) cost of $1.36 and the $1.96 cost used along mountainous routes (from Bureau of Transportation Statistics).

2. **NYS Thruway Tolls**

In order to determine the average toll savings accruing to truck drivers who choose to use the Route 63 corridor, the New York State Thruway Authority electronic toll calculator was used. This tool, available on the NYSTA website, calculates the per-trip cost between any two entry/exit points along the Thruway system for every class of vehicle allowed on the roadway system. For our purposes, the entry/exit points referenced were Exit 46 – Rochester/I-390 and Exit 48A – Pembroke as trucks using the Route 63 corridor typically avoid this stretch of the Thruway (between Exits 46 and 48A). Toll amounts by typical commercial vehicle type between Exit 46 and Exit 48A are shown in Table 11.

<table>
<thead>
<tr>
<th>NYSTA Vehicle Type</th>
<th>Toll Amount Between Exit 46 and Exit 48A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class III – 5-axle semi with 53-ft trailer</td>
<td>$5.80 (Pays Double the Class III Toll of $2.90)</td>
</tr>
<tr>
<td>Class V – 5-axle semi (&lt;53 ft trailer), auto rack</td>
<td>$4.75</td>
</tr>
<tr>
<td>Class VI – 3-axle semi, auto carrier</td>
<td>$3.85</td>
</tr>
<tr>
<td>Class VII – 4-axle semi, auto carrier</td>
<td>$4.25</td>
</tr>
<tr>
<td>Tandem Trailers &lt;28 ft long*</td>
<td>$5.80 (Pays Double the Class III Toll of $2.90)</td>
</tr>
</tbody>
</table>

* Tandem Trailers less than 28-feet long can operate along the state highway system, including Route 63.

Class III (5-axle, 53-foot semis), Class V (5 axle, less than 53-foot semis), Class VI (3-axle semi, auto carrier), Class VII (4 axle, less than 53-foot semis) and tandem trailers less than 28-feet long are the types of heavy vehicles that are primarily using Route 63 to pass-through the study area. The average toll from Exits 46 to 48A for these five vehicle types is $4.89. The tandem trailers less than 28-foot long and 53-foot semis pay $5.80 per trip along this stretch of I-90.

3. **Cost Savings of Using the Route 63 Corridor**

Using these and other costs as inputs, the calculations below show that using the shortest Path (#3) along the Route 63 corridor (Exit 7 - Mt. Morris, to Exit 48A – Pembroke, via Route 63/20/77), is typically $27.00 cheaper (including the driver’s wage) per trip than
using the interstate route extending from Mt. Morris north to the Thruway then west to the Pembroke Exit.

<table>
<thead>
<tr>
<th></th>
<th>Route 63/20/77</th>
<th>I-90/I-390</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Cost Per Mile</td>
<td>$1.64</td>
<td>$1.36</td>
</tr>
<tr>
<td>Distance Traveled (miles)</td>
<td>44</td>
<td>69</td>
</tr>
<tr>
<td>Tolls/Highway Use Taxes</td>
<td>$2.03 ($.0462 per mile)</td>
<td>$7.23</td>
</tr>
</tbody>
</table>

**Cost to Travel Route:**

<table>
<thead>
<tr>
<th></th>
<th>Route 63/20/77</th>
<th>I-90/I-390</th>
</tr>
</thead>
<tbody>
<tr>
<td>($Operating Cost \times Route Distance + Toll)</td>
<td>$74.19</td>
<td>$101.08</td>
</tr>
</tbody>
</table>

Drivers currently save approximately $27.00 per trip using the Route 63/20/77 corridor. Even with NYS Thruway tolls removed, truck drivers would still save approximately $22.00 per trip using the corridor. It is therefore believed that removing the tolls from the NYS Thruway will not significantly reduce the number of heavy vehicles using the primary focus highways.

### D. Truck Driver Input

In addition to the distance, time and cost studies performed, we spoke directly to many truck drivers to help determine the factors considered when choosing their route. These discussions took place at the Truck Driver/Shippers Focus Group Meeting (3/22/02), during the truck origin/destination survey (on I-390 at the truck inspection stops) and in September, 2002, at a local restaurant that is frequented by truck drivers. In our discussions, it was apparent that truck operations and route choices vary by trucking operation and company.

The **large for-hire trucking companies** commonly direct their drivers to use specific routes and seem to generally prefer the interstate system due to ease in getting to destinations, increased safety and the higher and more consistent travel speeds attainable. Also of importance, toll expenses are generally reimbursable by the trucking company, so the toll cost of using the Thruway is not a significant factor to a large for-hire trucking company driver. 80% (17 of 21) of the larger companies' truck drivers preferred the Thruway and doubted they would use alternative corridors like Route 63 if they had the option. Some other reasons cited by these truck drivers for using the Thruway were:

- Faster speeds, flatter terrain, easier to maneuver – especially with full, heavy or oversized loads
- Avoids red lights, slow speed zones in towns/villages and local congestion
- Keeps drivers that are unfamiliar with the area from getting lost, losing time.

**Independent truck drivers and small trucking firms**, however, who are operating on much tighter profitability margins, often select routes based more on cost factors. In most cases, the drivers we spoke with agreed that the load value, or revenue generated by hauling a particular commodity, plays a large part in determining the route chosen. If the load pays a marginal amount, the driver has little choice but to use the shortest/cheapest route. Independent and small firm truck drivers we talked with cited the following reasons for choosing Route 63:
• Shorter, easier, less traffic than the Thruway
• Use primarily at night because there is much less traffic
• Like to stop at a local truck stop.
• Driver paid by the mile, routed to Route 63 by firm
• Use Route 63 when empty or “backhauling” low-value loads like pallets or cardboard.

Of the independents and small firm truck drivers we spoke with who remain on I-90/I-390, the reason stated was related primarily to perceived safety. Many of these drivers prefer the Thruway due to its safe operating characteristics and the higher, steadier travel speeds that can be attained. Firms that haul high-value loads, like specialty machinery or hot tubs, get increased revenue from the load, which allows them to choose the routes they prefer.

In addition, approximately 70% (20 of 29) of the drivers we spoke with who use Route 63 said that they would **not** switch to the Thruway if the tolls were removed.

### E. Summary of Reasons that Trucks use Route 63

- **SHORTER**: The Route 63 corridor is **25 miles shorter**.
- **CHEAPER**: Truck drivers **save approximately $27.00 per trip** by using the Route 63 corridor.
- **FASTER**: The Route 63 corridor is **5 – 10 minutes faster**.

### VI. HIGHWAY FEATURES

This section describes the physical roadway features and issues that exist within the study corridor. The first portion identifies deficient pavement conditions and structural ratings of bridges. The second portion identifies non-standard and non-conforming geometric features, which exist within the corridor. All geometry features were evaluated per the 1994 AASHTO *Policy on Geometric Design of Highways and Streets* and the current New York State Highway Design Manual.

All roadways studied along the primary and secondary focus corridors are owned by New York State. Unless otherwise noted, all route numbers listed are New York State Route numbers. The functional classifications of all roadways within the corridor are summarized in *Table 12*. A graphical summary of physical highway features, including posted speed limits and roadway mapping, is provided in Appendix C.

*Table 12*
<table>
<thead>
<tr>
<th>NYS</th>
<th>ROUTE LIMITS</th>
<th>FUNCTIONAL CLASSIFICATION</th>
<th>Designated Truck Access Highway?</th>
<th>Pertinent Record Plans Available?</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>Route 408</td>
<td>Northern end of Route 20A/63 Overlap</td>
<td>Rural Principal Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Northern end of Route 20A/63 Overlap</td>
<td>Geneseo/York Town Line</td>
<td>Urban Principal Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Geneseo/York Town Line</td>
<td>Southern Batavia City Line</td>
<td>Rural Principal Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Southern Batavia City Line</td>
<td>Route 98</td>
<td>Urban Principal Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Route 98</td>
<td>Western end of Route 5/63 Overlap</td>
<td>Urban Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td>77</td>
<td>Route 20</td>
<td>Interstate I-90 Interchange</td>
<td>Rural Major Collector</td>
<td>Yes</td>
</tr>
<tr>
<td>5</td>
<td>Route 77</td>
<td>Western end of Route 5/63 Overlap</td>
<td>Rural Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td>33</td>
<td>Route 77</td>
<td>Wortendyke Rd. (CR 37)</td>
<td>Rural Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Wortendyke Rd. (CR 37)</td>
<td>Route 5/Route 63 Overlap</td>
<td>Urban Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td>20</td>
<td>Route 77</td>
<td>Route 36</td>
<td>Rural Principal Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td>238</td>
<td>Route 20A</td>
<td>Northern end of Route 98/238 Overlap</td>
<td>Rural Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Northern end of Route 98/238 Overlap</td>
<td>Route 20</td>
<td>Rural Major Collector</td>
<td>Yes</td>
</tr>
<tr>
<td>36</td>
<td>Interstate I-390 Interchange</td>
<td>Pioneer Road (Town of Groveland)</td>
<td>Rural Major Collector</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Pioneer Road (Town of Groveland)</td>
<td>Route 63</td>
<td>Rural Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td>20A</td>
<td>Route 238</td>
<td>Northern end of Route 20A/63 Overlap</td>
<td>Rural Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td>408</td>
<td>Route 36</td>
<td>Interstate I-390 Interchange</td>
<td>Rural Minor Arterial</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Interstate I-390 Interchange</td>
<td>Route 63</td>
<td>Rural Principal Arterial</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Notes:
1. Designated Truck Access Highways allow for the travel of STAA vehicles with 16.2 m (52') trailers.
2. Between Route 19 and Route 246, Route 20A is a Designated Truck Access Highway for eastbound traffic only.
A. Pavement Conditions

In order to assess the sufficiency of state highways, the New York State Department of Transportation assigns numerical rankings to various pavement conditions. Pavement ratings for all state routes are tabulated in a publication entitled New York State’s Highway Sufficiency Ratings. This publication is updated annually. For this analysis, the 1999 document was referenced. The pavement condition ratings of all roadways along the primary and secondary corridors are shown in Appendix C.

To supplement the NYSDOT pavement condition ratings, a visual inspection of pavement conditions was performed. The general condition of each roadway segment was assigned a grade of excellent, good, fair, or poor. These grades, while subjective, parallel the NYSDOT condition descriptions. In addition, all visible areas of severe distress and deterioration were noted. A description of pavement conditions along each roadway is given below.

