

Delaware Avenue Hamlet Enhancement Study Transportation Improvement Plan



Final Report February 7, 2011

Prepared for the Town of Bethlehem, New York

By the Capital District Transportation Committee with River Street Planning & Development,
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I. Purpose

The purpose of the Delaware Avenue Hamlet Enhancement Study is to identify transportation and land use design treatments that will help strengthen Delaware Avenue's main street character, consistent with principles outlined in the Town Comprehensive Plan and the Capital District Transportation Committee's New Visions Plan for Transportation. The plan is designed to reinforce and enhance the architectural style, pedestrian scale and aesthetics of the area, respect and strengthen the surrounding residential neighborhoods along the corridor and provide for safe and convenient corridor travel and access for walkers, bicyclists and transit users.

The study is a joint effort between the Town of Bethlehem and The Capital District Transportation Committee (CDTC). In 2008, The Town of Bethlehem appointed a Steering Committee including residents and business owners to work with its planning partners from CDTC, The New York State Department of Transportation, Capital District Transportation Authority (CDTA) and the Capital District Regional Planning Commission (CDRPC). A consultant team led by River Street Planning & Development, including Nelson\Nygaard Consulting Associates and CLA Site Landscape Architecture were selected to assist the Town. In December 2008 a community workshop was held to solicit resident input about the opportunities and constraints facing the hamlet area. Approximately fifty people participated in the meeting. All required disclosures regarding the study are found in Appendix M. All figures, photographs and references to the Manual of Unified Traffic Control Devices (MUTCD) are found in Appendix H.

The purpose of the Study is to identify actions that could help strengthen Delaware Avenue's main street character by identifying:

- A. Hamlet design guidelines including building scale, massing, design and setbacks
- B. Streetscape guidelines including typical cross sections
- C. Parking and circulation plan for vehicles and bicycles
- D. Transportation improvements
- E. Arterial management strategies

II. Introduction

The Town of Bethlehem and Hamlet of Delmar are livable. Delmar is a great place to buy a home and raise a family. It enjoys strong schools, an attractive main street, and the wealth – both financial and human – that comes from a diverse tax base and stable property values. The Town of Bethlehem's Delaware Avenue Hamlet enjoys a mix of uses and amenities as well as historic and modern buildings. In thinking of Delaware Avenue today, we are reminded of what it must have been like in the last century as the photo on the next page from 1950 shows.

Buildings were clustered close to the street to take advantage of land values, fire protection, streets, and parking. A range of colors, trim, architectural elements, window styles, heights, external coverings, and signs differentiated the buildings. They shared common building materials



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typical of the time period – but there was also variety. This variety in the architecture within a consistent framework created a cohesive aesthetic that we still appreciate today.



Figure 1: Delaware Avenue 1950 – Town of Bethlehem Historical Society

This study focuses on improving the transportation environment and creating design and streetscape standards that can lead Delaware Avenue to develop with a combination of variety and cohesion that creates its own aesthetic – an aesthetic of this time and place, different from its past, but one that will generate the same kind of appreciation years from now. This study recognizes that the most effective approach will combine understanding of design aesthetic, transportation and market realities.

Today, the Delaware Avenue Hamlet, including the “Four Corners” is the heart of the Delmar community, located between Adams Street and the Elsmere Avenue area along Delaware Avenue. Numerous businesses, the Delmar Post Office, Veterans Park, Elsmere Elementary School and residences are found in the hamlet. The traditional neighborhood pattern throughout the area includes compact lots with older and historic structures built close to the street edge that establish the character and scale of the area. While the area is walkable, Delaware Avenue is a busy road with 14,000 vehicles per day through the Four Corners area and 16,000 vehicles per day at Elsmere Avenue. The streetscape is not continuous and there are gaps that distract from



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an overall cohesive style and design rhythms that are represented well at the Four Corners. A key focus of this plan is to build upon the mix of uses, character and fabric of the Four Corners and “stretch” its success through the rest of the study area.

The question of how to rethink Delaware Avenue has been talked about for several decades. As each portion of land is developed (and redeveloped) and more people move to the Town of Bethlehem, throughways like Delaware Avenue bear the responsibility of accommodating additional transportation demand. In turn, people walking and bicycling along Delaware Avenue are directly impacted by the additional vehicular traffic volumes along the Avenue from a health and safety perspective. In response to this the study takes a multi modal perspective, paying attention to the needs of pedestrians, bicyclists, transit users and motorists. It is essential that the transportation system support the Hamlet’s goals of being a great place, without defining the place itself. To maximize Delaware Avenue’s potential as a true main street, one transportation component must be prioritized above all else – pedestrian access. The rationale is simple and universal; all great places, places where people want to live, work, play and visit, must be walkable. The pedestrian’s ability to walk around the Hamlet, to schools and along the planned Albany County Rail Trail is a primary consideration in this study. The study uses the pedestrian as the mode of priority, while still balancing the needs of private vehicles, transit and bicycles. The result is consistent with the Town’s Complete Street Policies, supporting the Town’s goal of redefining the Hamlet with a sense of place.

Opportunity exists to position the Delaware Avenue Hamlet as a “life style center” that places more emphasis on community and variety in addition to price and convenience. As consumers express their desire for something other than malls and big box complexes, main street retailers are beginning to respond. With the right approach, plans like the Delaware Avenue Hamlet Enhancement Study can help the Town to shape a development environment that makes it easy for retailers to fulfill this market opportunity. In a modern retail environment perhaps the greatest barrier to urban scale and density are modern parking standards. These recommendations explore shared parking that employs green infrastructure.

From a market perspective, this study and the companion design guidelines encourage development that is not only well built, but also well maintained. Infill development should be flexible enough to respond to future changes in use, density, life style and demography. This means designing for energy and resource efficiency, creating flexibility in the use of property, public spaces and service infrastructure and introducing new approaches to transportation, traffic management and parking. It also means integrating inclusive design as a way of ensuring that the built environment and transportation system are accessible and appealing to everyone regardless of age, ability or circumstance. Finally, it is important that this study set a template or pattern for development outside of the study area along Delaware Avenue. It is strongly recommended that there be an “advance” study for the stretch of Delaware Avenue to Normans Kill so that these standards may guide development.

Currently Delaware Avenue can be identified as a state highway, a major conduit to other highways, a pedestrian destination, a place near which people live, work and go to school, a place

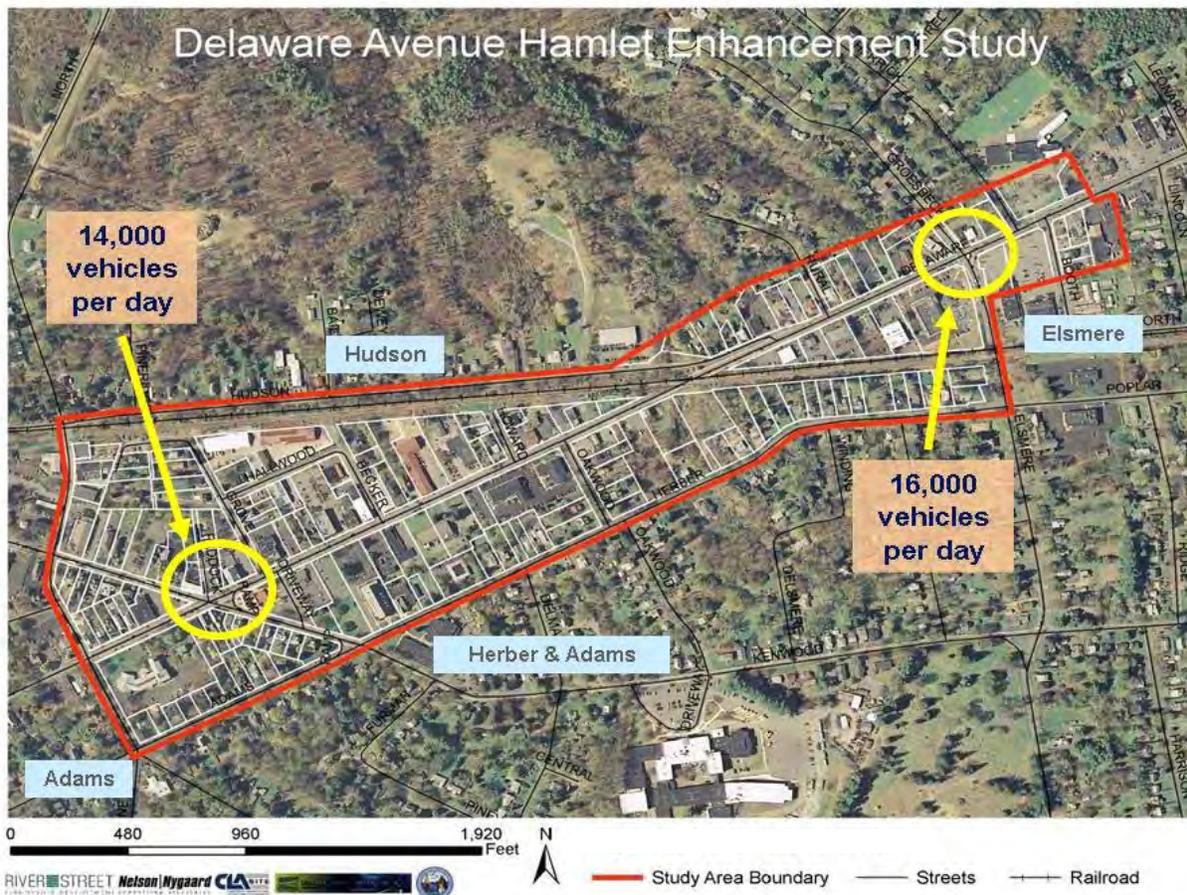
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to park a car and a good address for businesses. The question this study tries to answer is: What is the desired identity for the Avenue?

III. The Study Area

These guidelines apply to the Delaware Avenue Hamlet area that is bounded by Delaware Avenue from the Elsmere School from the east to Adams Street to the west and following Hudson Avenue to the north and Adams Place and Herber Avenue to the south.



The Study Area as a whole comprises about 100 acres. Residential uses occupy only 25.8% of the land. Veterans Park is the only recreation resource. The area is compact which allows for good pedestrian access from homes to businesses. Smaller lot sizes are found in the Four Corners area and larger properties are found farther out and from Delaware Avenue. In particular, in the area around Elsmere Avenue, the Delaware Avenue corridor becomes more suburban in character with large setbacks from the street and many curb cuts. This trend continues east



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towards Albany when leaving the Study Area. Parking lots make up nearly three percent of the land area, but the municipal parking lots appear to be largely underutilized. In addition, four percent of the land area is undeveloped. A larger map of the Study Area and Parcel Profiles are attached in Appendix A.

IV. Vision, Principles & Measures

As the Delaware Avenue Hamlet Enhancement Study began the community prepared a vision statement, set of planning principles and measures of success. Throughout this process the Town has emphasized the nature of the area as a business location where the prosperity of local establishments is of great importance. In addition to the principles outlined below the goal of supporting viable business is key. It is important that the implementation tasks outlined in this strategy and the accompanying Roadway, Streetscape and Building Design Standards be consistent with these statements:

A. Vision Statement

“The transportation system serving Delaware Avenue and the Delmar Hamlet brings people together and enhances the connections between stores, schools, churches, homes and shopping. Automobiles are less prominent and a safe physical environment encourages people to walk, bike and use transit. Creating a prosperous business environment for a wide array of successful local services and stores is key. The system balances the need to move vehicles efficiently and safely with other desirable outcomes, including walkable neighborhoods, vital public spaces and a clean and green environment, giving the pedestrian priority. There is harmony and cohesiveness among an interesting variety of land uses – both old and new. Roadway, streetscape and building standards distinguish Delmar’s unique aesthetic and reinforce its main street identity. There is strong support for standards that fully protect community character, yet are flexible enough to reflect changing needs while anticipating future results.”

B. Planning Principles

All refinements to the transportation system will help achieve this vision through context sensitive principles:

1. Accessibility – All community members comfortably reach desired activities and destinations no matter what mode they use. The quality of walking and cycling conditions will be excellent.
2. Collaboration – A clear transportation strategy enables the Town to advocate for its needs and work collaboratively with other municipalities and agencies like NYSDOT and CDTA.



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3. Community Support – Community members understand and support transportation investment. They are aware of transportation choices and aware of projects in an open planning process.
4. Connectivity/Complete Street Network – There is a connected network of sidewalks, bike routes, paths and trails that are designed to carry multiple modes. Every project adds to the system, completing linkages incrementally.
5. Consistency – The Town’s administrative Boards have clear direction and consistently enforce standards. The transportation planning process is logical and understandable to all community members.
6. Efficiency – Resources (time, money, land) are used efficiently and effectively. Residents support projects that are carefully evaluated to be cost effective and affordable over the long term.
7. Equity and Inclusiveness – All community members have travel options. There are safe, dependable and accessible choices for residents who do not drive, cannot afford a car or choose not to drive.
8. Greenspace – Parks, trails, playgrounds and lawns add diversity to the environment. Landscaping buffers and islands are beautifully maintained.
9. Harmony – Context sensitive design creates harmony and balance between new development and existing community uses and character. Standards create cohesiveness among different styles, rather than sameness. New buildings are well designed, well built and compatible with their surroundings.
10. High Expectations – Residents expect a high level of excellence in transportation investments. Projects offer lasting value rather than short-term solutions to long term problems. Clear guidelines make the “right project” easy to develop. Buildings are well maintained and codes are consistently enforced.
11. Land Use – Available land is used wisely and infill development, building reuse and rehabilitation is preferred over new development in many cases. The creative use of existing resources happens before new facilities are developed. Policies are flexible enough to reflect changing needs and anticipate future results.
12. Main Street Identity – Locally owned businesses flourish in the Hamlet’s main street commercial district. Future transportation improvements are planned and implemented to minimize business disruption. Formula retail reflects local styles and scale of its surroundings to the greatest degree possible
13. Multi-modal/Inter-modal – All modes are available, accessible and convenient. Driving, biking, walking and transit systems all interconnect. Bicycling and walking are expected and normal aspects of roadway operation.
14. Parking – Parking standards are appropriate for specific uses and building function. Shared parking is widely available and parking for bicycles, scooters and strollers is available. Existing parking lots are clearly signed and accessible.



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15. Pedestrian Priority – The needs of the pedestrian come first. All transportation investments enhance the pedestrian system and contribute new pedestrian amenities.
16. Public Space – People enjoy the public realm and parks, public buildings, transit stops and other gathering spaces that encourage social interaction.
17. Safety – Safe facilities are available for motorized and non-motorized modes of travel. The system encourages safe driving behavior, and specific problems are addressed (speeds reduced, crosswalks respected). The system of pedestrian amenities is complete (crosswalks, signal controls...) and available throughout the area.
18. Sustainability – The prominence of cars is decreased by improving the physical environment and use of alternatives. The length of trips, miles traveled and average speeds are reduced. Design standards and site plan practices promote resource efficiency, encourage inclusive design and decrease pavement coverage. Buildings are designed for flexible uses that can accommodate change over time.
19. Transit Supportive – Well-used and affordable transit moves people to job centers, retail centers and recreation facilities.

C. Measures of Success

1. You are confident that cars will stop as you use a crosswalk.
2. You have enough time to cross the street even with a disability.
3. Your elementary school age child walks to school.
4. You let your twelve year old ride her bicycle on Delaware Avenue.
5. Your elderly mother walks to church.
6. Your teenager walks arm and arm with his partner along the sidewalk.
7. You push a baby carriage everywhere you want to go.
8. You drive less. You drive more slowly. You know where the bus stop is.
9. You look at a new building and think “nice job”.
10. You hike or bike the rail trail all the way to the Port of Albany or Voorheesville
11. Your business is up and you are thinking of adding more merchandise.
12. You cannot find many empty spaces in the municipal lot on Kenwood Avenue.



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V. Area Wide Transportation Improvement Plan

This transportation improvement plan is the summary document and main implementation guide for the Delaware Avenue Hamlet Enhancement Strategy. Taken together with the other recommendations in the Streetscape and Hamlet Design Guidelines, the recommended actions are designed to improve the overall walkability and bikeability of the study area as well as improve the vehicle and transit environment. It must be noted that the recommended improvements contained in the transportation improvement plan are conceptual in nature meaning they are not developed to an engineering level of detail. The improvement concepts are intended to convey alternatives for potential solutions to identified gaps, deficiencies, or inefficiencies in the current multi-modal transportation system in the study area.

Proposed improvements are consistent with the Town's Complete Streets policy adopted by a Town Board Resolution¹ in August 2009. The resolution defined Complete Streets as facilities designed and operated to enable safe and efficient access for all users. Persons with disabilities, pedestrians, bicyclists, motorists and transit riders are able to safely and efficiently move along and across a complete street.

A. Travelers are Rational Decision-Makers

Travelers are transportation consumers, and they look for the best value for their needs. Costs being equal, a traveler will not select a transportation mode if it is more time consuming, less convenient, and less reliable. The factors that influence transportation choice are:

1. Time – The time it takes for a person to use a particular mode is the most important factor a traveler considers. Travel time depends upon the distance between destinations, traffic conditions and the available transportation infrastructure.
2. Convenience – Convenience entails access at the starting and ending points, the ease of using the mode, and related benefits to using the mode. These related benefits might

¹ *The Town's Complete Streets Policy Resolution included the following: The Highway Superintendent shall consider the safe and efficient accommodation of bicyclists and pedestrians in all new street construction and street reconstruction undertaken by the Town of Bethlehem on town-owned roads and the Town encourages the NYSDOT and Albany County to consider a Complete Streets approach when constructing or reconstructing their respective streets in the Town. The policy also recognized that local Town streets with low vehicle volumes and slow travel speeds safely and efficiently accommodate bicyclists and pedestrians. However, principal Town roads that are characterized as having high vehicle volumes and high travel speeds, and are important for bicycle and pedestrian travel to access and connect to destinations in and adjacent to the Town, shall be considered for Complete Streets treatment. The Town will provide a balanced enforcement of the New York State Vehicle and Traffic Law for motorists, pedestrians and bicyclists. This will include enforcement of pedestrian's right-of-way in crosswalks, bicyclists riding with traffic and all modes sharing the road safely. The full text of the resolution is in Appendix G.*



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include the ability to carry packages or transport children (as in the case of driving) or the ability to read while traveling (as in the case of transit).

3. Information – Customers cannot make rational travel choices without being properly informed of their options.
4. Reliability – Knowing that service will be on time or traffic is consistent is critical.
5. Customer Service – Does using the mode make a person feel more or less frustrated, stressed or valuable? Customer service also means that travelers feel that the mode is designed for them and their needs.
6. Cost – Cost is a factor, although most commuters do not consider the fixed-cost of owning an automobile. The influence of cost also depends on a person's income level.
7. Flexibility – Knowing that a person can leave at "any" time and be able to access their mode is critical. Bicycles, walking and the personal automobile have the most flexibility. The more frequent transit, the more flexible it is.

In an environment where there are few transportation mode choices, automobile trip demand increases along a straight line as population or jobs increase. In areas like Delaware Avenue, where homes are within walking and biking distance of jobs and shopping, more complicated relationships are found. The wider availability of viable alternatives to driving in these areas reduces the demand for parking, since more trips can be accommodated without the help of a car. Delaware Avenue, especially in the western segment of the Study Area, is already a walkable neighborhood.

Stakeholders at the December 2008 workshop were clear that they walk from their homes to the stores at the Four Corners, and that they would walk more often if more land uses (and sidewalks) were present. Biking was also strongly supported as a mode with potential, though network improvements are needed to accommodate this mode. The recommendations that follow protect the Study Area's existing characteristics as a walkable neighborhood, and outline improvements to further the viability of the pedestrian, bicycle, transit, roadway and parking elements.

B. Reallocate the Pavement

One of the primary goals in developing a plan for the hamlet is creating better connectivity between residential and commercial areas for walkers and bicyclists. The following is a list of priority projects that have been used by other municipalities to improve the environment for walking and bicycling and are applicable to Delaware Avenue:

- **Connectivity Enhancements:** These projects increase the number of connections per square mile by removing gaps in the network.
- **Road Diets:** These projects reduce the number of vehicle travel lanes or lane widths to allow better accommodation of pedestrians and bicycles and sometimes on-street parking within the same roadway width typically resulting in improvements to access for all modes and safety.
- **Intersection Diets:** These projects add pedestrian bulb-outs and remove right-hand turn lanes so that the crossing distance for pedestrians is reduced.



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- **Sidewalk Enhancements:** These projects increase sidewalk width and/or improve pedestrian amenities.

These recommendations look at general issues impacting walking and bicycling in the Hamlet, as well as several key intersections and corridors where modifications to the existing roadway would benefit all road users. The above list of project examples will be used to recommend improvement specific to the Delaware Avenue Study Area.

C. Pedestrians Are Key

There are two functions that make the street environment pleasant for users: mobility and accessibility. Mobility is the level of ease of movement in the street network; accessibility is the ease of reaching a destination. Creating a walkable community begins by identifying the “gaps” in the pedestrian network that decrease both the mobility and accessibility within a given area. For example, the existing sidewalk network is difficult to use, especially for people with mobility and visual impairments as it is inconsistent on both sides of the street and is impeded by numerous driveways. For a sidewalk inventory see Appendix C.

The presence of sidewalks, protected street crossings, and other treatments have gone a long way toward making the Delaware Avenue area more walkable. Adequate sidewalks link residential areas to businesses, link transit stops to surrounding neighborhoods, and provide improved overall circulation as a viable alternative to the car. Some portions of the corridor have very good sidewalk infrastructure, while other areas require substantial improvement. (See Figure 3 on page 15).

Most unsignalized intersections do not have crosswalks, curb cuts are numerous and midblock crossings are not offered. In some places, motorists park on the sidewalk. Bicyclists also ride on the sidewalk due to inconsistent pavement conditions.

The following pedestrian improvements are recommended:

1. Reconstruct existing sidewalks within the Study Area, except for those recently reconstructed within the Four Corners area along Delaware and Kenwood Avenues. The Four Corners sidewalk and curbing project should be replicated elsewhere throughout the study area. Tasteful mimicking of the “yellow brick” of the original Delaware Avenue turnpike for stamped concrete elements to match historical pavement color and enhance Hamlet distinction.



Figure 2: A variety of intersection controls are available to improve the pedestrian environment such as this HAWK signal included in the updated federal MUTCD and allowed by NYS Law.



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2. Install Americans with Disabilities Act compliant curb ramps at all intersections, and signs, pavement markings, crosswalks with street print and traffic control as appropriate. Construct new ADA compliant sidewalks on Adams Street between Hudson Avenue and Kenwood Avenue and in other locations as noted on the following pages and on the transportation plan graphic.



Figure 3: Sidewalk conditions in the study area vary significantly.

3. Sidewalks should be expanded from 36 or 48 inches to 60 inches with curbs wherever possible and constructed of concrete, pavers, stamped concrete or other approved materials.
4. Sidewalk paving materials and patterns should be continued across driveway access points associated with curb cuts to emphasize pedestrian use of the space.



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5. Curbs should define roadway edge to clearly separate motor vehicle travel ways from pedestrian areas. Driveway ramps, if necessary, should be located within the area between the curb and sidewalk, so as to avoid ramping the sidewalk to the driveway.
6. Curb cuts, width of driveways and shared entrances should be designed to minimize conflicts with bicyclists and pedestrians.
7. Consolidate driveways and control access whenever possible to create a safe walking environment.



Figure 4: This Liberty, NY crosswalk illustrates two types of crosswalks: the ladder crosswalk, and the standard crosswalk of two parallel lines.

8. High visibility crosswalks are recommended for several intersections (as illustrated in Figure 4 above.)
9. Marked crosswalks guide pedestrians and alert drivers to a crossing location. The new pedestrian crossings could consist of standard parallel or be the ladder style of crosswalk, where additional perpendicular lines are added to the crosswalk to increase its visibility.
10. Each of these new crossings should have either a paddle style “Yield to Pedestrian” sign in the center of the crosswalk (see Figure 7 on page 18), or potentially flashing overhead lights or in-roadway warning lights as appropriate after further analysis, to increase driver’s awareness and compliance in yielding to pedestrians in the crosswalk (as shown in Figure 2 on page 14).
11. Cooperate with adjoining properties in creating a pedestrian network with mid-block connections, pedestrian refuge, public courtyards and small plazas.



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Figure 5: Various signs and overhead traffic lights are available to remind drivers to yield to pedestrians.

12. Provide attractive pedestrian routes between building entrances, pedestrian areas, and public transportation stops and pedestrian refuges (see Figure 6 below).
13. Highlight points of potential conflict between vehicles, pedestrians and bicyclists with signs, changes in texture or color, pavement materials, etc. This includes cross streets, alleys and driveways.



Figure 6: Pedestrian connections are improved through safety concepts, including a center refuge.

D. Continue Community Education and Enforcement of Traffic Laws

To improve the environment for all travelers in a community, especially those who walk or bike, it is important that traffic laws be enforced and that residents are educated regarding



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the rights and responsibilities of drivers, bicyclists and walkers (see Figure 7). In general, current efforts by the Bethlehem Police Department to enforce vehicle traffic laws in the town have contributed to the community's quality of life. That said, current 'yield-to-pedestrians-in-crosswalk' compliance is very poor. An analysis of the level of drivers yielding to pedestrians is attached in Appendix L. Increased enforcement of NYS Vehicle and Traffic Law requiring motor vehicles to yield to pedestrians in a crosswalk. Education regarding this law is essential. The Town may want to create a brochure (an example from Oregon: http://www.oregon.gov/ODOT/TS/docs/pedestrian/Ped_Brochure.pdf) or apply for an enforcement mini-grant from a bike/pedestrian advocacy group (i.e. Bicycle Transportation Alliance, Pedestrian and Bicycle Information Center, National Center for Walking and Bicycling, etc.) to assist with these efforts. Another source of information is CDTC's Capital Coexist program. Capital Coexist is a localized education campaign geared towards cyclists and motorists safely *coexisting* when using the region's roadways. More information can be found at <http://www.capitalcoexist.org>.



Figure 7: State Law Yield to Pedestrian

E. Provide Safe Routes for Bicyclists

Creating a network of bicycle routes, markings and bicycle parking to connect people to destinations throughout the Hamlet and to the Albany County Rail Trail is an important part of enhancing the area.

1. Bicycling Improvements

Bicycle level-of-service in the Delaware Avenue corridor is marginal. High traffic volumes, higher than desirable travel speeds on some streets in the area, and the lack of dedicated bicycle space contribute to the sometimes challenging bicycling environment in the area. The Albany County (Helderberg) Rail Trail will dramatically improve the bicycling environment by offering a dedicated route that serves the corridor and town. For traffic volumes and counts see Appendix K.

Due to the constraints of the existing right of way on the majority of roads within the study area, it is recommended that a mix of bicycle accommodation treatments be considered as part of the Enhancement Study Transportation Improvement Plan. These include Sharrows/shared lane signage, striped shoulders for bicycles and longer term, potentially bicycle lanes. A map of the proposed bicycle network can be seen in Appendix I.

Proposed actions generally include:

- a. Increase motorist awareness of bicyclists through bike detection pavement markings and signage, alerting motorists that bicyclists "Share the Road" and traffic control devices (Figure 9). Signage and pavement markings also remind bicyclists that they are responsible for obeying traffic rules.



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- b. Install sharrows along Delaware Avenue through the Hamlet and on other roadways as appropriate such as Hudson Avenue, Kenwood Avenue, Adams Street, and Adams Place/Herber Avenue in accordance with the standards and guidance listed in the federal Manual of Uniform Traffic Controls (MUTCD), Section 9C.07 Shared Lane Marking. Sharrows are a pavement marking that indicates a travel lane is a shared lane for both motor vehicles and bikes and provides an indication to motor vehicle drivers that bicyclists are allowed to be and may be traveling in the travel lane and that they should be given adequate room. Currently the use of sharrows shown in Figure 8 is approved at the federal level.
- c. Install loop detection sensors at signalized intersections that are sensitive enough for bicycles to trigger such as at Delaware Avenue/Kenwood Avenue and Delaware Avenue/Elsmere Avenue See figure 8.

