TRANSPORTATION ACCESS AND LAND USE IMPROVEMENT STUDY

Broadway (NY Route 32)
Village of Menands, NY

One Park Place
Albany, NY 12205

September 2008

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Table of Contents

1.0 Introduction and Purpose ........................................................................................................... 1

2.0 Conditions and Needs .................................................................................................................. 2
   Existing Land Use .................................................................................................................. 2
   Existing Roadway Conditions ............................................................................................... 2
   Project Focus Areas ................................................................................................................. 2
   Level of Compatibility Analysis .............................................................................................. 6
   Existing Traffic Characteristics ............................................................................................... 7
   Pedestrian and Bicyclist Accommodations .......................................................................... 8
   Existing Transit ................................................................................................................................. 9
   Safety Considerations and Crash History ............................................................................. 10
   Forecasts .................................................................................................................................................. 10
   Conclusions and Needs ........................................................................................................ 11

3.0 Improvement Alternatives ........................................................................................................ 13
   Roadway Segment Improvements ...................................................................................... 14
   Access Improvements ........................................................................................................... 16
   Transit Accommodations ....................................................................................................... 20

4.0 Summary of Potential Improvement Projects ............................................................................ 21

List of Images

Image 1 – SB Approach to Broadway/Menands Rd/Market Rd ........................................ 3
Image 2 – Good ADA Detectable Warning ........................................................................... 3
Image 3 – Broadway/Menands Rd/Market Rd ......................................................................... 4
Image 4 – Current Businesses w/in the Capital District Regional Market ......................... 4
Image 5 – NB Approach to Broadway/Route 378 WB Off-Ramp ........................................ 5
Image 6 – Broadway/Route 378 WB Off-Ramp ......................................................................... 5
Image 7 – Curb Cuts along SB Side of Broadway (Price Chopper) .................................. 7
Image 8 – Curb Cute along SB Side of Broadway (Vacant Parcel) ..................................... 7
Image 9 – Sidewalk along SB Side of Broadway ....................................................................... 9
Image 10 – Poor Buffering between Sidewalk and Parking Lot ......................................... 9
Image 11 – Bus Stop on Broadway Served by a Sidewalk .................................................... 9
Image 12 – Passenger Boarding CDTA Bus ......................................................................... 9
Image 13 – Potential Improvement for Segment A ................................................................. 14
Image 14 – Potential Improvement for Segment C ................................................................. 15
Image 15 – Signal Concept at Menands Market Access ..................................................... 17
Image 16 – Roundabout Concept at Menands Market Access ............................................ 17
Image 17 – Roundabout Concept at Price Chopper/Route 378 WB Ramp .......................... 18
List of Tables

Table 1 – Broadway Driveway Level of Compatibility Ratings ........................................ 6
Table 2 – Existing Signalized Intersection Level of Service Summary ....................... 8
Table 3 – Future Signalized Intersection Level of Service Summary ....................... 11
Table 4 – Summary of Potential Improvement Projects ........................................... 23

List of Figures

Figure 1 – Project Location ...................................................................................... 25
Figure 2 – Land Use .................................................................................................. 26
Figure 3 – 2001 Peak Hour Traffic Volumes ............................................................. 27
Figure 4 – 2008 Existing Peak Hour Traffic Volumes ............................................. 28
Figure 5 – 2018 Peak Hour Traffic Volumes ............................................................. 29
Figure 6 – 2030 Peak Hour Traffic Volumes ............................................................. 30
Figure 7 – Overall Plan ......................................................................................... 31
Figure 8 – Half Clover Concept with Roundabouts ............................................... 32

List of Appendices

Appendix A ..............................................................................................................
"Big Ticket" Interchange Alternatives
Appendix B .............................................................................................................. Public Meeting Summary
1.0 Introduction and Purpose

The Village of Menands is located on the west side of Interstate 787, between the Cities of Albany and Watervliet and is within the limits of the Town of Colonie. The Village and the Capital District Transportation Committee (CDTC) initiated this Access and Land Use Improvement Study to build upon previous studies and projects (the Broadway Transportation Study, the Broadway Corridor Master Plan and the Gateway Concept Design Study) and continue the momentum toward corridor revitalization. Specifically, this study is geared toward further investigation of access improvements and design elements along the Broadway Corridor and supports the economic development initiatives of the Village.

The goals and objectives of this study are consistent with the New Visions principles in which CDTC has identified four planning and investment themes. The four themes are identified as:

- Preserve and Manage
- Develop the Region’s Potential
- Link Transportation and Land Use
- Plan and Build for All Modes

It is important to understand that to have a well functioning transportation system, all modes of travel and all system users must be accommodated. This includes passenger vehicles, transit, bicyclists, and pedestrians including children, older citizens, and those with disabilities. The recommendations in this study aim to improve access, mobility, and safety for all local and regional users of the transportation system.

The study area limits extend from the Northern Village Boundary to Oakland Avenue. Broadway (NY Route 32) extends through the study area in a north-south direction and is a four-lane urban minor arterial. This assessment focuses on three specific project areas, including the intersection of Broadway with Menands Road/Market Road (Project A), the intersection of Broadway with the Route 378 WB Off-Ramp (Project B), and access to recreational trails and nature areas between Broadway and Interstate 787 (Project C). See Figure 1 for the Project Location Map which shows the study area limits and the three project areas.

This study provides information regarding the existing conditions throughout the Broadway Corridor, including current land uses, roadway/intersection conditions and geometry, traffic characteristics, pedestrian and bicyclist accommodations, existing transit provisions and safety issues. A review of the existing conditions reinforces the fact that the corridor needs revitalization and helps to reveal those areas in need of specific enhancements, as discussed in the Improvement Alternatives section of this study.
2.0 Conditions and Needs

Existing Land Use

Broadway contains a variety of different land uses. The northern section of the corridor is primarily commercial and light industrial, with a small amount of residential and recreational located just north of the Route 378 overpass. Residential land use in the northern section consists primarily of single family units with some multi-family units and apartments. Property holders along the northern section of the corridor include Federal Express, the Schuyler Inn, Burger King, Nationwide Insurance, Price Chopper Shopping Plaza, Albany Steel, Phil's Automotive, the Menands Diner, Olympic Lanes and British American Realty.

The southern section of the corridor (just south of the Route 378 overpass) includes a mixture of commercial, residential and institutional. Property holders along the southern section of the corridor include various businesses within the Capital District Regional Market, Poppy’s Place Restaurant, Northeast Career Planning and residences. See Figure 2 for the Existing Land Use Map.

Existing Roadway Conditions

Broadway (NY Route 32) is generally a four-lane facility providing two lanes in each direction through the study area. The facility is curbed and travel lanes are 12 feet in width, with little or no shoulders. Flooding is a concern, particularly in the area north of the Price Chopper plaza from Cemetery Avenue to Burger King. The flooding causes Broadway to be closed several times each year. According to the 2006 Highway Sufficiency Ratings, the street surface is fair condition within the study area. On-street parking is not permitted throughout the corridor. Cobra style light fixtures exist along both sides of the roadway. Sidewalks exist along portions of Broadway, but are not continuous. Throughout the Broadway corridor are numerous unsignalized intersections/driveways. It should be noted that too many driveways can compromise the mobility and safety function of Broadway, as traffic enters and exits the Broadway traffic flow and vehicles change speed to complete various turning movements. Utility poles exist primarily along the east side of the roadway and detract from the visual environment.