Route 63:

- **Route 408 to the southern Village of Geneseo line**: Good, minor wheelpath rutting.
- **Within the Village of Geneseo**: Fair to good, minor longitudinal and transverse cracks, minor wheelpath rutting.
- **Eastern Village of Geneseo line to Route 246**: Good, minor wheelpath rutting. No significant cracking.
- **Route 246 to Route 19**: Good, minor longitudinal and transverse cracks.
- **Route 19 to Roanoke Road**: Fair, moderate longitudinal and transverse cracking.
- **Roanoke Road to Harvester Avenue**: Good, minor wheelpath rutting, no significant cracking.
- **Harvester Avenue to the southern end of the Route 5/63 overlap**: Fair to good, minor to moderate wheelpath rutting, moderate longitudinal and transverse cracking, localized severe deterioration is evident, especially at signalized intersections.
- The pavement condition in the Route 5/63 overlap is described in the Route 5 section.

Route 77:

Within the study area, the pavement is typically in good condition. Minor wheelpath rutting can typically be observed. Rutting is severe in the immediate vicinity of the Route 33 and Route 5 intersections. Wheelpath rutting, presumably of a severe degree, has been patched in the immediate vicinity of the main entrance to Six Flags-Darien Lake. Minor longitudinal and transverse cracking is typically visible. Moderate to heavy longitudinal cracking at the centerline joint is visible in localized areas. Minor shoulder deterioration is typically evident. Moderate to severe alligator cracking on the shoulders is visible in localized areas. The NYSDOT Route 77 EPP describes existing pavement condition in greater detail.
Route 20:
Within the study area, the pavement is typically in good to excellent condition. No significant cracking or deterioration is visible.

Route 36:
- **I-390 interchange to the Village of Mount Morris**: Fair to good, minor longitudinal and transverse cracking, moderate cracking is visible in localized areas, minor to moderate shoulder cracking. Minor to moderate wheelpath rutting. Moderate pavement deterioration is evident on the bridge over I-390 (B.I.N. 1071840).
- **Village of Mount Morris**: Fair, minor longitudinal and transverse cracking.
- **Route 36/Route 408 overlap**: Poor. At the two signalized intersections, the pavement displays severe cracking and wheelpath rutting.
- **Village of Mount Morris line to Route 63**: Good, longitudinal and transverse cracking visible.

Within the primary corridor overall, the pavement is typically in good condition. However, there are several areas of concern. With the exception of Route 20, portions of each roadway within the corridor are in poor or fair condition as determined by NYSDOT ratings and/or visual inspection. Significant wheelpath rutting is typically present at signalized intersections. If truck traffic continues to increase, it is anticipated that rutting will become more severe and possibly lead to pavement failure in several locations. The deterioration of shoulders may also be indicative of the inability of a given roadway to sustain the current and future loads generated by heavy truck traffic.

B. Structural Ratings of Bridges

A summary of the condition and load carrying capacity of each bridge within the corridor, excluding culverts, appears in Appendix C. This information was collected from NYSDOT records and supplemented by field investigation, where necessary. The NYSDOT Condition Rating is intended to be indicative of the condition of the subject bridge. Bridge structures that have a NYSDOT Condition Rating of less than 5.0 are considered deficient and are eligible for rehabilitation.

Nine (9) bridges along the primary and secondary corridors have been identified as having condition ratings less than 5.0. However, the current physical condition of these structures is not contributing to safety problems at any of the locations.

VII. NON-STANDARD AND NON-CONFORMING GEOMETRY FEATURES

A. Applicable Geometry Design Criteria

Design criteria were compiled from the following sources:
For a given roadway segment, the applicable design criteria are based on the functional classification and design speed of the segment. For the purposes of this study, the design speed was assumed to be approximately 5 mph greater than the posted speed limit, which is the typical speed used by NYSDOT when evaluating roadway design elements. The applicable design criteria are summarized in the following Table 13.

B. Non-Standard Features

As defined in the NYSDOT Highway Design Manual, non-standard features are those features, which do not meet the applicable design criteria for certain critical design elements. The design criteria are based on the functional classification of the highway, traffic volumes, operating speed, terrain, and other factors. There are 17 critical design elements: design speed, lane width, shoulder width, bridge roadway width, grade, horizontal curvature, superelevation, stopping sight distance, lateral clearance, vertical clearance, pavement cross-slope, rollover, structural capacity, level of service, control of access, pedestrian accommodations, and median width.

In order to identify non-standard features, the existing geometry characteristics of each roadway within the corridor were reviewed. These characteristics were then compared to the applicable design standards. Geometry data was gathered by reviewing available record plans. Record plan data was available for most roadway segments. However, many of the available record plan sets are from projects completed prior to 1950. The reliability of such record plan sets is questionable. Additional measurements may be required in order to verify the geometry characteristics documented on older record plans.

In areas where reliable record plans were not available, geometry features were evaluated via on-site observation. Engineering judgement was exercised in order to identify features, which might be non-standard. As recommendations from this project are progressed to the design stage, additional field measurements may be needed.

Appendix B contains detailed descriptions of the non-standard features, which were identified within the corridor. These descriptions include assessments of relative severity of the various sub-standard features. Severity levels were assigned by determining whether a geometric feature would be in conformity with design standards at 10 kmh (6.2 mph) and 20 kmh (12.4 mph) below the assumed design speed. Further description of severity levels can be found in Appendix A. Although a thorough review of geometry features was performed, this list of non-standard features should not be considered to be all-inclusive.

Table 14 provides a brief summary of the identified non-standard features on the primary and secondary focus highways that may lead to safety concerns. Refer to Appendix B for the complete listing. The following non-standard features were deemed to be contributing factors to safety concerns (see the report section VIII):
### Table 13: Applicable Design Criteria

<table>
<thead>
<tr>
<th>ROADWAY CHARACTERISTICS</th>
<th>POSTED SPEED LIMIT (kmh (mph))</th>
<th>DESIGN SPEED (kmh)</th>
<th>MINIMUM LANE WIDTH (m)</th>
<th>MINIMUM SHOULDER WIDTH (m)</th>
<th>MAXIMUM GRADE¹ (%</th>
<th>MINIMUM HORIZONTAL CURVE RADIUS² (m)</th>
<th>MAXIMUM SUPER-ELEVATION (%)</th>
<th>MINIMUM STOPPING SIGHT DISTANCE (m)</th>
<th>MINIMUM LATERAL CLEARANCE (m)</th>
<th>MINIMUM VERTICAL CLEARANCE (m (ft))</th>
<th>PAVEMENT CROSS-SLOPE (%)</th>
<th>MAXIMUM ROLLOVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>RURAL ARTERIAL</td>
<td>89 (55)</td>
<td>100</td>
<td>3.6²</td>
<td>1.8</td>
<td>4</td>
<td>435</td>
<td>6</td>
<td>160</td>
<td>1.2³</td>
<td>4 (14)</td>
<td>1.5 MIN, 2.5 MAX</td>
<td>4% BETWEEN TRAVEL LANES, 8% AT EDGE OF PAVEMENT</td>
</tr>
<tr>
<td></td>
<td>72 (45)</td>
<td>80</td>
<td></td>
<td></td>
<td>5</td>
<td>250</td>
<td></td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>64 (40)</td>
<td>80</td>
<td></td>
<td></td>
<td>6</td>
<td>195</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>56 (35)</td>
<td>70</td>
<td></td>
<td></td>
<td>6</td>
<td>135</td>
<td></td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48 (30)</td>
<td>60</td>
<td></td>
<td></td>
<td>3.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>32 (20)³</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>URBAN ARTERIAL</td>
<td>89 (55)</td>
<td>100</td>
<td>3.6³</td>
<td>.NONE³</td>
<td>6</td>
<td>490</td>
<td>4</td>
<td>160</td>
<td>1.2³</td>
<td>4.3 (14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72 (45)</td>
<td>80</td>
<td></td>
<td></td>
<td>7</td>
<td>280</td>
<td></td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48 (30)</td>
<td>60</td>
<td></td>
<td></td>
<td>8</td>
<td>150</td>
<td></td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RURAL COLLECTOR</td>
<td>89 (55)</td>
<td>100</td>
<td>3.3³</td>
<td>1.2³</td>
<td>6</td>
<td>435</td>
<td>6</td>
<td>160</td>
<td>1.2³</td>
<td>4 (14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>72 (45)</td>
<td>80</td>
<td></td>
<td></td>
<td>7</td>
<td>250</td>
<td></td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>64 (40)</td>
<td>80</td>
<td></td>
<td></td>
<td>8</td>
<td>195</td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>56 (35)</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Maximum grade is based on rolling terrain.
2. Minimum radius is dependant upon superelevation rate. The absolute minimum radius is listed.
3. Design speeds less than 60 km are not generally used on rural arterials.
4. Width of travel lane may remain 3.3 m on reconstructed highways where accident history is satisfactory.
5. If curb is present, a 0.3 m curb offset is desirable.
6. Minimum lateral clearance shall be equal to the actual shoulder width, but not less than 1.2 m.
7. Per Chapter 2 of the NYSDOT Highway Design Manual, stopping sight distance is a design criteria for both crest and sag curves (headlight sight distance).
Table 14: Non-Standard Features Identified

<table>
<thead>
<tr>
<th>NYS</th>
<th>Stopping/Headlight</th>
<th>Vertical Curves</th>
<th>Grades</th>
<th>Travel Lane Widths</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor</td>
<td>Moderate</td>
<td>Severe</td>
<td>Minor</td>
</tr>
<tr>
<td>63</td>
<td>14</td>
<td>13</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>77</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>10</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>33</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>20</td>
<td>27</td>
<td>13</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>238</td>
<td>9</td>
<td>16</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>36</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>20A</td>
<td>11</td>
<td>4</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>408</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes:
1. Record plan review was supplemented by on-site measurements and approximations where appropriate. The quantities listed above should be considered to be approximate.
2. For a description of how severity levels were determined, refer to Appendix A.
3. Many non-standard sight distances were identified through the review of particular old record plans. It is likely that some sight distances have subsequently been improved. Particular instances are noted in Appendix A.
- **Peoria Curve** – Non-standard horizontal curve, non-standard stopping sight distance east of curve, non-standard grade east of curve.
- **Route 63/Route 36 intersection** – Non-standard stopping sight distance west of intersection.
- **Route 63/Route 20 intersection** – Non-standard grade east of intersection.
- **Route 20/East Road intersection** – Non-standard intersection and stopping sight distance to the west of the intersection.
- **Route 20 Route 77 intersection** – Non-standard grade west of the intersection.
- **Route 63/Route 20A intersection** – Non-standard grade on eastbound approach.
- **Route 36/Route 20A intersection** – Non-standard horizontal curves west of the intersection.
- **Route 77/Route 33 intersection** – Non-standard stopping sight distance south of the intersection.

### C. Non-Conforming Features

Numerous non-conforming design elements were identified within the corridor. Non-conforming elements are those, which do not conform to normally accepted engineering practice, and are not critical design elements. Examples of non-conforming features include inadequate acceleration and deceleration lane lengths, short weaving sections and inadequate climbing lane lengths. Such undesirable elements may have a considerable effect on the safety and operation of the roadways within the corridor. The non-conforming features, which were identified, are described in the following sections. Refer to the figures in Appendix C for the location of reference markers. This list should not be considered to be all-inclusive.