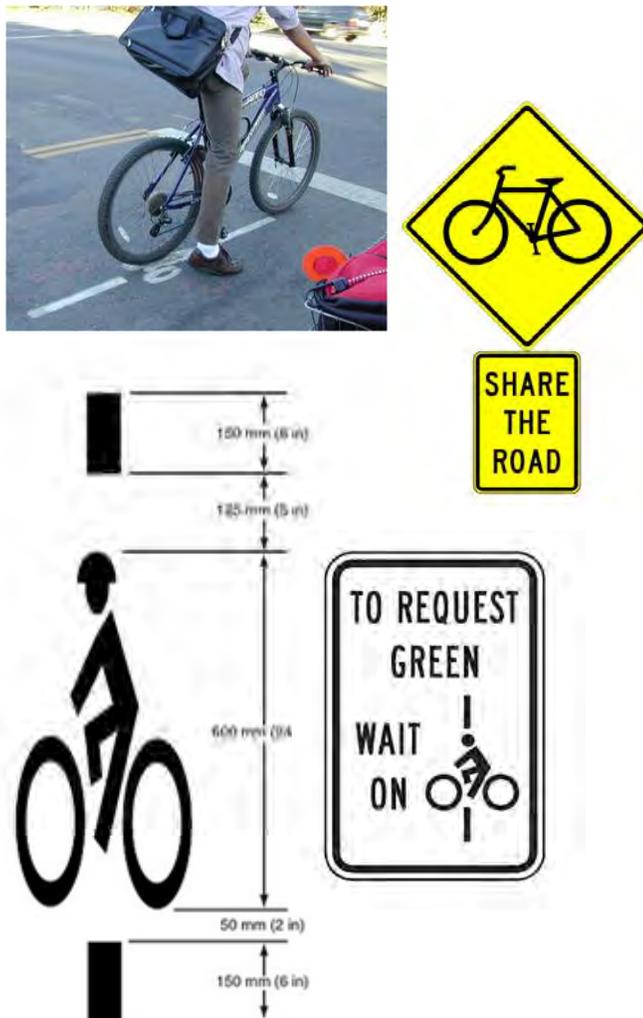


Figure 9: Bicycle Signal Head



Figure 8: Bike loop detection sensors, sharrows and signage direct bicyclists and motorists



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- d. Adopt bicycle parking provisions in the town's zoning ordinance as a means of promoting bicycle travel to local destinations, consistent with the recommendations in the draft Delaware Avenue Enhancement Study Streetscape and Hamlet Design Guidelines, the companion to this proposed Transportation Improvement Plan for the study area.

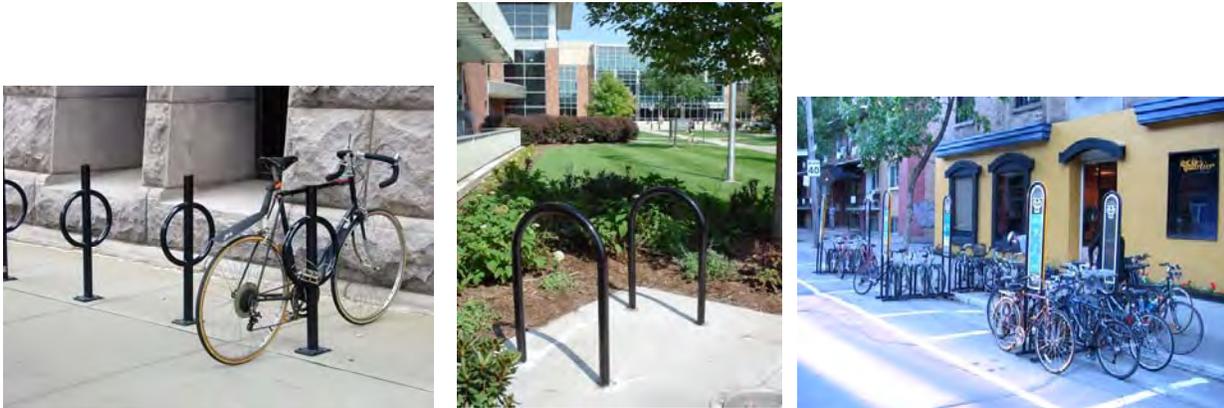


Figure 10 and 11: Many attractive bicycle parking racks are available that can help define the hamlet character.

In April 2010, the Town was awarded nine bicycle racks through the 2010 CDTA/CDTC bicycle rack program, of which two have been installed in the Veterans Memorial Park (hitch bike rack) and one has been installed at the Kenwood Avenue Municipal Parking Lot. For more information on the CDTC Bike Rack Program see Appendix E. (See Figure 10 and 11 above for bicycle parking examples).

- e. Where appropriate, seek connections to the Albany County Rail Trail and motor vehicle parking for trail users during the site plan review and approval process for new development or redevelopment. A functional trail network can offer a choice for commuters as well.

F. Linkages and Connections

The plan focuses on creating a complete streets network of sidewalks and bike routes, paths and trails that are designed to carry multiple modes and enable people enjoy the public realm and parks, public buildings, transit stops and other gathering spaces. The plan identifies specific linkages, paths and connections among various parts of the study area and to areas beyond its boundaries. The idea is to make it possible for people to walk to shopping, church or out for dinner. These connections build on the ongoing work of the PaTHs 4 Bethlehem Committee.

1. The Albany County Rail Trail

In August 2008, Albany County agreed to purchase the old Delaware and Hudson railway that runs through the study area from the Canadian Pacific Railway. This facility is approximately



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9.3 miles in length, stretching from the Port of Albany to the Village of Voorheesville. Other trails of similar length and location have proven to have major economic benefits for towns, as well as providing great recreational areas for residents. The Rail Trail will significantly improve the environment for pedestrians and bicyclists, and help meet the bike/pedestrian travel needs in the area.

A pedestrian and bicycle circulation plan and trail plan (Appendix I) provides for connectivity between the various residential neighborhoods, businesses and community/civic properties in the study area and to adjacent areas of the Town. Recommendations for integration of the Rail Trail include:

- a. Construct bike and pedestrian connections to the Albany County Rail Trail when opportunities become available.
- b. Reserve (or “railbank”) future right of way in the event that light rail becomes feasible.
- c. Where appropriate, seek connections to the Albany County Rail Trail and parking for trail users during the site plan review and approval process for new development or redevelopment.
- d. Implement specific connections identified in the intersection recommendations that follow in Section IV. Possible connections have been identified including:
 - i. Option for an additional connection from the municipal lot on Kenwood
 - ii. Along informal paths and between the Rail Trail and the Four Corners continuing across Delaware Avenue, Adams Place and along Kenwood Avenue
 - iii. At Grove Street, Becker Terrace, Howard Place connecting to Delaware Avenue
 - iv. At Veterans Park with possible parking area on Hudson Avenue
 - v. Between the Rail Trail to Herber Avenue
 - vi. Potential for a connection as well as trail parking and a connection between a vacant parcel and Planet fitness
 - vii. At Hudson Avenue/North Street intersection with the trail
 - viii. East of Howard Street along Hudson Avenue
 - ix. At Elsmere Avenue near Herber Avenue
 - x. At the American Legion Hall at Poplar Street where Albany County is exploring this property as a shared access and parking facility for the trail
 - xi. Along Oakwood Avenue which could serve as a great connection between the rail trail and the middle school, however some pedestrian facilities, including crosswalks, must be installed.

2. Veteran’s Memorial Park

The Veterans Memorial has an inviting presence typified by well-maintained landscape plantings and furnishings, and has relatively new curbing and sidewalk along Delaware Avenue. Connections to the park from the Rail Trail and Delaware Avenue can maintain this as an important gathering space. Improvements to the railway underpass can help to define



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this area, including the park as an important gateway to the area. In April 2010, the Town was awarded two bicycle racks through the 2010 CDTA/CDTC bicycle rack program to be installed in the Veterans Memorial Park.



Figure 12: Veterans Park provides a beautiful greenspace along Delaware Avenue and can play an even bigger role as a community gathering space with addition of additional street furniture.

G. Promote Transit Improvements

Public transit is a vital component of a well-rounded transportation system. Transit provides a good alternative to driving, and in some cases is the only reasonable and affordable way to get to work. The Capital District Transportation Authority (CDTA) runs bus transit Route 18 which connects Delmar and Slingerlands with downtown Albany through the study area. Current transit service provides a benefit to people living and working within and adjacent to the study area by providing an alternative to driving and relieving the need to park a vehicle. The Route 18 bus offers both a reasonable travel time and fairly frequent service during peak travel periods to and from downtown Albany and points in between. Figure 11 on the next page shows recent changes by CDTA for Route 18.

CDTA has recently reconfigured Route 18. Under the new route the internal neighborhood routing that used to occur during am/pm peak hours has been eliminated. The bus no longer circulates on Rowland Avenue, Fernback Avenue, and Hawthorne Avenue. Simplification of the route map and schedule will help to encourage ridership. At the current time, there is very limited opportunity for expanded service in the corridor. However, several actions were identified that could improve access to transit:

1. Support existing transit service through enhanced pedestrian and bicycle access and improved site design. Transit is a more attractive choice when the walking trip to/from the stop is safe, pleasant and within a reasonable distance.
2. Coordinate bus stop with other streetscape enhancements, lighting, crosswalk locations and traffic control devices to ensure that stops are convenient, safe and secure.



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3. Treat the bus stops at the Four Corners and at the Delaware Avenue at Elsmere intersections as having the potential for high demand (see figure 13 below). Work with CDTA to pursue new or improved bus shelters and trash receptacles. Through their Bench and Shelter Program, as described in the Fact Sheet in Appendix F, CDTA annually installs approximately 5 new shelters, 20 replacements, and 5 benches based on criteria such as the number of passengers that board at the stop (benchmark at 50/day), the presence/absence of safe pedestrian access (sidewalks, crosswalks, traffic light with a pedestrian phase), and adjacent land use (priority to higher density, transit-friendly development with street frontage), among others. Local municipalities have an opportunity to nominate candidate locations. It is important to note that if the adjacent landowner/road owner is willing to help with installation costs or shelter maintenance, this can elevate a candidate location's ranking significantly.

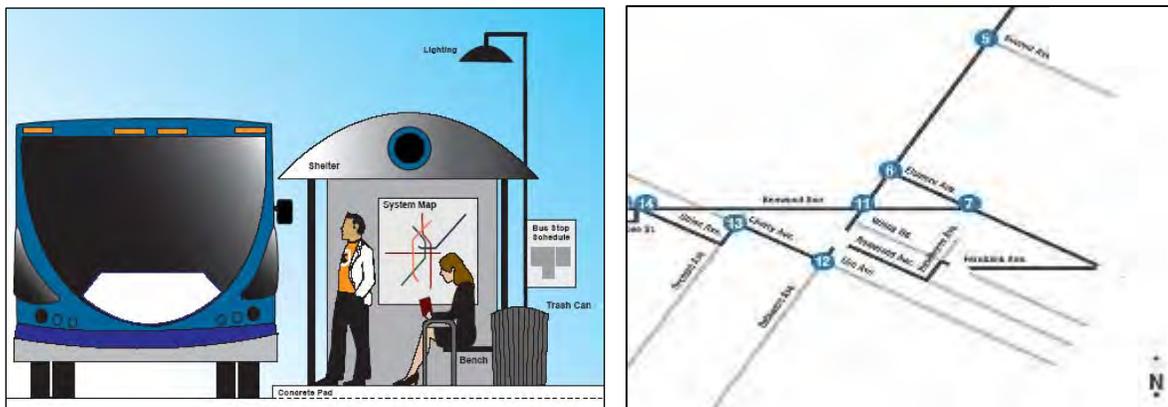


Figure 13: CDTA Route 18 Map and Sample Transit Stop Amenities

4. Continue the Town's partnership with CDTA and CDTC to find ways to improve transit service in the corridor and throughout the Town. Coordinate with CDTA to enhance infrastructure improvements including clearly identified stop locations, shelters and pedestrian improvements. These infrastructure improvements will also support CDTA's long-term "100 Miles of BRT" initiative, by priming the Delaware Avenue corridor as a future BRT (bus rapid transit) route. Utilize recent CDTA resources such as "Guide to designing and locating bus stops" which provides a user-friendly checklist and graphics summarizing CDTA's guidelines and criteria related to locating bus stops and other transit related items. This guide and a larger Route 18 map are attached in Appendix F.
5. Market regional travel demand management programs to town residents, business owners, and prospective developers. Regional travel demand management (TDM) strategies mainly focus on reducing vehicle use during peak travel periods as a way to reduce congestion and pollution. TDM strategies currently include use of bus transit, designing sites and streets for pedestrian and bicycle use, facilitating carpooling and

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vanpooling through the region's ridesharing/matching website: www.iPool2.org, and parking management.

H. Parking in a Multi-Modal System

The amount and location of both on-street and public and private off-street parking within the study area are adequate to serve demand, with capacity to spare. Demand (measured in terms of occupied spaces) was observed on a weekday and on a Saturday during November 2008. Occupancy at the different facilities varied greatly during the two periods (i.e. Kenwood Avenue lot was less than half full during Friday midday and more than 80% filled during the Saturday midday). Overall, the survey showed that 64 percent of available parking spaces were occupied during the Friday midday period and 73 percent were occupied during the Saturday midday period. On average, CDTC staff observed that 70 parking spaces were available during both time periods. (Current parking standards suggest that parking is considered "available" as long as occupancy is less than 85 percent.) Under these circumstances, consideration should be given to shared parking opportunities and installation of wayfinding technology to guide drivers to available spaces (See Figure 14). (Tables showing Parking Inventory and Parking Utilization are attached in Appendix D.)

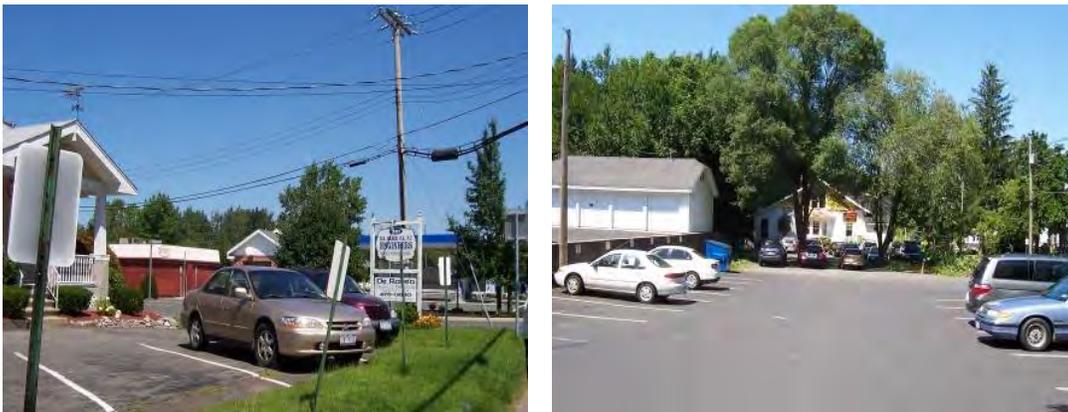


Figure14: Some parking lots are very tight while others have excessive impervious material.

By better defining on-street parking spaces as well requiring better site design of off-street parking areas, vehicle parking won't necessarily detract from the pedestrian scale and walkability of the Hamlet (see existing conditions in Figure 15 on the next page). The draft recommended *Delaware Avenue Hamlet Enhancement Study Streetscape and Hamlet Design Guidelines* provides information on how parking can be designed to do that by:

- requiring new development or redeveloped sites to place parking to the sides or rear of buildings,
- including landscaping within parking lots,
- screening lots from other uses where appropriate,



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- providing clearly defined pedestrian paths to destinations and streets through parking areas, and
- incorporating low impact development techniques in parking space/lot design to reduce storm water impacts.



Figure 15: Parking is haphazard with cars parked on grass and on the shoulder.

Incentives for shared parking such as density bonuses, relaxed parking standards, modified and requiring minimum parking provision related to individual developments are important to reduce the amount of land area within the Hamlet devoted to parking vehicles. (Please see separate volume: Delaware Avenue Design Standards and Guidelines for more information)

1. The number of off-street parking spaces provided should be the minimum necessary to adequately serve the intended use. The Town should carefully review its minimum parking space requirements. Any surface parking lot to be developed should also conform to limits on the percentage of impervious material. Developers who request to provide more than the minimum required number of spaces could be required to use green parking lot design and storm water management tools. The Town could also allow reductions in parking for spaces using dimensions for compact cars, provided that such parking spaces are clearly designated as compact car spaces.
2. The Town should evaluate the feasibility of implementing a system of parking maximums. Maximum parking requirements are established in order to promote efficient use of land, enhance community form, encourage alternate modes of transportation, provide for better pedestrian movement, reduce the amount of impervious surface and protect air and water quality. Parking Maximums place a limit on the maximum amount of parking capacity allowed at particular sites or within a particular area. Usually these maximums are set at a percentage (for example 125%) of the parking minimum.
3. Develop Bicycle Parking minimum/maximum standards that determine bicycle parking requirements based upon land use. See Example at http://www.vtbikeped.org/resources/BikeParkOrdinance_BTV.pdf



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4. Allow the shared use of a parking facility where it is clearly demonstrated that the reduction in spaces and shared use of the parking facility would meet general parking guidelines. A shared parking plan should be enforced through written agreement. Sample agreements for shared parking and shared driveways are attached in Appendix J.
5. Continue seeking joint development opportunities as existing parcels are redeveloped; the Town should seek to incorporate parking that serves that site, as well as the greater Study Area. Current Town code allows for joint use parking as long as it satisfies general requirements and the spaces are located within 600 feet walking distance of the lot containing the land use they are intended to serve.
6. Require parking lot landscaping and distinguish sidewalks and paths in parking lots from driving surfaces through the use of special pavers (bricks, scored concrete or other similar materials) and other distinctive colors to improve pedestrian safety whenever possible.
7. Plan for possible expansion of the Kenwood Avenue lot with vehicular access to Paddock Place. Even without expansion of the lot, a pedestrian connection to Paddock Place should be pursued (see Figure 16).



Figure 16: Parking Expansion possibility behind Kenwood Avenue Parking Lot

8. Use a Low Impact Development Approach – Low Impact Development (LID) is a more sustainable land development approach for new development as well as design of parking lots including on site storm water features such as porous pavers, porous asphalt, and permeable concrete, bioretention swales featuring native plants to absorb storm water runoff, and tree locations for additional bioabsorption of storm water runoff.
9. By the end of 2010 the NYS DEC Pollutant Discharge Elimination System (SPDES) General Permit for storm water Discharges from construction activity (GP-0-10-001) will require green infrastructure techniques (bioretention, filter strips, etc.) on all projects required to install storm water management practices (See Figure 17). The NYSDEC Stormwater Management Design Manual contains allowable green infrastructure



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techniques and is located on the NYSDEC website at <http://www.dec.NY.gov/chemical/29072.html>.

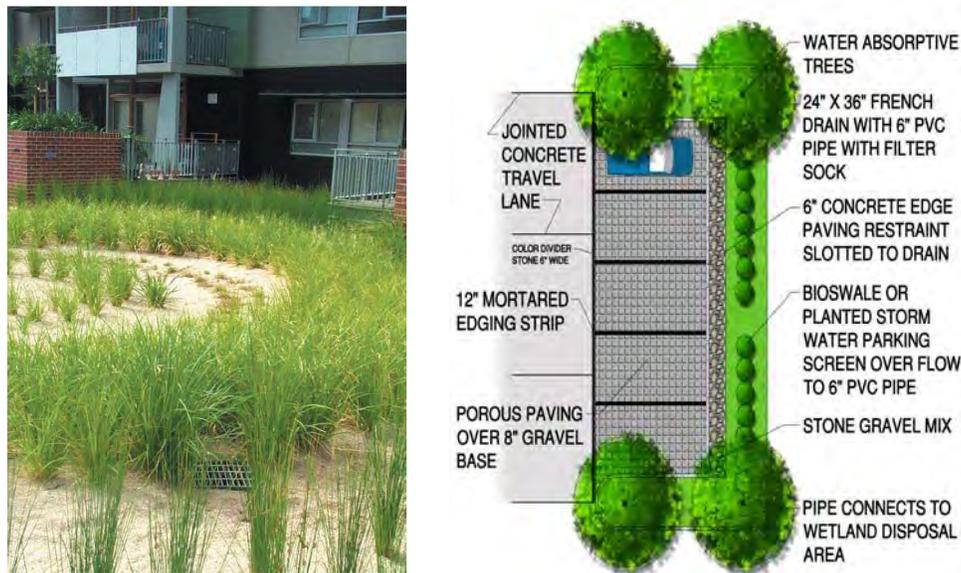


Figure 17: Example of Bioretention areas incorporated in multi-use district to filter on-site rainwater and environmentally sensitive parking lot design using porous surfaces and storm water curb extension and street planter (below).



9. Provide a clear and coordinated wayfinding signage system that offers information on the availability and location of parking, with signs starting at the community entrances and lead visitors to the Hamlet. The signage system should include extensive pedestrian signage to encourage a “park the car once” environment. Such a campaign should also guide bicyclists looking for routes, racks, and lockers and provide walking distances (in minutes) to popular attractions. Figure 18 shows current signage in the area.



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Figure 18: A number of municipal and private lots exist in the Hamlet but many are difficult to access due to limited signage.

I. Foster Unique and Attractive Streetscape

A streetscape design that integrates the “natural” with the “manmade” can provide a unique identity to a community. Green streetscapes have been recognized for their role in reducing the volume and rate of storm water runoff entering the piped storm water system, improving air quality, and conserving energy.

In addition to creating a positive image of the community, planting trees, for example, will also help slow traffic, making travel in the corridor safer and more pleasant for residents, shoppers, bicyclists, and walkers. Consistent with the recommendations included in the Draft Streetscape and Hamlet Design Guidelines, the Town of Bethlehem should:

1. Implement all requirements of the Town of Bethlehem Complete Streets Resolution (see Appendix G) as adopted August 2009 which seeks to improve mobility for all people, improve bicycle and pedestrian connections, and implement the recommendations of the Town PaTHs 4 Bethlehem Committee.
2. Support actions that would create a “green roadway”.
3. Establish landscape standards to provide a roadside buffer along Delaware Avenue and other streets in the study area made of trees, shrubs, and other vegetation.
4. Promote overall beautification to enhance the attractiveness of Delaware Avenue as a business location and a place to live and shop.



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5. Design streets that permit the installation of electric, water, sewer, gas and other utilities underground, either initially or at the time major improvements or upgrades are made.
6. Where existing utility poles are to remain, proposed improvements should be located so as to contain the utility pole between curb and sidewalk, preventing the pole from becoming an impediment to either pedestrian or motor vehicle circulation.
7. Promote the Railway underpass as a gateway to the Hamlet from the Elsmere area.



Figure 19: This streetscape design concept for 340 Delaware Avenue illustrates improvements that enhance the pedestrian experience and add defining character to Hamlet businesses.

There is a real opportunity to celebrate the structure with a fresh paint scheme or murals, landscape plantings, quality signage, thematic lighting or architectural detailing to strengthen a sense of arrival and community identity (See Figure 20).



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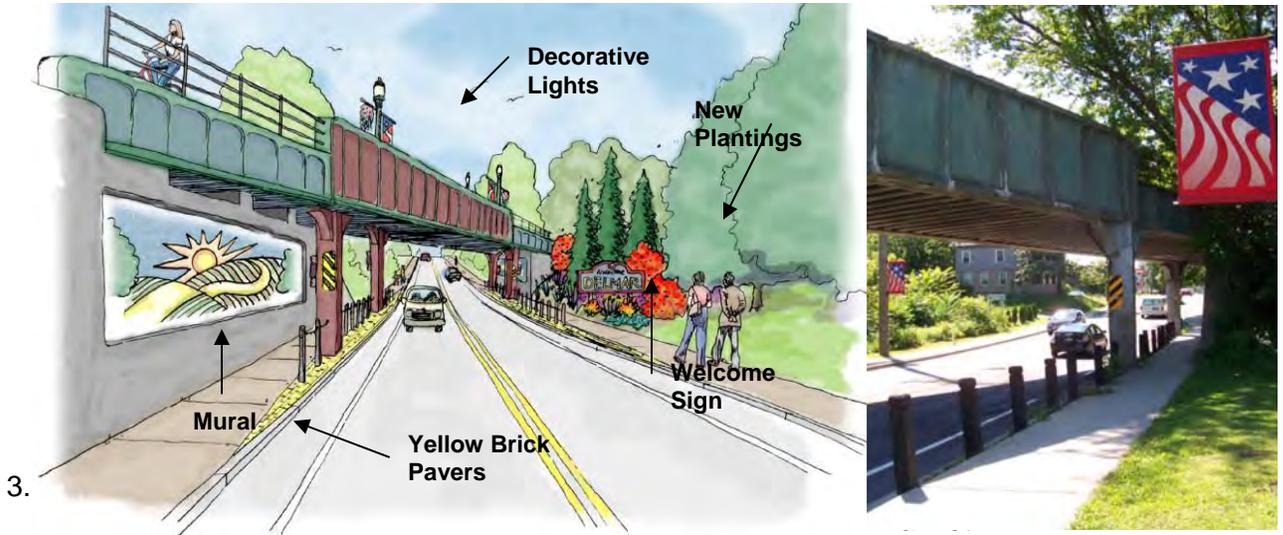


Figure 20: A few improvements will strengthen this important Hamlet gateway and reinforce a sense of arrival.

4. Develop gathering areas including plazas and outdoor dining areas (see Figure 21).



Figure 21: Rear property uses such as well designed parking and outdoor dining make great use of limited hamlet space, but it would be great to see more in front of buildings.

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5. Use exterior lighting to enhance the streetscape and adjoining landscape (See Figure 22).



Figure 22: Traditional acorn style lights are preferred over modern cobra style lights.

8. Develop a Delaware Avenue Hamlet Overlay district to codify the standards and guidelines identified in this study.



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V. Intersection Specific Traffic Calming Concepts

In addition to the study-area wide improvements, the following are intersection-specific recommendations for improving the roadways within the Study Area. The improvement concepts listed in the following section all have the intent to improve the pedestrian, cycling and motor vehicle environment by providing better definition for where pedestrian space is, where motor vehicles should stop for best sight lines, and to better alert motorists of the potential presence of bicyclists and pedestrians.

A. Delaware Avenue/Grove Street

1. Existing Conditions/Issues

Traffic waiting to go through the Four Corners intersection frequently blocks Grove Street during the PM peak period. There are no pedestrian features at this intersection.



2. Proposed Improvements

- a. Install ADA compliant features across Grove Street including curb ramps and crosswalks at this intersection.



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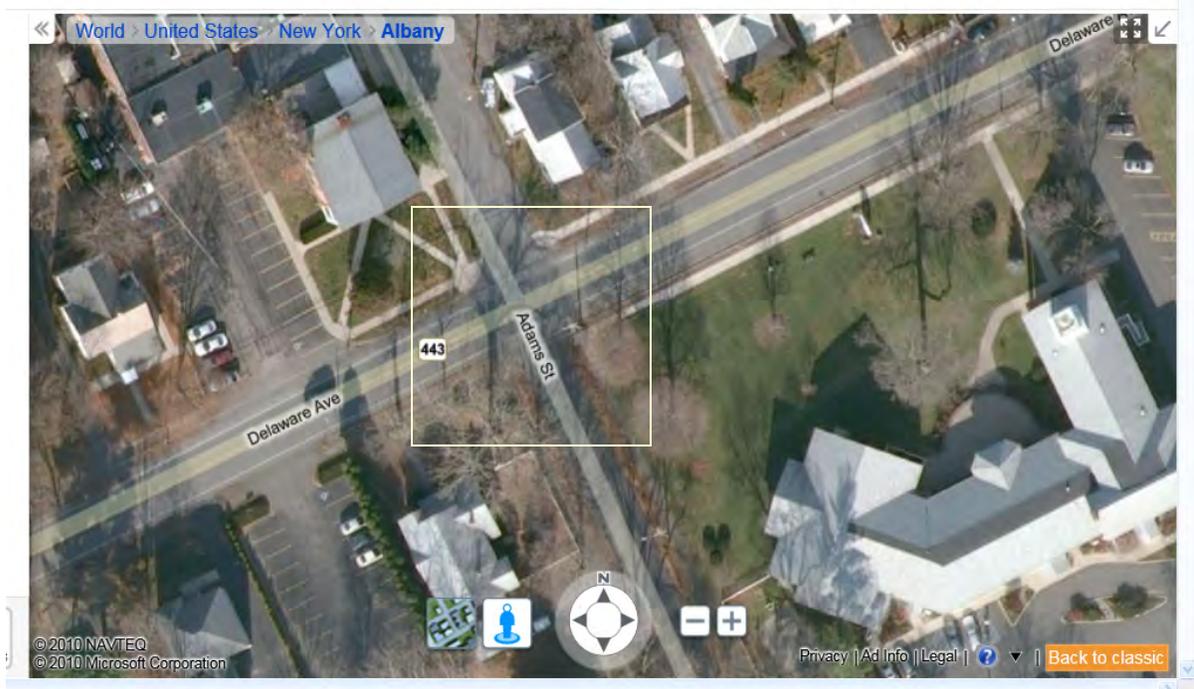
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- b. Restrict left turning traffic from Grove Street during the PM peak travel period through signage. Left turns can be shifted to Becker Terrace away from the more congested Four Corners area.
- c. Maintain the mid-block crossing at the Post Office instead of installing one at Grove Street. A mid-block crossing is safer because of fewer conflicts.