Project Focus Areas

Two primary locations were identified in previous studies as needing improvements. The first location includes the intersection of Broadway/Menands Road/Market Road and is referred to as Project A in this assessment. The function of this intersection is important to the Village of Menands as it provides access into the Capital Region.
Market, which is the area’s oldest functioning wholesale farmer’s market. The second location includes the intersection of Broadway/Route 378 WB Off-Ramp and is referred to as Project B in this assessment. This intersection provides access into the Village from heavily traveled roadways, including NY Route 378 and Interstate 787, and is located in front of the Price Chopper Plaza, which is a major part of the community. Some reasons for improvements at these intersections include access management, lack of appealing aesthetics, pedestrian accommodations, and traffic flow deficiencies. Improvements at these intersections will help provide a pedestrian friendly atmosphere and enhance the transportation infrastructure along the Broadway Corridor, thereby making it a place that people want to live and conduct business.

**Project A - Broadway (NY Route 32)/Menands Road/Market Road** - This is an off-set four-way intersection located south of the Route 378 overpass operating under traffic signal control. The northbound and southbound Broadway approaches provide an exclusive left-turn lane and a through/right-turn lane. The eastbound and westbound approaches provide a single lane for shared travel movements. The side road approaches are slightly off-set (approximately 110 feet, centerline to centerline) due to the existing driveway providing access to the Stewart’s Shop. Currently, the Stewart’s Shop is no longer in business and the building is vacant. The intersection geometry creates the need for a split-phased traffic signal, which contributes to inefficiencies at the intersection because the side street signal phases are not concurrent. Pedestrian accommodations exist at this intersection, including sidewalks, crosswalks, and a pedestrian push-button signal for crossing Broadway. ADA ramps are present, but detectable warning surfaces that inform visually impaired persons of intersections are not. See Image 1 through 3.

![Image 1 - SB approach to Broadway/Menands Rd/Market Rd Intersection](image1.jpg)

![Image 2 – Example of good ADA detectable warning – Marlboro, NY](image2.jpg)
As can be seen from Image 3, a large pavement area exists between Broadway and the four roadways that tie in to the westbound Market Road approach, creating inefficient and confusing conditions for drivers, pedestrians and bicyclists. It should be noted that this intersection is crucial to the Capital District Regional Market as it provides access to the site. The Market serves a multitude of businesses including Wicke’s Lumber, True Value Hardware and Midland Farms, Inc. Image 4 shows a list of the businesses located within the development.
Because the intersection experiences traffic related to numerous business at the Market, access improvements could have the dual benefit of improving traffic operations and making the businesses more accessible, thereby strengthening their place in the local and regional economic market.

**Project B - Broadway (NY Route 32)/Route 378 WB Off Ramp** – This is a “T” intersection operating under traffic signal control. The northbound and southbound Broadway approaches provide two through lanes. The westbound Route 378 off ramp approach provides exclusive left and right-turn lanes. Pedestrian accommodations at this intersection are limited to sidewalks on the west side of Broadway. See Image 5 and 6.

![Image 5 - NB approach to Broadway/Route 378 WB Off-Ramp Intersection](image1)

![Image 6 – Broadway/Route 378 WB Off-Ramp Intersection](image2)
As can be seen in Image 6, an existing driveway to the Price Chopper Plaza is located approximately 90-feet north of this intersection. Approximately 90-feet south of the intersection is another driveway entrance to a vacant parcel of land that is zoned commercial and has the potential for re-development. Numerous other curb cuts exist along Broadway in the vicinity of the NY Route 378 WB Off-Ramp. The curb cuts create a high number of conflict points and increased confusion for drivers entering and exiting the retail developments, potentially contributing to vehicular crashes along this segment. Pedestrians and bicyclists traveling through the area also experience confusion due to the numerous curb cuts.

**Level of Compatibility Analysis**

Level of Compatibility (LOC) ratings developed by CDTC compare the number and spacing between residential or commercial driveways along a roadway segment to its traffic volume; *the more frequent the number of driveways and higher the traffic volumes, the lower the rating*. This comparison provides a measure of arterial function in terms of potential conflicts between through traffic on a roadway and vehicles turning into or out of adjacent driveways. A LOC of “C” or better indicates that the interplay between driveway access and through traffic is adequate but of concern. Ratings from “D to F” signal there is probably constant conflict between access to/from a roadway and through traffic, often resulting in problems with traffic flow and increased crashes.

Table 1 below summarizes the results of the existing driveway LOC ratings for the Broadway corridor within the study area. As can be seen in the table, there are certain sections which have driveway level of compatibility ratings of growing concern. While scores of C are described as of “concern”, it should be noted that the LOC database and analysis as done on a regional scale did not measure curb cut width, traffic travel speed, or other factors that add to the discomfort level of the current access and intersection arrangements found within the study area. These conditions create an unfriendly travel corridor for all roadway users and make access to/from businesses directly on Broadway and on side streets difficult and confusing.

<table>
<thead>
<tr>
<th>Road Segment</th>
<th>Existing Residential Driveway LOC</th>
<th>Existing Commercial Driveway LOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>13th St (NY 155) to Wards Lane(1)</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

(1) Segment is approximately 3 miles long. It extends 1.5 miles north and 0.75 miles south of the project limits.

Images 7 and 8 show examples of the curb cuts along the southbound side of Broadway.
The possibility of consolidating driveways to improve access and operations will be considered during the alternatives phase of the study. It should be noted that the Broadway Corridor Master Plan and the Broadway Transportation Study, both called for the creation of one central driveway located directly opposite the NY Route 378 WB Off-Ramp. The intersection would then operate as a four-leg intersection.

**Existing Traffic Characteristics**

The Broadway Transportation Study included a detailed analysis of traffic volumes throughout the corridor. The 2006 Traffic Data Report indicates that the 2006 AADT on Broadway (NY Route 32) is approximately 10,000 vehicles per day (vpd) between I-787 and Route 378 and approximately 16,000 vpd between Route 378 and the Watervliet City Line. These volumes are within 10 percent of those used in the Broadway Transportation Study, therefore the 2001 intersection turning movement volumes were increased by 1.5% over 7 years to create estimates of 2008 traffic volume conditions. The 2001 and 2008 Existing Traffic Volumes are shown on Figures 3 and 4. After the Broadway Transportation Study was completed, the lane configurations and signal timings at the Broadway/Menands Rd./Market Rd. and Broadway/Route 378 intersections were changed. The following table shows the resulting levels of service at the two primary signalized intersections using the current lane configurations and signal timings under 2008 conditions.
Table 2 – Existing Signalized Intersection Level of Service Summary