**Driveways**

The state highways within the corridor permit uncontrolled access to residential and commercial properties. Numerous driveways are present. Such driveways are subject to NYSDOT requirements, as set forth in *Policy and Standards for Entrances to State Highways* (February 1998 edition). Within the corridor, many driveways fail to conform to NYSDOT standards. For example, numerous driveways are excessively wide. While most non-conforming driveway may not have a significant impact on the safety or operation of the adjacent state highway, some driveways, in particular, major commercial driveways, which are excessively wide and handle heavy vehicle traffic, may prove to be safety hazards. Any non-conforming driveways that are contributing to safety concerns are discussed in the safety analysis section of this report.

**Turning Radii and Intersection Angles**

The turning radii at several major intersections do not sufficiently accommodate the turning of large trucks. On-site observations indicate that queued vehicles are often forced to move in reverse to allow trucks to turn, particularly at the Route 33/77 and Route 20/77 intersections.

Throughout the study area, several minor roadways intersect the primary corridor roadways at rather severe skew angles. Where they seem to have a significant impact on safety or operational characteristics, the skew angles of major intersections are noted in the “Safety Evaluation” section of this report.
**Sight Distance**

Intersection sight distances at several intersections are less than the established minimum distances typically used during the design process. Where it appeared that a given intersection sight distance might be non-conforming, measurements were taken. These measurements can be found on the figures in Appendix C. Intersections deemed to have significant sight distance deficiencies are listed in *Table 15*.

**Icing/Cross Slopes**

Roadway icing has been identified as a particular problem within the corridor. Non-standard cross slopes are shown in the table of non-standard features in Appendix B. In addition to these cross-slopes, which are less than 1.5%, many cross-slopes within the corridor are between 1.5% and 2.0%. While these cross-slopes do conform to the applicable design criteria, it may be advisable to increase these cross-slopes to a minimum of 2.0%. This would facilitate drainage and may lessen the impact of current icing problems, especially in areas where heavy wheelpath rutting tends to impede the flow of surface water off of the roadway.

**Summary of Specific Non-Conforming Features**

The following presents a summary of specific non-conforming features (other than sight distances, which are summarized in *Table 15*):

**Route 63:**

- At the intersection with Route 19, a short access road (East Park Street) is present which allows vehicles to bypass the traffic signal at the main intersection. The road connects the northbound lane of Route 19 to the southbound lane of Route 63. Access, from this lane, to Route 63, is controlled by a yield sign.
- No curb offset is present along some segments of the curbed portion of the roadway. No offset is required, but a 0.3 m (1’) minimum offset is recommended.
- Route 63 and Route 20A/39 intersect at skewed angles.

**Route 36:**

- In the Town of Mount Morris, non-traversable ditches are present on the left side of the roadway in the vicinity of reference markers 36 4202 1151 and 36 4202 1159.
- Between Spring Street and Hopkins Street in the Village of Mount Morris, the curb reveal on the left side of the roadway is less than 100 mm (4 inches). It may be as little as 25 mm (1 inch) in some locations.
### Table 15: Non-Conforming Intersection Sight Distances (Cursory Review)

<table>
<thead>
<tr>
<th>NYS</th>
<th>Route</th>
<th>Intersection</th>
<th>Marker</th>
<th>Along</th>
<th>Existing Dimension</th>
<th>Required Dimension</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>63</td>
<td>Peoria Rd.</td>
<td>63 4603 1005</td>
<td>Northward</td>
<td>110 (360)</td>
<td>210 (690)</td>
<td>Peoria Curve. Superelevation, non-standard horiz. curve &amp; grade present. 40 MPH warning signs with flashing warning lights present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fargo Rd.</td>
<td>63 4104 1076</td>
<td>Northward</td>
<td>175 (575)</td>
<td>210 (690)</td>
<td>Severe skew angle. Significant horizontal curvature present. Little Canada Rd. intersection is also suspect (non-standard horizontal curve).</td>
</tr>
<tr>
<td>77</td>
<td>77</td>
<td>Clappsaddle Rd.</td>
<td>63 4104 1090</td>
<td>Southward</td>
<td>130 (425)</td>
<td>210 (690)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>Route 238</td>
<td>20 4102 1058</td>
<td>Westward</td>
<td>105 (345)</td>
<td>145 (476)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Francis Rd.</td>
<td>20 4103 1155</td>
<td>Eastward</td>
<td>183 (600)</td>
<td>231 (758)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bethany Center Rd.</td>
<td>20 4103 1168</td>
<td>Eastward</td>
<td>152 (500)</td>
<td>185 (607)</td>
<td>Sight distance restricted by vertical curvature/grade. Flasing warning signal present.</td>
</tr>
<tr>
<td>238</td>
<td>238</td>
<td>Nesbitt Rd.</td>
<td>238 4601 1056</td>
<td>Southward</td>
<td>149 (490)</td>
<td>231 (758)</td>
<td>Significant skew angle present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cascade Rd.</td>
<td>238 4601 1058</td>
<td>Southward</td>
<td>110 (360)</td>
<td>220 (722)</td>
<td>Significant skew angle present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dunbar Rd.</td>
<td>238 4601 1076</td>
<td>Southward</td>
<td>76 (250)</td>
<td>220 (722)</td>
<td>Non-standard horizontal curve present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Logan Rd.</td>
<td>238 4601 1076</td>
<td>Northward</td>
<td>134 (440)</td>
<td>220 (722)</td>
<td>Non-standard horizontal curve present.</td>
</tr>
<tr>
<td>20A</td>
<td>20A</td>
<td>Brad St.</td>
<td>20A 4602 1165</td>
<td>Westward</td>
<td>99 (325)</td>
<td>143 (470)</td>
<td>Sight distance restricted by at-grade railroad crossing.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oak St.</td>
<td>20A 4602 1171</td>
<td>Eastward</td>
<td>61 (200)</td>
<td>130 (427)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prospect St.</td>
<td>20A 4602 1177</td>
<td>Eastward</td>
<td>85 (280)</td>
<td>143 (470)</td>
<td>Eastward from the south. Non-standard horizontal curve and grade to east.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prospect St.</td>
<td>20A 4602 1177</td>
<td>Eastward</td>
<td>49 (160)</td>
<td>121 (397)</td>
<td>Eastward from the north. Non-standard horizontal curve and grade to east.</td>
</tr>
<tr>
<td>408</td>
<td>408</td>
<td>Suckerbrook Rd.</td>
<td>20A 4602 1231</td>
<td>Eastward</td>
<td>143 (470)</td>
<td>264 (866)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Genesee St.</td>
<td>408 4203 1175</td>
<td>Westward</td>
<td>21 (70)</td>
<td>121 (397)</td>
<td>Sight distance restricted by grade and intersection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mill St.</td>
<td>408 4203 1176</td>
<td>Westward</td>
<td>61 (200)</td>
<td>143 (470)</td>
<td>Sight distance restricted by former at-grade railroad crossing.</td>
</tr>
</tbody>
</table>

**Notes:**
1. See figures in Appendix B for the location of reference markers.
2. Only intersections with severe sight distance problems and/or non-conforming sight distances at major intersections are listed.
3. The required intersection sight distances listed are based on grades taken from record plans and are given for the critical turning movement.
**Route 77:**

- Between Route 20 and Sumner Road in the Town of Darien, there are several locations where the roadside slope appears to be steeper than 1:3 and no guide rail is present. Unshielded slopes steeper than 1:3 are classified as non-traversable. A non-traversable ditch is present on the right side of the roadway in the vicinity of reference marker 77 4102 1025.

- The Six Flags-Darien Lake entrance lanes are poorly aligned. Three entrance lanes, each 3.0 m (10’) wide, accommodate traffic, which crosses Route 77 from the two lanes on the jug-handle. Hence, channelization is poor. No curb offset is present at the entrance. The *NYSDOT Route 77 EPP* discusses this intersection and related deficiencies in greater depth.

**Route 20:**

- A non-traversable ditch is present in the vicinity of reference marker 20 4103 1065. The gutter tends to be in poor condition in this area as well. A section of corrugated guide rail in the vicinity of reference marker 20 4103 1088 is in fair condition.

- The “No Left Turn” sign at 20 4103 1107 is poorly placed. Eastbound traffic could come close to a stop at the western Route 98 ramp before seeing the sign.

- Between reference markers 20 4103 1128 and 20 4103 1129, there is an unmarked dirt and gravel pull-off lane with unrestricted access to Route 20. The lane is approximately 10 m (33’) wide. Vendors display products for sale while parked in this area. Trucks presumably park here as well. The unrestricted access is a cause for concern.

- Much of the mountable curb between reference markers 20 4103 1132 and 20 4103 1199 is in poor condition. It is buried by overgrowth in many locations.

- There is a westbound lane drop immediately over the crest of a hill at reference marker 20 4103 1238. A “Merge” sign is present, but the location of the lane drop remains a cause for concern. Westbound vehicles may not become aware of the need to merge until they clear the crest of the hill.

**D. Summary of Non-Standard/Non-Conforming features Leading to Safety Concerns**

The highway features review section identifies numerous non-standard and non-conforming features throughout the study area. Given the shear number of features identified, and limited funds available for improvements, the focus of the study team will be directed to those locations that appear to be causing safety issues. In order to determine specific locations, the public input matrix was reviewed, as well as the results of the accident analysis (presented later in this report), and all listed locations were then compared with the results of this section. Based on this screening process, the following specific locations are noted:

- **Route 63 at Peoria Curve** – Non-standard horizontal curve, non-standard stopping sight distance east of curve, non-standard grade east of curve, non-conforming intersection sight distance on Peoria Road looking northwest onto Route 63.

- **Route 63/Route 36 intersection** – Non-standard stopping sight distance west of intersection.

- **Route 63/Route 20 intersection** – Non-standard grade east of intersection. Non-conforming pavement cross-slope leading to icing conditions.
• **Route 20/East Road intersection** – Non-standard intersection and stopping sight distance to the west of the intersection.

• **Route 20/Route 77 intersection** – Non-standard grade west of the intersection. Non-conforming turning radii on all four corners make it difficult for large trucks to negotiate the turns without blocking other lanes.

• **Route 63/Route 20A intersection** – Non-standard grade on eastbound approach. Non-conforming intersection angle.

• **Route 36/Route 20A intersection** – Non-standard horizontal curves west of the intersection. Non-conforming driveways to Sugar Creek store.

• **Route 77/Route 33 intersection** – Non-standard stopping sight distance south of the intersection. Non-conforming intersection sight distance on Ganson Avenue looking northwest onto Route 77. Non-conforming turning radii on all four corners make it difficult for large trucks to negotiate the turns without blocking other lanes.