Figure 23: ADA Compliant sidewalk package should be used throughout the study area

B. Delaware Avenue/Adams Street



1. Existing Conditions/Issues

This intersection lies just southwest of Kenwood Ave/Delaware Ave and consists of one travel lane in each direction on all four approaches. Adams Street provides an alternate route for traffic traveling between Kenwood Avenue and Delaware Avenue. Nearside northbound and southbound CDTA bus stops are located at this intersection. The



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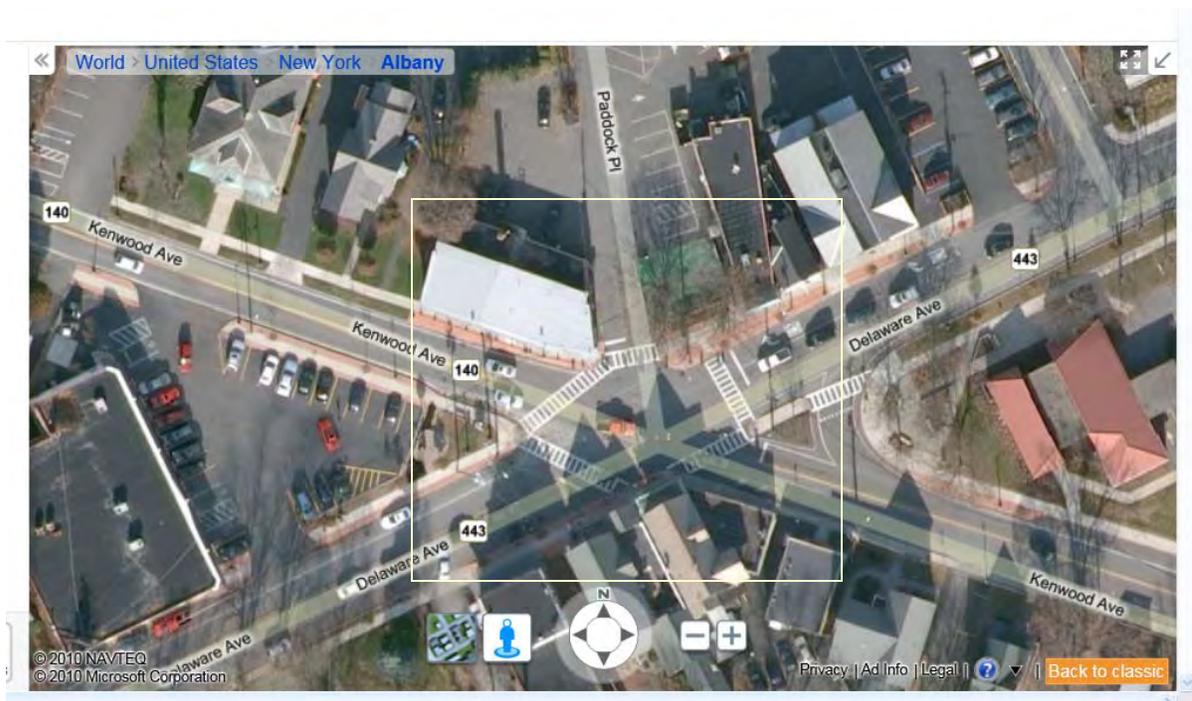
intersection works fairly well for vehicular traffic for most of the day. There is some vehicle delay but it is limited to the stop-controlled approaches during the afternoon 3-6 pm peak travel period. There were no crashes in the last three years. The intersection is not ADA compliant due to lack of marked crosswalks, properly designed curb ramps, and sidewalks. Crossing Delaware Avenue on foot or by bike during the PM peak travel period is very difficult because of the observed short gaps created by heavy traffic on Delaware Avenue.

2. Proposed Improvements

- a. Install ADA compliant features including high visibility crosswalks and curb ramps on all four legs of the intersection and consider use of a different color for markings.
- b. Move the STOP signs next to the stop bar so motorists have a better view of traffic.
- c. Create a safe crossing zone using “yield to pedestrians in crosswalk” signs.
- d. Monitor traffic volumes and crashes, and conduct a traffic signal warrant analysis.

C. Delaware Avenue/Kenwood Avenue/Paddock Place

1. Existing Conditions/Issues



The Four Corners intersection is a major crossroads in the hamlet of Delmar and processes motor vehicles from five approaches. CDTA bus stops are located on the four major approaches. The motor vehicle crash rate is slightly higher than the statewide average for a

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signalized urban intersection. Despite the heavy traffic that uses this intersection throughout the day, it functions fairly well, even during the afternoon peak travel period. However, traffic queues can be quite long especially on the eastbound approach, frequently blocking the Adams Street intersection. Increased use of Paddock Place has increased delay at the intersection.

Pedestrians are accommodated at this intersection via fully marked crosswalks on all five legs. Pedestrian push buttons and an all red protected pedestrian only signal phase (“exclusive pedestrian phase”) provides a very safe way for pedestrians to cross the street. While this type of pedestrian phasing provides the safest crossing environment, it requires pedestrians to wait a long time to cross. This is not very convenient, and many pedestrians will simply choose to ignore the signal and cross if and when there is a gap in traffic, negating the potential safety benefits of the exclusive signal. An unused pedestrian phase where all traffic is stopped unnecessarily adds to traffic delay.

2. Proposed Improvements

A range of improvements are proposed:

- a. Install streetprint textured asphalt for the entire intersection to highlight the importance of this intersection in the town. Given the proximity to the Middle School and High School to the intersection, consideration could be given to integrating black and orange school colors into the design.
- b. While no consensus could be reached on whether or not to remove the exclusive pedestrian signal phase at this intersection, as emerging technologies become available there may be an opportunity to revisit the signal phasing to create more efficient operations while maintaining or improving safety for both pedestrians and vehicles. Other improvements should include: Installation of new ADA compliant signal equipment and “No Turn on Red” LED (see Figure 24) and “Turning Vehicles Yield to Pedestrians” signs. The existing signal does not have an audible signal that indicates a walk phase for vision impaired walkers and should be upgraded. A pedestrian countdown signal should be installed in place of the current walk/don’t walk signal. Technologies for pedestrian activated signals that indicate when the button has been pressed could be used as this may reduce pedestrian impatience.
- c. Provide a pedestrian path from Paddock Place to the municipal parking lot on Kenwood Avenue. This would make the municipal lot more accessible to businesses along Paddock Place and Grove Street, and would reduce traffic on Paddock Place. In the long term, a vehicle connection from Paddock Place to Adams Street or Grove Street should be explored, while making Paddock Place at Delaware Ave/Kenwood



Figure 24: Overhead No Turn on Red LED

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Ave one-way only. Removing exiting traffic would give more green time to Delaware Avenue and Kenwood Avenue, improving level of service at the intersection and reducing traffic queues along Kenwood Avenue. Connecting parcels along Grove, Paddock Place and Adams Street will not be possible without redevelopment.

- d. In selecting improvements at this intersection consider the future safety enhancements and controls that would be necessary if new mixed use development does occur in the area around Grove Street, Hallwood Road and Becker Street. This has been identified as a location for development that would bring people to the area, increase the residential base, support area businesses, increase walkability, justify public transportation improvements and benefit from the future rail trail. The current density in the area is low and there is potential to develop at higher density (8 Dwelling Units per acre) allowed by current code. As a reference point, most transit oriented development programs look for between seven to fifteen residential units per acre in residential areas and a minimum of 25 employees per acre in commercial centers.
- e. It was observed that traffic (traveling from the Middle School neighborhood) turning right from Kenwood Avenue onto Delaware Avenue is controlled by a "yield" sign, not the traffic signal. At times, this makes it difficult for pedestrians to cross this leg of the intersection because automobile traffic looks to the west (NY Pizza side of the intersection) for a gap in traffic and very often fails to look for pedestrians trying to cross from the east (Key Bank side of the intersection). The Study Advisory Committee, at its meeting on October 20, 2010, recommended that NYSDOT explore modifying the intersection to eliminate the right turn yield condition. Until a formal assessment can be made, the Committee suggested that the crosswalk be moved back and that, "yield" sign be replaced with "stop" sign to "force" right turn traffic to stop, and a sign like the one in Figure 25 that helps draw attention to the presence of pedestrians be installed.



Figure 25: Yield to Pedestrian sign will improve safety.

D. Delaware Avenue/Becker Terrace

Existing Conditions

At the December, 2008 workshop, participants suggested that a crosswalk be placed at this intersection because both adults and children have been observed crossing to the businesses on both sides of Delaware Avenue. It is important that intersection improvements occur before any increased pedestrian use, especially by school children, is encouraged.



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1. Proposed Improvements



- a. High visibility ADA compliant crosswalks should be installed at both of these intersections with a full sidewalk package. These improvements should be a priority for installation and should occur prior to the opening of the rail trail.
- b. Install 'yield to pedestrians in crosswalk' signs

E. Delaware Avenue/Howard Place & Delaware Avenue/Oakwood Place

1. Existing Conditions/Issues

Pedestrians have been observed crossing Delaware Avenue at Oakwood Place to access businesses on either side. In particular, Bethlehem Middle School students walk and bike to the Stewart's shop along Oakwood Place. Pedestrian and cycling activity is expected to grow after the rail trail opens. CDTA serves the neighborhood with a bus stop at the corner of Oakwood Place and Delaware Avenue. The heavily traveled Delaware Avenue together with the closely spaced driveways serving the Mobil and Getty stations and the Stewarts create a very confusing environment for those walkers and bicyclists wishing to cross the street. This is a critical area. The Town should continue discussing spot improvements and choose a solution that can be implemented in the short-term.



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2. Proposed Improvements

- a. High visibility crosswalks should be installed at both of these intersections with a full sidewalk package. These improvements should be a priority for installation and should occur prior to the opening of the rail trail.
- b. Driveway closure and/or consolidation along Delaware Avenue should be sought to reduce both vehicle-to-vehicle and vehicle-to-pedestrian conflicts from this heavily traveled area during the site plan approval process. NYSDOT has agreed that If ADA compliant sidewalks can be installed and driveways consolidated, then a crosswalk at



Oakwood Avenue and Delaware Avenue would be appropriate. Additional access management measures should also be considered.

F. Delaware Avenue/Hudson Avenue

1. Existing Conditions/Issues

Due to the skewed configuration of this intersection, vehicle movements are restricted to traffic turning left from Hudson Avenue onto Delaware Avenue; lefts and rights from Delaware Avenue onto Hudson Avenue are permitted. There was only one motor vehicle crash at this intersection during the three year period from 2004 to 2007. On Delaware Avenue between Hudson and Rural Place four crashes were reported during that period; between Oakwood Avenue and Hudson Avenue five crashes were reported, one involving



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personal injury. The few crashes that have occurred in this area are related to closely spaced driveways. Operationally, making a left turn onto Delaware Avenue from Hudson Avenue is difficult, especially during the afternoon peak travel period. Crossing Delaware Avenue at this intersection is not encouraged. A proposed road diet (discussed on Page 53) could help reduce traffic speeds and pedestrian crossing distances at this intersection.

2. Proposed Improvements

- a. Manage access better by restricting traffic movements at Tools Restaurant – the eastern driveway should be restricted to entering traffic and the western driveway restricted to exiting traffic. Suggest a shared access agreement between Tools and adjacent properties that could connect to Rural Place.
- b. Find a way to shorten the crossing distance at Hudson Avenue and increase visibility (road diet will help).
- c. Consider use of electronic speed monitoring signs along Hudson Ave to keep speeds reasonable for the neighborhood.
- d. Use access management strategies in areas approaching intersection to improve the environment for pedestrians and bicyclists.
- e. Incorporate connections to rail-trail as identified on the Trail Connections Map in Appendix B.
- f. Add a mid-block crosswalk at Rural Place.

G. Delaware Avenue/Elsmere Avenue/Groesbeck Place/Booth Road



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1. Existing Conditions/Issues

This is the busiest intersection within the corridor. The intersection works fairly well throughout most of the day, except for westbound traffic during the pm peak travel period. Traffic in both travel lanes on Delaware Avenue frequently queues up to Dunkin Donuts during the pm peak hour. The marked crosswalk and all-red traffic light phase provide a comfortable and safe pedestrian environment. The same issue at Kenwood Avenue/Delaware Avenue with the all-red pedestrian is applicable here as well. The traffic impact of redeveloping the former CVS and former Shoe Depot site into a traffic intensive use will be noticeable and will require mitigation. The redevelopment will impact the Elsmere School crossing, depending how access is provided to the new use. It will also create opportunities to enhance transit and define a gateway.

2. Proposed Improvements

When the former CVS site at the southeast corner of this intersection is redeveloped, it is critical that the current driveway configuration be modified to move driveways back from the functional area of the intersection and for left turn restrictions to be imposed consistent with those applied on the southwestern corner when that site was redeveloped for the current CVS store.

- a. No-Turn-on-Red LED signs should be installed at all approaches to this intersection for pedestrian safety.
- b. Similar to the discussion for the Four Corners intersection, in the future use of emerging technologies may allow for a more efficient but still safe vehicular pedestrian phasing arrangement versus the exclusive all red pedestrian phase in place today needed due to the proximity of the elementary school.
- c. Upgrade the school crossing at the Elsmere Elementary School in conjunction with NYSDOT's planned safety improvements at this intersection (see below) and consider use of upgraded signage and speed indicators as shown in Figure 25. Additional mitigation may be required with redevelopment of the former CVS site and other sites (such as the former Shoe Depot).
- d. Any redevelopment of the corners of Delaware Avenue and Elsmere Avenue Intersection should comply with the new Hamlet Design Standards. Rezone the northeast and northwest corners of Delaware Avenue and Grosbeck Place from Commercial Hamlet to Hamlet.



Figure 26: Upgrade School Safety Zone Crossing Device



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- e. Require that any redevelopment project at the site of the “Old CVS” or on other corners of the intersection enhance the current transit stop at this location since it is a stop used by neighborhood residents traveling to/from jobs and into Albany. This stop is also important as redevelopment of the medical office use property becomes more of a transit draw for both employees and patients.
- f. It should be noted that in the vicinity of the old railroad bridge further south on Elsmere Avenue, drainage issues occasionally arise during heavy rain events. Any future improvements in this area should take this into account



Figure 26A: Alternate school crossing device using Rapid Flash LED Beacon

H. Kenwood Avenue/Adams Street

1. Existing Conditions/Issues

This intersection lies approximately 600 feet from the Four Corners intersection. CDTA bus stops are located on both legs of Kenwood Avenue. Currently there are no marked crosswalks or ADA compliant sidewalk ramps and sidewalk condition is poor. There were two crashes for the period from 2004 through 2006 and there were no crashes reported at this intersection for the period 2006 through 2008. However, there was a recent mid-block pedestrian fatality in 2009. The crash involved an elderly pedestrian that was struck by a car after leaving the Hair Studio on Kenwood Avenue. A street light in that area was not functioning and the driver did not see her.

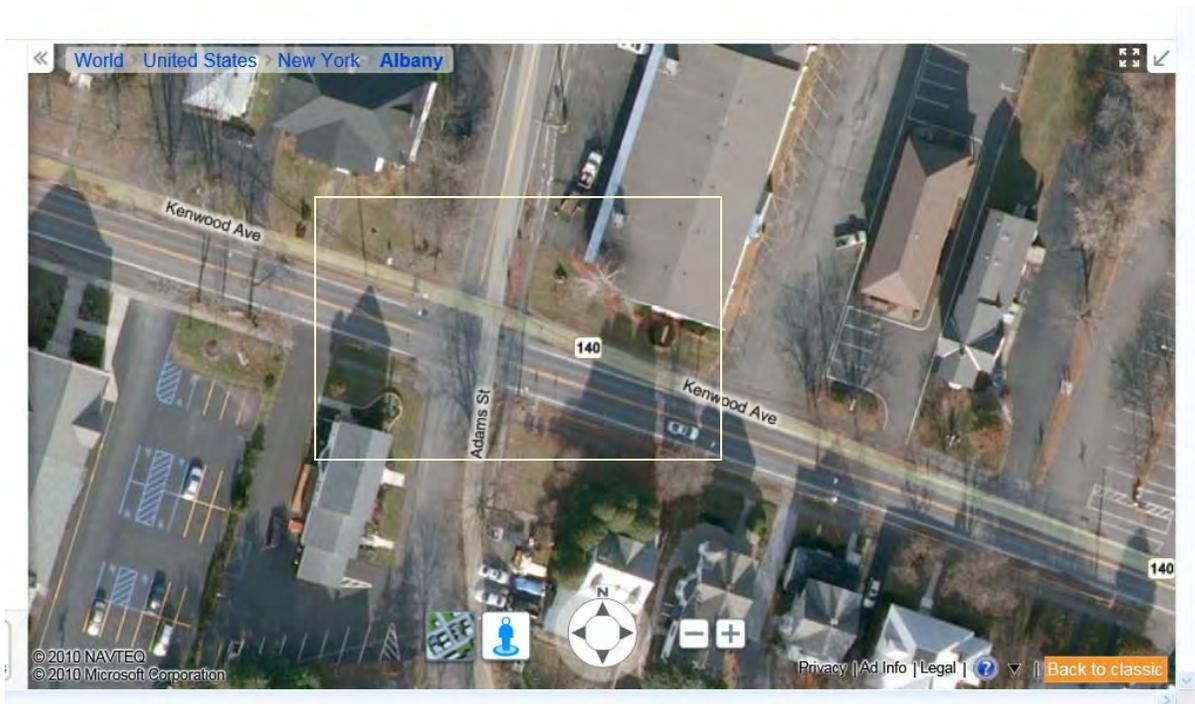
Overall intersection Level-of-Service is acceptable. This intersection works very well most of the day except during the afternoon peak period. Because of fairly heavy traffic on Kenwood, traffic on Adams has a difficult time finding an adequate gap to enter the intersection. During the peak hour, Adams Street traffic often queues to the Spotlight Newspaper Office, and can wait up to three minutes to enter the intersection.

There are no marked crosswalks at this intersection. For pedestrians, crossing the street between 3:00 and 6:00 pm is considerably challenging, especially for children and the elderly. During a June 2008 traffic count, CDTA staff observed 64 pedestrians crossing at this intersection during the PM peak hour. The CDTA bus stops generate pedestrian activity as do several Adams Street businesses patronized by children and young adults including Blue Sky Music Studio, and several art and martial arts studios.



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Monitor the intersection for possible traffic signal installation. Current traffic demand and crash history do not warrant a traffic signal under current NYSDOT criteria. There is not enough space to add turn lanes, and queuing from the Four Corners signal would worsen conflicts at the intersection.

- a. A possible solution to improve the environment for pedestrian crossings include installation of high visibility crosswalks and ADA sidewalk ramps at all legs of this intersection. In addition to engineering solutions, enforcement of the NYS Vehicle and Traffic Law requiring motor vehicles to yield to pedestrians in the crosswalk and education regarding this requirement would help improve walkability (see Figure 27).
- b. Implement proposed Kenwood Avenue improvements per NYSDOT Region 1's Proposed Rehabilitation Project (limits Cherry Avenue to Delaware Avenue) as presented at a public meeting on June 20, 2002. See Roadway Segments discussion below for details.
- c. Use a street printed or color crosswalk to add visibility.
- d. Implement a sidewalk improvement plan for Adams St. and Kenwood Ave to address businesses that impede on pedestrian space and provide clearer delineation of the pedestrian environment.



Figure 27:
State Law Yield to Pedestrian



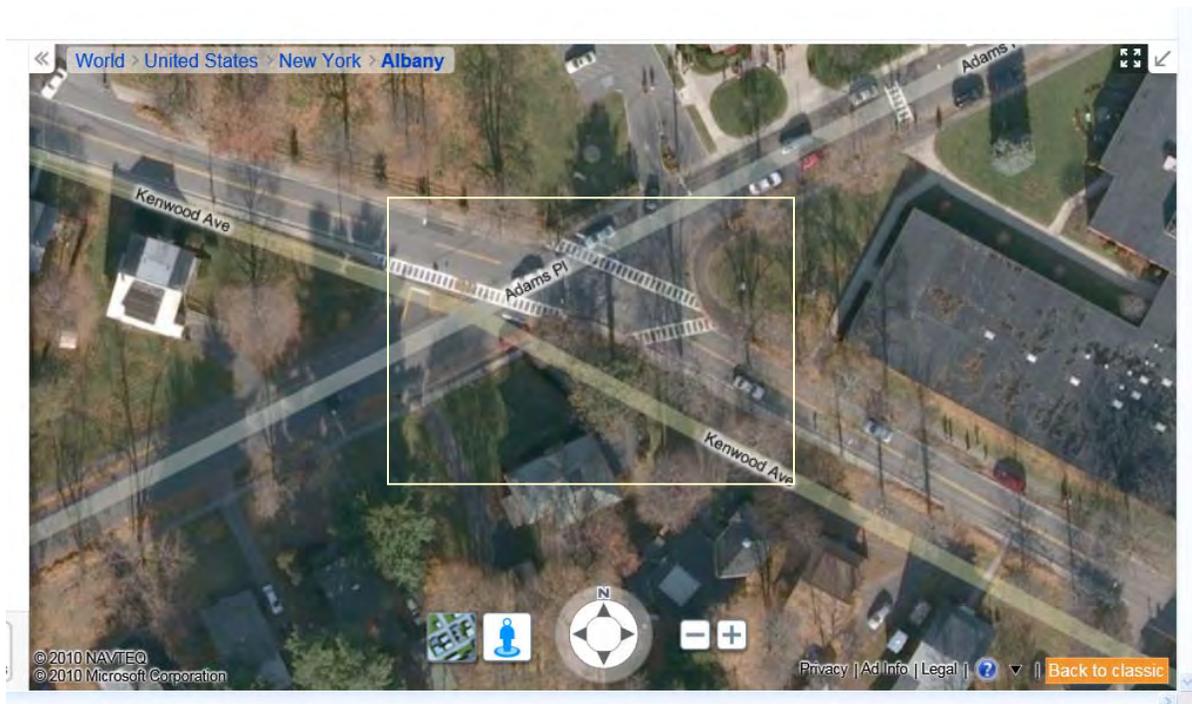
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I. Kenwood Avenue/Adams Place

1. Existing Conditions/Issues

A 2008 traffic count tallied 40 mid-day and 71 pm peak pedestrian crossings. Motor vehicle traffic during the PM peak hour totaled 653 vehicles with Kenwood carrying the majority of the traffic (approximately 500 vs. 150 on Adams Place). Ten vehicles used the right turn slip ramp during both the midday and pm peak hours. While 21 and 12 left turns were made from Adams Place to Kenwood northbound with confusion occurring whether this turn should be made using the slip ramp or not (some used it some didn't). Level of Service (LOS) is not a problem at this intersection which functions well. However, the pedestrian crossings here are an issue in terms of lack of compliance of vehicles yielding to pedestrians in the crosswalk and crossing distances. This may be due to the visibility of the crosswalks especially to westbound vehicles and the layout of the crosswalks; both made difficult due to the skewed nature of the intersection. The proximity to St Thomas Elementary School and Bethlehem Middle School makes this an important intersection. There are CDTA bus stops on Kenwood Avenue on both sides of this intersection. Both Kenwood Avenue and Adams Place are used by School buses.



2. Proposed Improvements

- a. It was recommended that in the short-term, the slip-ramp on the northwest corner of the intersection be retained but make it one lane allowing right turns only onto Adams Place (no longer allowing left turns from Adams Place onto Kenwood Ave at the slip



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- ramp). The slip ramp could be narrowed for one lane to accomplish this and the pedestrian refuge/planting area expanded.
- b. On the northeast corner, a new stop sign should be added at the stop bar at the intersection and the existing stop sign located east of the St. Thomas Church parking lot driveway removed.
 - c. All crosswalks at this intersection should then be re-aligned to provide more direct street crossings and to improve the sight distance for vehicles, especially those approaching the intersection from the southeast, to improve the current poor compliance by drivers yielding to pedestrians attempting to use the crosswalk.

J. Other Intersections

1. Other intersections within the Study Area should be improved by installing ADA compliant cross-walks at all four approaches. These would include Herber Avenue/Elsmere Avenue. Consideration should also be given to reducing the turning radii on the Elsmere Ave southbound approach if possible. In addition, sidewalks along both Herber and Elsmere Avenues should be better defined as funding permits.



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VI. Roadway Segments

A. Kenwood Avenue

1. Existing Conditions/Issues

In 2002 the NYSDOT held a public meeting as part of the project development process for a DOT funded and lead reconstruction/rehabilitation project for Kenwood Avenue from the Four Corners to Cherry Avenue. Conditions noted at that time included:

- a. Poor pavement condition
- b. Deteriorating shoulders and inadequate pavement geometry
- c. Drainage problems resulting in severe ponding water on roadway and sidewalks
- d. Lack of clearly defined edge treatment (barrier curb or gutter) which would channel water to catch basins
- e. Bicyclist and pedestrian facilities were identified as too narrow
- f. Introduce green space and new trees

2. Proposed Improvements – As part of this 2002 NYSDOT process, the following improvements were recommended by NYSDOT:

- a. Resurfaced travel lane with striped shoulder for bicyclists
- b. New 5 foot concrete sidewalks and reconstructed shoulders on both sides of the road
- c. Concrete curb and a 4 foot landscaped buffer
- d. New pavement reflective striping to make night/wet pavement driving safer
- e. Improve the drainage system and install additional and upgrade existing catch basins to bicycle safe and hydraulically efficient units
- f. Introduce traffic calming features to slow vehicles including:
 - i. Introduction of curbed section
 - ii. Reduction of travel lane width
 - iii. Reduction of shoulder width from Cherry Ave to Orchard Street.



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- iv. Introduce highly visible crosswalks where applicable.
- g. Introduce green space and new trees (47 to be removed and 64 replacements)
- h. Replace benches and provide ornamental lighting in select public areas

The above list should also include special consideration for additional enhancement of bus stop locations along Kenwood Avenue and potentially installation of bus shelters where warranted in coordination with CDTA.

B. Adams Place/Herber Avenue

1. Existing Conditions/Issues

Primarily residential areas along Adams Place and Herber Avenue have a suburban feel with front lawns, mature trees and sidewalks set back from the street by a grass or paved buffer strip. These areas have a general lack of curbing and lighting standards, with overhead lights being mounted on utility poles. Some sidewalk sections are undefined and blend into driveways and the roadway edge; crosswalk markings are faded or not provided at various locations.

This roadway provides an alternative parallel route to Delaware Avenue for pedestrians, bicyclists and motor vehicles.

2. Proposed Improvements

- a. Use sharrows to send the message that the road is shared with bicyclists
- b. Sidewalks need definition in various sections
- c. Crosswalks should be improved or installed at Adams/Kenwood and Adams/Herber/Oakwood Ave

C. Hudson Avenue

1. Existing Conditions/Issues

A portion of the study area along Hudson Avenue is a vegetated right-of-way buffer between the roadway and existing railway bed that is to become the Albany County Rail Trail. Several informal parking areas, informal paths and trails perforate this buffer and provide pedestrian connections to side streets along Delaware Avenue to the south of the railway bed.

Hudson Avenue itself is predominantly residential with some businesses to the east heading towards the intersection with Delaware Avenue; this roadway serves as a bypass route to



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Delaware Avenue for some trips. There is a sidewalk along the north edge of the road with no curbs, a grass strip and utility poles overhead with limited street lighting.

2. Proposed Improvements

- a. The proposed bicycle network around the Hamlet would include shared lane markings (sharrows) and signs on Hudson from Adams Street to Delaware Avenue.
- b. Appropriate links to the Rail Trail need to be identified in this area

D. Adams Street

1. Existing Conditions/Issues

Adams Street is home to a mix of small businesses, public uses (a fire house and town highway department facility) and limited multi-family residential fronting Delaware Avenue and Kenwood Avenue. As the link to CDTA bus stops, destinations for music lessons, shopping, art lessons and the like, as well as a link to the Rail Trail, the importance of Adams Street as a pedestrian and bicycling route will continue to increase.

Sidewalks and crosswalks are poorly defined; the presence of undefined and wide driveways also contributes to an adequate but unpleasant pedestrian environment along this roadway.

