Route 531 Terminus Improvement Project

ITE 2017

NY Upstate Section Annual Meeting

September 21, 2017
Technical Outline

- Public Involvement
- Purpose & Needs
- Alternatives Considered / Eliminated
- Feasible Alternatives
- Alternative Comparison
- Preferred Alternative
Public Involvement

Route 531 Extension Study – March 2009
- Decision to end Extension Study

Route 531 Terminus Improvement Project – September 2010
- Evaluated Alternatives, extended Project Limits
- ROW / Property Owner Meeting No. 1

Multi-Use Trail Public Workshop – May 2011
- Proposed Enhancement

Route 531 Terminus Improvement Project – June 2012
- New At-Grade Alternatives, Rt. 31 Improvements
- ROW / Property Owner Meeting No. 2
Purpose and Needs Statement

1. To improve safety by reducing the number and severity of accidents
Accidents Occur at 2.4x the State Wide Average
28 Reportable Accidents in Three Years (57 Total Accidents)
Types: Rear End and Right Angle
Contributing Factors: Congestion/Speeds, Queuing & Sight Distance
Purpose and Needs (Cont.)

1. To improve safety by reducing the number and severity of accidents

2. Improve overall traffic conditions by reducing delay and providing an acceptable level-of-service
Reduce Congestion and Delay

Route 531 Terminus
Purpose and Needs (Cont.)

1. To improve safety by reducing the number and severity of accidents

2. Improve overall traffic conditions by reducing delay and providing an acceptable level-of-service

3. Provide traffic calming techniques to transition from a high speed expressway to a rural 2-lane highway
Expressway to Rural Highway

Route 531

Route 31
Purpose and Needs (Cont.)

1. To improve safety by reducing the number and severity of accidents

2. Improve overall traffic conditions by reducing delay and providing an acceptable level-of-service

3. Provide traffic calming techniques to transition from a high speed expressway to a rural 2-lane highway

4. Maintain Bike Route 5
Bike Route 5
Purpose and Needs (Cont.)

1. To improve safety by reducing the number and severity of accidents
2. Improve overall traffic conditions by reducing delay and providing an acceptable level-of-service
3. Provide traffic calming techniques to transition from a high speed expressway to a rural 2-lane highway
4. Maintain Bike Route 5
5. Minimize Impacts on environmental and man-made resources
Minimize Impacts

Wetlands

Farmlands

Salmon Creek
Alternatives Considered

Alternative 1 – Null / No Build
Alternative 2 – Conventional Signalized Intersection
Alternative 3 – Signalized Superstreet
Alternative 4 – Half Diamond Interchange
Alternative 5 – Full Diamond Interchange
Alternative 6 – Multi-Lane Roundabout
Retained for Comparison Purposes Only
Null / No Build
Alternative 1

- Accidents will continue
- Congestion will worsen
- Will be used for comparison purposes only
- Does not meet Purpose and Needs
Alternatives Considered and Eliminated
Half Diamond Interchange
Alternative 4

- Negative Visual Impact – 8 homes on Route 31
- Full Diamond Interchange More Cost Effective and Preferred by Public Over the Half Diamond
- Does Not Address Purpose and Needs of Project
Multi-Lane Roundabout

Eliminated

Alternative 6

- Multi-Lane Roundabout Can’t Handle Traffic Volumes
- Does Not Address Purpose and Needs of Project
Feasible Alternatives

Alternative 2 – Conventional Signalized Intersection
Alternative 3 – Signalized Superstreet
Alternative 5 – Full Diamond Interchange
Feasible Alternatives
Conventional Signalized Intersection
Alternative 2

- New Signal with less Queuing on Route 531
- Improved sight distance on Route 36
Feasible Alternatives
Conventional Signalized Intersection
Alternative 2

- Route 36 Enhancements
- Less Potential for High-Speed Right Angle Accidents
Feasible Alternatives
Signalized Superstreet Alternative 3

- Improved Intersection Design
- Improved Intersection Operation
- Reduces Opportunity for High-Speed Right Angle Accidents
Feasible Alternatives
Route 531 Terminus - Signalized Superstreet

Superstreet Images
Feasible Alternatives
Full Diamond Interchange
Alternative 5

- Free Flow Conditions (Along Route 531)
- Route 531 travels under Route 36
- Eliminates High-Speed Right Angle Accidents
- Highest cost of Three Feasible Alternatives
Feasible Alternatives
Full Diamond Interchange