**VIII. SAFETY CONSIDERATIONS, ACCIDENT HISTORY AND ANALYSIS**

**A. Safety Evaluation Process**

A preliminary highway safety evaluation was completed for major intersections and highway segments within the Study Area. This includes all roadways located within the primary focus area and a portion of those located within the secondary focus area. Accident data was provided by the NYSDOT for the three-year period extending from September 1, 1997 through August 31, 2000. For analysis of locations along Route 77, the safety analysis conducted for the *NYSDOT Route 77 EPP* was reviewed and is included in this report. This analysis used accident data from the April 1, 1995 to March 31, 1998 time period. Accident Description Reports were provided from the State Accident Surveillance System (SASS) and the Computerized Local Accident Surveillance System (CLASS). Known High Accident Locations (HAL) were reviewed from the NYSDOT Accident Reporting GIS system.

In order to evaluate safety, a multi-step process was employed. The first step was the review of the thirty-three (33) high accident locations in the study area that are listed on the NYSDOT GIS Accident Reporting system. These locations were screened for both high numbers of accidents and high truck involvement. A high number of accidents was considered to be ten (10) or more at a single location over the three year analysis period. Truck involvement was considered to be high when the percentage was greater than 25%. This value represents the approximate median percentage of truck involvement in accidents at all study area intersections listed on the NYSDOT GIS Accident Reporting System. Locations meeting either of these criteria were further evaluated to determine accident patterns and causes.

Of the thirty-three (33) high accident locations, eighteen (18) did not have a high number of accidents or high truck involvement, so a detailed analysis was not performed:

- At eight (8) of the locations, a majority of the accidents were animal hits.
- At four (4) other locations, wet road surface was the contributing factor for a majority of the accidents.
Five (5) of the remaining six (6) locations contained no identifiable accident patterns.

The final accident location, NYS Route 19 in the Village of Warsaw, experienced a total of 23 accidents. The majority of these accidents (35%) were overtaking accidents and involved parked vehicles. Review shows that the majority of these accidents occurred during a local construction project that was being completed by NYSDOT in 1999 and 2000. Therefore, this location was not evaluated further.

The remaining fifteen (15) high accident locations contained either a high number of accidents, or had high truck involvement, so they were further evaluated to determine accident causes and patterns. For eleven (11) of these, a full accident review was conducted. For the remaining four (4), all located along Route 77, the findings discussed here are derived from the safety analyses conducted for the NYSDOT Route 77 Expanded Project Proposal (EPP).

Accident frequencies and rates were calculated for each location to identify whether it was above the statewide average. Note that the AADT volumes used to determine accident rates were derived from the NYSDOT 2000 Highway Sufficiency Rating manual, rather than the mechanical count data collected by the study team in 2002, as the Sufficiency Rating manual counts were collected during the years corresponding to the accident data.

In total, eleven (11) intersections and four (4) linear segments were analyzed and are described in detail below. These fifteen locations are also shown on Figure 17. Detailed summary sheets and collision diagrams at each location are provided in Appendix D.
B. Specific Location Accident Evaluation

The first four locations discussed below are all along Route 77 in the Towns of Darien and Pembroke. All data and information discussed for these locations has been derived from the *NYSDOT Route 77 EPP* completed in 2001. As noted, this analysis was conducted using accident data from an earlier 3-year period.

**Location #1: NYS Route 77 / NYS Route 33 Intersection**  
*RM 77-4102-1065, Town of Pembroke, Genesee County*

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
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<tr>
<td>1997</td>
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<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

**Characteristics**

- Route 77 is an undivided highway that runs in the north/south direction, with one lane per direction.
- The intersection with Route 33 is signal controlled. The Route 77 approaches have an exclusive left turn lane and a shared through/right turn lane. The Route 33 approaches have one travel lane, consisting of a shared left/through/right lane.

**Accident Statistics and Patterns**

- During the three-year study period, 15 accidents occurred at this intersection.
- **Congestion** was a contributing factor in 47% of the accidents (7 of 15).
- The leading accident types were rear end accidents at 27% (4 of 15), followed by overtaking and right turn accidents at 20% each (3 of 15).
- Three of the four rear end accidents occurred at the Route 77 northbound approach to the intersection.
- **Heavy vehicles were involved in 47% of the total accidents** (7 of 15). For the truck accidents, the leading types were overtaking and right turn accidents. **Observations indicate that the Route 33 eastbound to Route 77 southbound and Route 33 westbound to Route 77 northbound truck movements are difficult, and may by a contributing factor to these accidents.** The turning vehicle must enter the Route 77 northbound or southbound lane to complete the turn. The overall accident rate for the intersection was 1.03 Acc/MEV, which is higher than the expected rate of 0.68 Acc/MEV, based on Statewide averages for a rural signalized 4 legged intersection.

**Summary of Data**

- Total Number of Accidents (1995-1997) = 15
- Truck Accidents (1995-1997) = 7
- Overall Accident Rate Actual (Statewide Average) = 1.03 Acc/MEV (0.68 Acc/MEV)
- Injury Accidents = 3 (20%)
- Truck Injury Accidents = 1 (7%)
Location #2:  NYS Route 77: Reynolds Road to Sumner Road Segment  
RM  77-4102-1038 to 77-4102-1050, Town of Darien, Genesee County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage</th>
</tr>
</thead>
<tbody>
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<tr>
<td>1997</td>
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<td>8</td>
<td>14</td>
</tr>
</tbody>
</table>

Characteristics
- Route 77 is an undivided highway that runs in the north/south direction, with one lane per direction.

Accident Statistics and Patterns
- During the three-year study period, 43 accidents occurred along this 1.2-mile long segment.
- The leading accident type was rear end accidents at 37% (16 of 43).
- The second most prevalent type of accident along this segment was fixed object at 16% (7 of 43), followed by left turn accidents at 14% (6 of 43).
- 31 of the total accidents occurred during the on-season months of Six Flags-Darien Lake, including 15 of the 16 rear end accidents. Congestion was the primary cause of most of these accidents. In addition, six left turn accidents occurred at or near the entrance to the Six Flags-Darien Lake park.
- Heavy vehicles were involved in 10% of the accidents (4 of 43).
- No consistent accident patterns were established for truck accidents.
- The overall accident rate for the intersection was 4.46 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highways.

Summary of Data
Total Number of Accidents (1995-1997) = 43  
Truck Accidents (1995-1997) = 4  
Overall Accident Rate Actual (Statewide Average) = 4.46 Acc/MVM (2.78 Acc/MVM)  
Injury Accidents = 18 (42%)  
Truck Injury Accidents = 2 (5%)

Location #3:  NYS Route 77 / Sumner Road intersection  
77-4102-1038, Town of Darien, Genesee County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>0</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
**Characteristics**

- Route 77 is an undivided highway that runs in the north/south direction, with one lane per direction.
- The intersection with Sumner Road is side-street stop controlled. All four approaches to the intersection have one travel lane consisting of a shared left/through/right lane.

**Accident Statistics and Patterns**

- During the three-year study period, 18 accidents occurred at this location.
- 28% (5 of 18) were congestion related.
- The leading accident type was right angle accidents at 44% (8 of 18).
- Left turn, rear end, and right turn accidents each accounted for 17% (3 of 18) of the total accidents.
- Of the eight right angle accidents, three (3) involved a Route 77 northbound and Sumner Road eastbound vehicle, three (3) involved a Route 77 southbound and Sumner Road westbound vehicle, and two (2) involved a Route 77 northbound and Sumner Road westbound vehicle.
- Heavy vehicles were involved in 11% of the accidents (2 of 18).
- Both truck accidents were left turn accidents at the Route 77 southbound approach to the intersection.
- The overall accident rate for the intersection was 2.00 Acc/MEV, which is higher than the expected rate of 0.39 Acc/MEV, based on Statewide averages for a rural unsignalized 4 legged intersection.
- **There was a 57% increase in the number of accidents from the off-season months to the on-season months of Six Flags-Darien Lake.**

**Summary of Data**

- Total Number of Accidents (1995-1997) = 18
- Truck Accidents (1995-1997) = 2
- Overall Accident Rate Actual (Statewide Average) = 2.00 Acc/MEV (0.39 Acc/MEV)
- Injury Accidents = 10 (56%)
- Truck Injury Accidents = 1 (6%)

**Location #4: NYS Route 77 / NYS Route 20 intersection**

77-4102-1022, Town of Darien, Genesee County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
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</tr>
</thead>
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<tr>
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<td>3</td>
</tr>
</tbody>
</table>
Characteristics
• Route 77 is an undivided highway that runs in the north/south direction, with one lane per direction. Route 20 is an undivided highway that runs in the east/west direction, with one lane per direction.
• The intersection with Route 20 is signal controlled. The Route 77 approaches consist of an exclusive right turn lane and a shared through/left turn lane. The Route 20 approaches have an exclusive left turn lane and a shared through/right turn lane.

Accident Statistics and Patterns
• During the three-year study period, 20 accidents occurred at this location.
• **Nine of the accidents (45%) were congestion-related.**
• The leading accident type was rear end accidents at 35% (7 of 20). Overtaking and right turn accidents each accounted for 15% (3 of 20) of the total accidents.
• **Heavy vehicles were involved in 65% of the accidents (13 of 20).**
• The leading types of truck accidents were overtaking and right turn accidents. In fact, all three of the overtaking and all three of the right turn accidents at the intersection involved a truck. These all occurred at the Route 77 southbound and Route 20 westbound approaches to the intersection. **The tight turning radii may be a contributing factor to these accidents.**
• The overall accident rate for the intersection was 1.67 Acc/MEV, which is higher than the expected rate of 0.68 Acc/MEV, based on Statewide averages for a rural signalized 4 legged intersection.

Summary of Data
Total Number of Accidents (1995-1997) = 20
Overall Accident Rate Actual (Statewide Average) = 1.67 Acc/MEV (0.68 Acc/MEV)
Injury Accidents = 6 (30%)
Truck Injury Accidents = 4 (20%)

Location #5: NYS Route 20 (vicinity of East Road)
RM 20 4103 1183 to 1187, Town of Bethany, Genesee County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage/Non-Reportables</th>
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</thead>
<tbody>
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<tr>
<td>2001</td>
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</tr>
</tbody>
</table>

Characteristics
• The intersection of Route 20 with East Road is the primary intersection located within this segment.
• Traffic at this intersection is controlled by stop signs located on East Road at the northbound and southbound approaches to Route 20.
• Route 20 is an undivided highway, with one lane per direction.
Accident Statistics and Patterns

- During the three-year study period, 9 accidents occurred at this location.
- The leading accident type was right angle accidents at 56% (5 of 9).
- All five right angle accidents occurred at the Route 20/East Road intersection. Eighty percent (80%) of the five right angle accidents (4 of 5) involved a East Road northbound vehicle colliding with a Route 20 eastbound vehicle. The predominant attributing factor was failure to yield right of way, possibly caused by non-standard sight distance over the vertical curve to the west.
- No accident patterns were established for the remaining accidents.
- Two (2) fatal accidents occurred at this location. Both accidents occurred at the Route 20/East Road intersection and were right angle accidents; one involving a East Road northbound vehicle and a Route 20 eastbound vehicle and one involving a East Road southbound vehicle and a Route 20 eastbound heavy vehicle. Both accidents involved a vehicle failing to stop at the intersection and yield the right of way.
- This segment of Route 20 experienced a high percentage of truck accidents. Fifty-six percent (56%) of the accidents (5 of 9) involved heavy vehicles. This may be due to the large volume of heavy vehicles (37 - 39%) traveling on this segment.
- Two of the truck accidents (40%) involved a right angle collision between a East Road northbound heavy vehicle and a Route 20 westbound vehicle at the Route 20/East Road intersection.
- The overall accident rate for the segment was 3.21 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
- The Route 20/East Road intersection had an accident rate of 1.19 Acc/MEV, which is also higher than the expected rate of 0.39 Acc/MEV, based on Statewide averages for a rural 4 legged intersection with sign control.