2. Proposed Improvements

- a. A sidewalk improvement project is needed for Adams St., with the highest priority being the section between Kenwood Ave and Hudson Ave due to the fact that land uses encroach on pedestrian space. Current pedestrian space is also undefined and needs clear delineation. Better definition of pedestrian space along this roadway would also involve driveway definition. This will become even more critical when the rail trail is completed as Adams Street will be an important connection to access the trail.
- b. Way finding signage in this area directing people to the municipal parking lot and trail access would enhance ease of use of both facilities.

E. Delaware Avenue

1. Existing Conditions/Issues

- a. **Four Corners District:** Adams Street to Grove Street. Streetscape elements found here help define the Hamlet and serve as template for corridor improvements.
- b. **Central Four Corners District:** Grove Street to Railway Bridge. Characterized by poor pedestrian elements, variable building setbacks, lack of road edge definition, and



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excessive patchwork sidewalk. See cross section illustrations (Figures 28-31). Larger versions of the cross sections follow in Appendix B.

- c. **Elsmere District:** Railway Bridge/Hudson Avenue to Elsmere Avenue. Transition space from two lanes to four lanes with increasing motor vehicle travel speeds and variable building setbacks, wide driveways and uncomfortable pedestrian and bicycling environment. See cross section illustrations. (Figures 30-31).

2. Proposed Improvements

- a. Reconstruct existing sidewalks along Delaware Avenue, except for those recently reconstructed within the Four Corners area. Sidewalks and curb ramps should be ADA compliant and should be constructed across driveways to provide clear definition.
- b. The Four Corners sidewalk and curbing project should be replicated elsewhere along Delaware Avenue consistent with the elements similar to those illustrated in Proposed Streetscape Improvement 340 Delaware Avenue (Figures 28-29) including clear definition of sidewalk areas/the pedestrian realm, curbing and on street parking spaces, as well as room for and provision of landscaping/green infrastructure elements.
- c. Sharrows should be installed along Delaware Avenue the entire length of the study area.
- d. Along Delaware Avenue additional enhancements around bus stop locations should occur in coordination with CDTA. This could include installation of new, or improvements to existing bus shelters, where warranted.
- e. In the short-term, continue to work with NYSDOT on implementation of a partial road diet for the portion of Delaware Avenue in the Elsmere District from the Railway Bridge to Elsmere Avenue to improve safety along this section including the intersection of Delaware Avenue/Elsmere Avenue. See Appendix F. on page 53 for a description of these improvements.

As a follow-up task to this study, further detailed exploration of a full road diet (See Appendix F. page 53 for Road Diet discussion) should be carried out for the portion of Delaware Avenue in the Elsmere District from the Railway Bridge to Elsmere Avenue to work toward the Town's recommended long-term vision for the corridor to the City line. It should be noted that no conclusions have been drawn as a part of this current study regarding feasibility of a full road diet along Delaware Avenue to the City of Albany line, therefore a follow up feasibility assessment would be needed.



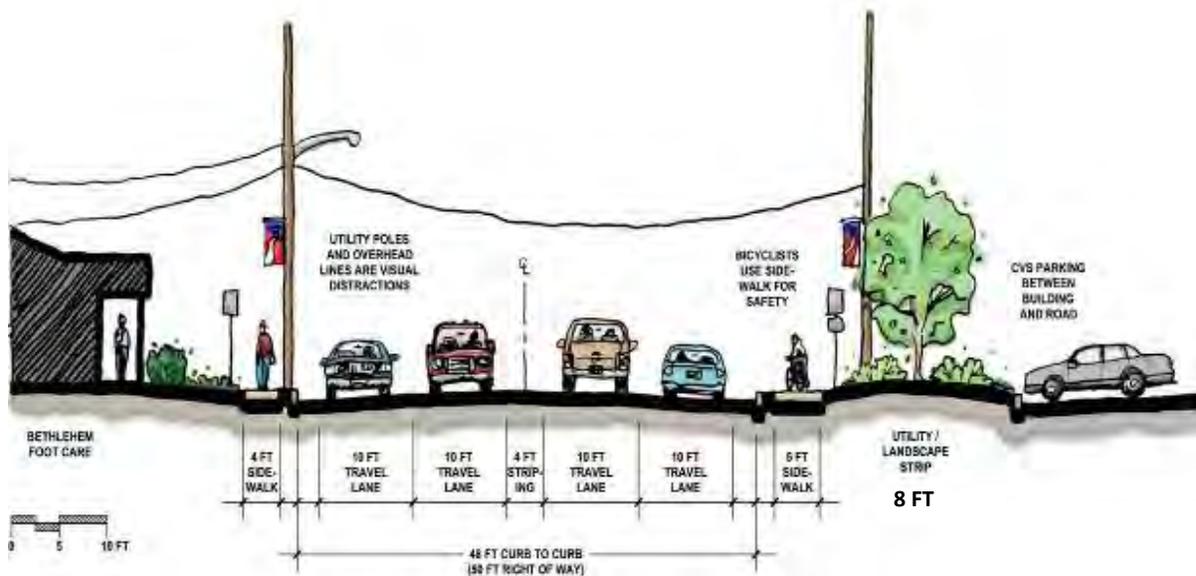
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Existing Conditions Streetscape On Delaware Avenue Between Hudson Avenue and Elsmere Avenue

(Figure 28)

The existing streetscape conditions at 260 Delaware Avenue, between Bethlehem Foot Care (north) and the CVS (south), are illustrated in Figure 28. A cross section of the roadway is characterized by the generous curb to curb width of 48 ft.; consisting of four 10 ft. travel lanes, an area of striping along the roadway centerline, and small shoulders on either side. This condition is dominated by the motor vehicle, too wide for pedestrians to cross safely, and not necessarily welcoming to bicycle users. Bicycle riders have been observed using the sidewalk here, apparently uncomfortable with jockeying for roadway with motor vehicles. The pedestrian experience is variable in this area, with a new 5 ft. sidewalk on the CVS side, and an older 4ft sidewalk opposite. There is a narrow, asphalt-paved strip between the sidewalk and curb on both sides of the roadway, with utility poles in this strip on the north side. Overhead lines and utility poles are a visual distraction, although the use of banners consistent with those used in the four corners does provide token pedestrian scale element. Landscape planting is present, however, not creatively utilized and providing only a limited visual buffer to parked vehicles. Transportation signage is generally located outside of the right-of-way. Overall, the streetscape is dominated by motor vehicles, uninviting to pedestrians, and does not reflect the desired image of the hamlet expressed at committee meetings and the public workshop. Description of a possible future road diet is proposed for this area on page 53.



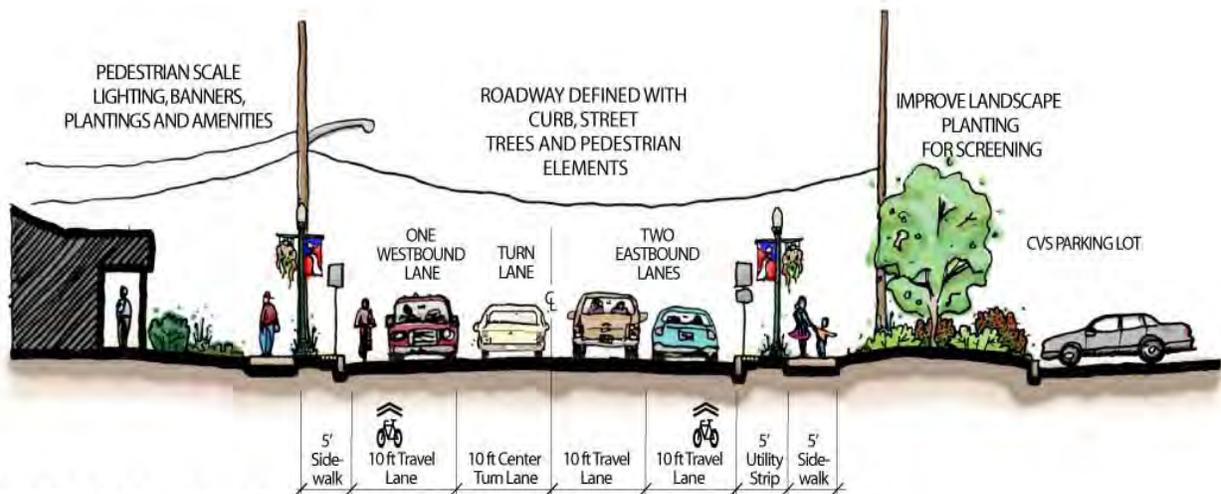
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Proposed Conceptual Streetscape Delaware Avenue between Hudson Avenue and Elsmere Avenue

(Figure 29)

The recommended streetscape improvements at 260 Delaware Avenue are illustrated in Figure 29. The main improvements of this example concern road diet measures that provide a reduction in the number of travel lanes with shared lane markings and a center turn lane. The road diet concept is detailed further on the following pages. The curb to curb width is maintained in this scenario. The pedestrian experience is strengthened with the addition of appropriately scaled lighting with banners and hanging plant baskets. Burying overhead utilities frees surface area to accommodate streetscape improvements. The long-term vision is to bury utilities and install stand-alone pedestrian-scaled lighting. In the short to medium term, retrofit existing utility poles with pedestrian-scaled lighting, similar to the treatment currently being used in the City of Albany's Delaware Avenue reconstruction/streetscape project. Creating a tree canopy over Delaware Avenue will not be possible unless utility lines are either relocated or buried. Asphalt in the paved strip between the curb and sidewalk is replaced with historical yellow brick or stamped concrete to match the four corners detailing. Landscape planting buffers are reinforced to provide additional screening of parked vehicles from the roadway and sidewalk.



**SECTION A - CONCEPTUAL STREETScape IMPROVEMENTS
HUDSON AVE. TO ELSMERE AVE. - "ROAD DIET"**

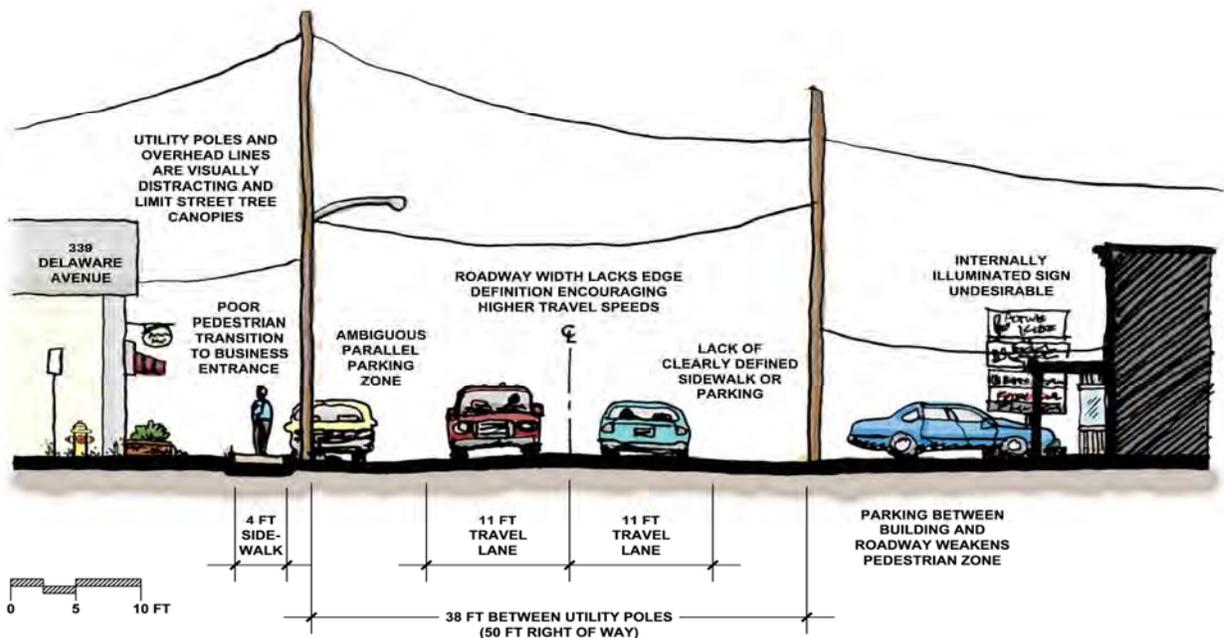


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Existing Streetscape Conditions between Kenwood Avenue and Hudson Avenue (Figure 30)

The existing streetscape conditions are typical of the Delaware Avenue corridor between the Four Corners and Veterans Memorial Park. A cross section of the roadway is characterized by a general lack of roadway edge definition. This contributes to the sense of a wider than actual travel lane and may explain the high incidence of speeding expressed in the public participation meeting. It was also expressed that the pedestrian experience is poor along the corridor, resulting from a lack of clearly defined sidewalks. The width and condition of sidewalks, if present, are variable. There is an ambiguous parallel parking zone between the travel lanes and weakly defined pedestrian zone. Paved areas are utilized as off street perpendicular parking adjacent to the road corridor in some locations. Overhead lines and utility poles are a visual distraction and prohibit street trees from developing full and attractive canopies. Internally illuminated signage, grandfathered under current zoning, is common. Transitions from the sidewalk to storefronts and residences are often irregularly paved, or paved with inconsistent landscape plantings. Combined, these factors weaken the definition of the pedestrian zone, potentially endanger pedestrians, and contribute to a generally uninviting storefront experience.



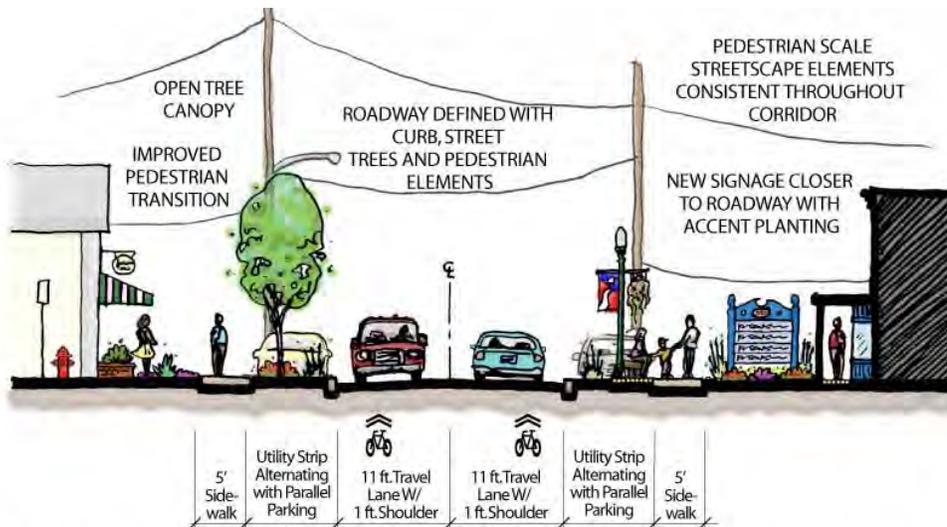
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Proposed Conceptual Streetscape between Kenwood Avenue and Hudson Avenue

(Figure 31)

The recommended alternative for potential streetscape improvements for the Delaware Avenue corridor between the Grove Street and Veterans Memorial Park are illustrated in Figure 31 below. The main improvements of this example focus on strengthening the pedestrian experience. This is achieved by establishing streetscape conditions that reduce motor vehicle travel speed, and by defining the adjacent pedestrian zone. Installation of a curb with six to eight inches of reveal creates a strong roadway edge. Curb to curb width is 24 ft., with two 11 ft. travel lanes and two 1ft. shoulders. Defining areas for limited parallel parking between the roadway and sidewalk reduces conflicts with pedestrians. Burying overhead utilities frees surface area to accommodate streetscape improvements. The long-term vision is to bury utilities and install stand-alone pedestrian-scaled lighting. In the short to medium term, retrofit of existing utility poles with pedestrian-scaled lighting, similar to the treatment currently being used in the City of Albany's Delaware Avenue reconstruction/streetscape project is recommended. Creating a tree canopy over Delaware Avenue will not be possible unless utility lines are either relocated or buried. Adding appropriately scaled streetscape elements such as furnishings, lighting and planting provides both separation from the roadway and a clear use zone for pedestrians. Replacing undesirable signage with new, compliant signs, and improving storefronts with awnings, walkways and landscape plantings establishes an inviting transition from the sidewalk to local businesses. Note that by creating a generous utility/landscape strip between the sidewalk and curb that also allows for limited parallel parking, there is no roadway left for five foot bicycle travel lanes. As an alternative, installation of sharrows is recommended along Delaware Avenue in both directions. An alternate approach which was considered but not selected can be found in Appendix O.



SECTION B - CONCEPTUAL STREETScape IMPROVEMENTS KENWOOD AVE. TO HUDSON AVE .



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F. Medium and Longer Term Options for a Road Diet

(From Hudson Avenue to Elsmere Avenue and implications for Delaware Avenue to the City of Albany line)

A recommendation in the Town's adopted Comprehensive Plan designed to achieve the goal of encouraging "compact, mixed-use commercial and residential development/redevelopment in ... hamlet centers throughout the town" includes "maintaining and improving walkability within the hamlets ... and employing traffic calming measures along roadways that traverse through the hamlets." In addition, as previously mentioned, the Town of Bethlehem adopted a Complete Streets Resolution in August of 2009. This resolution states that "the Town encourages the NYSDOT and Albany County to consider a Complete Streets approach when constructing or reconstructing their respective streets in the Town". (See Appendix G for the full text of the adopted resolution.)

Vehicle speed and the need to enhance walkability within the study area especially along Delaware Avenue itself was mentioned as a concern at the public meeting; one of the best methods for bringing down vehicle speed and enhancing the pedestrian environment is reducing the width of a road by reducing the number of travel lanes, sometimes called a **road diet**. A road diet in this area would have land use benefits by making this section more consistent with Delaware Avenue to the west and south better fitting its Hamlet zone designation near Hudson Avenue; other benefits would include a likely reduction in vehicle speeds in this section and an improvement from the current pedestrian and bicycling environment.

USDOT's Highway Safety Information System summary on lane reduction safety measures (FHWA-HRT-10-053, HRDS-06/06-10(1M)E) reports a significant improvement in safety as a result of a road diets based on an analysis of over 45 sites in three different states and various contexts (urban, suburban and rural).

Short-term Action: To address safety concerns at the intersection of Elsmere Avenue/Delaware Avenue, NYSDOT Region 1 staff developed a plan to reconfigure the section from Hudson Avenue to Elsmere Avenue to one lane westbound, a center two-way left turn lane with two lanes retained eastbound. On the other side of the intersection of Delaware Avenue/Elsmere Avenue, the inside westbound lane would be converted to a left turn only lane. This short-term reconfiguration will help the Town work toward the ultimate goal of calming traffic and fostering a more walkable and bikeable route along Delaware Avenue. (See Appendix N)

Recommended Long-term Vision: The Study Advisory Committee recommended that the long-term, big-picture vision for the Delaware Avenue Corridor include a full lane reduction from 2 lanes in each direction to 1 lane in each direction with a center turning lane, from the railway overpass/Hudson Avenue to the eastern boundary of the study area. The SAC was also interested in carrying this road-dieted cross-section (with specific treatments such as raised medians or other treatments needed for safe pedestrian crossings at key locations) eastward to the existing two lane section approaching the City of Albany line. This concept is in compliance



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with the Town's Comprehensive Plan and the community vision for a walkable/bikeable town. A feasibility study would be needed prior to moving forward with this concept. For more information on road diets, including some examples in the Capital District, as well as more detail on NYSDOT's modeling effort, please see Appendix N.

VII. Transportation Plan Graphic Showing Improvements

The graphic in Appendix B shows the range of transportation improvements outlined in this plan.



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VII. Appendices

Appendix A – Study Area Map and Parcel Profiles

Appendix B - Rail Trail Connections Map

Appendix C - Sidewalk Inventory Map

Appendix D - Parking Lot Inventory and Utilization

Appendix E - CDTC Bike Rack Program

Appendix F - CDTA Guide for Designing Transit Stops

Appendix G - Town of Bethlehem Complete Streets Resolution

Appendix H - Figure and Photo Credits

Appendix I – Bicycle Network

Appendix J – Sample Shared Parking Agreement

Appendix K - Traffic Volume and Counts

**Appendix L - Driver Compliance To Yield To Pedestrian
Signs/Markings**

Appendix M – Disclosures

Appendix N – Road Diet Information

Appendix O – Alternate Cross Section

Appendix P: NYS Department of Transportation Final Comments

Appendix Q: Public Comments November, 2010



Appendix A:

Study Area Boundary Map and Parcel Profiles



Delaware Avenue Hamlet Enhancement Study

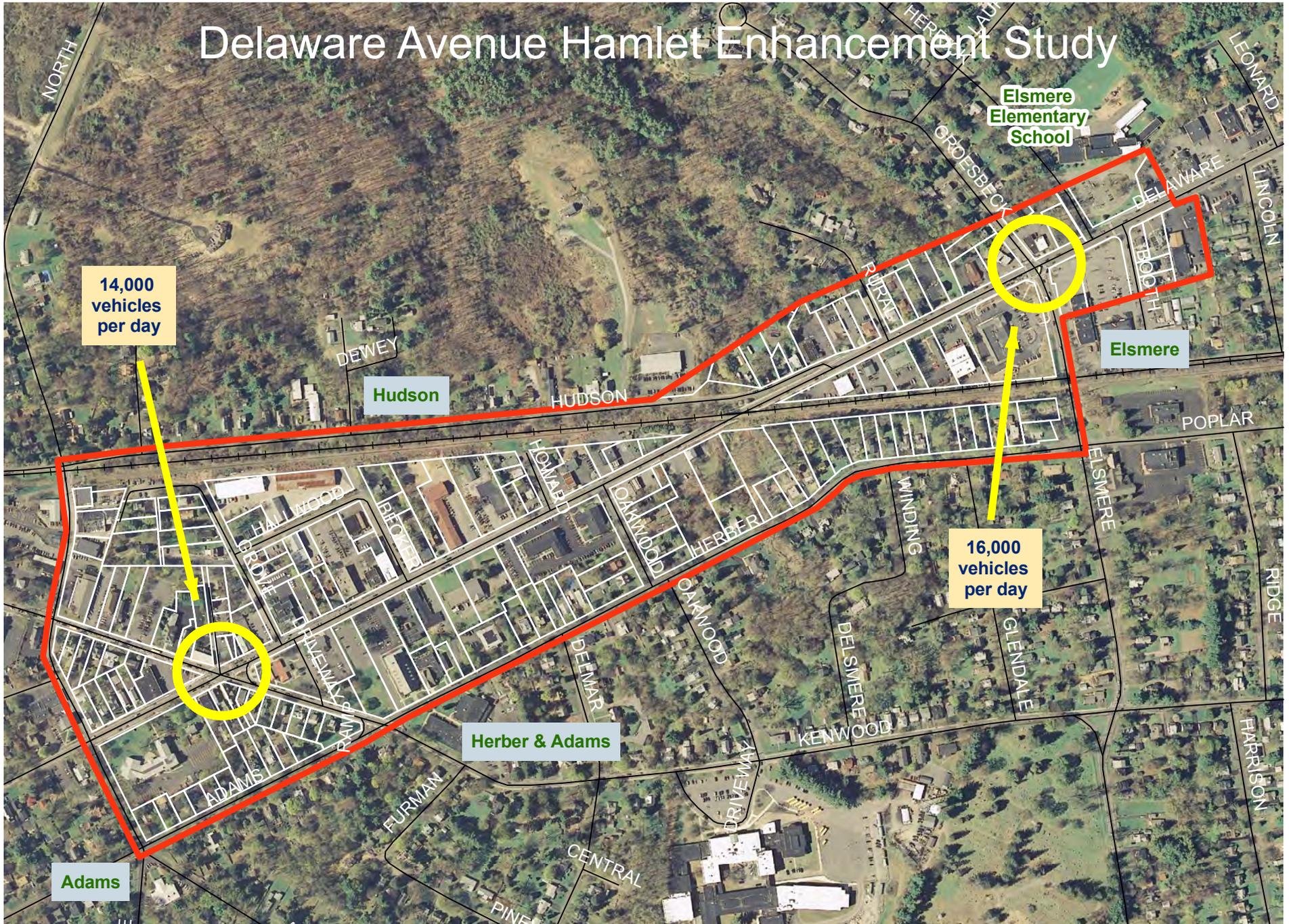


Figure 1 - Study Area Boundary

- Study Area Boundary
- Streets
- + + Railroad

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
Delaware Ave.	85.16 - 4 - 10	Verizon					103	4	No	None	Macadam	None	0	-
Delaware Ave.	85.16 - 4 - 11	Verizon					167	2	Yes	None	Macadam	None	1	16
Delaware Ave.	85.16 - 4 - 12	Parking Lot					65	No	Yes	None	Macadam	Conc.	1	24
316(B) Delaware Ave.	85.16 - 4 - 48	Nbhd. Shopping Center	\$2,500,000	26,372			372	12	Yes	None	Macadam	Conc.	1	20
308 Delaware Ave.	85.12 - 4 - 37	Getty Gas Station	\$268,800	384		Lower sign, add shrubs, reduce curb cuts	177	No	Yes	None	Macadam	None	2	38, 38

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
306 Delaware Ave.	85.12 - 4 - 36	Walk-Up Office	\$88,000	1,396	Kleinke Assoc.	Green up border btwn properties, remove tree at bldg. corner	35	No	Yes	Yes	-	Conc.	1	10
300 Delaware Ave.	85.12 - 4 - 35	Vacant Commercial	\$109,400	-	Dempf Property	Prop. development stalled in PB	100	No	Yes	Yes	-	Conc.	1	80
298 Delaware Ave.	86.09 - 6 - 1	2-Family Residential	\$222,300	1,810	Pastures of Albany	Restore façade, add green space	150	No	Yes	Yes	-	Conc.	1	16
Herber Ave.	86.09 - 6 - 2	Vacant Residential	\$12,400	-			10	No	No	Yes	-	Conc.	0	-



NOTES

1. AERIAL PHOTOGRAPH: NYSGIS 2007.
2. STREET VIEW PHOTOS: GOOGLE MAPS 2007.
3. PARCEL DATA: TOWN OF BETHELEM ONLINE ASSESSMENT ROLL SYSTEM 2008, & PHYSICAL INVENTORY BY ROBERT HORN AND VIRGINIA ACQUARIO FEBRUARY 2009.

