Community Involvement Team - Meeting #2  
February 24, 2011

Existing Traffic Conditions and Traffic Models

NYS Route 390 / I-490 / NYS Route 31 Interchange

Buffalo Road to Trolley Boulevard  
Howard Road to Erie Canal  
PIN 4390.13  
TOWN OF GATES, NY / MONROE COUNTY
Project Area
Accident Summary

- Accident Reports Analyzed from 2007 to 2010
- Total Accidents = 937
  - Mainlines (390 & 490) = 535
  - Ramps = 207
  - Surface Streets = 195

Predominant Collision Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rear End</td>
<td>379</td>
<td>40%</td>
</tr>
<tr>
<td>Run Off The Road</td>
<td>235</td>
<td>25%</td>
</tr>
<tr>
<td>Sideswipe</td>
<td>157</td>
<td>17%</td>
</tr>
<tr>
<td>Other</td>
<td>166</td>
<td>18%</td>
</tr>
</tbody>
</table>

Weather Conditions

- DRY 551 (59%)
- SNOW 200 (21%)
- WET 186 (20%)
Key Accident Locations

Key Accident Cluster Locations
Accident Locations
Accident Locations

[Diagram of accident locations with details such as LYELL AVENUE, LEE ROAD, and various accident markers]

Types of Collisions Symbols

- See accident history table for number references.

Legend:
- Motor Vehicle
- Pedestrian
- Animal
- Bike
- Pedal Cycles
- Right Angle
- Frontal Impact
- Side Impact
- Bumper to Bumper
- Sweep
- Other Angle
- Runaway
- Stop
- Right Turn
- Left Turn
- U-Turn
- Same Lane
- Wrong Lane
-交错
- Partial Injury
- Fatality
- Personal Injury
- Property Damage

Scale: 20' 0' 20' 40'
Existing Traffic Data Collection

- All data collection occurred in Spring 2009
- Included in these studies:
  - 24 Hour Continuous Tube Counts (23 Expressway / Ramp locations)
    - Volumes
    - Speeds
    - Vehicle Classifications
  - AM/PM Peak Hour Turning Movement Counts (7 Intersections)
  - AM/PM Peak Hour Video of Weaving Areas (NYS Route 390 NB/SB)
  - AM/PM Peak Hour Vehicle Following Study (I-490 EB)
  - AM/PM Peak Hour Travel Time and Delay Study for 8 loops through the corridor
Traffic Data Summary

• Annual Average Daily Traffic
  – I-390/NYS 390
    • over 55,000 vpd in each direction
  – I-490
    • over 50,000 vpd in each direction
  – Highest ramps:
    • NYS Route 390 SB to I-490 EB = 18,100 vpd
    • I-490 WB to NYS Route 390 NB = 21,500 vpd
  – Lyell Avenue = 31,400 vpd

• Peak Hours
  – AM = 7:15 to 8:15
  – PM = 4:30 to 5:30

• Heavy Vehicle Percentages
  – 390/490 = 4.6% avg.
  – 390/490 Ramps = 5.5% avg.
  – Lyell Ave. Ramps = 7.7% avg.
  – Lyell Ave. = 5.5% avg.
  – Lee Rd. = 7.3% avg.
  – Lexington Ave. = 5.0% avg.

• Speeds (85% Operating)
  – 390/490 = ~60 mph
  – Local Roads = ~45 mph

vpd = vehicles per day
Average Daily Traffic

Segments of High Traffic Volumes
Peak Hour Weave Volumes

Southbound Volumes
2009 Morning Peak Hour

Northbound Volumes
2009 Evening Peak Hour

NYS Route 390 / I-490 / NYS Route 31 Interchange
Base Year (2009)
Exiting & Weaving Volumes: I-390 / Route 390 SB

NYS Route 390 / I-490 / NYS Route 31 Interchange
Base Year (2009)
Exiting & Weaving Volumes: I-390 / Route 390 NB
Observed Areas of Congestion

- The following locations are areas of known congestion:

  - **AM Peak Hour**
    - NYS Route 390 / I-390 SB
      - particularly the weave between Lyell Avenue and I-490
    - I-490 EB to I-390 SB
    - NYS Route 390 SB to I-490 EB

  - **PM Peak Hour**
    - NYS Route 390 / I-390 NB
      - particularly the weave between I-490 and Lyell Avenue
    - I-490 WB to NYS Route 390 NB
    - I-390 NB to I-490 WB
Observed Areas of Congestion

AM Peak Hour Congestion Locations
PM Peak Hour Congestion Locations
Capacity Analysis / Traffic Modeling

- **VISSIM – Microsimulation Traffic Model**
  - Used to determine existing, future, and proposed alternative operating conditions in terms of capacity (levels of service)

- **Existing Models**
  - Created with and calibrated to data collected in Spring 2009
    - Volumes
    - Speeds
    - Travel Times

- **Future Models**
  - Used to determine the effectiveness of the future conditions and proposed alternatives (alternative development)
AM Peak Hour Overview
AM Peak Hour Comparison
PM Peak Hour Comparison
Areas of Measured Congestion

AM Peak Hour Congestion Locations
PM Peak Hour Congestion Locations
VISSIM Model

VISSIM Traffic Model Review
Next Steps

- Development of Future Volumes
  - No-Build
  - Alternatives
- Construction of Future Traffic Models
  - No-Build
  - Alternatives
- Develop Alternatives and Evaluate Operations and Impacts
- Draft Design Approval Document
Questions and Comments?