Summary of Data

Overall
Estimated AADT (2001) Route 20 = 5,120 vehicles
Segment Length: 0.50 miles
Total Number of Accidents (1998-2001) = 9
Truck Accidents (1998-2001) = 5
Overall Accident Rate Actual (Statewide Average) = 3.21 Acc/MVM (2.78 Acc/MVM)
Fatal Accidents = 22% (1 of 2 involving a heavy truck)
Injury Accidents = 44%
Truck Injury Accidents = 11%

NYS Route 20 / East Road intersection
Estimated AADT (2001) Route 20 = 5,120 vehicles
Estimated AADT (2001) East Road (Assume 5% of NYS Route 20) = 256 vehicles
Total Number of Accidents (1998-2001) = 7
Truck Accidents (1998-2001) = 4
Overall Accident Rate Actual (Statewide Average) = 1.19 Acc/MEV (0.39 Acc/MEV)
Fatal Accidents = 29% (1 of 2 involving a heavy truck)
Injury Accidents = 43%
Truck Injury Accidents = 14%
Location #6:  NYS Route 20 (vicinity of NYS Route 63)  
RM 20 4103 1203 to 1207, Town of Pavilion, Genesee County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage/Non-Reportables</th>
</tr>
</thead>
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<tr>
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<tr>
<td>2001</td>
<td>0</td>
<td>0</td>
<td>1/0</td>
</tr>
</tbody>
</table>

Characteristics
- The intersection of Route 20 with Route 63 is the primary intersection located within this segment. Traffic at this intersection is signal controlled.
- Route 20 is an undivided east-west highway, with one lane per direction.
- Route 63 is an undivided highway, with one lane per direction and left turn lanes at both the northbound and southbound approaches to the intersection with Route 20.

Accident Statistics and Patterns
- During the three-year study period, 12 accidents occurred at this location. Slippery pavement was a predominant attributing factor for many of these accidents.
- The leading accident types were right angle accidents at 42% (5 of 12) and fixed object accidents at 25% (3 of 12).
- All five of the right angle accidents occurred at the Route 20/Route 63 intersection. Of these accidents two (2) involved a Route 63 northbound and a Route 20 westbound vehicle, one (1) involved a Route 63 northbound and a Route 20 eastbound vehicle, one (1) involved a Route 63 southbound and a Route 20 westbound vehicle and one (1) involved a Route 63 southbound and a Route 20 eastbound vehicle. The predominant attributing factors were failure to yield right of way and traffic control disregarded.
- No accident patterns were established for the remaining accidents.
- This segment of NYS Route 20 experienced a high percentage of truck accidents. Fifty percent (50%) of the accidents (6 of 12) involved heavy vehicles. This may be due to the large volume of heavy vehicles (37 - 39% west of Route 63, 1% east of Route 63) traveling on this segment.
- No truck accident patterns were established.
- The overall accident rate for the segment was 10.39 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
- The Route 20/ Route 63 intersection had an accident rate of 0.97 Acc/MEV, which is also higher than the expected rate of 0.68 Acc/MEV, based on Statewide averages for a rural signalized 4 legged intersection.
Summary of Data

Overall
Estimated AADT (2001) Route 20 = 2,110 vehicles
Segment Length: 0.50 miles
Total Number of Accidents (1998-2001) = 12
Truck Accidents (1998-2001) = 6
Overall Accident Rate Actual (Statewide Average) = 10.39 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 33%
Truck Injury Accidents = 33%

NYS Route 20 / NYS Route 63 intersection
Estimated AADT (2001) Route 20 = 2,110 vehicles
Estimated AADT (2001) Route 63 = (7,790 + 4,980) / 2 = 6,385 vehicles
Total Number of Accidents (1998-2001) = 9
Truck Accidents (1998-2001) = 5
Overall Accident Rate Actual (Statewide Average) = 0.97 Acc/MEV (0.68 Acc/MEV)
Injury Accidents = 4 (44%)
Truck Injury Accidents = 4 (44%)

Location #7:  NYS Route 19 (vicinity of NYS Route 63)
RM 19 4103 1006 to 1010, Town of Pavilion, Genesee County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage/Non-Reportables</th>
</tr>
</thead>
<tbody>
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<tr>
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<td>2/0</td>
</tr>
</tbody>
</table>

Characteristics
- The five-legged intersection of Route 19 with Route 63 is the primary intersection located within this segment.
- Hutchinson Street, a local road, is the fifth leg of this intersection.
- Traffic at this intersection is signal controlled.
- Route 19 is an undivided highway, with one lane per direction.
- Route 63 is an undivided highway with two lanes per direction.
- East Park Street is a local road that interconnects the southern leg of Route 19 to the eastern leg of Route 63.
- Cato Street intersects NYS Route 19 opposite East Park Street.
- East Park Street, Cato Street and Hutchinson Street act as access points, for a network of local streets, to Routes 19 and 63.
Accident Statistics and Patterns

- During the three-year study period, 13 accidents occurred at this location. Many of these accidents can be attributed to high speeds on Route 63 and Route 19.
- The leading accident types were right angle accidents at 38% (5 of 13) and overtaking accidents at 31% (4 of 13).
- Of the 5 right angle accidents, 2 of 5 (40%) occurred at the Route 19/East Park Street/Cato Street intersection and were attributed to drivers stopped on Cato Street failing to yield the right of way and entering onto Route 19.
- 75% (3 of 4) of the overtaking accidents occurred at the Route 19/Route 63 intersection. Turning improperly was the main cause of these accidents. Drivers located in the passing lane would attempt to turn and collide with the vehicle located in the through lane.
- No accident patterns were established for the remaining accidents.
- This accident location experienced a high percentage of truck accidents. 46% of the accidents (6 of 13) involved heavy vehicles. The majority of the heavy vehicles involved in the accidents at this location (67%, 4 of 6) were traveling on Route 63.
- Route 63 has a large volume of heavy vehicles (30%) traveling on this segment contributing to the high percentage of heavy vehicle accidents. Heavy vehicles account for 8% of the traffic traveling on this segment of Route 19.
- No truck accident patterns were established.
- The overall accident rate for the segment of Route 19 was 4.57 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
- The overall accident rate for the segment of NYS Route 63 was 3.90 Acc/MVM, which is also higher than the expected rate of 3.30 Acc/MVM, based on Statewide averages for free access rural undivided 4 lane highway.
- The Route 19/NYS Route 63 intersection had an accident rate of 0.54 Acc/MEV, which is lower than the expected rate of 0.68 Acc/MEV, based on Statewide averages for a rural 4 legged intersection with signal control.

Summary of Data

NYS Route 19
- Estimated AADT (2001) Route 19 = (4,030 x 0.3) + (3,940 x 0.2) / 0.5
- Estimated AADT (2001) Route 19 = 3,994 vehicles
- Segment Length: 0.5 miles
- Total Number of Accidents (1997-2000) = 10
- Truck Accidents (1997-2000) = 4
- Overall Accident Rate Actual (Statewide Average) = 4.57 Acc/MVM (2.78 Acc/MVM)
- Injury Accidents = 40%
- Truck Injury Accidents = 20%
**NYS Route 63**
Estimated AADT (2001) Route 63 = (7,830 x 0.15) + (7,790 x 0.15) / 0.3 Estimated AADT (2001)
NYS Route 63 = 7,810 vehicles
Segment Length: 0.3 miles
Total Number of Accidents (1997-2000) = 10
Truck Accidents (1997-2000) = 6
Overall Accident Rate Actual (Statewide Average) = 3.90 Acc/MVM (3.30 Acc/MVM)
Injury Accidents = 30%
Truck Injury Accidents = 20%

**NYS Route 19 / NYS Route 63 intersection**
Estimated AADT (2001) Route 19 = 3,994 vehicles
Estimated AADT (2001) Route 63 = 7,810 vehicles
Total Number of Accidents (1997-2000) = 7
Truck Accidents (1997-2000) = 4
Overall Accident Rate Actual (Statewide Average) = 0.54 Acc/MEV (0.68 Acc/MEV)
Injury Accidents = 43%
Truck Injury Accidents = 29%

**Location #8: NYS Route 63 (vicinity of Peoria Road)**
RM 63 4603 1002 to 1007, Town of Covington, Wyoming County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage/Non-Reportables</th>
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</thead>
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<tr>
<td>2000</td>
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<td>2/1</td>
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</tbody>
</table>

**Characteristics**
- The intersection of Route 63 with Peoria Road/Wallace Road is the primary intersection located within this segment. Traffic at this intersection is controlled by stop signs at the Peoria Road and Wallace Road approaches.
- Route 63 is an undivided highway, with one lane per direction.

**Accident Statistics and Patterns**
- During the three-year study period, 16 accidents occurred at this location.
- The leading accident type was fixed object accidents at 50% (8 of 16).
- Of the 8 fixed object accidents, 75% (6 of 8) occurred as a result of Route 63 eastbound vehicles losing control near the intersection due to the curvature of the road. Additional attributing factors were unsafe speed, passing or improper lane usage and slippery pavement.
- No accident patterns were established for the remaining accidents.
- This segment of Route 63 experienced a high percentage of truck accidents. Fifty-six percent (56%) of the accidents (9 of 16) involved heavy vehicles. This is likely due to the large volume of heavy vehicles (41%) traveling on this segment.
• Of the 9 truck accidents, 44% (4 of 9) were fixed object accidents. The main cause of the truck accidents was loss of control due the curvature of the road and the speed of travel, as well as slippery pavement conditions.
• The overall accident rate for the segment was 4.80 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
• The NYS Route 63/Peoria Road intersection had an accident rate of 0.82 Acc/MEV, which is also higher than the expected rate of 0.39 Acc/MEV, based on Statewide averages for a rural 4 legged or greater intersection with sign control.