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
339 Delaware Ave.	85.12 - 4 - 20	Sm. Retail / Walk-up Off.	\$365,000	7,280	Del. Ave., Inc.	Remove macadam, add planting	56	2	No	Yes	Macadam	None	0	-
337 Delaware Ave.	85.12 - 4 - 21	Sm. Retail / Apartment	\$294,900	5,268	Fay T. Wolf	Remove macadam, add planting	56	2	Yes	Yes	Macadam	None	1	10
335 Delaware Ave.	85.12 - 4 - 22	3-Family Residential	\$216,700	1,922		Repair driveway	56	1	Yes	Yes	Macadam	None	1	16
333 Delaware Ave.	85.12 - 4 - 23	Ret. / Off. / Diner / Rm.	\$743,800	14,952	Hadi Ipek	Prune or remove large unhealthy tree, add trees and shrubs in park-area + reduce macadam in front	132	3	Yes	Yes	Macadam	None	1	-
329 Delaware Ave.	85.12 - 4 - 25	Auto Body	\$610,000	10,297	Goochies Auto	Remove tall sign, narrow entry, add trees + shrubs, elim. W drive	150	No	Yes	None	Macadam	None	3	8, 10, 95

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
323 Delaware Ave.	85.12 - 4 - 26	Main Square, Office	\$147,400	1,944	S & B Realty	Good appearance	50	1	Yes	None	Macadam	None	1 shared	1210
321 Delaware Ave.	85.12 - 4 - 27	Walk-up Office	\$128,300	1,546	Susan N. Green	Replace shrubs in front, remove parking signs + iron pipe by sign	58	2	Yes	None	Macadam	None	1 shared	10
317 Delaware Ave.	85.12 - 4 - 31	Mobil Station	\$450,000	1,998	Alta East, Inc.	Diversify shrubs in front	180	No	Yes	Yes	Lawn	Conc.	1	42
Delaware Ave.	85.12 - 4 - 32	Vacant Commercial	\$5,000	-			51	No	Yes	None	-	None	1	-
309 Delaware Ave.	85.12 - 4 - 33	Sm Food Mkt. / Gas	\$500,000	2,457	Stewarts Shop	Redo shrubs, narrow entrance, replenish green space	123	No	Yes	Yes	Lawn	Conc.	2	51, 30
299 Delaware Ave.	85.12 - 4 - 34	Veterans Memorial Park	\$58,900	-			186	No	Yes	Yes	Macadam	Conc.	0	-

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
389 Delaware Ave.	85.16 - 1 - 27 Sm. Retail / Apartments		\$285,000	3,627			50	No	Yes	Yes	Lawn	None	1	10
387 Delaware Ave.	85.16 - 1 - 26 3-Family Residential		\$170,500	2,181			50	No	Yes	Yes	Lawn	None	1	10
385 Delaware Ave.	85.16 - 1 - 25 5-1 BR Apartments		\$185,000	2,771	385 LLC	Replace walk, prune or replace overgrown shrubs, remove vines	50	No	Yes	Yes	Lawn	None	1	12
383 Delaware Ave.	85.16 - 1 - 24 3-Family Residential		\$220,000	2,784	Gerald Stern		38	No	Yes	Yes	Lawn	None	1 shared	14
381 Delaware Ave.	85.16 - 1 - 23 Walk-up Office		\$120,000	1,710	Donna Heinrichs	Replace planters, shrubs + drive	38	No	Yes	Yes	Lawn	None	1 shared	14
406 Kenwood Ave.	85.16 - 1 - 22 Small Retail		\$550,000	9,258			258	7	Yes	Yes	Dec. Conc.	Granite	1	26
403 Kenwood Ave.	85.12 - 3 - 24 Funeral Home		\$320,000	4,840			104	No	Yes	Yes	Lawn	Granite	1 shared	16
401 Kenwood Ave.	85.12 - 3 - 25 2-Family Residential		\$184,300	2,623			56	No	Yes	Yes	Lawn	Granite	1 shared	16
395 Kenwood Ave.	85.12 - 3 - 26 Retail / Apt. / Storage		\$310,000	6,012			90	No	Yes	Yes	Dec. Conc.	Granite	0	-
371 Delaware Ave.	85.12 - 3 - 32 Parking Lot		\$55,000	-			59	No	Yes	Yes	Dec. Conc.	Granite	-	-

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
367 Delaware Ave.	85.12 - 3 - 33 Restaurant		\$179,400	2,242			16	No	Yes	Yes	Dec. Conc.	Granite	0	-
365 Delaware Ave.	85.12 - 3 - 34 Diner / Lunch		\$59,000	737			24	No	Yes	Yes	Dec. Conc.	Granite	1	6
361(3) Delaware Ave.	85.12 - 3 - 35 Retail / Apartment		\$295,200	7,960			120	No	Yes	Yes	Dec. Conc.	Granite	2	12, 22
357 Delaware Ave.	85.12 - 4 - 11 Post Office		\$866,900	6,453	US Government	Refresh sign	113	2	Yes	Yes	-	Granite	0	-
355 Delaware Ave.	85.12 - 4 - 12 Parking Lot		\$61,800	-			54	1	Yes	None	Macadam	None	1	24
353 Delaware Ave.	85.12 - 4 - 13 2-Family Residential		\$181,500	2,928	Barbara Patterson	Replace ret. wall, remove fence, landscape planting improvements	50	2	Yes	None	Macadam	None	1 shared	10
351 Delaware Ave.	85.12 - 4 - 14 Specialty Shop		\$134,000	1,808	Gerald L. Winn	Add shrubs and tree	50	1	Yes	None	Macadam	None	1 shared	10
343(5) Delaware Ave.	85.12 - 4 - 16 Bank North		\$1,353,000	16,344	Clavins Holding	Lower sign, add woody ornaments and trees, reduce macadam	182	5	Yes	Some	Macadam	None	2	28, 20
341 Delaware Ave.	85.12 - 4 - 17 Sm. Retail / Wrhs. / Off.		\$316,100	7,808	Hollywood Del. Corp.	Reduce macadam in front, add trees, repair drive curbs, new lawn	42	1	Yes	None	Macadam	None	0	-



NOTES

1. AERIAL PHOTOGRAPH: NYSGIS 2007.
2. STREET VIEW PHOTOS: GOOGLE MAPS 2007.
3. PARCEL DATA: TOWN OF BETHLEHEM ONLINE ASSESSMENT ROLL SYSTEM 2008, & PHYSICAL INVENTORY BY ROBERT HORN AND VIRGINIA ACQUARIO FEBRUARY 2009.



STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
386 Delaware Ave.	85.16 - 4 - 1 Reformed Church		\$1,238,001	19,315	Delmar Ref. Church	Oppty. for front gathering space	401	15	Yes	Yes	Lawn	Granite	1	24
380 Delaware Ave.	85.16 - 4 - 2 Book Store		\$347,800	5,738	Ipek Properties	Freshen façade	62	2	Yes	Yes	Dec. Conc.	Granite	1	16
376(8) Delaware Ave.	85.16 - 4 - 3 Cookies/Coffee Shop		\$220,000	3,661	Gall Sundling	No Comment	50	2	Yes	Yes	Dec. Conc.	Granite	0	-
374 Delaware Ave.	85.16 - 4 - 4 Pizza Parlor		\$255,000	3,792	Tom Corrigan	Paint upper story	17, 65	1	Yes	Yes	Dec. Conc.	Granite	0	-
390 Kenwood Ave.	85.16 - 4 - 20 Small Retail		\$80,500	1,120			40	2	Yes	Yes	Dec. Conc.	Granite	0	-
388 Kenwood Ave.	85.16 - 4 - 21 Sm. Retail / Off. / Apt.		\$162,500	3,605			60	2	Yes	Yes	Dec. Conc.	Granite	1 shared	±14
384 Kenwood Ave.	85.16 - 4 - 22 Conv. Resid. - Retail		\$150,000	1,372			60	2	Yes	Yes	Dec. Conc.	Granite	1 shared	±14
370 Delaware Ave.	85.16 - 4 - 5 Branch Bank		\$610,000	2,944	Key Bank	Exterior renovations planned	214	No	Yes	Yes	Turf	Granite	1	26

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
360 Delaware Ave.	85.16 - 4 - 6 Branch Bank		\$340,000	2,052	Bank of America	Reduce & plant berm on east side of driveway with trees and shrubs	111	No	Yes	Yes	Macadam	None	1	22
45 Adams Pl.	85.16 - 4 - 7 Parking Lot		\$245,200	-			83	No	Yes	None	Macadam	None	0	-
39 Adams Pl.	85.16 - 4 - 18 Catholic Church		\$1,456,000	11,732	St. Thomas Church	Add shrubs at sign and benches	135	No	Yes	None	Macadam	None	2	20, 20
342(4) Delaware Ave.	85.16 - 4 - 8 Dental Office		\$420,000	4,185	Thomas Abele	Rehab shrubs and add tree	97	No	Yes	None	Macadam	Asphalt	1	20
340 Delaware Ave.	85.16 - 4 - 9 Sm. Retail / Walk-up Off.		\$418,000	8,829		Reduce parking, improve signage add planting and gathering space	103	No	Yes	None	Macadam	None	1	36

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
279 Delaware Ave.	86.09 - 1 - 42	Professional Office	\$290,000	2,858	Decker & Sbuttoni	Shrub rehab, reduce curb cut	74	No	Yes	Concrete	Macadam	Conc.	1 shared	36
277 Delaware Ave.	86.09 - 1 - 41	Parking Lot	\$66,800	-			49	No	Yes	Concrete	Macadam	Conc.	1 shared	36
275 Delaware Ave.	86.09 - 1 - 40	Apt. / Walk-up Office	\$212,300	2,760			60	No	No	Concrete	Macadam	Conc.	0	-
273 Delaware Ave.	86.09 - 1 - 24	Walk-up Office	\$159,400	1,568	Lake Property Part.	Sign too tall, shrubs + trees need rehab., replace sidewalk	60	No	Yes	Concrete	Macadam	Conc.	0	-
271 Delaware Ave.	86.09 - 1 - 23	Church	\$102,000	1,444	First Century Church	Sign too tall, shrubs + trees need rehab., replace sidewalk	60	No	Yes	Concrete	Macadam	Conc.	1	10
269 Delaware Ave.	86.09 - 1 - 22	Delmar Villa (Residential)	\$170,000	1,703	Plots Holdings	Lawn + shrub rehab, add tree(s)	60	No	Yes	Concrete	Macadam	Conc.	1	10
267 Delaware Ave.	86.09 - 1 - 21	Walk-up Office	\$312,000	4,440			74	No	Yes	Concrete	Macadam	Conc.	1	10
265 Delaware Ave.	86.09 - 1 - 20	DeAngelis Office Bldg.	\$24,700	-		Lawn needs rehab., sign too high	56	No	-	Concrete	Macadam	Conc.	-	-

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
261 Delaware Ave.	86.09 - 1 - 19	Bethlehem Foot Care	\$205,000	2,034	Joe Manzi	Needs sidewalk repair, shrubs need rehab., add a tree	129	No	Yes	Concrete	Macadam	Conc.	2	18, 26
257 Delaware Ave.	86.09 - 1 - 18	Florist	\$262,000	3,729		Excessive asphalt; tall, obsolete sign, reduce curb cut, add shrubs	120	No	Yes	Concrete	Macadam	Conc.	2	30, 40
255 Delaware Ave.	86.09 - 2 - 11	Small Retail	\$203,000	3,839			100	No	Yes	Concrete	Macadam	Conc.	1	30
251 Delaware Ave.	86.09 - 2 - 12	Vacant Commercial	\$58,100	-			101	No	-	Concrete	Macadam	Conc.	0	-
247 Delaware Ave.	86.09 - 2 - 13	School	\$2,791,000	39,923			209	No	Yes	Concrete	Macadam	Conc.	0	-
243 Delaware Ave.	86.09 - 2 - 14	Small Retail	\$244,300	4,530			101	No	Yes	Concrete	Macadam	Conc.	1	14
241 Delaware Ave.	86.09 - 2 - 15	Restaurant	\$163,700	3,072			184	No	Yes	Concrete	Macadam	Conc.	2	40, 28



- NOTES**
1. AERIAL PHOTOGRAPH: NYSGIS 2007.
 2. STREET VIEW PHOTOS: GOOGLE MAPS 2007.
 3. PARCEL DATA: TOWN OF BETHLEHEM ONLINE ASSESSMENT ROLL SYSTEM 2008, & PHYSICAL INVENTORY BY ROBERT HORN AND VIRGINIA ACQUARIO FEBRUARY 2009.



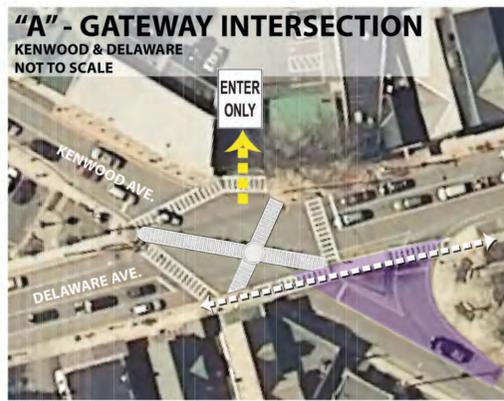
STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
282 Delaware Ave.	86.09 - 4 - 1	Sm. Retail / Walk-up Off.	\$215,000	3,600	Expanco, Inc.	Adjust sign, add shrubs + tree	325	No	Yes	Concrete	Macadam	Conc.	2, 1 shrd.	50, 42
278 Delaware Ave.	86.09 - 4 - 2	Sm. Retail / Walk-up Off.	\$140,000	2,736	Delaware Town Center Properties	Reduce macadam, add trees + shrubs, refurb./rem. window box	102	No	Yes	Concrete	Macadam	Conc.	2, 1 shrd.	42, 42
274(6) Delaware Ave.	86.09 - 4 - 3	Walk-up Off. / Apartment	\$530,000	8,928	Del. TC Properties	Adjust sign, add trees + shrubs	110	No	Yes	Concrete	Macadam	Conc.	1, pull-off	40
270 Delaware Ave.	86.09 - 4 - 4	Restaurant	\$315,800	2,256	Friendly's	Trees, benches + shrubs, adj. sk	110	No	Yes	Concrete	Macadam	Conc.	1	34
266 Delaware Ave.	86.09 - 4 - 5	Small Ret. / Offices	\$650,000	11,680	DAC Realty Assoc.	Reduce macadam, add trees, shrubs and bench, remove dead trees on border with CVS	110	No	Yes	Concrete	Macadam	Conc.	1	32

STREET ADDRESS	TAX MAP ID NO.	CURRENT USE	ASS'D. VALUE	BLDG. S.F.	CURRENT OWNER	PROPERTY OBSERVATIONS	FRONT-AGE	ON-STRT. PARKING	OFF-STRT. PARKING	CONC. WALK	SIDEWALK TO EDGE	CURB TYPE	CURB CUT(S)	CUT W (ft)
260 Delaware Ave.	86.09 - 4 - 8	Small Retail	\$2,900,000	14,700	CVS Pharmacy	Replace broken trees and shrubs	294	No	Yes	Concrete	Macadam	Conc.	2	26, 16
254(6) Delaware Ave.	86.09 - 4 - 11	Small Retail	\$650,700	10,489			116	No	Yes	Concrete	Macadam	Conc.	1	48
250 Delaware Ave.	86.09 - 4 - 12	Professional Office	\$1,400,000	13,980			146	No	Yes	Concrete	Macadam	Conc.	2	40, 38
246 Delaware Ave.	86.09 - 4 - 13	Small Retail	\$136,700	2,248			33	No	Yes	Concrete	Macadam	Conc.	1 shared	46
244 Delaware Ave.	86.09 - 4 - 14	Walk-up Off. / Apartment	\$207,500	4,900			80	No	Yes	Concrete	Macadam	Conc.	1 shared	46
242 Delaware Ave.	86.09 - 4 - 15.1/Sm.	Retail / Cold Strg.	\$297,000	7,500			146 (shared)	No	Yes	Concrete	Macadam	Conc.	1	44
240 Delaware Ave.	86.09 - 4 - 15.2	Small Retail	\$147,700	2,604			146 (shared)	No	Yes	Concrete	Macadam	Conc.	1	44

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

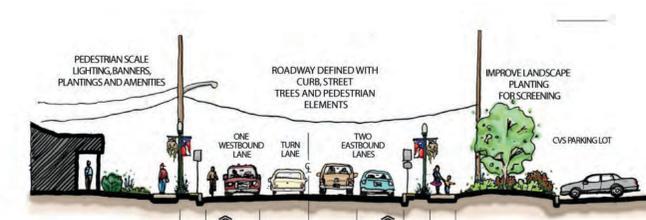
Appendix B: Master Plan Graphic and Cross Sections



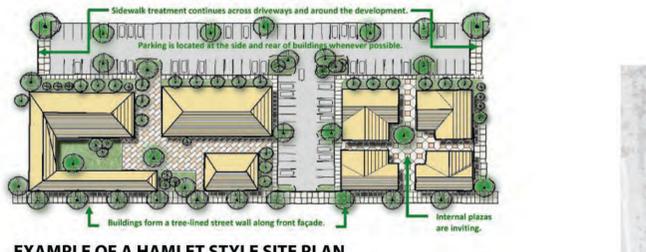
- "A" - GATEWAY INTERSECTION**
KENWOOD & DELAWARE
NOT TO SCALE
- ENLARGEMENT "A" FEATURES**
1. INTEGRATE SLIP RAMP TRAFFIC INTO SIGNAL OPERATION
 2. GATEWAY INTERSECTION WITH DIAGONAL CROSSWALKS
 3. COUNTDOWN CROSSING SIGNALS
 4. ONE-WAY IN AT PADDOCK PLACE - EXIT TO FUTURE CONNECTION TO MUNICIPAL LOT
 5. IMPROVED TRANSIT SHELTERS



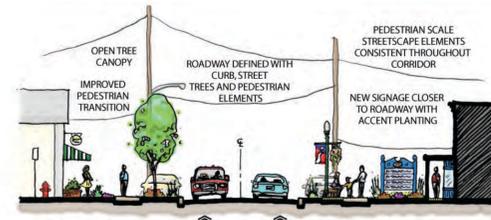
- "B" - GATEWAY INTERSECTION**
ELSMERE & DELAWARE
NOT TO SCALE
- ENLARGEMENT "B" FEATURES**
1. "ROAD DIET" CONCEPT - SEE SECTION A
 2. GATEWAY INTERSECTION WITH DIAGONAL CROSSWALKS
 3. COUNTDOWN CROSSING SIGNALS
 4. WESTBOUND - SINGLE DRIVE LANE & CENTER LEFT TURN LANE
 5. EASTBOUND - TWO DRIVE LANES & CENTER LEFT TURN LANE
 6. CURB CUT CONSOLIDATION AT REDEVELOPMENT OPPORTUNITIES



SECTION A - CONCEPTUAL STREETScape IMPROVEMENTS
HUDSON AVE. TO ELSMERE AVE. - "ROAD DIET"



EXAMPLE OF A HAMLET STYLE SITE PLAN



SECTION B - CONCEPTUAL STREETScape IMPROVEMENTS
KENWOOD AVE. TO HUDSON AVE.



PROVIDE PAVING PATTERN OR STREET-PRINT PATTERN THAT MARKS GATEWAY INTERSECTIONS AND PROVIDES DIAGONAL CROSSING OPTIONS WHERE EXCLUSIVE PEDESTRIAN SIGNAL PHASE EXISTS.

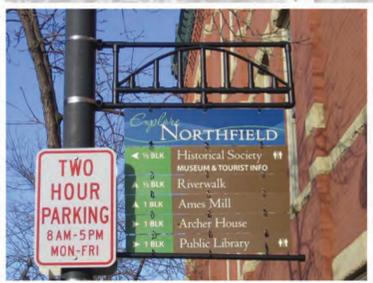


INSTALL CROSSWALK SIGNAGE, "BICYCLES MAY USE FULL LANE" SIGNS AND "SHARROWS." EDUCATE PUBLIC ON PEDESTRIAN AND CYCLIST RIGHT-OF-WAY LAWS AND ENFORCE THESE LAWS.



FOLLOW HAMLET DESIGN STANDARDS/GUIDELINES TO MAINTAIN CHARACTER AND APPEAL OF CORRIDOR

- LEGEND**
- RAIL-TRAIL
 - PEDESTRIAN/ SIDEWALK IMPROVEMENTS
 - DRIVEWAY/ CURB-CUT CONSOLIDATION
 - PROPOSED PEDESTRIAN CONNECTION
 - PROPOSED TRAFFIC PATTERN
 - PROPOSED HAMLET ZONE
 - PROPOSED VETERANS PARK EXPANSION
 - POTENTIAL REDEVELOPMENT/ RECONSTRUCTION AREA
 - CROSSWALK OR OTHER PAVEMENT MARKING IMPROVEMENT



DEVELOP ICONIC "WAY-FINDING" SIGNAGE



PROVIDE VISUALLY ENHANCED BUS SHELTERS



UNIQUE BIKE-RACKS AND STREET FURNITURE PROVIDE CHARACTER



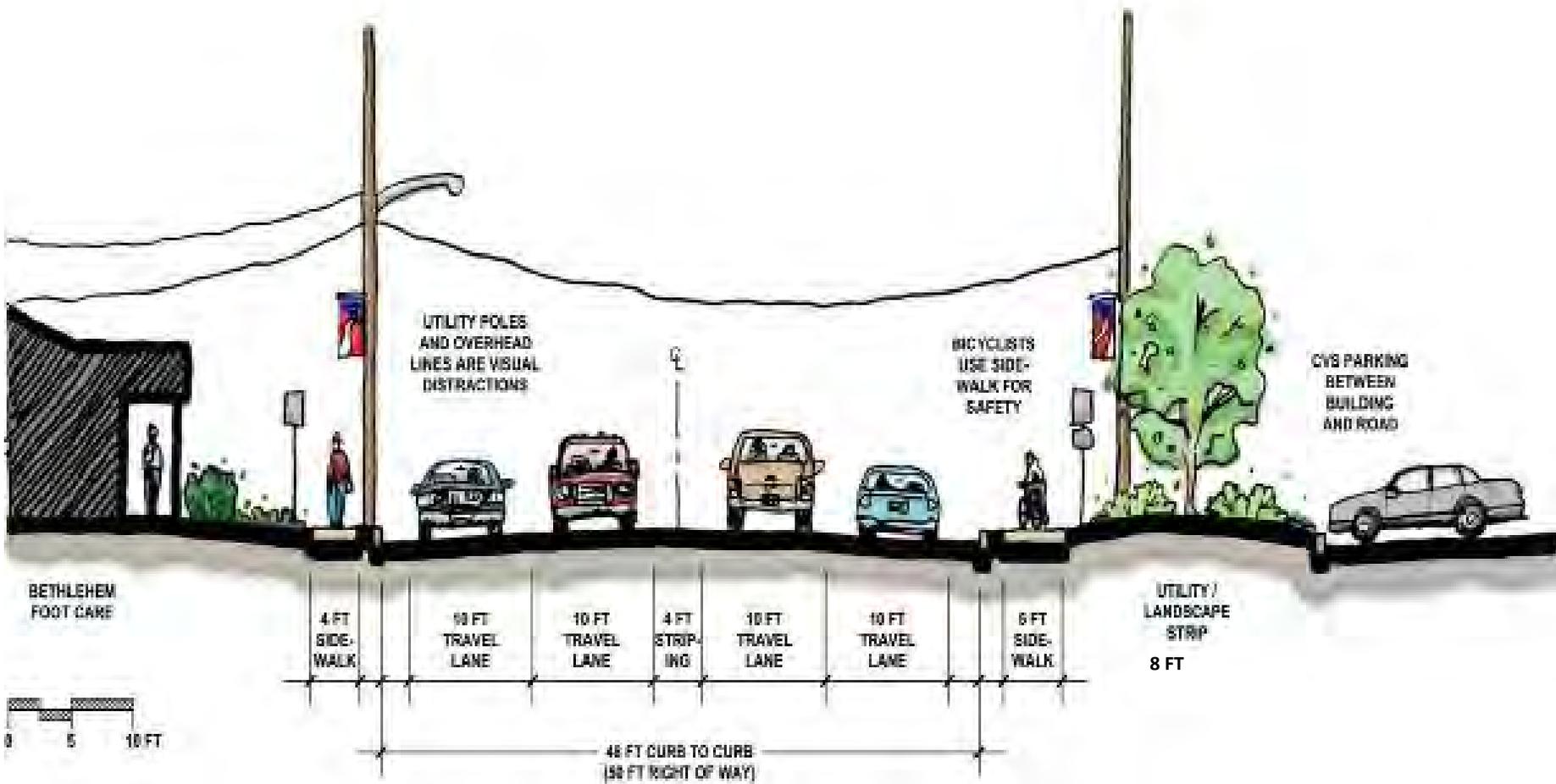
GREEN INFRASTRUCTURE, POROUS PAVEMENT AND LOW-IMPACT DEVELOPMENT STRATEGIES



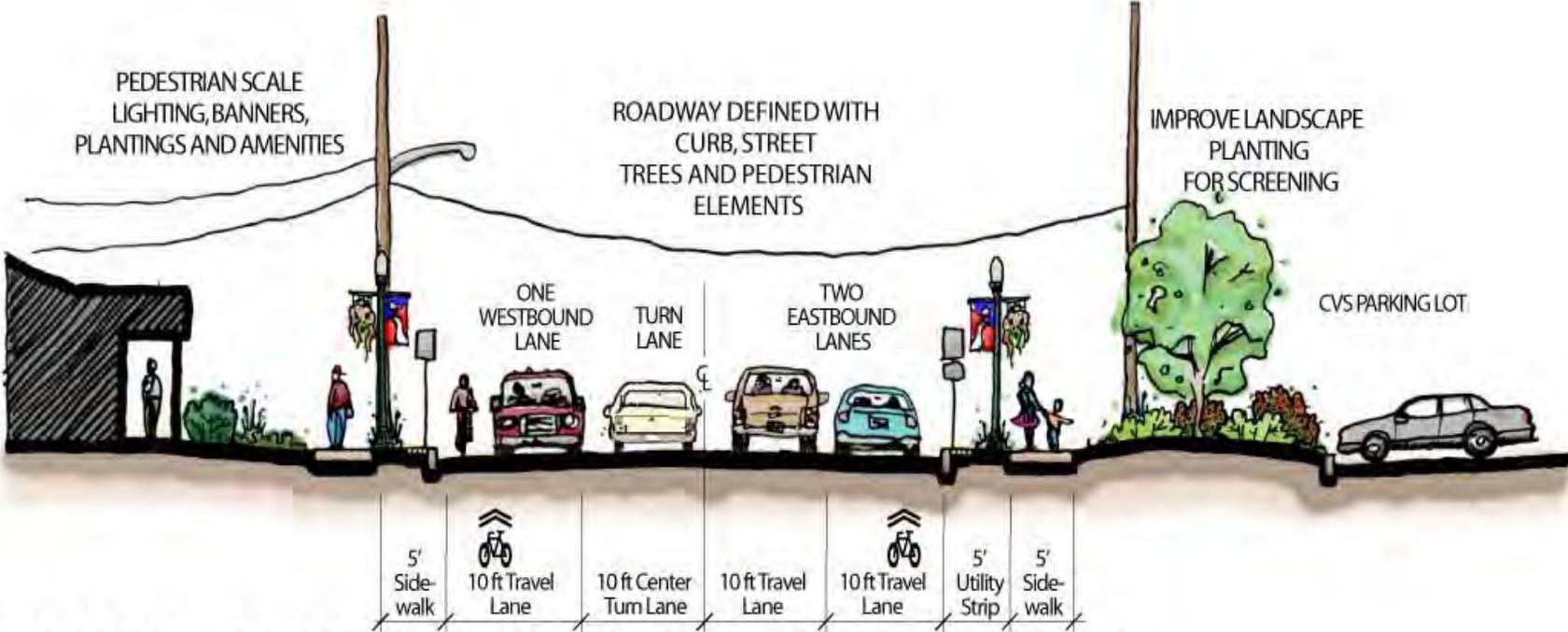
NEW SIGNAGE ALONG THE CORRIDOR SHOULD OFFER UNIQUE VISUAL APPEAL.

- GENERAL RECOMMENDATIONS**
1. PROVIDE ACCOMMODATIONS FOR UNIVERSAL ACCESS AND ADA COMPLIANCE AT ALL CROSSWALKS.
 2. CONTINUE COMMUNITY EDUCATION AND ENFORCEMENT OF TRAFFIC LAWS RELATED TO BICYCLE AND PEDESTRIAN SAFETY.
 3. INSTALL SIGNAGE, COUNTDOWN CROSSWALK SIGNALS AND PAVING PATTERNS (STREET PRINT) AT THE INTERSECTION OF DELAWARE/ KENWOOD AND DELAWARE/ ELSMERE TO ALLOW DIAGONAL PEDESTRIAN CROSSING DURING THE EXCLUSIVE PEDESTRIAN SIGNAL PHASE.
 4. ENCOURAGE LOW-IMPACT DEVELOPMENT (LID) STRATEGIES TO REDUCE STORMWATER DISCHARGE AND ENHANCE THE VISUAL CHARACTER OF THE CORRIDOR. IN THE PUBLIC REALM DEVELOP A SYSTEM OF "GREEN INFRASTRUCTURE" TO COMPLIMENT THE STORMWATER FACILITIES ALONG THE ROAD.
 5. PROVIDE "SHARE THE ROAD" SIGNAGE AND "SHARROWS" ON DELAWARE AVENUE, ADAMS PLACE, ADAMS STREET, HUDSON AVENUE, KENWOOD AVENUE AND ELSMERE AVENUE.
 6. PROVIDE SIDEWALK IMPROVEMENTS ALONG HERBER AVENUE, ADAM STREET, KENWOOD AVENUE AND DELAWARE AVENUE.
 7. IMPROVE STREET TREE INFRASTRUCTURE ON DELAWARE AVENUE AND INTEGRATE PLANTINGS WITH GREEN INFRASTRUCTURE WHEREVER APPROPRIATE.
 8. INSTALL WAY-FINDING SIGNS AT MUNICIPAL PARKING AREAS AND SELECT LOCATIONS ALONG THE RAIL-TRAIL.
 9. CONSOLIDATE CURB-CUTS AND DRIVEWAYS WHERE PRACTICAL.
 10. DEVELOP COMMUNITY EDUCATION AND ENFORCEMENT PROGRAMS THAT TARGET PEDESTRIAN/ BICYCLE RIGHT-OF-WAY AND DRIVER RESPONSIBILITIES.
 11. DEVELOP BETTER DEFINED ON-STREET PARKING AS RECOMMENDED IN THE PLAN WITH PARALLEL PARKING DEFINED BY PEDESTRIAN "BULB-OUTS".