<table>
<thead>
<tr>
<th>Intersection</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2008</td>
<td>2008</td>
</tr>
<tr>
<td>Route 32/Menands Rd.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>B (11.3)</td>
<td>B (11.2)</td>
</tr>
<tr>
<td>TR</td>
<td>B (13.5)</td>
<td>C (25.8)</td>
</tr>
<tr>
<td>SB</td>
<td>B (12.9)</td>
<td>B (18.5)</td>
</tr>
<tr>
<td>TR</td>
<td>C (20.0)</td>
<td>B (14.8)</td>
</tr>
<tr>
<td>EB</td>
<td>C (27.2)</td>
<td>C (26.1)</td>
</tr>
<tr>
<td>LR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WB</td>
<td>C (22.2)</td>
<td>C (21.6)</td>
</tr>
<tr>
<td>L</td>
<td>C (23.5)</td>
<td>C (23.5)</td>
</tr>
<tr>
<td>R</td>
<td>B (18.8)</td>
<td>C (21.7)</td>
</tr>
<tr>
<td>Overall</td>
<td>B (18.8)</td>
<td>C (21.7)</td>
</tr>
<tr>
<td>Route 32/Route 378</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NB</td>
<td>A (5.2)</td>
<td>A (6.0)</td>
</tr>
<tr>
<td>T</td>
<td>A (7.6)</td>
<td>A (6.9)</td>
</tr>
<tr>
<td>SB</td>
<td>B (19.5)</td>
<td>B (17.5)</td>
</tr>
<tr>
<td>T</td>
<td>C (26.3)</td>
<td>C (23.8)</td>
</tr>
<tr>
<td>WB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>B (11.9)</td>
<td>A (9.6)</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

X (XX) = LOS (Delay in Seconds)

Table 2 shows that the two intersections currently operate at acceptable levels of service and adequate capacity is provided. In addition, the AADT on Broadway suggests that there is additional reserve capacity from a roadway segment standpoint. As a rule of thumb, a two-lane roadway can handle an AADT of < 20,000 vpd.

Pedestrian and Bicyclist Accommodations

The Broadway (NY Route 32) corridor is designated as State Bike Route 9 which extends from New York/New Jersey to Canada. Bicycle accommodations include the use of shared lanes and roadway shoulders. Excessive curb cuts along the corridor introduce additional conflict points for bicyclists thereby creating unsafe travel paths for bicyclists.

Pedestrian activity exists along the northern and southern sections of Broadway due to the Price Chopper Plaza as well as businesses and residences located within the corridor. South of the Menands Road/Market Road intersection, sidewalks are provided along both sides of Broadway. North of the Menands Road/Market Road intersection, sidewalk is provided only along the southbound side of Broadway (see Image 9). Sidewalks are not well buffered from adjacent parking areas (see Image 10).
It should be noted that numerous curb cuts and wide street crossings impact pedestrians negatively as well. Crosswalks exist at the intersection of Broadway/Menands Rd/Market Rd across all approaches. One pedestrian signal head exists at this intersection for pedestrians crossing Broadway. No pedestrian accommodations currently exist at the intersection of Broadway/NY Route 378 WB Off-Ramp.

**Existing Transit**

The Capital District Transportation Authority (CDTA) provides fixed route bus service along Broadway (NY Route 32) from Albany to Troy via Bus Route #22 which extends through the Village of Menands (See Image 11 and 12). Bus Route #22 is one of CDTA's busiest routes with approximately 500 daily riders within the study area. There are approximately 100 daily boardings and alightings at the Project A site and approximately 50 daily boardings and alightings at the Project B site. There are sixteen bus stops within the study area, few with shelters, but no bus turnout bays. While most of the bus stops and shelters are accessible by sidewalks, they are not all located near crosswalks and pedestrian signal heads. This corridor is also being explored by CDTA as a future Bus Rapid Transit Route.
Safety Considerations and Crash History

The crash history within the project limits was reviewed for a five year period based on available data from the Capital District Transportation Committee (CDTC). The data was reviewed to determine any patterns or frequency of occurrence among the crashes. The available crash data was reported between 2002 and 2006.

South of the NY Route 378 overpass (between Elmwood Street and the overpass), there were a total of 8 crashes (7 of which were reportable) within the five year period. Reportable crashes are defined as those involving either a death, personal injury or reported property damage to any single motor vehicle of at least one thousand dollars. A review of the data indicates that of the 7 reportable crashes, three (3) involved collisions with fixed objects (light support/utility pole). The remaining four crashes included 1 rear-end, 1 overtaking, 1 classified as “other” and 1 that was listed as “not entered”. Based on a review of the crash data along this segment, no critical crash locations or prevalent crash patterns have been identified.

North of the NY Route 378 overpass (between the overpass and Cemetery Avenue), 26 crashes were reported within the five year period, which equates to approximately five crashes per year. A review of the data indicates that of the 26 crashes, the most prevalent type were right-angle collisions (7). Three were rear-end collisions, 2 were left-turn and 2 involved pedestrians. The remaining twelve crashes were of various types, including overtaking, fixed object, “other”, non-reportable and one listed as “not entered”. Based on a review of the crash data along this segment, it should be noted that a majority of the crashes (17) occurred between the intersection of Broadway/NY Route 378 WB Off-Ramp and Broadway/Cemetery Avenue. Of these 17 crashes, most were right-angle and rear-end collisions. Consolidation of some driveways/curb cuts will reduce the number of conflict points for all roadway users, help decrease driver confusion, and potentially reduce the number of crashes occurring within this segment.

Forecasts

Currently, the Broadway corridor operates adequately with the traffic volumes present. It should be noted that 3 parcels of land are planned for re-development in the future, therefore traffic conditions were analyzed under future 2018 conditions. Based on the Broadway Transportation Study, a growth rate of 1.5% per year for 10 years was used to increase the 2008 Existing traffic volumes to 2018 background conditions. The trips generated by the 3 planned developments were added to the 2018 volumes to obtain a final estimate of future peak hour traffic volumes. Site generated traffic was determined using data from the Institute of Transportation Engineers (ITE) Trip Generation, 7th Edition. The 3 developments include a 15,000 square foot (SF) Pharmacy, land use code (LUC) 881, located next to the Price Chopper Plaza, re-occupancy of approximately 90,000 SF of Office Space, LUC 710, located next to the Bank of
America and 16 Residential Townhouses, LUC 230, located between Menands Road and Clifford Road. The 3 planned developments are expected to add a total of 192 new trips to the corridor during the AM peak hour and 276 new trips during the PM peak hour. The resulting 2018 peak hour Traffic Volumes are shown on Figure 5. Horizon year 2030 traffic forecasts were also developed using CDTC’s Regional Travel Demand Forecasting Model.

Using the 2018 and 2030 traffic volumes, levels of service were calculated at the Project A and Project B study area intersections. It was assumed that if the pharmacy is built on the lot adjacent to the Price Chopper Plaza, the driveway entrance would create a four-leg intersection with the Route 378 WB Off-Ramp. The following table shows the results of the future 2018 and 2030 level of service analyses.