Summary of Data

Overall
Estimated AADT (2001) Route 63 = 5,070 vehicles
Segment Length: 0.60 miles
Total Number of Accidents (1997-2000) = 16
Truck Accidents (1997-2000) = 9
Overall Accident Rate Actual (Statewide Average) = 4.80 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 19%
Truck Injury Accidents = 6%

NYS Route 63 / Peoria Road intersection
Estimated AADT (2001) Route 63 = 5,070 vehicles
Estimated AADT (2001) Peoria Road (Assume 5% of Route 63) = 254 vehicles
Estimated AADT (2001) Wallace Road (Assume 5% of Route 63) = 254 vehicles
Total Number of Accidents (1997-2000) = 5
Truck Accidents (1997-2000) = 4
Overall Accident Rate Actual (Statewide Average) = 0.82 Acc/MEV (0.39 Acc/MEV)
Injury Accidents = 20%
Truck Injury Accidents = 20%

Location #9: NYS Route 63 - RM 63 4202 1261 to 1265,
NYS Route 36 – RM 36 4202 1247 to 1251
(vicinity of Route 63/36 intersection)
Town of York, Livingston County

<table>
<thead>
<tr>
<th>Year</th>
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</tbody>
</table>

Characteristics
• Traffic at the Routes 63/36 intersection is signal controlled.
• Both Route 63 and Route 36 are undivided highways, with one lane per direction.
Accident Statistics and Patterns

- During the three-year study period, 31 accidents occurred at this location. Many of these accidents can be attributed to high speeds on Route 63 and Route 36.
- The leading accident types were right angle accidents at 32% (10 of 31) and rear-end accidents at 16% (5 of 31). Seventy percent (70%) of the right angle accidents (7 of 10) occurred at the intersection of Route 63 and Route 36. The predominant attributing factors were disregarding the traffic signal and failure to yield right of way.
- Of the seven right angle accidents at the intersection of Route 63 and Route 36, 57% (4 of 7) involved a vehicle traveling westbound on Route 63 colliding with a Route 36 southbound vehicle.
- No accident patterns were established for the remaining accidents.
- These segments of Route 63 and Route 36 experienced high percentages of truck accidents. Thirty-five percent (35%) of the accidents (11 of 31) involved heavy vehicles. This is likely due to the large volume of heavy vehicles (41% west of Route 36, 30% east of Route 36) traveling on this segment of NYS Route 63.
- No truck accident patterns were established.
- The accident rate for the segments of Route 63 and NYS Route 36 were 6.76 Acc/MVM and 9.75 Acc/MVM, respectively, which are higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
- The Route 63/NYS Route 36 intersection had an accident rate of 1.29 Acc/MEV, which is also higher than the expected rate of 0.68 Acc/MEV, based on Statewide averages for a rural signalized 4 legged intersection.

Summary of Data

**NYS Route 63**

Estimated AADT (2001) NYS Route 63 = (6,160 x 0.25) + (6,800 x 0.25) / 0.5
Estimated AADT (2001) NYS Route 63 = 6,480 vehicles
Segment Length: 0.50 miles
Total Number of Accidents (1997-2000) = 24
Truck Accidents (1997-2000) = 8
Overall Accident Rate Actual (Statewide Average) = 6.76 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 17%
Truck Injury Accidents = 4%

**NYS Route 36**

Estimated AADT (2001) NYS Route 36 = (4,770 x 0.25) + (3,470 x 0.25) / 0.5
Estimated AADT (2001) NYS Route 36 = 4,120 vehicles
Segment Length: 0.50 miles
Total Number of Accidents (1997-2000) = 22
Truck Accidents (1997-2000) = 8
Overall Accident Rate Actual (Statewide Average) = 9.75 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 14%
Truck Injury Accidents = 0
NYS Route 63 / NYS Route 36 intersection
Estimated AADT (2001) NYS Route 63 = 6,480 vehicles
Estimated AADT (2001) NYS Route 36 = 4,120 vehicles
Total Number of Accidents (1997-2000) = 15
Truck Accidents (1997-2000) = 5
Overall Accident Rate Actual (Statewide Average) = 1.29 Acc/MEV (0.68 Acc/MEV)
Injury Accidents Actual = 13%
Truck Injury Accidents = 0

Location #10: NYS Route 63 (vicinity of Court Street)
RM 63 4202 1214 to 1218, Town of Geneseo, Livingston County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Property Damage/Non-Reportables</th>
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</table>

Characteristics
- The section of Route 63 between RM 63 4202 1214 and 1218 contains the intersection of Route 63 with Court Street.
- Traffic at this intersection is controlled by a stop sign on Court Street.
- Route 63 is an undivided highway, with one lane per direction.

Accident Statistics and Patterns
- During the three-year study period, 21 accidents occurred at this location.
- The leading accident types were rear-ends at 43% (9 of 21), right angle and fixed object accidents at 19% each (4 of 21).
- Of the 8 rear-end accidents, 63% (5 of 8) occurred at the southbound Route 63 approach to the Court Street intersection, and the predominant attributing factors were following too closely and failure to yield right of way. Route 63 Southbound vehicles were rear ended while slowing or stopping to make a left turn onto Court Street. High speed and limited visibility, due to bridge west of the intersection, are probable accident causes.
- One-hundred percent (100%) of the four right angle accidents involved Court Street westbound vehicles pulling in front of Route 63 northbound vehicles. The predominant attributing factor was failure to yield right of way.
- No accident patterns were established for the remaining accidents.
- This segment of Route 63 experienced a high percentage of truck accidents. Thirty-three percent (33%) of the accidents (7 of 21) involved heavy vehicles. This is likely due to the large volume of heavy vehicles (25%) traveling on this segment.
- Of the 7 heavy vehicle accidents, 43% (3 of 7) were rear-end accidents occurring at the Route 63 southbound approach to the Court Street intersection.
- No accident patterns were established for the remaining heavy vehicle accidents.
• The overall accident rate for the segment was 7.16 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
• The NYS Route 63/Court Street intersection had an accident rate of 2.60 Acc/MEV, which is also higher than the expected rate of 0.18 Acc/MEV, based on Statewide averages for a rural 3 legged intersection with sign control.

Summary of Data

Overall
Estimated AADT (2001) Route 63 = (4,550 x 0.25) + (6,160 x 0.25) / 0.5
Estimated AADT (2001) Route 63 = 5,355 vehicles
Segment Length: 0.5 miles
Total Number of Accidents (1997-2000) = 21
Truck Accidents (1997-2000) = 7
Overall Accident Rate Actual (Statewide Average) = 7.16 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 24%
Truck Injury Accidents = 10%

Route 63 / Court Street intersection
Estimated AADT (2001) Route 63 = 5,355 vehicles
Estimated AADT (2001) Court Street (Assume 5% of Route 63) = 268 vehicles
Total Number of Accidents (1997-2000) = 16
Truck Accidents (1997-2000) = 6
Overall Accident Rate Actual (Statewide Average) = 2.60 Acc/MEV (0.18 Acc/MEV)
Injury Accidents = 31%
Truck Injury Accidents = 13%

Location #11: NYS Route 20A (vicinity of overlap with Routes 63 and 39)
RM 20A 4203 1074 to 1078, Town of Geneseo, Livingston County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
<th>Property Damage/Non-Reportables</th>
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</tr>
</tbody>
</table>

Characteristics
• The section of Route 20A between RM 20A 4203 1074 and 1078 contains an overlap with Route 39 and Route 63.
• The two merge/diverge points are located at intersections on the northern and southern limits of the overlap.
• A stop sign on Route 63 is used to control traffic at the northern intersection.
• The intersection located at the southern end is signal controlled (added in 1997).
• The Route 20A/39/63 overlap is an undivided highway, with one lane per direction, plus a southbound right-turn lane that spans the entire distance between the northern and southern intersections.
Accident Statistics and Patterns

- During the three-year study period, 30 accidents occurred at this location.
- The leading accident types were rear-ends at 53% (16 of 30) and fixed object accidents at 13% (4 of 30).
- Of the 16 rear-end accidents, 75% (12 of 16) occurred at the northern intersection of Routes 20A and 63 and the predominant attributing factor was driver inattention. The angle of the intersecting roadways is a probable accident cause. Vehicles on Route 63 would stop at the stop sign then pull ahead and stop to get a better view of oncoming traffic. At this moment, they would get rear-ended.
- This segment of Route 20A experienced a low percentage of truck accidents. Twenty percent (20%) of the accidents (6 of 30) involved heavy vehicles. The truck accident percentages are comparable to the volume of heavy vehicles (15%) traveling on this segment. The overall accident rate for the segment was 4.94 Acc/MVM, which is higher than the expected rate of 2.79 Acc/MVM, based on Statewide averages for free access rural undivided 3 lane highway.
- The southern intersection had an accident rate of 0.29 Acc/MEV, which is lower than the expected rate of 0.40 Acc/MEV, based on Statewide averages for a rural 3-legged intersection with signal control. The rate for this intersection was computed using four (4) of the five (5) accidents occurring at the intersection, since one of the accidents occurred before the installation of the traffic signal in 1997.
- The northern intersection had an accident rate of 1.16 Acc/MEV, which is significantly higher than the expected rate of 0.18 Acc/MEV, based on Statewide averages for a rural 3-legged intersection with stop sign control.

Summary of Data

Overall
Estimated AADT (2001) Route 20A = (5,020 x 0.1) + (12,600 x 0.4) / 0.5
Estimated AADT (2001) Route 20A = 11,084 vehicles
Segment Length: 0.5 miles
Total Number of Accidents (1997-2000) = 30
Truck Accidents (1997-2000) = 6
Overall Accident Rate Actual (Statewide Average) = 4.94 Acc/MVM (2.79 Acc/MVM)
Injury Accidents = 30%
Truck Injury Accidents = 7%

Southern intersection
Estimated AADT (2001) Route 20A/ Route 63= 12,600 vehicles
Total Number of Accidents (1997-2000) = 4
Truck Accidents (1997-2000) = 2
Overall Accident Rate Actual (Statewide Average) = 0.29 Acc/MEV (0.40 Acc/MEV)
Injury Accidents = 50%
Truck Injury Accidents = 25%
**Northern intersection**

Estimated AADT (2001) Route 20A/Route 63 = 12,600 vehicles
Total Number of Accidents (1997-2000) = 16
Truck Accidents (1997-2000) = 3
Overall Accident Rate Actual (Statewide Average) = 1.16 Acc/MEV (0.18 Acc/MEV)
Injury Accidents = 31%
Truck Injury Accidents = 6%

The remaining 10 accidents occurred along the segment located between the northern and southern intersections.