Existing Conditions Streetscape On Delaware Avenue Between Hudson Avenue and Elsmere Avenue

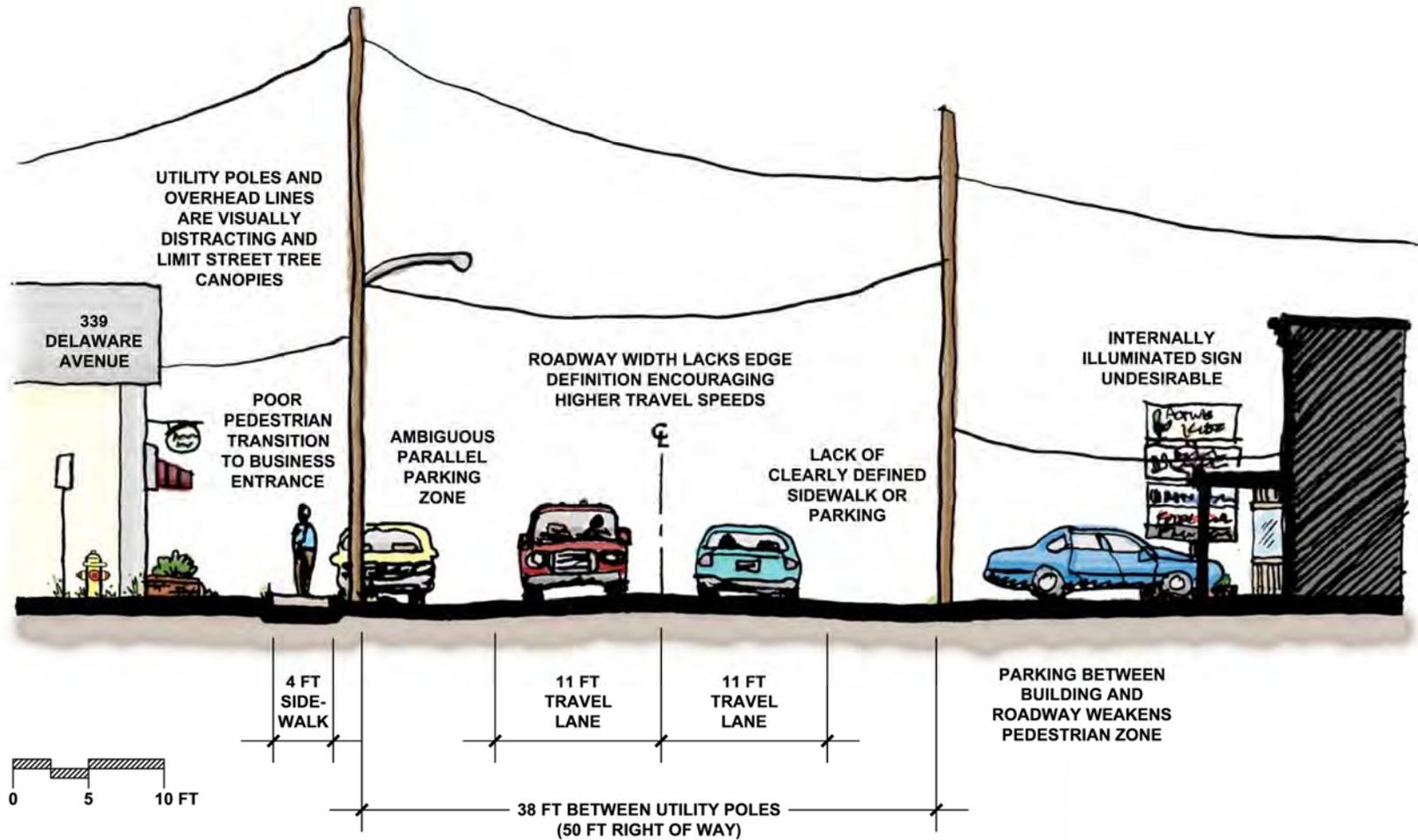


Proposed Conceptual Streetscape Delaware Avenue between Hudson Avenue and Elsmere Avenue

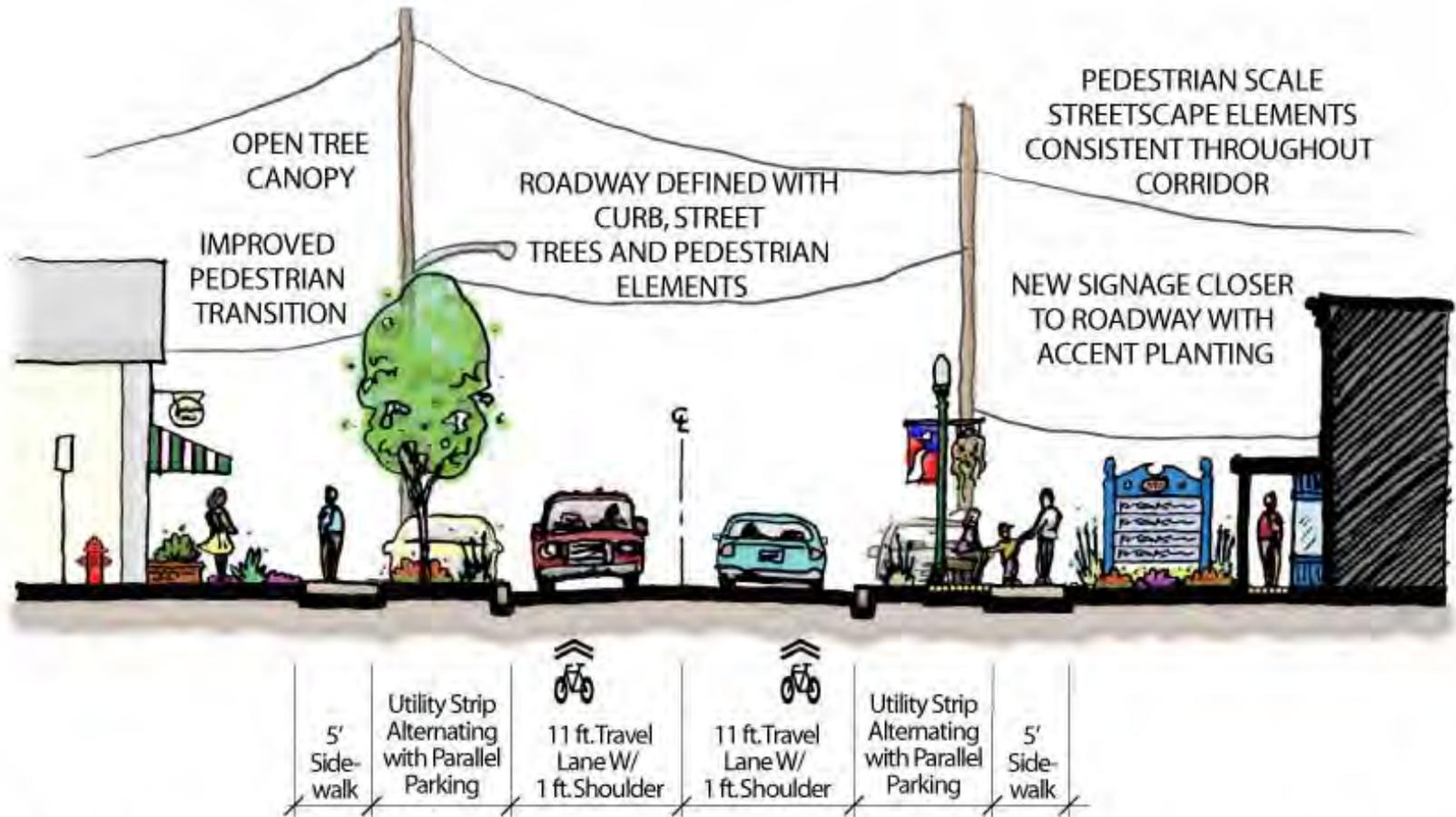


**SECTION A - CONCEPTUAL STREETSCAPE IMPROVEMENTS
HUDSON AVE. TO ELSMERE AVE. - "ROAD DIET"**

Existing Streetscape Conditions between Kenwood Avenue and Hudson Avenue



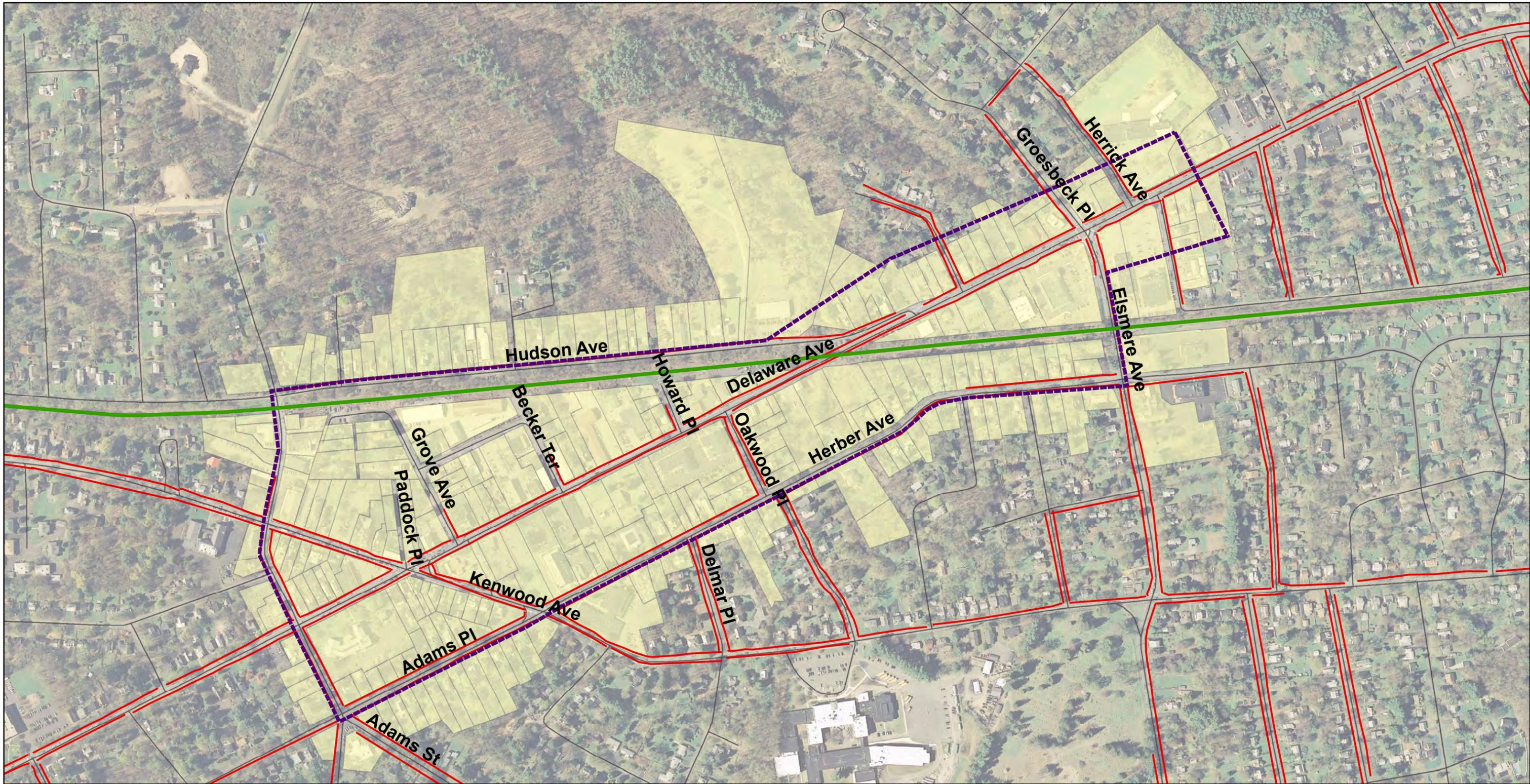
Proposed Conceptual Streetscape between Kenwood Avenue and Hudson Avenue



SECTION B - CONCEPTUAL STREETScape IMPROVEMENTS KENWOOD AVE. TO HUDSON AVE .

Appendix C: Sidewalk Inventory Map





Delaware Avenue Hamlet Enhancement Study



Sidewalk Inventory

- - - - - Study area boundary
- Existing sidewalk
- Helderberg Rail Trail

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Appendix D: Parking Lot Inventory and Utilization

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Parking Facility	Type of Facility (Municipal Off-Street; Private Off-Street Shared; Private Off-Street Not-Shared; Public On-Street)	Total Spaces (striped and unstriped)
Adam Street Lot	Municipal	52
Kenwood Avenue Lot	Municipal	55
Delmar Marketplace	Private, Shared	30
Perfect Blend	Private, Shared	33
Beff's	Private, Not Shared	28
Urgent Care	Private, Shared	23
Adams Street to Kenwood	Public On-Street	17
Kenwood to Driveway	Public On-Street	5
Driveway Across from Grove to Becker	Public On-Street	9

Becker to Oakwood	Public On-Street	12
TOTAL		264

Parking Inventory			
Lot Name/Location/Muni or Private	Supply	Maximum Occupancy	Maximum Occupancy (%)
Adam Street Lot	52 32		62%
Kenwood Avenue Lot	55 22		40%
Delmar Marketplace	30 21		70%
Perfect Blend	33 27		82%
Beff's	28 19		68%
Urgent Care	23 19		83%
Adams Street to Kenwood	17 9		53%
Kenwood to Driveway	5 5		100%

Driveway Across from Grove to Becker	9 9		100%
Becker to Oakwood	12 5		42%
TOTAL 264		168	64%

Parking Utilization, Friday Midday



DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Lot Name/Location/Muni or Private	Supply	Maximum Occupancy	Maximum Occupancy (%)
Adam Street Lot	52 49		94%
Kenwood Avenue Lot	55 45		82%
Delmar Marketplace	30 16		53%
Perfect Blend	33 28		85%
Beff's	28 15		54%
Urgent Care	23 8		35%
Adams Street to Kenwood	17 17		100%
Kenwood to Driveway	5 3		60%
Driveway Across from Grove to Becker	9 1		11%
Becker to Oakwood	12 12		100%
TOTAL 264		194	73%

Parking Utilization, Saturday Midday



DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Appendix E: CDTC Bike Rack Program



Capital Region Bike Rack Program Description

The Capital Region Bike Rack program is a new addition to a set of Travel Demand Management (TDM) strategies administered cooperatively by the Capital District Transportation Authority (CDTA) and the Capital District Transportation Committee (CDTC). Funding for TDM programs has been dedicated in the region's Transportation Improvement Program (TIP) since 1997 using federal funds from the Congestion Management and Air Quality (CMAQ) program under the Federal Transit Administration (FTA). Applications are available from CDTC at www.cdtcmpo.org or by calling 518-458-2161, and from CDTA at www.cdta.org or by calling 518-437-6865 or emailing bikerackprogram@cdta.org.

Demand management programs are designed to reduce single occupant vehicle (SOV) travel, fuel consumption, air pollution and parking demand by making travel options like buses, carpooling, walking and biking more attractive and affordable. Such programs also encourage people to engage in forms of transportation that improve personal health.

Bicycling reduces air emissions and single occupancy vehicle (SOV) trips. A shift of automobile trips to bicycle trips has a direct, positive impact by eliminating attributable emissions (a 100 percent reduction!). Biking is cost-effective for both society at large and for individuals, with benefits accruing from reductions in:

- Vehicle expenses
- Costs associated with municipal services devoted to vehicle traffic
- Air, noise, and water pollution
- Resource consumption (both fuel and vehicle steel and components)
- The "Barrier effect" created by heavy motorized traffic on pedestrian and bicycle mobility
- Negative land use impacts (proximity and a mix of uses are more bike accessible)¹

Provision of appropriate bicycling amenities, such as safe parking, encourages people to bike. Availability of bicycle parking adds convenience for the entire cycling community: businesses, commuters, shoppers, messengers and food deliverers and students. Businesses can expand their client base and improve customer satisfaction by providing convenient parking nearby. Also, the availability of bicycle parking discourages cyclists from parking at mailboxes, parking meters, trees, and other sidewalk structures.

¹ www.epa.gov



Capital Region Bike Rack Program Description

The Capital Region Bike Rack program uses subsidies provided by the existing regional TDM allocation. The annual program budget will be set at \$50,000. The program provides free approved bike racks to the public sector and non-profits, up to a \$1,000 value, and provides 50/50 cost sharing of approved bike racks for the private sector, also up to a \$1,000 value (which means up to \$500 can be provided by the Bike Rack Program). Any additional costs will be paid by the applicant. CDTA/CDTC selected the DERO Bike Rack Company using a competitive bid process. See the 'CDTA Price List' for available models and pricing. Additional information about individual models can be found at www.dero.com.

A selection committee made up of the Capital District Transportation Authority, the Capital District Transportation Committee, the Capital District Regional Planning Commission, and the Governor's Traffic Safety Committee will review applications received by the due date. Bike racks will be granted based on density of the proposed location, the appropriateness of the location according to the Association of Pedestrian and Bicycle Professionals' "Bicycle Parking Guidelines" (specifically #4 – 'The Rack Area Site'), found at http://www.sccrtc.org/bikes/APBP_bikepark.pdf; evidence that the applicant is engaging to manage travel demand, increase social equity, and/or reduce energy use; geographical balance; and the submittal date of the complete application. Applicants submitting more than one application must prioritize them. Depending on interest, the CDTA and CDTC will announce additional solicitation opportunities.

Additionally:

- Participants are responsible for obtaining any and all necessary approvals, permits, and licenses, including from the site owner (if not the applicant) and the municipality.
- Participants will be responsible for picking up bike racks from a CDTA/CTDC-designated central location, at CDTA/CDTC-designated times, and loading them into their own appropriate vehicles.
- The applicant will not be responsible for shipping costs by the vendor.
- Participants will be responsible for bike rack installation, no later than two months after pick-up. If participants do not have the capability to install bike racks, they can, **for a fee**, opt to use a CDTA contractor.
- Bike racks must be installed in locations that:
 - Are continuously accessible to the public (24 hrs a day) and in a visible location. For instance, installation cannot be at a back entrance utilized only by employees or only available for designated periods (ie the workday, 9-5pm).
 - Do not block fire escapes, fire lanes, or other such emergency access.
 - Do not impede pedestrian flow or accessibility for people with disabling conditions.
 - Allow the bike rack to be used to its capacity (If a rack will hold 4 bikes, it shouldn't be so close to a building that it accommodates only 2 bikes)
- Participants must maintain and indemnify received bike racks for a minimum of five years after installation, and respond to annual survey questions on the current status of the bike racks. Removal of any bike rack prior to 5 years will require the participant to reimburse the program for the proportionate share of the rack.
- Participants in the program will be requested to participate in promotional activities for the program, including the use of photos of the finished sites, surveys and inventories of rack users and usage; and to include credit to CDTA/CDTC and the FTA in any materials that they produce promoting use of the racks.

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Appendix F: CDTA Guide for Transit Stops



Capital District
Transportation Authority
110 Watervliet Avenue
Albany, NY 12206
518-437-8300
www.cdta.org

Guide to designing and locating bus stops



Capital District
Transportation Authority
110 Watervliet Avenue
Albany, NY 12206
www.cdta.org

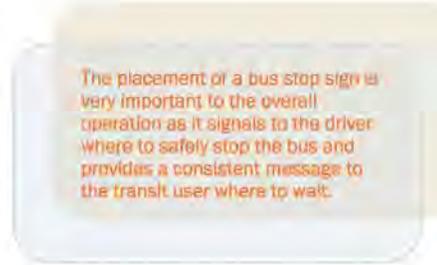
2009 Edition



5. BUS STOP SIGN PLACEMENT

Sign Placement

- Install in location adjacent to corner post or right front bumper when the bus comes to a full stop
- If practicable, install 8 feet from curb on far side of sidewalk
- Minimum distance should be 24 inches to ensure post does not conflict with bus mirror
- Should not block any traffic safety signs
- Should be on its own post unless explicit permission to use a shared pole exists



6. ACCESSIBILITY FOR THE DISABLED

Below are some key considerations crucial to accommodating people with disabilities:

- Non – slip finishes
- Eliminate hazards, mark dangerous areas
- Provide visual and tactile cues made through color contrast and texture
- Ensure area is well lit for orientation and security
- Make visible – ensure bus operator can see waiting passenger
- Make sure sidewalks are in good state of repair
- Concrete barrier curb 6 inches
- Transit stop waiting pad, minimum 7 x 6.5 inches
- 1-2 paved connections from pad to the sidewalk, width 5 inches
- Remove obstructions, provide a minimum clear width of 5 inches
- Waiting pad must have an accessible ramp on either side
 - slope 6 feet for 6 inches of curb
 - ramp must be minimum 5 inches wide
- Installation of an elevated concrete pad on the shoulder of the road
- Install transition at each end of pad (see ramp details above)
- Corresponding inbound and outbound stops should be accessible
- Curb cuts:
 - installed as right angles to the street (if possible, 2 per corner)
 - flush at the top and bottom of the slope
 - joint free
 - include pavement markings for visually impaired
 - free draining
 - contrasting color/surface to surrounding area
 - provide for a continuous accessible route – no sudden barriers leaving traveler stranded

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Capital District Transportation Authority (CDTA)

Bus Stop Checklist

This checklist summarizes CDTA's guidelines and criteria when locating bus stops. CDTA staff is available for consultation on practical application of these guidelines.

1. LAND USE - TRANSIT RELATIONSHIP

Coordination between transit and land use helps to create livable, sustainable communities. Several factors should be considered when developing site plans:

Intended Site Use - senior housing, medical centers or major shopping centers should be located along existing transit routes. Integrating transit into development site plan during early planning stages meets the proven high demand for transit service at such facilities. If transit is not considered in advance, it reduces to service options in the future.

It is a good practice to contact CDTA during the early stages of development to ensure transit integration.

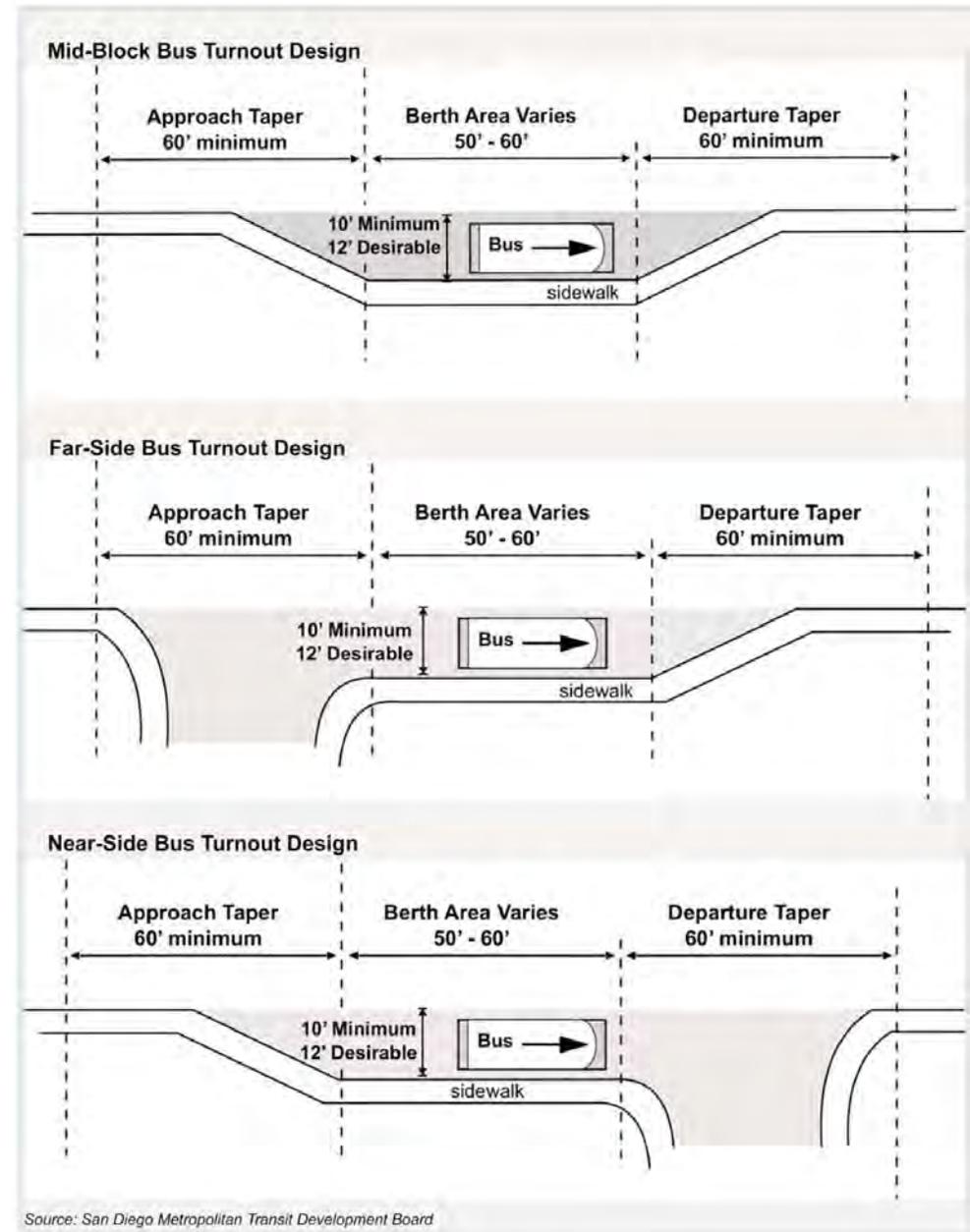
Site Layout - there are several general factors that make a development transit-friendly:

- Buildings are located close to street side
- Buildings face the street
- Façade features windows (no blank walls are facing the street)
- Good pedestrian infrastructure throughout the site connects to the street sidewalks
- Adequate lighting is provided
- Parking does not exceed minimum requirements (reduced or shared parking is encouraged when development is located along transit corridor)
- Bicycle parking should be provided some transit riders complete a portion of their trip by bike; all CDTA buses are equipped with bike racks
- Landscaping should be maintained - no overgrowth

2. LOCATION CONSIDERATIONS

Place Stop

- Convenient to major destinations, including employment sites, hospitals, shopping and entertainment venues
- Convenient for transfers between services
- In the public right-of-way, unless written permission to operate on private property exists
- Consider the impact of stops on adjacent properties
- Paired, or as close as possible, with the stop in the opposite direction
- Convenient for errand running and "trip linking" tasks
- Grade of road should not impede accessibility



- Height of curb is minimum 6 inches
- Obstructions cleared in bus landing area to facilitate boarding and alighting for bus riders
- Length of bus turn out should be long enough to allow 40foot bus to accelerate and decelerate
- Approach: 46 feet Stop: 40 feet Pull out: 25 feet
- Desirable curb lane width: 11.5 feet
- Adequate curb space for the expected number of buses
- “No Parking” sign in a bus stop area



Bus Turnout Design:

Bus turnout can slow transit operations because of merging, but provide important safety benefits under specific conditions.

Install bus turnout only under the following circumstances:

- Traffic speed average is greater than 40 mph
- Traffic in the curb lane exceeds 250 vehicles/peak hour
- Passenger boarding during the peak exceeds 20-40 persons
- Past history of vehicle/pedestrian conflict
- Layovers are expected
- inadequate sight distances
- parking in curb lane is prohibited
- signal priority treatment exists at next intersection
- right turn lane is used by buses as queue jumper lane
- not too close to an intersection where waiting vehicles impede transit access/egress
- Design considerations are the same as Curb-Side with special attention to:
 - Turnout length must accommodate access/egress
 - Lane width - minimum 11.5 feet
 - Remove overhead obstructions - 16.5 feet
 - Remove lateral obstructions cleared within 3.2 feet of curb
 - Adequate curb space for number of buses expected at one time
- “No Parking” sign in a bus stop area
- Special pavement treatment is desirable (see image below)



Visibility

- Bus operators' sightlines should not be obscured by trees, shrubs, poles, buildings
- Where there are bike lanes: locate the bus stop to provide sufficient distance for cyclists to stop safely
- Buses should not restrict the visibility of traffic signals
- Do not place bus stops on curves – 495 foot sight line is required going into zone and coming out of bus stop zone
- Ensure clear sightlines on the right side of the bus - no obstructions between bus operator and boarding passengers
- Stop should be well lit

Driveways

- Place on far side of driveway
- Consider volumes and turning movements of other vehicles (discussed further in following sections)
- Adequate curb space in waiting area – avoid spillover to adjacent curb space
- Ensure loading zone is wide enough to accommodate passing pedestrians, alighting and waiting riders
- All weather, slip resistant surface (impervious), well drained - especially to step from/to the bus

3. AMENITIES AND ACCESS

Pedestrian Accommodations

It is very important to remember that every bus rider is a pedestrian for a part of the trip. That is why special attention should be given to providing adequate pedestrian accommodations like sidewalks and crosswalks.