<table>
<thead>
<tr>
<th>Table 3 – Future Signalized Intersection Level of Service Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intersection</td>
</tr>
<tr>
<td>Route 32/Menands Rd./Market Rd.</td>
</tr>
<tr>
<td>NB L</td>
</tr>
<tr>
<td>TR</td>
</tr>
<tr>
<td>SB L</td>
</tr>
<tr>
<td>TR</td>
</tr>
<tr>
<td>EB LR</td>
</tr>
<tr>
<td>WB L</td>
</tr>
<tr>
<td>R</td>
</tr>
<tr>
<td>Overall</td>
</tr>
<tr>
<td>Route 32/Route 378 WB ramps</td>
</tr>
<tr>
<td>NB L</td>
</tr>
<tr>
<td>TR</td>
</tr>
<tr>
<td>SB TR</td>
</tr>
<tr>
<td>EB L</td>
</tr>
<tr>
<td>R</td>
</tr>
<tr>
<td>WB L</td>
</tr>
<tr>
<td>R</td>
</tr>
<tr>
<td>Overall</td>
</tr>
</tbody>
</table>

Table 3 shows that the two intersections will operate at overall levels of service C during both peak hours during 2018 conditions, with few approaches operating at a LOS D. By 2030, the intersections will operate at an overall LOS C during the AM peak hour and LOS C/D during the PM peak hour based on existing signal timing, while some approaches operate near or at capacity. Signal optimization is evaluated in Appendix A of the report under “Big Ticket” Interchange Alternatives.

Conclusions and Needs

The conditions and needs assessment revealed that improvements are necessary at the Project A and Project B intersections to improve safety, efficiency, and access to
area land uses. Improvements to the transit environment are also needed, including relocation of bus stops where development is/will be centered and where safe crossing areas can be provided. Other transit improvements include enhanced pedestrian connections from the stops to the surrounding destinations, new shelters and the possibility of service improvements.

Improvements are needed at the Project A intersection (Broadway/Menands Rd/Market Rd) to help decrease confusion for drivers, pedestrians and bicyclists. Alternatives should be considered that remove the need for a split phased traffic signal and provide more direct access into the Capital District Regional Market. Installing additional pedestrian accommodations such as pedestrian signal heads at the traffic signal, ADA compliant ramps, or a median refuge area as part of a roundabout would increase safety for anyone walking to and from the Capital District Regional Market. Improvements at this intersection will not only benefit the accessibility and economic viability of the businesses located within the Capital District Regional Market, but will also improve the visual environment, streetscape aesthetics, safety and functioning of the various modes of transportation traveling through the intersection.

The intersection of Broadway/NY Route 378 WB Off-Ramp (Project B) is also lacking efficient and safe transportation qualities. The intersection is currently located between driveways to the Price Chopper Plaza and the future pharmacy development site (Tomra site). Consolidating the driveways and locating one primary access point across from the Route 378 WB Off-Ramp is an alternative with merit identified in previous studies. It would improve the traffic flow and safety through the area by decreasing confusion and eliminating multiple driveways for drivers to choose between, thereby potentially reducing the number of vehicular crashes along this segment of Broadway. The intersection currently lacks pedestrian accommodations, therefore the addition of crosswalks, pedestrian signal heads, and ADA compliant ramps should be incorporated into any potential to improve the safety and comfort among those walking to and from the pharmacy and/or grocery store.

Transportation improvements in the area will help to support and rejuvenate the Broadway Corridor. The Price Chopper Plaza and the Capital District Regional Market are both important economic and community assets for the Village of Menands. Improved aesthetics, safety and accessibility for all modes will translate into quality of life and economic benefits for those residing and conducting business in the area.
3.0 Improvement Alternatives

The purpose of this section of the report is to describe and illustrate the vision for multi-modal transportation improvements in the area. Several potential improvements were identified to address the range of study area needs, meet the project’s goals and objectives, and reflect the community values represented over the course of the study. The possible projects evolved out of a collaborative decision-making process involving technical analyses, stakeholder meetings, and community input. The advisory committee met on several occasions and discussed the merits and trade-offs of the various alternatives. A public meeting was held early in the process with letters of invitation to business owners in the area. A collaborative working meeting was held with representatives of CDTC, NYSDOT, NYBC, Fraser & Associates, the Village of Menands, the Capital District Farmer’s Market, Albany County, and the City of Watervliet to coordinate local planning efforts. Collectively, the stakeholder input was instrumental in formulating and refining alternatives. A Village Board meeting and a second public meeting were held to present and receive input on the draft report. Overall, the study was well received. Several community members voiced their concerns about periodic flooding and the need for improved storm drainage.

Alternatives discussed in this section include roadway segment improvements, access improvements (Projects A and B), Trail Access Improvements (Project C), and transit improvements. Multi-modal and streetscape enhancements such as street trees, ornamental lighting, benches, and other amenities are also identified. The conceptual improvements are shown on Figures 7 and 8 and are described on the following pages. Additional engineering is needed if these alternatives are programmed to be implemented. Planning level cost estimates are provided for many of the improvements and represent order-of-magnitude costs. These planning level cost estimates should be refined and verified before programming specific improvements.

While it is beyond the scope of this study to provide a detailed assessment of “Big Ticket” interchange alternatives, the Committee agreed there would be a public benefit to this type of large scale transportation system improvement, and that several interchange alternatives and issues should be evaluated. Appendix A includes the “Big Ticket” Interchange Alternatives.
Roadway Segment Improvements

The corridor was divided into three segments based on traffic, roadway and land use characteristics:

- Segment A extends from Oakland Avenue to Menands Road/Menands Market.
- Segment B extends from Menands Road/Menands Market to the Route 378 westbound ramps.
- Segment C extends from the Route 378 westbound ramp to the Watervliet Village Line.

There is a desire for an overall consistent streetscape through all three road segments, although the number of lanes will change. The vision for the corridor is to extend the same look and features included in the reconstruction of Broadway over the Delaware and Hudson Railroad.

Segment A – Oakland Avenue to Menands Market

Specific recommendations in this section include matching the existing 3-lane typical section to the south, installing new ornamental lights and street trees, installing new curb, reconstructing sidewalks, providing ADA compliant pedestrian system, increasing the width of the maintenance strip or sidewalk, and providing a 5 foot wide shoulder/bike lane. A planning level cost estimate for this improvement is $1.9 million dollars not including reconstruction of the intersection of Menands Road/Menands Market intersection.

Image 13 – Potential improvement for Segment A from Oakland Ave to Menands Road.
Segment B – Menands Market to Route 378 Westbound Ramp

Improvements in this segment should include: raised median where feasible, 5 foot wide bike lanes, sidewalk on the west side of the roadway at a minimum (both sides desired), additional street trees and ornamental lights, and gateway enhancements near Route 378 per the Gateway Design Study including monument signs, bridge overpass painting, and landscaping. Cost estimates for this segment are dependant on the “Big Ticket” interchange alternatives as discussed in Appendix A.