**Location #12: NYS Route 408 (west of I-390)**

RM 408 4203 1190 to 1193, Town of Mt. Morris, Livingston County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
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<tr>
<td>2000</td>
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<td>2</td>
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</tr>
</tbody>
</table>

**Characteristics**

- The section of Route 408 between RM 408 4203 1190 and 1193 is located to the west of the I-390 interchange.
- To the west of RM 408 4203 1192, Route 408 is an undivided highway, with one lane per direction.
- To the east of RM 408 4203 1192, Route 408 is an undivided highway, with one eastbound lane and two westbound lanes.

**Accident Statistics and Patterns**

- During the three-year study period, nine (9) accidents occurred at this location.
- The leading accident types were fixed object and rear end accidents at 33\% (3 of 9) each.
- **Driver inattention and unsafe speed were major contributing factors to the nine accidents.**
- No accident patterns were established.
- One fatal accident occurred near RM 408 4203 1192. This accident involved a high-speed Route 408 eastbound vehicle losing control, while attempting to pass another Route 408 eastbound vehicle, and hitting a tractor-trailer at a right angle.
- This segment of Route 408 experienced a high percentage of truck accidents. **Thirty-three percent (33\%) of the accidents (3 of 9) involved heavy vehicles.** Heavy vehicles account for 5\% of the traffic traveling on this segment.
- Of the 3 heavy vehicle accidents, 67\% (2 of 3) involved debris from trucks. These accidents are due to a construction site that was adjacent to Route 408 near RM 408 4203 1191. Stones in the road near the site or in the trucks coming from the site were projected through car windshields. The proximity of Route 408 to the construction site is the reason for the high number of heavy vehicle related accidents.
The accident rate for the segment from RM 408 4203 1190 to 1192 was 1.87 Acc/MVM, which is lower than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.

The accident rate for the segment from RM 408 4203 1192 to 1193 was 2.25 Acc/MVM, which is also lower than the expected rate of 2.79 Acc/MVM, based on Statewide averages for free access rural undivided 3 lane highway.

**Summary of Data**

**RM 408 4203 1190 to 1192**
- Estimated AADT (2001) Route 408 = 8,130 vehicles
- Segment Length: 0.3 miles
- Total Number of Accidents (1997-2000) = 5
- Truck Accidents (1997-2000) = 2
- Overall Accident Rate Actual (Statewide Average) = 1.87 Acc/MVM (2.78 Acc/MVM)
- Injury Accidents = 40%

**RM 408 4203 1192 to 1193**
- Estimated AADT (2001) Route 408 = 8,130 vehicles
- Segment Length: 0.2 miles
- Total Number of Accidents (1997-2000) = 4
- Truck Accidents (1997-2000) = 1
- Overall Accident Rate Actual (Statewide Average) = 2.25 Acc/MVM (2.79 Acc/MVM)
- Fatal Accidents = 1 (heavy truck involved)
- Injury Accidents = 2 (50%)

**Location #13: NYS Route 20A/39 (vicinity of overlap with NYS Route 36)**
- **RM 20A 4203 1035 to 1040, Village of Leicester, Livingston County**

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
<th>Injury Accidents</th>
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</tr>
</tbody>
</table>

**Characteristics**

- An overlap with Route 36 exists within this segment of Route 20A/39. Route 36 makes a northwest/southeast jog at this location requiring two separate intersections.
- The western intersection is controlled by a combination stop sign/flashing red light on Route 36.
- The eastern intersection is controlled by a stop sign on Route 36 (the southern leg of the intersection).
- Route 20A/39 and Route 36 are undivided highways, each with one lane per direction.
Accident Statistics and Patterns

- During the three-year study period, 23 accidents occurred at this location.
- The leading accident types were right angle and rear end accidents at 30% (7 of 23) each.
- Of the seven right angle accidents, 57% (4 of 7) occurred at the Route 36 northbound approach, and the predominant attributing factors were turning improperly and failure to yield right of way. Route 36 northbound vehicles were hit in the side by eastbound Route 20A/39 vehicles.
- The Sugar Creek driveway located near the eastern Route 20A/Route 36 intersection was a conflict point. Three accidents occurred at this location due to its close proximity to the eastern Route 20A/Route 36 intersection.
- No accident patterns were established for the remaining accidents.
- This segment of Route 20A experienced a low percentage of truck accidents. Nine percent (9%) of the accidents (2 of 23) involved heavy vehicles. The truck accident percentages are comparable to the volume of heavy vehicles (8%) traveling on this segment.
- No truck accident patterns were established.
- The overall accident rate for the segment was 6.61 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
- The NYS Route 20A intersection with Route 36 South (western intersection) had an accident rate of 0.50 Acc/MEV and the Route 20A intersection with Route 36 North (eastern intersection) had an accident rate of 0.57 Acc/MEV.
- The intersection accident rates are also higher than the expected rate of 0.18 Acc/MEV, based on Statewide averages for a rural 3-legged intersection with sign control.

Summary of Data

Overall
Estimated AADT (2001) Route 20A = (4,410x0.2)+(7,100x0.1)+(5,280x0.3) / 0.6
Estimated AADT (2001) Route 20A = 5,293 vehicles
Segment Length: 0.6 miles
Total Number of Accidents (1997-2000) = 23
Truck Accidents (1997-2000) = 2
Overall Accident Rate Actual (Statewide Average) = 6.61 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 22%
Truck Injury Accidents = 0

NYS Route 20A / NYS Route 36 South Intersection
Estimated AADT (2001) Route 20A = 4,410 vehicles
Estimated AADT (2001) Route 36 South = 4,770 vehicles
Total Number of Accidents (1997-2000) = 5
Truck Accidents (1997-2000) = 1
Overall Accident Rate Actual (Statewide Average) = 0.50 Acc/MEV (0.18 Acc/MEV)
Injury Accidents = 20%
Truck Injury Accidents = 0

75
**NYS Route 20A / NYS Route 36 North Intersection**

Estimated AADT (2001) Route 20A = 5,280 vehicles
Estimated AADT (2001) Route 36 North = 4,330 vehicles
Total Number of Accidents (1997-2000) = 6
Truck Accidents (1997-2000) = 1
Overall Accident Rate Actual (Statewide Average) = 0.57 Acc/MEV (0.18 Acc/MEV)
Injury Accidents = 17%
Truck Injury Accidents = 0
The remaining 12 accidents occurred along the segment located between the northern and southern intersections.

**Location #14: NYS Route 36 (vicinity of Perry Road)**
**RM 36 4202 1189 to 1196, Town of Leicester, Livingston County**

<table>
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<tr>
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</table>

**Characteristics**
- The intersection of Route 36 with Perry Road is the primary intersection located within this segment.
- Traffic at this intersection is controlled by a stop sign on Perry Road.
- Route 36 is an undivided highway, with one lane per direction.

**Accident Statistics and Patterns**
- During the three-year study period, 17 accidents occurred at this location.
- The leading accident types were right angle and fixed object at 29% (5 of 17) each, along with sideswipe and left turn accidents at 18% (3 of 17) each.
- **All of the five right angle accidents occurred at the Perry Road intersection. Sixty-seven percent (67%) of the 5 right angle accidents occurred at the Route 36 southbound approach, and the predominant attributing factors were driver inattention, traffic control disregarded and failure to yield right of way.** Perry Road westbound vehicles were hit in the side after pulling out in front of southbound Route 36.
- No accident patterns were established for the remaining accidents.
- This segment of NYS Route 36 experienced a low percentage of truck accidents. Six percent (6%) of the accidents (1 of 17) involved heavy vehicles. The truck accident percentages are low compared to the volume of heavy vehicles (21%) traveling on this segment.
- No truck accident patterns were established.
- The overall accident rate for the segment was 3.25 Acc/MVM, which is higher than the expected rate of 2.78 Acc/MVM, based on Statewide averages for free access rural undivided 2 lane highway.
The Route 36/Perry Road intersection had an accident rate of 1.00 Acc/MEV, which is also higher than the expected rate of 0.39 Acc/MEV, based on Statewide averages for a rural 4 legged intersection with sign control.

Summary of Data

Overall
Estimated AADT (2001) Route 36 = 5,977 vehicles
Segment Length: 0.80 miles
Total Number of Accidents (1997-2000) = 17
Truck Accidents (1997-2000) = 1
Overall Accident Rate Actual (Statewide Average) = 3.25 Acc/MVM (2.78 Acc/MVM)
Injury Accidents = 29%
Truck Injury Accidents = 0

Route 36 / Perry Road intersection
Estimated AADT (2001) Route 36 = 4,330 vehicles
Estimated AADT (2001) Perry Road (Assume 5% of Route 36) = 217 vehicles
Total Number of Accidents (1997-2000) = 5
Truck Accidents (1997-2000) = 0
Overall Accident Rate Actual (Statewide Average) = 1.00 Acc/MEV (0.39 Acc/MEV)
Injury Accidents Actual = 40%

Location #15: NYS Route 36 (vicinity of overlap with Route 408)
    RM 36 4202 1170 to 1174, Village of Mt Morris, Livingston County

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal Accidents</th>
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Characteristics

- An overlap with Route 408 exists within this segment of Route 36. Route 408 makes a north/south jog at this location requiring two separate intersections.
- Both the southern intersection (Chapel Street) and the northern intersection (State Street) of Route 408 with Route 36 are signal controlled.
- Route 36 is an undivided highway, with two lanes per direction.
- Route 408 is an undivided highway, with one lane per direction.
- A designated right turn bay exists on Route 408 at the westbound approach (E. State Street) to the intersection with Route 36.
Accident Statistics and Patterns

- During the three-year study period, 17 accidents occurred at this location.
- The leading accident types were right angle at 35% (6 of 17), along with left turn accidents at 29% (5 of 17).
- The high number of side streets intersecting this section of Route 36 contributed to the high number of right angle and left turn accidents.
- The predominant attributing factors for the right angle accidents were driver inattention and failure to yield the right of way.
- Two of the left turn accidents (one at the Trumbull Street intersection and one at the southern Route 408 (Chapel Street) intersection) were caused by vehicles with hindered views due to opposing tractor trailers that were stopped in the opposite passing lane. After being waved on by the tractor trailer drivers, the vehicles proceeded to make a left turn and were struck by a vehicle traveling in the opposite direction.
- Other predominant attributing factors were driver inattention and failure to yield the right of way.
- No accident patterns were established for the remaining accidents.
- As stated above, heavy vehicles were a contributing factor to two accidents. However, the actual percentage of truck accidents on this segment of NYS Route 36 was low. Twelve percent (12%) of the accidents (2 of 17) involved heavy vehicles. The truck accident percentages are relatively low compared to the volume of heavy vehicles (21%) traveling on this segment.
- No truck accident patterns were established.
- The overall accident rate for the segment was 3.79 Acc/MVM, which is higher than the expected rate of 3.30 Acc/MVM, based on Statewide averages for free access rural undivided 4 lane highway.
- The Route 36/NYS Route 408 (Chapel Street) intersection had an accident rate of 0.08 Acc/MEV, which is lower than the expected rate of 0.40 Acc/MEV, based on Statewide averages for a rural 3 legged signalized intersection.
- The Route 36/NYS Route 408 (State Street) intersection had an accident rate of 0.27 Acc/MEV, which is also lower than the expected rate of 0.68 Acc/MEV, based on Statewide averages for a rural 4 legged signalized intersection.