I-390 @ Latta Road
Greece, NY

Images courtesy of Google Maps
Route 31 Improvements
Common Safety and Transition Features

- Widening Center Median
- Designed Curves to Reduce Speeds
- ROW w/out Access Along North Side (Safety)
- Center and Left Turn Lanes (Operation)
Route 31 Improvements
Terminus to Gallup Road

- Widen Route 31 for a raised median
- Acquire Right of Way without access (no driveways) from terminus to Gallup Road (north side)
Route 31 Improvements
Gallup Road to Salmon Creek Road

- Provide center turn lane and left turn lanes at the intersections
- Improves driveway access and Intersection operations
Summary of Alternatives Considered

Considered
- Null / No Build
- Conventional Signalized Intersection
- Signalized Superstreet
- Half Diamond Interchange
- Full Diamond Interchange
- Roundabout

Feasible
- Conventional Signalized Intersection
- Signalized Superstreet
- Full Diamond Interchange
Evaluation Factors

- Improved Safety
- Operational – Reduce Congestion
- Speed Transition Effectiveness
- Best Cost-Benefit Value
- Construction Costs
- Environmental Impacts
# Alternative Comparison

<table>
<thead>
<tr>
<th>Category of Impacts</th>
<th>No Build /Null</th>
<th>Alt. 2 – Signalized Intersection</th>
<th>Alt.3 – Signalized Superstreet</th>
<th>Alt.5 – Full Diamond Interchange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetlands</td>
<td>None</td>
<td>0.68 acres</td>
<td>0.70 acres</td>
<td>0.75 acres</td>
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<tr>
<td>Forested Areas</td>
<td>None</td>
<td>2.10 acres</td>
<td>2.81 acres</td>
<td>7.08 acres</td>
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<tr>
<td>Noise Analysis</td>
<td>Existing</td>
<td>Site A above FHWA NAC</td>
<td>Site A above FHWA NAC</td>
<td>Site A above FHWA NAC</td>
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<tr>
<td>ROW / Acquisition</td>
<td>None</td>
<td>9.54 acres (Acq.) 4.06 acres (ROW) 6 Relocations $2.03M (+/-)</td>
<td>9.63 acres (Acq.) 4.22 acres (ROW) 6 Relocations $2.03M (+/-)</td>
<td>10.14 acres (Acq.) 4.49 acres (ROW) 6 Relocations $2.03M (+/-)</td>
</tr>
<tr>
<td>Prime Farmland / Agricultural District No. 5</td>
<td>None</td>
<td>2.13 acres (Prime) 1.95 acres (Agric.)</td>
<td>2.18 acres (Prime) 1.95 acres (Agric.)</td>
<td>2.05 acres (Prime) 1.89 acres (Agric.)</td>
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<tr>
<td>Traffic Delay (Rt. 531 WB)</td>
<td>7.2 min</td>
<td>0.5 min</td>
<td>0.5 min</td>
<td>No delay</td>
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<tr>
<td>Speed Transition Effectiveness</td>
<td>No Change</td>
<td>Strong</td>
<td>Strong</td>
<td>Fair</td>
</tr>
<tr>
<td>Construction Cost</td>
<td>None</td>
<td>$15.12M</td>
<td>$15.04M</td>
<td>$25.60M</td>
</tr>
</tbody>
</table>
Work Zone Traffic Control

- Both Staged Construction and Off-Site Detours considered

- On-site staged construction will be used for a majority of the roadway improvements

- Intermittent short-term detour may be used for the Terminus area reconstruction

- Alternative 5 – Grade Separated Interchange would have the largest impact on traffic
Preferred Design Alternative
Conventional Signalized Intersection
Alternative 2
Preferred Design Alternative

Conventional Signalized Intersection Alternative 2

- Costs, benefits, impacts & operational features were considered

*The Selected Alternative will not be made final until after the Public Hearing comments are evaluated*
Project Schedule

- Public Hearing – February 5, 2015
- Public Comments – due by February 27th, 2015
- Final Alternative Approval – Spring 2015
- Final Design / Property Acquisitions – 2015 thru 2016
- Construction Start – Fall 2016
- Construction Substantially Complete – Fall 2017
Construction Photos
Construction Photos
Construction Photos
Construction Photos
Questions

10 min - learning assessment question and general questions