Segment C – Route 378 Westbound Ramp to Watervliet Village Line

The recommendations for this section include rehabilitating or reconstructing the existing four-lane roadway and providing a five-lane cross section with new curb, sidewalks, and 5 foot wide shoulder/bike lanes on both sides. The improvement would include streetscape features consistent with other sections, and a mid-block pedestrian crossing at the existing transit shelter at the Watervliet/Menands Village line. During the engineering design phase, the recurring flooding problem would be analyzed in detail and taken into account as part of the final roadway improvement. The preliminary cost estimate for the roadway work is $8M dollars.

Image 14 – Potential improvement for segment C from Route 378 westbound ramps to Watervliet Village line
Access Improvements

The primary Access Improvements are focused on two specific project areas - the intersection of Broadway with Menands Road/Market Road (Project A), and the intersection of Broadway with the Route 378 WB Off-Ramp (Project B). Access to recreational trails and nature areas between Broadway and Interstate 787 is also discussed (Project C).

Project A - Re-design/Improvement of Access into the Menands Farmers Market/True Value Hardware near Menands Road and State Route 378

The goal of Project A is to improve local access to the Menands Market area. Although Committee members agreed that alternate access locations could be pursued under the large scale interchanges alternatives, there was a strong desire to maintain an entrance near the existing location opposite Menands Road. The existing location would continue to serve as the primary access for residents, and can better serve walking trips from the nearby neighborhood. The Advisory Committee for the project and the stakeholders agreed that a new intersection should be constructed to fix the off-set that currently exists between the Market Access, and Menands Road. This would be accomplished by realigning the access road through the vacant Stewarts property and creating a single 4-way intersection operated by a traffic signal or a roundabout. Concept plans were developed for both the roundabout alternative and the traffic signal alternative as shown on the following images, and also shown on the overall corridor summary plan. The realigned access road would tie into a new internal site access road along the southerly property line of the Menands Market site, and also provide access to a trail head/small craft boat launch area at the Little River natural area which joins the Hudson River. The overall concept shows how this intersection improvement could match up with the plans for the Menands Market, which will provide a new primary entrance along the southerly property line of the Menands Market site. The final design at this intersection needs to accommodate large trucks to and from the Market, as well as bicycles and pedestrians. A red brick-type truck apron could be designed into the final project to reduce the overall pavement width on the westbound approach for both alternatives. A planning level cost estimate for the new intersection is $1.5 to $2.2 million dollars.
Image 15 – Signal Concept at Menands Market access

Image 16 – Roundabout concept at Menands Market access
Project B - Improved Design for State Route 378 WB Exit Ramp, Land Use and Traffic Access/Management at the Price Chopper Plaza Interchange Area

The recommended improvement at this location has been well documented in previous studies including the Broadway Transportation Study, and the Broadway Corridor Master Plan. The preferred improvement includes providing a single point of access to the Price Chopper Plaza and the former Tomra site directly opposite the Route 378 westbound off ramp, thereby creating a four-way intersection providing shared access to land on the west side of Broadway. The existing driveways to the Price Chopper Plaza and the Tomra site would be closed. Right in and right out only driveways could be provided on either side of the new intersection. Pedestrian crossing accommodations would be provided at the new intersection, connecting into the Price Chopper Plaza, and to the proposed trail extension opposite the Plaza to Schuyler Flatts. There has been recent interest in redeveloping the Tomra site so there is an opportunity to work with the project developer to facilitate the improvement. However, there are no current plans to improve the Price Chopper Plaza therefore it will require proactive steps on the part of the Village and the NYSDOT to implement the project. The Village should contact the owner of the Price Chopper Plaza to determine their level of cooperation toward a shared access improvement. The developer of the Tomra property should be responsible for constructing the improvement, or at a minimum preserving the land necessary to construct a shared access roundabout opposite the Route 378 ramps. Any site plan applications should include an overlay demonstrating how the proposed site will fit into this future improvement. In addition, future vehicular access to the Price Chopper Plaza/Tomra site should be provided from Harts Lane, with a pedestrian connection to Louis Avenue. This access improvement concept is illustrated on the overall plan and in the image below. A planning level cost estimate for the new roundabout and approach work is $1.5 to $2.2 million dollars.

[Image 17 – Roundabout concept at Price Chopper / Route 378 westbound ramps]
Project C - Access Analysis for the Recreation Trails/Nature Area Proposed between Broadway & Interstate 787

Several trail access options were explored as part of the study, with two primary alternatives recommended.

Trail access option 1 involves reconstruction and extension of Menands Road along the south side of the Menands Market, with increased parking, pedestrian friendly accommodations and a median. The roadway would lead to a trailhead at the eastern end of the new roadway with a small craft boat launch. The roadway will traverse an existing easement, and the roadway median would include the existing drainage course through the area. This concept is being evaluated further in a separate study being prepared by Fraser Associates. An excerpt from the Fraser plan is included in the overall concept plan in this study.

Trailhead option 2 involves creation of a trailhead via Oakland Avenue at the Mohawk and Hudson River Humane Society site. Construction costs for this location would be substantially less than option 1 since the access roads already exist. This option should be pursued, regardless of the status of Trailhead Option 1. Cost would include land acquisition for development of a small parking area, directional, and trail information signs.

In addition to the two primary trailhead access options, several additional trail linkages are desired in the area including:

a. Connection to the Mohawk-Hudson Bike-Hike Trail via a modified culvert under I-787 (See Menands Nature Area Feasibility Study).

b. Connection to the Mohawk-Hudson Bike-Hike Trail via a trail along the south side of the I-787 interchange ramp (See overall concept plan). There are currently three eastbound lanes over the Delaware and Hudson Rail line on the Menands ramp to I-787. The trail would be provided by converting the outside lane to a multi-use path. It would then follow the ramp alignment to the existing diverge to I-787 southbound. The diverge would be reconstructed as a T-intersection so that a controlled at-grade pedestrian crossing could be provided. The trail would then follow the northbound portion of the on-ramp and tie into the Mohawk-Hudson Bike-Hike Trail before the ramp merges with I-787 northbound. This connection is shown on the overall concept plan.

c. Connection to the Schuyler Flatts via a trail along the north side of the Route 378 westbound ramps (See overall plan) – Boswell Engineering completed preliminary planning for this trail. The next step is environmental determinations, which the Village is coordinating.

d. Connection to Spring Avenue via a future trail along Cemetery Avenue.
Transit Accommodations

Coordination with CDTA and other stakeholders as part of the project produced several short term recommendations for the area including:

- **Relocation of bus stops to development centers and safe areas for pedestrian crossings.** Proposed new bus stop locations are shown on the concept plan, with the notable addition of primary stops at the Menands Market/Menands Road intersection. Other proposed stops are placed near existing traffic signals.

- **Enhanced pedestrian connections from stop locations to surrounding destinations.** The segment improvements described earlier will provide improved pedestrian mobility along Broadway. Improvements at the Menands Market and Price Chopper Plaza area will also include pedestrian access improvements from Broadway to these land uses.

- **Funding partnerships with CDTA for improved amenities at stops (large shelters, heated asphalt, etc.).** CDTA coordinates with local land owners and municipalities to provide appropriate amenities at transit stops, giving higher priority to higher volume routes.