Summary of Data

**Overall**

Estimated AADT (2001) Route 36 = (6,380x0.25)+(11,800x0.1)+(8,800x0.15) / 0.5
Estimated AADT (2001) Route 36 = 8,190 vehicles
Segment Length: 0.50 miles
Total Number of Accidents (1997-2000) = 17
Truck Accidents (1997-2000) = 2
Overall Accident Rate Actual (Statewide Average) = 3.79 Acc/MVM (3.30 Acc/MVM)
Injury Accidents = 35%
Truck Injury Accidents = 6%
NYS Route 36 / NYS Route 408 (Chapel Street)
Estimated AADT (2001) Route 36 = 6,380
Estimated AADT (2001) Route 408 (Chapel Street) = 4,710 vehicles
Total Number of Accidents (1997-2000) = 1
Truck Accidents (1997-2000) = 0
Overall Accident Rate Actual (Statewide Average) = 0.08 Acc/MEV (0.40 Acc/MEV)
Injury Accidents Actual = 0%

NYS Route 36 / NYS Route 408 (State Street)
Estimated AADT (2001) Route 36 = 8,800
Estimated AADT (2001) Route 408 (State Street) = 8,130 vehicles
Total Number of Accidents (1997-2000) = 5
Truck Accidents (1997-2000) = 1
Overall Accident Rate Actual (Statewide Average) = 0.27 Acc/MEV (0.68 Acc/MEV)
Injury Accidents = 40%
Truck Injury Accidents = 20%

The remaining 11 accidents occurred along the segment located between the northern and southern intersections.

C. Identified Safety Problem Locations

The final step in the accident analysis was to compare the accident data at the fifteen locations with the comprehensive list of non-standard and non-conforming features in an effort to identify probable causes for the safety problems. The identified safety problem locations with sub-standard geometry features (discussed in Section VII) are shown on Figure 18.

D. Summary of Accident Analysis

- 292 accidents occurred at the 15 locations analyzed over the three-year analysis period.
- 78 accidents, or 27%, involved heavy trucks.
- The locations with the highest numbers of truck accidents were:
  - Route 77/Route 20 intersection (13 of 20, or 65%)
  - Route 63/Route 36 intersection (11 of 31, or 35%)
  - Route 63 – Peoria Curve (9 of 16, or 56%)
- The leading accident types involving trucks were left/right turn and rear-end accidents at intersections and fixed object accidents resulting from trucks leaving the roadway – the majority at Peoria Curve.
- 81, or 28%, involved personal injury.
- Truck involvement varied from <10% to >55%, depending on location.
- As expected, high truck involvement locations are all located along the primary corridor on Routes 20 and 63 where truck volumes are the highest.
IX. PEDESTRIANS AND BICYCLISTS

Limited on-street bicycle and pedestrian facilities are available within the study area. However, given the rural nature of the study area and the relatively light traffic volumes, bicycle travel through the area and pedestrian use of the paved shoulders is common. Sidewalks are generally only available in the City of Batavia and the Village centers.

There are two types of designated bicycle facilities in the area, on-street and off-street “multi-use” trails. Currently, no designated on-street bicycle facilities are present. However, the proposed NYS Bicycle Route 19 could extend north-south along Route 19. In the Wyoming County portion of the study area, this proposed route would extend from Warsaw north to Pavilion and Leroy.

Off-street trails extending through the study area include a section of the Genesee Valley Greenway in Livingston County and the Groveland Secondary trail in Genesee County. The Genesee Valley Greenway extends approximately 90 miles from Rochester south through Mt. Morris along the Genesee River to Belfast. From this point, the trail leaves the river, extending southwest toward Olean and the Pennsylvania border. Within the study area, the Greenway roughly parallels Route 36, extending south from its at-grade intersection with Route 63 in Retsof to Mt. Morris. In Mt. Morris, the Greenway crosses Route 36 and Route 408 at-grade and continues approximately ½ mile south of the Village. At this point, the Greenway travels on-street along Route 36 for approximately 2-miles. This is a temporary condition as a section of the former railroad corridor to the west in Letchworth State Park is in need of rehabilitation. It is unclear when this section of the trail will be completed.

The Groveland Secondary trail, currently under construction, extends east from Alexander along the former Erie and D.L.&W railroad corridors to its present terminus near Route 63 in Greigsville. This will be a rough-surface, multi-use trail that will support mountain biking, walking, running and horseback riding in the summer months and snowmobiling in the winter. The eastern terminus in Greigsville is approximately ½ mile west of the Genesee Valley Greenway crossing of Route 63, so a connection between the two trailheads along Route 63, or nearby, may be developed.

Bicycle travel along the corridor roadways is common throughout the study area. All of the corridor roadways, except Route 238, provide continuous paved shoulders and most support a relatively light volume of traffic. While there are currently no roadway ratings for suitability to handle bicycle traffic, ratings are usually determined based on traffic volumes, traffic speed, pavement width and condition, amount of debris and the existence of “trouble spots” - objects blocking the bikeway, dangerous intersections, drainage grates, bad pavement, potholes, etc. In many communities, road sections are rated by volunteer cyclists. A common rating system can be generally described as follows:

- Excellent - very safe and convenient. Light traffic, abundant pavement width, new and smooth pavement, flat grade conditions, little or no debris, few trouble spots, if any.
- Good - safe and convenient. Adequate pavement for traffic, low speeds. Good pavement. May be suitable for group riding;
- Pretty Good - some problems, but not significant. Light to moderate traffic and speed, adequate pavement width, pavement is a little bumpy, some dirt and debris, a few trouble spots;
- Poor – ride-able, but should not be a regular bike route. Moderate to heavy traffic and high speeds, narrow pavement width, pavement is too bumpy for some bikers, much debris, many trouble spots.
• Not Recommended - very unsafe and inconvenient. Heavy traffic, high speeds, unsafe pavement width, bad pavement condition, a lot of debris, many trouble spots.

Sear-Brown engineers developed ratings for roadways in the study area, which are summarized in the Table 16.

**TABLE 16: BICYCLE - ROADWAY RATINGS**

<table>
<thead>
<tr>
<th>ROADWAY</th>
<th>SECTION</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 77</td>
<td>I-90 Exit 48A – Route 20</td>
<td>Poor</td>
</tr>
<tr>
<td>Route 20</td>
<td>Route 77 – Route 63</td>
<td>Poor</td>
</tr>
<tr>
<td>Route 63</td>
<td>Route 20 – I-390</td>
<td>Not Recommended</td>
</tr>
<tr>
<td>Route 36</td>
<td>Route 63 – I-390 (Sonyea)</td>
<td>Pretty Good</td>
</tr>
<tr>
<td>Route 408</td>
<td>Mt. Morris – Route 63</td>
<td>Good</td>
</tr>
<tr>
<td>Route 20A</td>
<td>Route 238 – Route 20A/39/63 Overlap</td>
<td>Good</td>
</tr>
<tr>
<td>Route 238</td>
<td>Route 20 – Route 20A</td>
<td>Pretty Good/Good</td>
</tr>
</tbody>
</table>

Although bicycle travel occurs on all the study area corridors, on-street bicycle designation would not be recommended on the primary focus corridor roadways due to the high traffic volumes and percentage of heavy vehicles. On sections of Routes 20 and 63, very high travel speeds (65+ mph) have been noted, as well.

The secondary focus area roadways, however, appear to be very conducive to on-street bicycle use as traffic volumes and truck percentages are relatively low. Only Route 238 does not have continuous paved shoulders. On the other hand, this roadway supports the lowest traffic volume of all state roadways within the study area at approximately 1,700 AADT.

X. TRANSIT

The Rochester-Genesee Regional Transportation Authority (RGRTA) oversees public transportation in Genesee, Livingston, and Wyoming counties. Within Genesee County, Batavia Bus Service, (the B-Line), provides transit service within the City of Batavia and 13 surrounding towns. Three bus loops operate within the city. None of these routes travel over the roadways included in the Route 63 Corridor Study.

County-wide service is also provided through a “dial-a-ride” program. Dial-a-ride operates by the passenger calling the transit provider and making an appointment to be picked-up and dropped off at certain locations within the service area. The B-Line County-wide service provides transit from Batavia to Byron, Bergen, Oakfield, Elba, Alexander, Attica, Darien, Pembroke, Corfu, Bethany, and Pavilion. Due to the variety of passengers using the service and the fluctuating locations, a set transit route is not defined. However, based on the destinations, sections of Route 5, Route 77 and Route 63 are most likely utilized.
In Livingston County, Livingston Area Transportation Service (LATS) offers dial-a-ride service throughout the County from three base locations in Avon, Dansville, and Mt. Morris. From Avon service is provided to Lima, Livonia, Caledonia, York, and Avon. From Dansville, service is provided to Ossian, West Sparta, Sparta, Springwater, and Conesus. Finally from Mt. Morris, service is provided to Nunda, Portage, Leicester, Groveland, Geneseo, and Mt. Morris. Again due to the variation in passengers and destinations associated with dial-a-ride, no set transit routes are defined. Based on the transit vehicle origin locations and the service areas, Route 36 in the vicinity of York and Leicester and Route 63 in the area of Geneseo would likely to be utilized by LATS.

Wyoming Transit Service (WYTS) provides service in Wyoming County. Four bus loops originate in Warsaw and service the surrounding area. The four loops are the green, blue, purple, and Mt. Morris loops. The green loop services Warsaw, Wyoming, Perry, Castile, and Silver Springs. Within the loop the bus route travels along Route 20A from the intersection of Route 246 to Route 39. The blue loop provides service from Warsaw, Attica, Bennington Center, and Varysburg. This route travels along Route 238. Transit from Warsaw to Gainesville, Bliss, and Arcade is provided by the purple bus loop. The roads utilized in this loop do not overlap with study roadways.

The Mt. Morris Loop services Warsaw, Silver Springs, Castile, Perry, and Mt. Morris. Route 20A is utilized, from the intersection of Route 39 to Route 36, then south to Mt. Morris. The WYTS also offers dial-a-ride service within the villages of Warsaw, Arcade, and Perry. Of these areas, the potential exists for Route 20A to be utilized when servicing Warsaw and Perry.

Overall, there appears to be limited transit service provided along the primary and secondary roadways included in the Route 63 Corridor Study. Service is sporadic and does not appear to be conflicting with other uses of the area roadways. Future plans for these transit services will be ascertained and documented in later stages of the study.
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