- Connecting path and sidewalks should be clear of obstructions, made of a firm surface material, and well drained; ADA compliant
- Locate stops at traffic signals for safe street crossing wherever possible
- Bus stops should be located in close proximity to crosswalks
 - Intersection stops: if near side is necessary, ensure 15 inches distance between the stop line and the bus stop
 - Mid block stops: always locate stop on the far side of crosswalk so that pedestrians cross behind the bus, not in front
 - Avoid locating stops close to driveways, especially those with high traffic volumes



This is a bus stop located in the city of Schenectady. It features:

- Marked crosswalk
- Traffic control signals
- Wide sidewalk clear of obstacles
- Bench

Street Furniture

- Ensure minimum 3.5 foot lateral clearance (preferred 5 feet for wheelchair clearance) and 6.5 foot headroom
- Accommodate newspaper boxes if they are well maintained and do not impede mobility
- 3.5 foot separation from other street furniture
- Locate garbage receptacles away from landing pad. Garbage receptacles should be:



- regularly maintained
- animal/ vandal proof
- bolted down
- placed to avoid direct sunlight
- designed to not allow pooling of liquids which attract insects

- *Maintained newspaper stands*
- *Garbage receptacle*
 - *Away from a pad*
 - *Clean*
 - *Out of direct sunlight*

Benches at Bus Stops

- Install when shelter is not feasible, but demographics warrant seating
- Install where there is evidence transit patrons are sitting or standing on nearby structures
- Avoid complete exposure to elements
- Coordinate with existing or new trees for shade, wind and rain protection
- Locate away from driveways
- Separate from curb by at least 6 feet
- Ensure adequate clearance for mobility especially near landing pad
- Allow room for through pedestrian traffic

Shelters

Shelter with seating

CDTA receives more requests for shelters than program funding availability for installation and maintenance. All requests are evaluated and prioritized annually based on the following criteria:

- Threshold of 50 passengers per day boarding at the stop is desirable
- Number of routes that transfer at a stop (priority to stops with transfer activity)
- Space is available for construction in the public right-of-way
 - no obstructions
 - level
 - sufficient clearance for wheelchair movements
- Consider demographics of area/riders – seniors, physically challenged

- Proximity to major destinations
- Frequency of transit service
- Adjacent land use compatibility
- Neighborhood requests and/or maintenance agreements

Shelter design

- CDTA procures standardized shelters to facilitate maintenance and to achieve bulk pricing advantages
- Four sided shelters require an opening that is a minimum width of 2.62 feet for compliance with the Americans with Disabilities Act (ADA)
- Transparent sides
- Seating oriented to view oncoming transit, pedestrians and adjacent buildings
- Lit shelters are preferred where practicable
 - Down lighting in shelter area improves safety and visibility
- Ad panels should be located far side so as not to obstruct the view of an arriving bus
- Shelter location and orientation should :
 - Be parallel and facing curb
 - Ensure bus operator can see waiting passengers
 - Should not impede landing area or pedestrian path
 - Should take into consideration snow clearance practices



This shelter is located in the Town of Colonie. It features both inside and outside sitting.

The bench is located along the sidewalk; it's set back not to obstruct pedestrian traffic flow. The sidewalk is in a good state of repair and clear of obstructions. Landscaping is well maintained.

For drawings of currently used bus shelters, please contact CDTA Streets Amenities Manager.

4. CURB SIDE STOPS AND TURNOUT DESIGNS

Curb Side Site Design

Curb side stops are typically installed on existing sidewalks. The length of the stop's curb maybe painted to make the stop more visible and discourage parking.

- Ensure condition of curb lane is without potholes; grates and storm drain covers are flush with surface

7. RURAL STOPS

- Adhere to as many stop location standards as is practicable
- Install a landing pad, brushed concrete, raised, to separate from traffic
- Install curb cuts at each end – for accessible transition onto shoulder pathway
- Cut back landscaping for sightlines and personal safety
- Consistent signage with urban/suburban stops

8. PERSONAL SAFETY CONSIDERATIONS

By addressing the needs of “vulnerable users” within the built environment, the entire community benefits from improved and well cared for facilities.

Location

- Site should “feel” safe a night
- Locate where adjacent land use offers “passive surveillance” or “eyes on the street”
- Neighboring houses looking on
- Commercial businesses open late
- Bus stop for same route in opposite direction, located within easy sight distance

Landscaping

- Low shrubbery or canopied trees
- No bushes or evergreen trees

Lighting

- Adequate lighting - shining directly on waiting and surrounding areas
- Coordinate location with existing street lights
- Coordinate with lighting from adjacent land uses (i.e.: consider lighting when choosing a location)



9. INFORMATION

For more information please contact:

- CDTA Streets Amenities Manager in the Facilities Department – Existing Bus Stops & Shelters
- CDTA Business Development Department – Requests for new or modified Bus Stops, Shelters or Site Plan review.

www.cdta.org, or 518-437-8300

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Appendix G: Complete Streets Resolution

RESOLUTION NO. 30

TOWN BOARD
TOWN OF BETHLEHEM
RESOLUTION
COMPLETE STREETS

WHEREAS, a goal of the Town of Bethlehem Comprehensive Plan is to improve mobility – the ability of people, regardless of age and status, to engage in desired activities throughout the Town; and

WHEREAS, the Town of Bethlehem Comprehensive Plan recommends maintaining and enhancing bicycle and pedestrian connections within neighborhoods, and between neighborhoods and hamlet centers;

WHEREAS, the Town of Bethlehem has established a pathways committee (PaTHs 4 Bethlehem) to explore bicycle and pedestrian facility connections and address issues; and

WHEREAS, bicycling and walking are important forms of transportation and recreation in our community; and

WHEREAS, bicycling and walking contribute to health, fitness, neighborhood vitality, social interaction, and economic development; and

WHEREAS, the full integration of all modes in the design of streets and highways will increase the capacity and efficiency of the road network, reduce traffic congestion by improving mobility options, limit greenhouse gas emissions, and improve the general quality of life; and

WHEREAS, educating the public about safety, health and mobility are part of being a quality community; and

WHEREAS, Complete Streets are defined as facilities that are designed and operated to enable safe and efficient access for all users. Persons with disabilities, pedestrians, bicyclists, motorists and transit riders are able to safely and efficiently move along and across a complete street.

NOW, THEREFORE, BE IT RESOLVED, the intent of the Town of Bethlehem Complete Streets Policy is to recognize bicyclists and pedestrians as equally important as motorists in the planning and design of all new street construction and street reconstruction undertaken by the Town.

BE IT FURTHER RESOLVED, it is also the intent of the Town of Bethlehem Complete Streets Policy to recognize that local Town streets with low vehicle volumes and slow travel speeds safely and efficiently accommodate bicyclists and pedestrians. However, principal Town roads that are characterized as having high vehicle volumes and high travel speeds, and are important for bicycle and pedestrian travel to access and connect to destinations in and adjacent to the Town, shall be considered for Complete Streets treatment.

BE IT FURTHER RESOLVED, that the Town Board hereby resolves to establish a Complete Streets Policy as follows:

Engineering: The Highway Superintendent shall consider the safe and efficient accommodation of bicyclists and pedestrians in all new street construction and street reconstruction undertaken by the Town of Bethlehem.

1. In addition, where the need for bicyclist and pedestrian facilities has been established or is defined in Town planning documents, including but not limited to the Bicycle and Pedestrian Priority Network identified by the PaTHs 4 Bethlehem Committee, the Highway Superintendent shall consider the addition of safe bicyclist and pedestrian facilities in new street construction and street reconstruction undertaken by the Town of Bethlehem. The addition of the bicyclist and pedestrian facilities shall be consistent with the scope of the improvement project, context sensitive to the surrounding environment, and shall not be disproportionate with the cost of the larger project.

2. Bicyclist and pedestrian facilities are defined as improvements that are above and beyond the normal space, surfaces, pavement markings, and signing that would routinely be incorporated into street design and maintenance for the accommodation of bicyclists and pedestrians. These facilities shall include but not be limited to sidewalks, curb cuts and ramps, marked crosswalks, pedestrian actuated signals, paved shoulders, bicycle route signing, bicycle lanes, bicycle parking facilities, and shared use paths.

3. Bicycle and pedestrian facilities may be planned, designed, developed and maintained in accordance with guidelines adopted by the United States Department of Transportation (USDOT), New York State Department of Transportation (NYSDOT), and the American Association of State Highway and Transportation Officials (AASHTO) or other guidelines approved by the Town of Bethlehem.

4. Whereas, if the Highway Superintendent determines that the inclusion of bicycle and/or pedestrian facilities are unable to be accommodated on a roadway or within Town right-of-way proposed for construction or reconstruction, he/she shall provide said determination in writing, with supporting documentation, to the Town Board for their information. Education and

Encouragement: The Town supports the promotion of bicycling and walking for health, fitness, transportation and recreation through events, programs and other educational activities, which benefit residents, students, businesses and visitors of all ages and abilities. These activities can be coordinated with the PaTHs 4 Bethlehem Committee, other Town Committees and Departments, local bicycle clubs, schools, health organizations and other partners.

Furthermore, the Town encourages the NYSDOT and Albany County to consider a Complete Streets approach when constructing or reconstructing their respective streets in the Town.

Enforcement: The Town will provide a balanced enforcement of the New York State Vehicle and Traffic Law for motorists, pedestrians and bicyclists. This will include enforcement of pedestrian's right-of-way in crosswalks, bicyclists riding with traffic and all modes sharing the road safely.

Additionally, the Town may consider the use of traffic calming applications as an alternative to bicycle and pedestrian facilities. Traffic calming applications help to physically or psychologically calm motor vehicle traffic behaviors, thereby aiding in the enforcement of a safe environment for bicycle and pedestrian travel.

On a motion by Mrs. Dawson, seconded by Mr. Kotary, and by a vote of 5 for, 0 against and 0 absent, this RESOLUTION was adopted on August 12, 2009.

Appendix H: Figure and Photo Credits

All photos and illustrations not listed below were contributed by River Street Planning & Development, Nelson\Nygaard Consulting Associates and CLA Site.

Figure 2	Page 14	<p>INTERSECTION TREATMENT - http://www.google.com/imgres?imgurl=http://safety.fhwa.dot.gov/ped_bike/legis_guide/rpts_cnsgs/pedrpt_0808/images/ch_3fig2.jpg&imgrefurl=http://safety.fhwa.dot.gov/ped_bike/legis_guide/rpts_cnsgs/pedrpt_0808/chap_3.cfm&h=313&w=506&sz=43&tbnid=2xbUL2Fisabe_M:&tbnh=81&tbnw=131&prev=/images%3Fq%3Dhawk%2Bsignal%2Bphoto&hl=en&usg=__UpLxgnUJuOJU55anrSwU4BSrUag=&ei=AjLgS4e5NonU8ASDnPjRCQ&sa=X&oi=image_result&rsnum=3&ct=image&ved=0CA8Q9QEwAg. MUTCD Reference is Federal MUTCD 2009 edition CHAPTER 4F. PEDESTRIAN HYBRID BEACONS, pg. 509.</p>
Figure 4	Page 16	<p>TYPES OF CROSSWALKS - Liberty New York Photo courtesy of Nelson\Nygaard Consulting Engineers</p>
Figure 4	Page 16	<p>TYPES OF CROSSWALKS - http://images.google.com/imgres?imgurl=http://www.tfhr.gov/safety/pedbike/pubs/05085/images/fig109.gif&imgrefurl=http://www.tfhr.gov/safety/pedbike/pubs/05085/pptchapt11.htm&usg=__Fe93IJKOWVGNuXXgyx5Cepr1un0=&h=226&w=500&sz=20&hl=en&start=19&sig2=fHpvbirzfaB9gKo_C5KxRg&um=1&itbs=1&tbnid=KFKPVpgC0EnuTM:&tbnh=59&tbnw=130&prev=/images%3Fq%3DTYPES%2BOF%2BCROSSWALKS%26um%3D1%26hl%3Den%26sa%3DN%26rls%3Dcom.microsoft:en-us:IE-searchBox%26rlz%3D117GGIE_en%26tbs%3Disch:1&ei=RBHfS8bJJKqlAf p8ajwBA. MUTCD Reference is Federal MUTCD 2009 edition CHAPTER N. IN-ROADWAY LIGHTS</p>
Figure 5	Page 17	<p>TURNING VEHICLE YIELD TO PEDESTRIAN SIGN - Center image Http://upload.wikimedia.org/wikipedia/commons/thumb/d/dc/MUTCD_R10-15.svg/80px-MUTCD_R10-15.svg.png in 9009 edition Section 2B.53 and NYS Supplement to Federtal MUTCD 2B.45</p>

Figure and Photo Credits		
Figure 5	Page 17	NO TURN ON RED LED OVERHEAD SIGN - http://images.google.com/imgres?imgurl=http://www.richmond.ca/_shared/assets/crosswalks_16898.jpg&imgrefurl=http://www.richmond.ca/services/ttp/traffic/crosswalks.htm&usg=__C5WjAeP4B554EMgvh1b0W-K5jn4=&h=116&w=116&sz=8&hl=en&start=82&sig2=qvey8TgW9ge9XTcXEgp1rg&um=1&itbs=1&tbnid=pk2cienCq4B5hM:&tbnh=87&tbnw=87&prev=/images%3Fq%3Doverhead%2Byield%2Bto%2Bpedestrian%2Bwith%2Bwarning%2Blights%26start%3D80%26um%3D1%26hl%3Den%26sa%3DN%26rls%3Dcom.microsoft:en-us:IE-SearchBox%26rlz%3D1I7GGIE_en%26ndsp%3D20%26tbs%3Disch:1&ei=FxLfS5yQIIW8lQf-q5XyBA . igure 4 The symbol showing the State Law Yield to Pedestrian Within Crosswalk in-street sign, MUTCD reference is 2009 Edition Section 2B.54 option 05.
Figure 6	Page 18	PEDESTRIAN CROSSING AMENITIES AND REFUGES - Burden, Dan and Lagerwey, Peter. <i>Road Diets: Fixing the Big Roads</i> , 1999
Figure 7	Page 18	STATE LAW YIELD TO PEDESTRIAN SIGN - http://static.seton.com/media/catalog/product/Crosswalk-Safety-Signs-85526-ba.gif . MUTCD Reference is NYS Supplement to the Federal MUTCD 2003 edition, Section 2B.12
Figure 8	19	BICYCLE SIGNAL HEAD - Left: Nelson\Nygaard – Credit Kate McCarthy
Figure 9	19	SHARE THE ROAD SIGN - http://www.google.com/imgres?imgurl=http://www.trafficsign.us/650/warn/w11-1share.gif&imgrefurl=http://www.trafficsign.us/share.html&h=650&w=392&sz=16&tbnid=VGLjRukzGytEPM:&tbnh=290&tbnw=175&prev=/images%3Fq%3Dshare%2Bthe%2Broad%2Bsign&hl=en&usg=__QnUc0M9FyzxSZwjxaGmF2g3xaw4=&ei=5xLfS5b4MYG78gbo6qHpBA&sa=X&oi=image_result&resnum=3&ct=image&ved=0CA8Q9QEwAg
Figure 9	Page 19	SHARE THE ROAD PHOTO SHOWING SHARROWS: http://www.banff.ca/Assets/Images/Town+Hall+Images/Staff+Blog+Images/bike-sharrow-markings.jpg Sharrows and signage ..., Section 2C.51 SHARE THE ROAD Plaque (W16-1) and W11-1 MUTCD reference is Federal MUTCD 2003 edition
Figure 9	Page 19	Bicycle Detection Pavement Marking Graphic Figure 9C-7 Bicycle 230 × 355 - 8k - gif mutcd.fhwa.dot.gov

Figure and Photo Credits		
Figure 10 and 11	Page 20	COMMERCIAL BICYCLE RACKS AND SHELTERS - http://www.dero.com/commercial_racks.html
Figure 13	Page 23	BUS STOP DESIGN AMENITIES - Transit Cooperative Research Program (TCRP) Report 46: <i>The Role of Transit Amenities and Vehicle Characteristics in Building Transit Ridership</i>
Figure 13	Page 23	TRANSIT ALTERNATIVES - iPool2.org, www.iPool2.org
Figure 17	Page 27	BIOSWALE PHOTOS: <i>Stormwater Management for Clean Rivers Green Streets</i> , City of Portland, Ore, August 2008
Figure 17	Page 27	BIOSWALE ILLUSTRATION FOR PARKING LOTS - <i>Stormwater Management for Clean Rivers Green Streets</i> , City of Portland, Ore, August 2008
Figure 23	Page 33	ADA COMPLIANT CROSSWALKS AND INTERSECTION - http://www.landscapeonline.com/research/lasn/2007/08/img/Boom/Boom-13.jpg
Figure 24	Page 35	NO TURN ON RED OVERHEAD LED SIGN - Http://images.google.com/imgres?imgurl=http://safety.fhwa.dot.gov/intersection/resources/fhwas06016/images/fig12.jpg&imgrefurl=http://safety.fhwa.dot.gov/intersection/resources/fhwas06016/chap_3.htm&usg=__pKhqjoaYFdv03ekmMR0SdzRVss8=&h=310&w=403&sz=15&hl=en&start=2&sig2=FLQBSm_wO_PKF-kdeggpiQ&um=1&itbs=1&tbnid=0WebodSqNmupBM:&tbnh=95&tbnw=124&prev=/images%3Fq%3Dno%2Bturn%2Bon%2Bred%2Bled%2Bsign%26um%3D1%26hl%3Den%26sa%3DN%26rls%3Dcom.microsoft:en-us:IE-SearchBox%26rlz%3D117GGIE_en%26ndsp%3D20%26tbs%3Disch:1&ei=tSPfS5GXDYGB8gaytPTaBw
Figure 25	Page 36	YIELD TO PEDESTRIAN SIGN - Federal MUTCD and 2003 NYS Supplement Section 2b.11 sign R1-5.

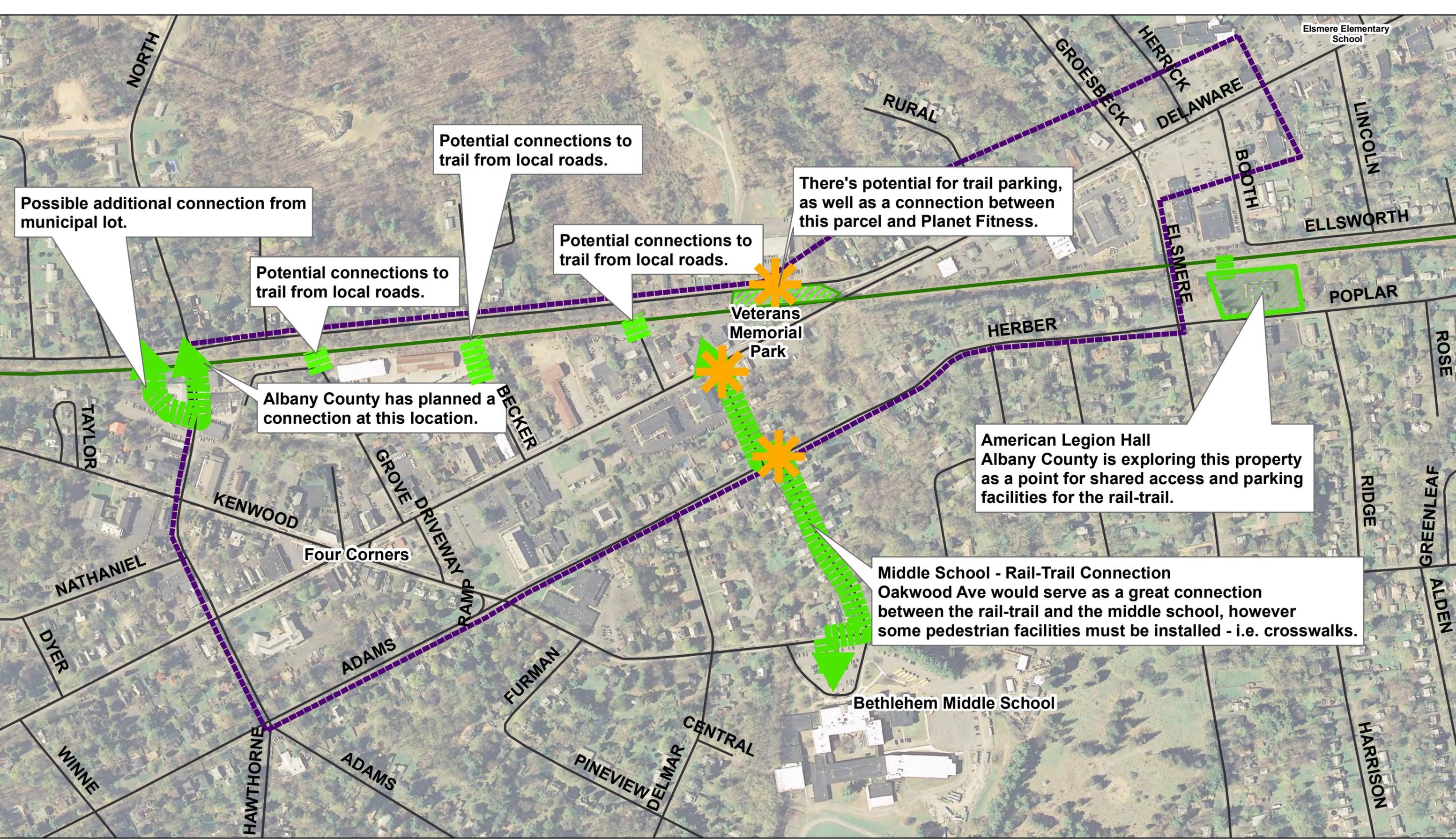
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Figure and Photo Credits		
Figure 26	Page 40	SCHOOL SAFETY ZONE CROSSING DEVICE - http://www.carrier-neutral.com/radarspeeddriverfeedbackdisplaysigns/school-crossing-signs.JPG . Mutcd Reference is to NYS Supplement to the Federal MUTCD 2003 Section 7B.11 School Speed Limit Assembly
Figure 26 A	Page 41	Rapid Flash LED Beacon - Federal MUTCD – Section 1A.10 Interim Approvals: http://www.google.com/imgres?imgurl=http://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/stpetersburgprpt/images/image3.jpg&imgrefurl=http://mutcd.fhwa.dot.gov/resources/interim_approval/ia11/stpetersburgprpt/intro.htm&usg=__fAc7mdXttcJa28NnHPgHg_33i-8=&h=375&w=500&sz=32&hl=en&start=0&zoom=1&tbnid=HPPIlApFQdqzQM:&tbnh=145&tbnw=192&prev=/images%3Fq%3Drectangular%2Brapid%2Bflashing%2BLEd%2Bbeacon%26hl%3Den%26biw%3D788%26bih%3D422%26gbv%3D2%26tbs%3Disch:1&itbs=1&iact=hc&vpx=286&vpy=185&dur=1848&hovh=194&hovw=259&tx=64&ty=216&ei=jjMBTdC7LsGclgeWvNGtCA&oei=ITMBTZbLAcWBIAe80q2fCA&esq=1&page=1&ndsp=9&ved=1t:429,r:1,s:0
Figure 27	Page 42	STATE LAW YIELD TO PEDESTRIAN SIGN - http://images.google.com/imgres?imgurl=http://www.saferoutesinfo.org/guide/engineering/images/crosswalk_sign.gif&imgrefurl=http://www.saferoutesinfo.org/guide/engineering/in-street_signing.cfm&usg=__IGZk6RNhcGmUDerv47d-qUHrn0Y=&h=318&w=300&sz=18&hl=en&start=3&sig2=9HGjtEiWFVmcYk6Dbh5ZyA&um=1&itbs=1&tbnid=FfelKwvUONuCOM:&tbnh=118&tbnw=111&prev=/images%3Fq%3Dstate%2Blaw%2Byield%2Bto%2Bped%2Bin%2Bcrosswalk%26um%3D1%26hl%3Den%26sa%3DN%26rls%3Dcom.microsoft:en-us:IE-Address%26rlz%3D1I7GGIE_en%26tbs%3Disch:1&ei=UCzfS5a9DsH98AbHhPHfBw MUTCD Reference is NYS Supplement to the Federal MUTCD 2003 edition, Section 2B.12

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Appendix I: Proposed Rail Trail Connections



Possible additional connection from municipal lot.

Potential connections to trail from local roads.

Potential connections to trail from local roads.

Potential connections to trail from local roads.

There's potential for trail parking, as well as a connection between this parcel and Planet Fitness.

Albany County has planned a connection at this location.

American Legion Hall
Albany County is exploring this property as a point for shared access and parking facilities for the rail-trail.

Middle School - Rail-Trail Connection
Oakwood Ave would serve as a great connection between the rail-trail and the middle school, however some pedestrian facilities must be installed - i.e. crosswalks.

Possible Future Connections to the Albany County Rail Trail



Study area boundary
Helderberg Rail Trail

BICYCLE PARKING



GUIDELINES

A set of recommendations from the Association of Pedestrian and Bicycle Professionals [apbp]



“I would ride to work if there was a safe place to lock my bike.”

INTRODUCTION

The lack of a secure parking space keeps many people from using their bikes for basic transportation. Leaving a bicycle unattended, even for short periods, can easily result in damage or theft. Finding a bike rack that doesn't work or isn't conveniently located makes for a frustrating experience.

The purpose of this document is to assist with the selection and placement of appropriate bicycle racks for short-term parking. Four major components will be discussed.

1. The rack element. This device supports the bicycle.
2. The rack. It is important to understand how bikes interact with each other when rack elements are assembled together.
3. Combining of multiple racks into a bicycle parking lot.
4. Locating the rack, and the relationship of the rack to the building entrance it serves and the cyclists' approach to that entrance.

The discussion will focus on outdoor installations. The racks are intended to accommodate conventional, upright, single-rider bicycles. It is assumed the cyclist will use a solid, U-shaped lock, or a cable lock, or a combination of the two.

The appb Task Force that developed this guide is also developing recommendations for other important bicycle parking-related issues including:



- a. Assessing the appropriate number of bicycle parking spaces for different buildings and land uses, including the use of bicycle parking ordinances.
- b. Long-term bicycle storage facilities such as lockers and bicycle parking garages.
- c. Indoor bicycle parking and the carriage of bicycles in transit vehicles.

1. THE RACK ELEMENT

Definition: the rack element is the part of the bike rack that supports one bicycle.

The rack element should:

- Support the bicycle upright by its frame in two places
- Prevent the wheel of the bicycle from tipping over
- Enable the frame and one or both wheels to be secured
- Support bicycles without a diamond-shaped frame with a horizontal top tube (e.g. a mixte frame)
- Allow front-in parking: a U-lock should be able to lock the front wheel and the down tube of an upright bicycle
- Allow back-in parking: a U-lock should be able to lock the rear wheel and seat tube of the bicycle

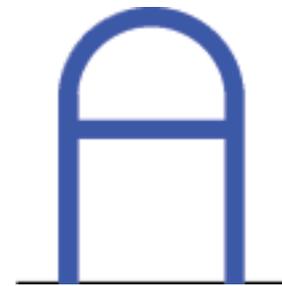


Comb, toast, school-yard, and other wheel-bending racks that provide no support for the bicycle frame are NOT recommended.

The rack element should resist being cut or detached using common hand tools, especially those that can be concealed in a backpack. Such tools include bolt cutters, pipe cutters, wrenches, and pry bars.



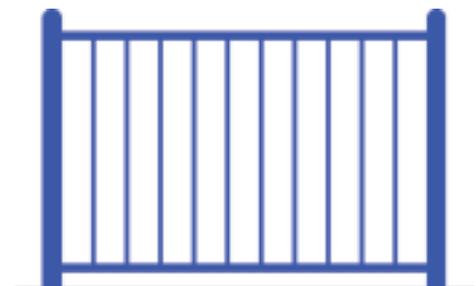
INVERTED "U"
One rack element supports two bikes.



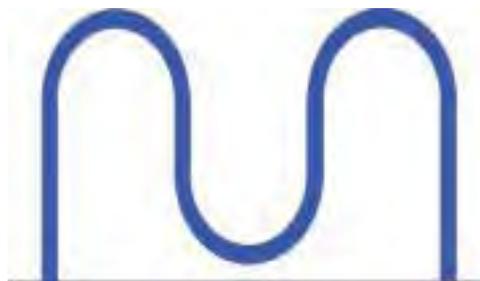
"A"
One rack element supports two bikes.