As discussed in the existing conditions chapter, the Broadway transit route is one of the most heavily traveled in terms of passenger counts. As such, the Broadway corridor is a good candidate for bus rapid transit and transit priority at traffic signals. The addition of transit priority could provide a higher level of transit service between Albany and Troy and is consistent with CDTA and CDTC long term planning strategies.
4.0 Summary of Potential Improvement Projects

The overall recommendations and projects for the study area are summarized below and in the following table.

- **Roadway Segment Improvements** –
  - Segment A - There is strong consensus for the type of improvements between Oakland Avenue and Menands Road, which is a continuation of the existing 3-lane cross section on Broadway over the Delaware and Hudson Railroad bridge. It is recommended that the Village apply for funding through CDTC’s Transportation Improvement Program (TIP) to advance the project.
  - Segment B – This segment is dictated by the “Big-Ticket” interchange alternative (See Appendix A).
  - Segment C – Similar to Segment A, there is agreement that a 5-lane cross-section is needed on the northerly section of Broadway between the Route 378 westbound ramps, and the Watervliet Village line. The cost could be $3 to $8 million dollars depending on whether it is a rehabilitation project or reconstruction project and the extent of drainage improvements. It is recommended that the Village and the NYSDOT coordinate and conduct the additional investigations necessary to confirm the cost of the project for consideration on CDTC’s TIP.

- **Access Improvements: Project A Menands Market area** – Two basic alternatives were explored – traffic signal versus a roundabout. While a roundabout is more costly to construct, the safety benefits are significant. Some of the benefits of a roundabout include reduction of vehicle speeds and accidents, and shorter pedestrian crossings. Installing a new traffic signal can provide adequate traffic operations, protected pedestrian crossings, and would create gaps in traffic flow for access into and out of adjacent driveways on Broadway. This alternative is less costly than construction of a roundabout, thereby providing a good option for projects with limited funding. Both of the alternatives include taking the vacant Stewarts convenience store property and realigning the Menands access opposite Menands Road to correct the existing side road off-set. The new intersection would provide improved traffic operations at a single intersection and better serve bicyclists and pedestrians. The estimated cost for the project is $1.5 to $2.2 million dollars which could be added to the TIP application described for Segment A.

- **Project B - Improved design for State Route 378 westbound exit at Price Chopper Plaza** – The preferred alternative is to create a single shared access driveway opposite the westbound ramps that serves the Price Chopper Plaza...
and the former Tomra site, with driveway closures along the frontage of both properties. A single right in only driveway could be allowed in advance of the new intersection and a right out only driveway south of the new intersection. The overall concept plan for the area shows a two-lane roundabout controlling this new intersection. It is recommended that the Village coordinate with the two land owners (Price Chopper Plaza and former Tomra site) to facilitate a shared access improvement. The developer of the Tomra property should be responsible for constructing the improvement, or at a minimum preserving the land necessary to construct a shared access roundabout opposite the Route 378 ramps. Any site plan applications should include an overlay demonstrating how the proposed site will fit into this future improvement. The intersection improvement can be a stand alone project estimated at $1.5 to $2.2 million dollars, or it can be combined and added to the Segment C or interchange improvements described earlier.

- **Project C - Access Analysis for Recreation Trails** – A number of trail access alternatives were identified, with two primary alternatives emerging – one involves construction of a new road along the south side of the Menands Market, leading to a trailhead at the eastern end of the new roadway with a small craft boat launch. The second involves creation of a trailhead via Oakland Avenue at the Mohawk and Hudson River Humane Society site, which is recommended. The Village should discuss the alternative with the Humane Society to confirm the easement or acquisition requirements.

- **Additional linkages and multi-modal improvements** – Several additional linkages and transit improvements are identified in this study. It is recommended that the Village formally adopt this Linkage Study as a means to advocate for future project funding. The results of the upcoming public meeting will help prioritize the projects.
## Table 4 - Summary of Potential Improvement Projects

<table>
<thead>
<tr>
<th>Roadway Segment Improvements</th>
<th>Estimated Cost *</th>
<th>Responsibility / Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Segment A - Oakland Avenue to Menands Market</strong>&lt;br&gt;Rehabilitate and Preserve Pavement - Match existing 3-lane typical section to the south.&lt;br&gt;Install ornamental lights and street trees.&lt;br&gt;Install new curb.&lt;br&gt;Reconstruct sidewalks.&lt;br&gt;Provide ADA compliant pedestrian system.&lt;br&gt;Increase width of maintenance strip or sidewalks.&lt;br&gt;Provide 5' shoulder/bike lane.</td>
<td>$1.9M</td>
<td>public</td>
</tr>
<tr>
<td><strong>Segment B - Menands Market to Route 378 WB Ramp</strong>&lt;br&gt;Roadway Option - Possible lane reduction with traffic calming and raised median&lt;br&gt;Final cross section depends on Interchange Alternative&lt;br&gt;Minimum cross section includes one lane in each direction with 5' shoulder/bike lane from Menands Market to Route 378 EB Off Ramp to Broadway NB.&lt;br&gt;Lane add NB at Route 378 EB Off Ramp to Broadway (Route 32) NB.&lt;br&gt;Maintain sidewalk on west side of Broadway.&lt;br&gt;Add street trees and ornamental lights.&lt;br&gt;Include gateway enhancements near Route 378 per Gateway Design Study including:&lt;br&gt;Monument signs&lt;br&gt;Bridge overpass painting&lt;br&gt;Landscaping&lt;br&gt;Reclaim developable land around interchange area with a single point urban interchange, or half clover at the junction of Route 378 and Broadway (Route 32).</td>
<td>Costs depend on interchange alternative.</td>
<td>public/private</td>
</tr>
<tr>
<td><strong>Segment C - Route 378 WB Ramp to Watervliet Village Line</strong>&lt;br&gt;Reconstruct Roadway - Provide 5-lane cross section with new curb and drainage. Include sidewalks on both sides and streetscape features consistent with other sections including ornamental lights and street trees.&lt;br&gt;Provide mid-block pedestrian crossing at existing transit shelters at North Village Line.</td>
<td>$8M</td>
<td>public</td>
</tr>
<tr>
<td><strong>Access Improvements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Project A - Re-design/Improvement of Access into the Menands Farmers Market/True Value Hardware near Menands Road</strong>&lt;br&gt;A1 - Realignment of Menands Road in the vicinity of the vacant Stewart's building to eliminate the existing offset T-intersection and provide either a single 4-way intersection with more efficient signal phasing or a roundabout.</td>
<td>$1.5M to $2.2M</td>
<td>public</td>
</tr>
<tr>
<td><strong>Project B - Improved Design for State Route 378 WB Exit Ramp, Land Use and Traffic Access/ Management at the Price Chopper Plaza Interchange Area</strong>&lt;br&gt;Realignment of the Price Chopper Plaza/vacant Tomra Site driveways with the Route 378 WB Off Ramp to Broadway (Route 32) to create a 4-way roundabout.&lt;br&gt;Recommend future developer of the vacant Tomra Site to preserve the land necessary to construct the roundabout.&lt;br&gt;Access management along Price Chopper frontage.&lt;br&gt;Pursue additional access to the Price Chopper Plaza via Harts Lane (for vehicles), and Louis Ave (for pedestrians)</td>
<td>1.5M to $2.2M</td>
<td>public/private</td>
</tr>
</tbody>
</table>
### Project C - Access Analysis for the Recreation Trails/Nature Area Proposed between Broadway & Interstate 787

#### Trailhead Access Options
1. Reconstruction and extension of Menands Road along the south side of the Menands Market (increased parking, pedestrian friendly accommodations and a median) allows for creation of a trailhead location at the eastern end of the roadway with a small craft boat launch.
2. Creation of a trailhead via Oakland Avenue and the Mohawk and Hudson River Humane Society site.

#### Trail Linkage Options
- **A** - Connection to the Mohawk-Hudson Bike-Hike Trail via a modified culvert under I-787.
- **B** - Connection to the Mohawk-Hudson Bike-Hike Trail via a trail along the south side of the I-787 interchange ramp.
- **C** - Connection to the Schuyler Flatts via a trail along the north side of the Route 378 WB Ramps.
- **D** - Connection to Spring Avenue via a future trail along Cemetery Avenue.

#### Transit Accomodations

<table>
<thead>
<tr>
<th>Short Term</th>
<th>Long Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relocation of bus stops to development centers and safe areas for pedestrian crossings. Enhanced pedestrian connections from stop locations to surrounding destinations. Funding partnerships with CDTA for improved amenities at stops (large shelters, heated asphalt, etc.).</td>
<td>Transit priority at signals. Potential bus rapid transit corridor between downtown Albany &amp; Troy.</td>
</tr>
</tbody>
</table>

#### Interchange Improvements
- **Broadway (Route 32) / Route 378 Interchange**
  - Interchange improvements could open up 10+ acres of land for development.
  - The Village should market the concept to leverage private investment for a public private partnership.
  - Half clover concept accommodates major traffic flows (Alternative 2).
  - Additional engineering study is needed to confirm operations, impacts and preferred alternative.

<table>
<thead>
<tr>
<th>Estimated Cost</th>
<th>Responsibility / Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>na $7.5M to $20M</td>
<td>na Village</td>
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<tr>
<td>$7.5M to $20M</td>
<td>CDTA</td>
</tr>
<tr>
<td>$7.5M to $20M</td>
<td>public / private</td>
</tr>
</tbody>
</table>

* Estimated Costs are planning level estimates based on typical construction cost by project type (2008-2012) Source: NYSDOT. More detailed engineering cost estimates should be prepared before programming, based on unit costs for major items such as drainage, etc.*
PROJECT LOCATION

ACCESS & LAND USE IMPROVEMENT STUDY
BROADWAY (NY ROUTE 32)
VILLAGE OF MENANDS, NEW YORK

PROJECT: 07-128d
DATE: 1/08
FIGURE: 1
FIGURE 3
2001 PEAK HOUR
TRAFFIC VOLUMES

BROADWAY TRANSPORTATION STUDY
VILLAGE OF MENANDS
TOWN OF COLONIE, NEW YORK

TOWN OF
COLONIE
VILLAGE OF
MENANDS

BRITISH AMERICAN

NYS RT 378
WB EXIT RAMP

PLAZA ACCESS RD

NYS RT 378

MARKET RD

MENANDS RD

NYS RT 378

MAB A Nhận

(120)80
420(500)
105(115)
(525)180
(0)0
460(310)
105(45)
(10)30
(35)45
(15)10
(35)55
65(40)
25(35)
(50)50
155(175)
400(430)
190(90)
905(810)
205(555)
(930)430
(5)0
15(5)
(45)150
20(15)
10(35)
(10)25
(25)10
870(665)
5(0)
25(120)
(5)5
80
(110)

DATE: 01/2008
PROJECT: 07-128
SCALE: N.T.S.
DATE: 01/2008

CME
CREEFTON MANNING ENGINEERING, LLP
4 AUTOMATION LANE, ALBANY, NY 12205

f:\projects\01-030chedd\dgn\fig_#.dgn
FIGURE 4
2008 EXISTING PEAK HOUR
TRAFFIC VOLUMES

BROADWAY TRANSPORTATION STUDY
VILLAGE OF MENANDS
TOWN OF COLONIE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP
4 AUTOMATION LANE, ALBANY, NY 12205

PROJECT: 07-128  SCALE: N.T.S.  DATE: 01/2008

f:\projects\01-030d\cadd\dgn\fig_#.dgn
FIGURE 5
2018 PEAK HOUR TRAFFIC VOLUMES

BROADWAY TRANSPORTATION STUDY
VILLAGE OF MENANDS
TOWN OF COLONIE, NEW YORK

CME
CREEKTOWN MANNING ENGINEERING, LLP
4 AUTOMATION LANE, ALBANY, NY 12205

PROJECT: 07-128  SCALE: N.T.S.  DATE: 01/2008

XX (XX) = AM (PM) PEAK HOUR
FIGURE 6
2030 PEAK HOUR TRAFFIC VOLUMES

BROADWAY TRANSPORTATION STUDY
VILLAGE OF MENANDS
TOWN OF COLONIE, NEW YORK

CME
CREIGHTON MANNING ENGINEERING, LLP
4 AUTOMATION LANE, ALBANY, NY 12205

PROJECT: 07-128 SCALE: N.T.S. DATE: 01/2008
Appendix A – “Big Ticket” Interchange Alternatives

Transportation Access and Land Use Improvement Study
Broadway (NY Route 32)
Village of Menands, New York
Regional Access and Mobility Changes “Big Ticket” Item

The basic idea is that the existing three-quarter clover leaf interchange is out of context with the area, and that it uses up more land than is necessary. Overall, traffic volumes are low to moderate for a clover leaf design, and a modified interchange could free-up some land for additional development in the area, while still providing adequate long term traffic operations. This concept for a modified interchange had general support from all stakeholders including the NYSDOT, the CDTC, the Village of Menands, the Regional Market, and individual land owners. In addition, during the business owners meeting, there was support to change Route 378 from a limited access arterial to a local street providing more direct access to adjacent land.

While it is beyond the scope of this study to provide a detailed assessment of “Big Ticket” interchange alternatives, the Committee agreed there would be a public benefit to this type of large scale transportation system improvement. It would improve regional access to the Menands Market, provide a context appropriate transportation system, and free-up developable land in the area satisfying local economic development objectives that are consistent with regional policy supporting higher density development in existing urban centers.

The following discussion summarizes the major issues, alternatives, and preliminary assessment of the “Big Ticket” interchange alternatives. Horizon year 2030 traffic forecasts were used to test the sufficiency of these alternatives.
Interchange Alternative 1 - Single Point Urban Interchange – This alternative involves the construction of a single point urban interchange (SPUI) with a three-phase traffic signal at the ramp junction with Broadway. The preliminary assessment indicates that this alternative would require widening of Broadway to five (5) lanes (which includes turn lanes), and would operate at LOS D during the peak hours in 2030. The northbound and southbound approaches consist of two through lanes and one left-turn lane. The EB and WB off ramps from Route 378 require one left-turn lane. A new SPUI could cost on the order of $15 to 20 million dollars. With limited funding, NYSDOT and CDTC have indicated that programming such a project is very unlikely. However, there is support for a public-private funding scenario. Since the single point urban interchange concept would open up land for development, a real estate swap could be negotiated to cover part of the construction costs. Altogether, approximately 10+ acres of developable land is estimated with the removal of the existing ramps and construction of a single point urban interchange. This is a long term option that the Village should market to potential developers.

Image A.1 – Potential Single Point Urban Interchange at the junction of Broadway and Route 378
Interchange Alternative 2 - Half clover: - Ramp intersections with Broadway could operate with traffic signals or as roundabouts. This alternative could work with or without direct access to the Menands Market opposite the eastbound ramps. The preliminary traffic engineering assessment indicates that if roundabouts are selected as the preferred intersection design, then the intersection at the westbound ramps opposite Price Chopper would need to provide a two-lane roundabout. The eastbound ramp intersection with Broadway could function with a single lane roundabout. A bypass lane would be needed for the high volume movement from southbound Broadway to eastbound Route 378 (at the southerly ramp intersection with Broadway). It should be noted that this alternative is similar to Alternative 2 as contained in the Broadway Transportation Study (2002), which can be referenced for additional information.

The estimated cost for this interchange alternative is less than Alternative 1, because the existing Route 378 bridge over Broadway could be retained. A planning level construction cost of $5 to 7.5 Million dollars is expected, assuming complete reconstruction of two ramp intersections with Broadway, removal of approximately 4,000 feet of existing ramps, and roadway segment improvements between the ramps. This would open up approximately 3 to 4 acres of developable land in the southeast quadrant of the interchange. Private development interest in the land and an agreement to share costs could make this alternative more likely to receive public funding.
Alternative 3 – One quarter clover leaf interchange, with half diamond and direct access to Menands Market – This concept would provide direct access to and from the Menands Market and the eastbound on-ramp. This is the same type of interchange that provides access from I-95 to the Mystic aquarium, in Mystic, CT. It would open up approximately five (5) acres of developable land in the southwest quadrant, but it would open up little developable land in the southeast immediately adjacent to the Market. This alternative was not analyzed from a traffic operations standpoint, and no cost estimate was developed. A follow-up study is needed to adequately address the traffic and preliminary engineering issues associated with the interchange alternatives.

Image A.3 – Conceptual quarter clover, half diamond interchange with direct access to regional market

The following table summarizes the results of the preliminary interchange alternative analyses.
Table A.1 – Intersection Improvement Level of Service Summary

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Control</th>
<th>AM Peak Hour</th>
<th></th>
<th>PM Peak Hour</th>
<th></th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Null *</td>
<td>Alt. 1</td>
<td>Alt. 2</td>
<td>Null *</td>
</tr>
<tr>
<td>Broadway/Menands Market Rd</td>
<td>S</td>
<td>C (21.3)</td>
<td>C (21.3)</td>
<td>---</td>
<td>C (22.5)</td>
</tr>
<tr>
<td>Overall</td>
<td>R</td>
<td>---</td>
<td></td>
<td>A (4.2)</td>
<td>---</td>
</tr>
<tr>
<td>Broadway/PC DWY/Rt 378 WB Ramp</td>
<td>S</td>
<td>C (28.4)</td>
<td>A (5.9)</td>
<td>---</td>
<td>C (22.1)</td>
</tr>
<tr>
<td>Overall</td>
<td>R</td>
<td>---</td>
<td></td>
<td>A (6.3)</td>
<td>---</td>
</tr>
<tr>
<td>Broadway/Rt 378</td>
<td>SPUI</td>
<td>---</td>
<td></td>
<td>D (42.2)</td>
<td>---</td>
</tr>
<tr>
<td>Overall</td>
<td>R</td>
<td>---</td>
<td></td>
<td>A (4.7)</td>
<td>---</td>
</tr>
</tbody>
</table>

Key:  X (Y.Y) = Level of Service (Delay, seconds per vehicle)
* = optimized
-- = Not Applicable

The basic conclusions from the assessment of “Big-Ticket” interchange alternatives are:

- Certain traffic volumes are low to moderate for a cloverleaf interchange.
- Aside from through traffic, the primary traffic movements through the interchange are between Watervliet to the north and Route 378 east.
- The existing three-quarter cloverleaf design is out of context with the community, and the transportation needs in the area.
- A modified interchange is possible, but it is not needed from a traffic demand/capacity standpoint.
- Alternative 2 has the potential to better accommodate the predominant traffic flows because the movements between Watervliet north and Route 378 east could be designed as free flow right turns at both ramps.
- Alternative 2 is also projected to cost less than Alternative 1 because a new bridge carrying Route 378 over Broadway is not needed.
- A modified interchange would have several public benefits including economic development and improved local and regional accessibility.
- A modified interchange would open up developable land.
- The need for the interchange modification is related to economic development, and local and regional policies to encourage development in existing urban centers.
- Funding is limited and programming such a project is unlikely. However, there is support for a public-private funding scenario. A real estate swap could be negotiated to cover part of the construction cost.
- In lieu of programming a significant interchange project, a more detailed analysis and coordination with stakeholders should be progressed. The level of effort would be similar to a Conceptual Access Modification Proposal required to initiate the scoping stage for consideration of interstate and other freeway access control modifications, per the NYSDOT Design Procedures Manual. A fee of $200,000 is estimated for such a study.
Appendix B – Public Meeting Summary

Transportation Access and Land Use Improvement Study
Broadway (NY Route 32)
Village of Menands, New York
Mark Sargent gave a brief presentation of the Study, including the goals and purpose of the study, existing conditions, and improvement alternatives. Overall the study was well received. Several attendees voiced their concerns regarding the current storm drainage issue in the Broadway Corridor. A list of the specific comments follows.

Question: A question was asked regarding maintenance responsibility of associated landscaping and off-road maintenance.

Answer: Village is responsible for any non-roadway maintenance.

There were serious concerns regarding the existing storm drainage problem in the Corridor.

Question: Do improvement alternative costs include drainage improvements?

Answer: Yes, drainage improvement costs are included for Segment C.

- Drainage and catch basins are an issue, especially form the Market area north.
- The Albany Rural Cemetery area also has storm water management problems.
- Clogged storm drains cause flooding between sidewalks and roadways, whenever heavy rains occur. (at least 2-3 times a year)
- NYSDOT closes the road and plows the water off of Broadway.
- Snowplow’s deposit snow on resident’s lawns, which add to the drainage problem.

Question: Will homes on Broadway be affected, will any ROW be taken?

Answer: Only positively, no additional ROW is needed for improvements. The only building that would be impacted would be the former Stewarts at the Market intersection.

Mike Wyatt of NYSDOT discussed the improvements that have been made to Broadway south of this project’s study area, explaining that the decrease in roadway lanes allows space for snow storage and landscaping. He reiterated that this study will lay the groundwork for drainage improvements to be examined in more detail at the engineering design stage.