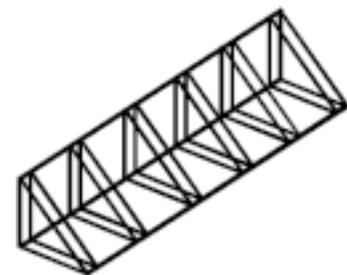
POST AND LOOP
One rack element supports two bikes.



COMB
One rack element is a vertical segment of the rack.



WAVE
One rack element is a vertical segment of the rack.

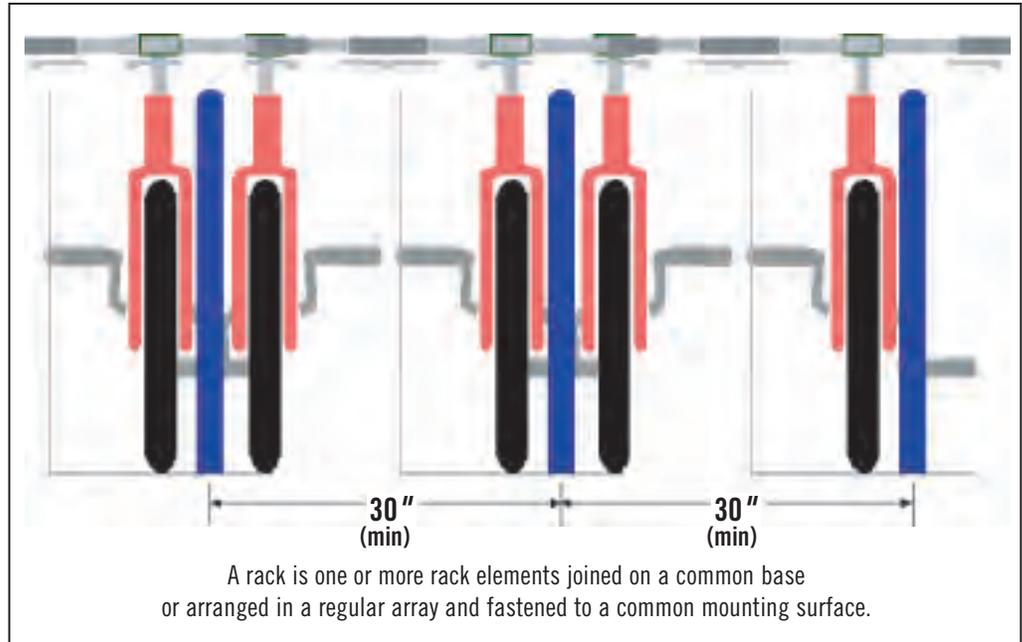


TOAST
One rack element holds one wheel of a bike.

2. THE RACK

Definition: a rack is one or more rack elements joined on any common base or arranged in a regular array and fastened to a common mounting surface.

The rack should consist of a grouping of rack element. The rack elements may be attached to a single frame or remain single elements mounted within close proximity to each other. The rack elements should not be easily detachable from the rack frame or easily removed from the mounting surface. The rack should be anchored so that it cannot be stolen with the bikes attached—vandal-resistant fasteners can



be used to anchor a rack in the ground. An exception is a rack that is so large and heavy that it cannot be easily moved or lifted with the bicycles attached.

The rack should provide easy, independent bike access. Inverted “U” rack elements mounted in a row should be placed on 30” centers. This allows enough room for two bicycles to be secured to each rack element. Normally, the handlebar and seat heights will allow two bicycles to line up side-by-side if one of them is reversed. When there is a conflict, the bikes can be placed slightly offset from one another as shown. If the elements are placed too close together, it becomes difficult to attach two bikes to the same element. If it is too inconvenient and time consuming to squeeze the bikes into the space and attach a lock, cyclists will look for an alternative place to park or use one rack element per bike and reduce the projected parking capacity by 50 percent.

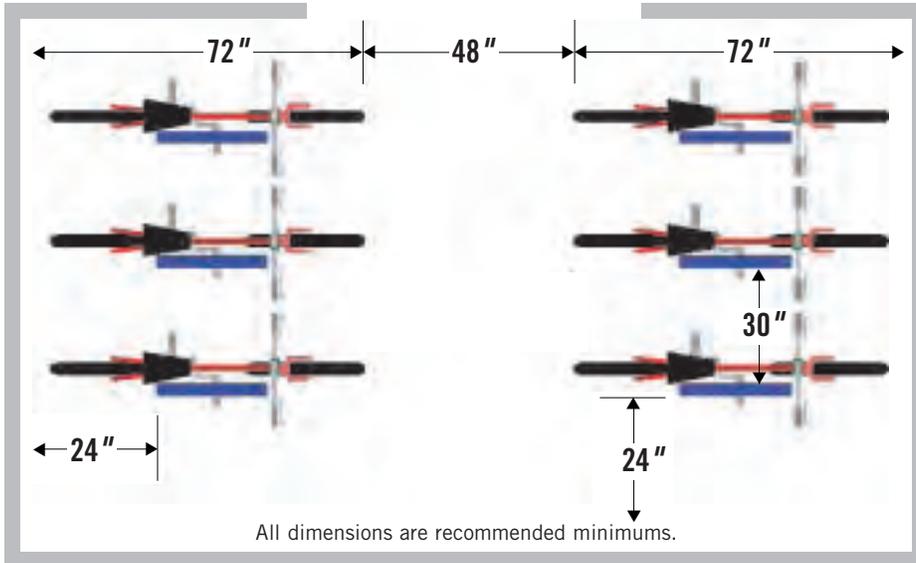


Wave style racks are not recommended. Bicyclists commonly use a “wave” rack as if it were a single inverted “U.” This limits the actual capacity of the rack to two bikes regardless of the potential or stated capacity. Bicycles parked perpendicular to a wave rack (as intended by the manufacturer) are not supported in two places and are more likely to fall over in the rack. The advertised capacity of a wave rack is usually much higher than the practical capacity.

An empty rack should not create a tripping hazard for visually impaired individuals.

3. THE RACK AREA

Definition: the rack area is a bicycle parking lot where racks are separated by aisles.



A rack area or “bicycle parking lot” is an area where more than one rack is installed. Aisles separate the racks. The aisle is measured from tip to tip of bike tires across the space between racks. The minimum separation between aisles should be 48 inches. This provides enough space for one person to walk one bike. In high traffic areas where many users park or retrieve bikes at the same time, such as a college classroom, the recommended minimum aisle width is 72 inches.

The rack area is a bicycle parking lot where racks are separated by aisles.

72 inches (six feet) of depth should be allowed for each row of parked bicycles. Conventional upright bicycles are just less than 72 inches long and can easily be accommodated in that space. Some rack types will allow the racks to be mounted closer to the wall. This will not change the space required by the bicycles or the aisles.

Large rack areas with a high turnover rate should have more than one entrance. This will help facilitate the arriving and departing of cyclists and pedestrians.

If possible, the rack area should be protected from the elements. Racks along building walls can be sheltered by an awning. Even though cyclists are exposed to sun, rain, and snow while en route, covering the rack area keeps the cyclist more comfortable while parking, locking the bike, and loading or unloading cargo. An awning will also help keep the bicycle dry, especially the saddle.



4. THE RACK AREA SITE

Definition: the rack area site is the relationship of the rack area to a building entrance and approach.

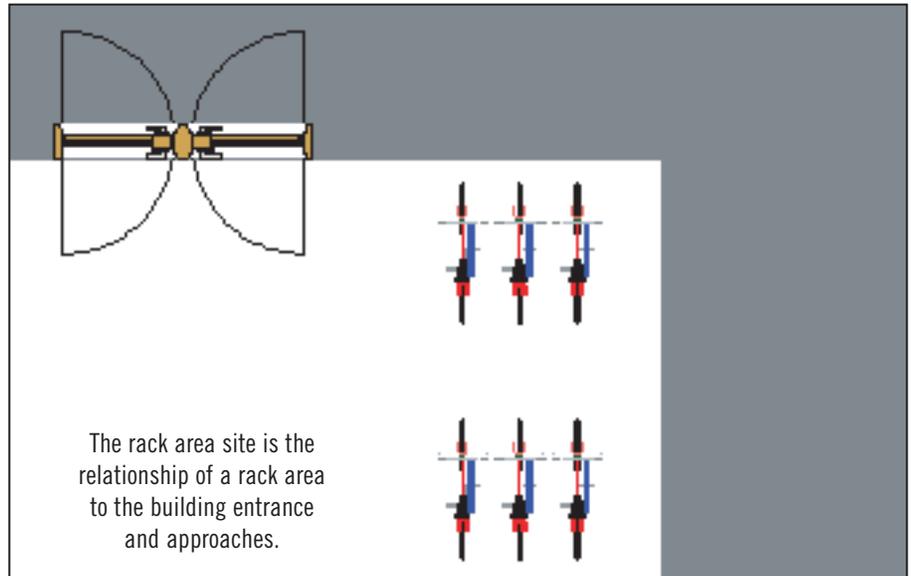
The location of a rack area in relationship to the building it serves is very important. The best location for a rack area is immediately adjacent to the entrance it serves. Racks should not be placed so that they block the entrance or inhibit pedestrian flow in or out of the building. Racks that are far from the entrance, hard to find, or perceived to be vulnerable to vandalism will not be used by most cyclists.

It is important to understand the transition a cyclist makes from vehicle to pedestrian. The cyclist approaches the building mounted on the bicycle. At some point, the cyclist stops, dismounts, and walks the bike to a rack.

The bicycle is attached to the rack and any cargo is removed. The cyclist now walks into the building carrying the cargo. Adequate space must be provided to allow for this transition.

The rack area should be located along a major building approach line and clearly visible from the approach. The rack area should be no more than a 30-second walk (120 feet) from the entrance it serves and should preferably be within 50 feet.

A rack area should be as close or closer than the nearest car parking space. A rack area should be clearly visible from the entrance it serves. A rack area should be provided near each actively used entrance. In general, multiple buildings should not be served with a combined, distant rack area. It is preferred to place smaller rack areas in locations that are more convenient.



5. CREATIVE DESIGNS



The recommended practices above are not intended to stifle creativity. There are many creative, three-dimensional bicycle parking racks that work very well. Whether the rack is a type of “hanger”, “helix” or another

configuration, the critical issue is that the rack element supports the bike in two places and allows the bicycle to be securely locked.

Creative designs should carefully balance form with function. For example, the distinctive “croquet

set” rack shown here likely has a smaller effective capacity than might be immediately apparent because one or more of the rack elements is not accessible. Similarly, the “hanger” racks shown below must be carefully manufactured and maintained to prevent weaknesses at the joints of the hanger and rack—such weakness might compromise the security of bicycles locked to the rack. In addition, the “coat hanger” elements should be spaced at least 30” apart.

CONCLUSION

More information about bicycle parking is available from a wide variety of sources. Visit www.bicyclinginfo.org to access many of those sources, and to find a list of bicycle parking manufacturers.

More information about the Association of Pedestrian and Bicycle Professionals is available at www.apbp.org.



BICYCLE PARKING GUIDELINES

Adopted by the Association of Pedestrian and Bicycle Professionals
Spring 2002

ACKNOWLEDGMENTS

apbp wishes to acknowledge and thank Reed Kempton, Bicycle/Multi-modal Planner with the Maricopa County Department of Transportation, for his work as the primary author of the recommended practice. Members of the Best Practices Task Force ably assisted Reed in this task.

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Pennsylvania Department of Transportation

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ASSOCIATION OF PEDESTRIAN
AND BICYCLE PROFESSIONALS

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- 7

Appendix J: Shared Parking Agreements

Example 2: Model Shared Use Agreement for Parking Facilities

Effective: _____

This Shared Use Agreement for Parking Facilities, entered into this ___ day of _____, between _____, hereinafter called lessor and _____, hereinafter called lessee.

In consideration of the covenants herein, lessor agrees to share with lessee certain parking facilities, as is situated in the (*City, Town, Village*) of _____. County of _____ and State of _____, hereinafter called the facilities, described as:

[Include legal description of location and spaces to be shared here, and as shown on attachment 1 - map].

The facilities shall be shared commencing with the ___ day of _____, 20___, and ending at 11:59 PM on the _____ day of _____, 20___, for *[insert negotiated compensation figures, as appropriate]*. The lessee agrees to pay at *[insert payment address]* to lessor by the ___ day of each month *[or other payment arrangements]*. Lessor hereby represents that it hold legal title to the facilities.

The parties agree:

1. USE OF FACILITIES

Lessee shall have exclusive use of the facilities between the hours of ___ [AM/PM] _____ [day] through _____ [AM/PM] _____ [day]. Lessor shall have exclusive use of the facilities between the hours of [AM/PM] _____ [day] through _____ [AM/PM] _____ [day].

2. MAINTENANCE

Lessor shall provide, as reasonably necessary asphalt repair work. Lessee and Lessor agree to share striping, seal coating and lot sweeping at a 50%/50% mutual split based upon mutually accepted maintenance contracts with outside vendors. Lessor shall maintain lot and landscaping at or above the current condition, at no additional cost to the lessee. *[Revise as necessary to meet local needs]*

3. UTILITIES and TAXES

Lessor shall pay all taxes and utilities associated with the facilities, including maintenance of existing facility lighting as directed by standard safety practices. *[Revise as necessary to meet local needs]*

4. SIGNAGE

Lessee may provide signage, meeting with the written approval of lessor and the *[City, Town, Village]* of _____, designating usage allowances. *[Revise as necessary to meet local needs]*

1. ENFORCEMENT

Lessee may provide a surveillance officer(s) for parking safety and usage only for the period of its exclusive use. Lessee and lessor reserve the right to tow, at owners expense, vehicles improperly parked or abandoned. All towing shall be with the approval of the lessor. *[Revise as necessary to meet local needs]*

6. COOPERATION

Lessee and lessor agree to cooperate to the best of their abilities to mutually use the facilities without disrupting the other party. The parties agree to meet on occasion to work out any problems that may arise to the shared use.

7. INSURANCE

At their own expense, lessor and lessee agree to maintain liability insurance for the facilities as is standard for their own business usage. *[Revise as necessary to meet local needs]*

8. INDEMNIFICATION

[This section should describe indemnification as applicable and negotiated. Legal counsel should be consulted for appropriate language to every agreement].

9. TERMINATION

If lessor transfers ownership, or if part or all of the facilities are condemned, or access to the facilities is changed or limited, lessee may, in its sole discretion, terminate this agreement without further liability by giving Lessor not less than 60 days prior written notice. Upon termination of this agreement, Lessee agrees to remove all signage and repair damage due to excessive use or abuse. Lessor agrees to give lessee the right of first refusal on subsequent renewal of this agreement. *[Revise as necessary to meet local needs]*

10. SUPPLEMENTAL COVENANTS

[This section should contain any additional covenants, rights, responsibilities and/or agreements.]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date Set forth at the outset hereof.

[Signature and notarization as appropriate to a legal document and as appropriate to recording process negotiated between parties.]

Adapted for New York from the Model – Shared Use Agreement for Parking Facilities developed by Stein Engineering, 1997, in the document: *Model Zoning Regulations for Parking for Northwest Connecticut, Northwest Connecticut Parking Study – Phase II*. Northwestern Connecticut Council of Governments, 2003.

Appendix 2 - Model Shared Driveway Agreement

SHARED DRIVEWAY AND MAINTENANCE AGREEMENT

Background of Agreement

Users are owners of adjacent properties in the (*City, Town, Village*) of _____. New York. User One: _____ is owner of the property at _____ (address) _____ (tax parcel number). User Two: _____ is owner of the property at _____ (address) _____ (tax parcel number). The Users own properties that abut each other and have access from _____. There is a driveway that serves both properties. The Users have determined that it is in their mutual interest to have executed and recorded an agreement for sharing the costs of maintenance and repair of the driveway. The purpose of this Agreement is to place into writing the mutual rights and obligations of the Users of the jointly used driveway.

Agreement

NOW THEREFORE, in consideration of their mutual promises and intending to be legally bound, the Users (parties) agree as follows:

1. **Grant of Easement.** Each party grants to the other a permanent easement over and across their respective properties for the purpose in ingress and egress to their adjoining properties.

2. **Sharing of Costs and Expenses.** The parties shall share the expenses as follows: _____, his/her successors and assigns shall pay one-half of the maintenance and repair of the driveway that is jointly used. _____, their successors and assigns shall pay one-half of the costs of maintenance and repair of the jointly used driveway that is used solely by them.

3. **Binding Effect.** This Shared Driveway Agreement shall not be modified except in writing signed by the parties, their successors or assigns. This Agreement and its obligations and benefits shall run with the land and shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

This Agreement dated this _____ day of _____, 20__.

(Signature – User One)

(Print Name – User One)

(Signature – User Two)

(Print Name – User Two)

Adapted for New York from the Township of Halfmoon, Centre County, Pennsylvania.

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

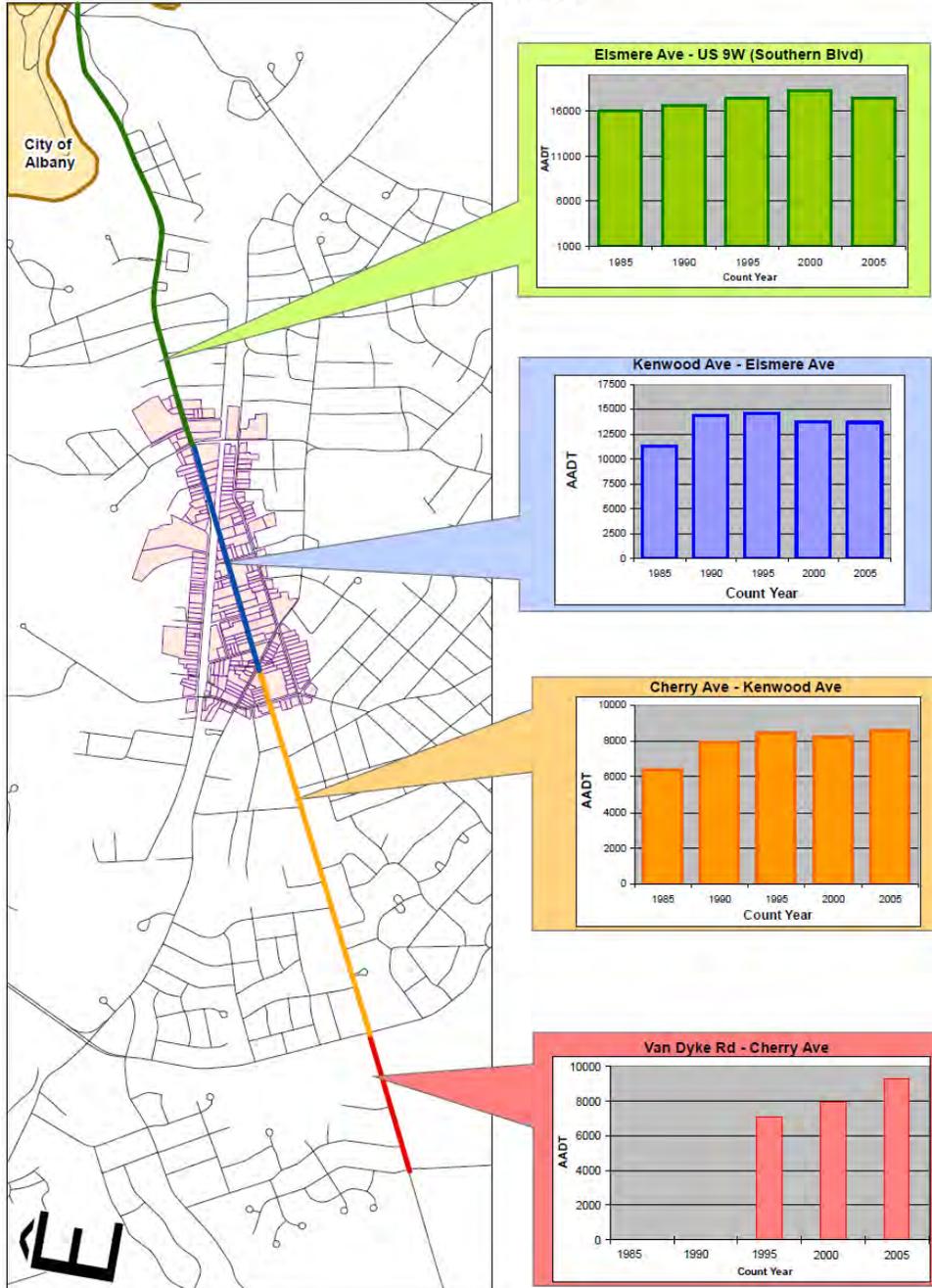
Transportation Improvement Plan- 7

Appendix K: Traffic Counts and Volumes



Delaware Avenue Hamlet Enhancement Study

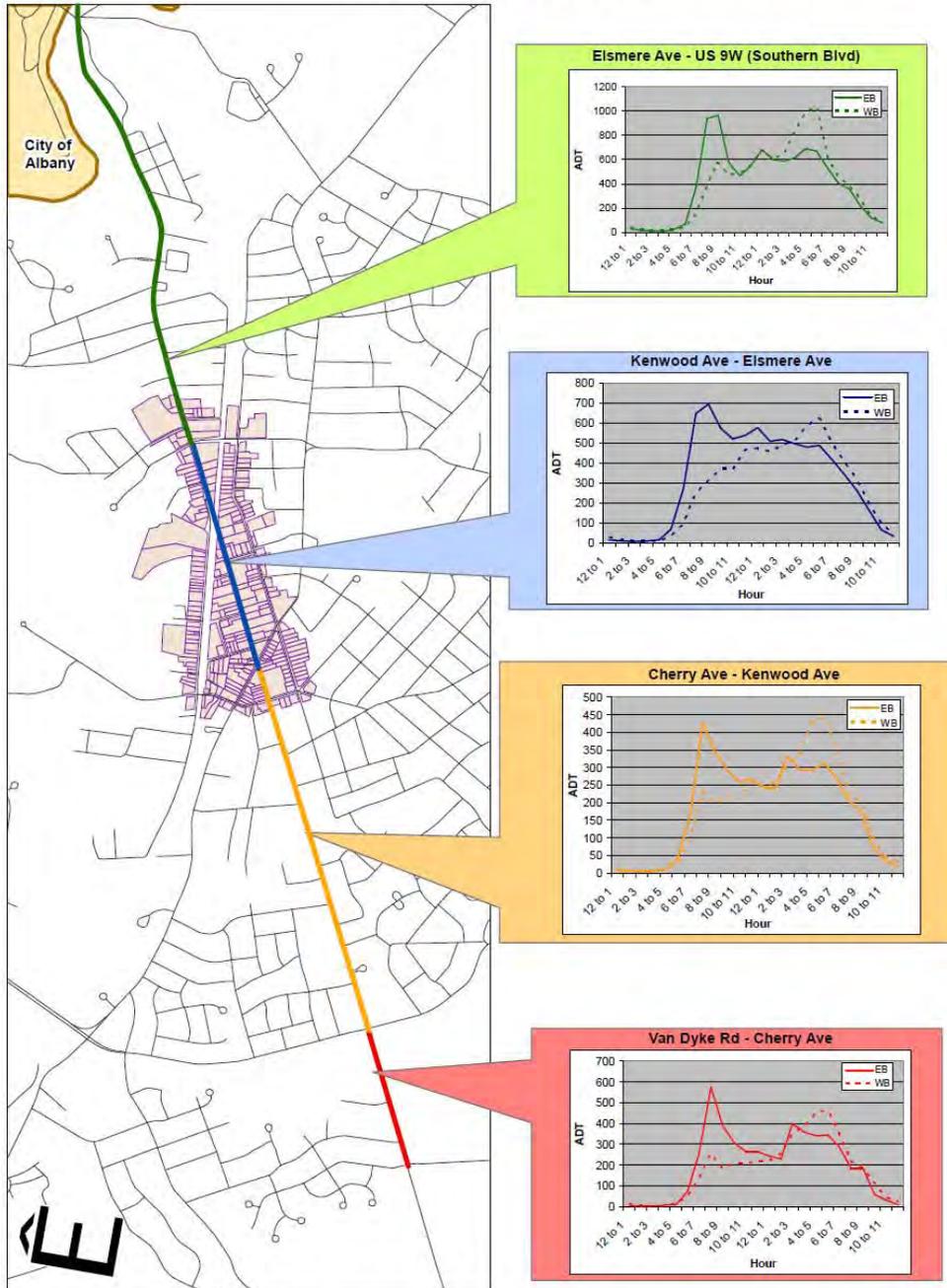
Delaware Avenue Traffic Growth 1985 - 2005



Source: NYS Department of Transportation

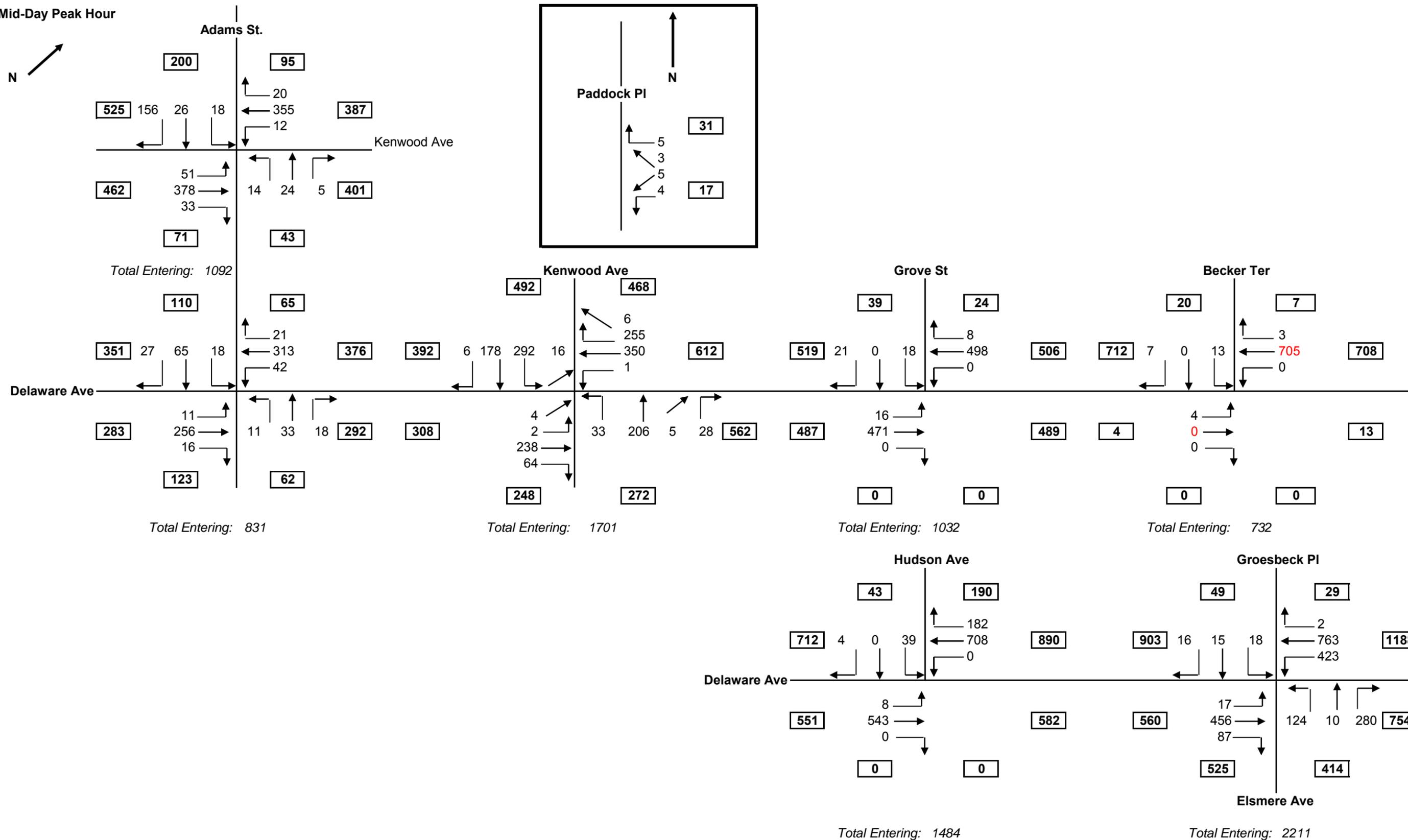
Delaware Avenue Hamlet Enhancement Study

Delaware Avenue Hourly Traffic



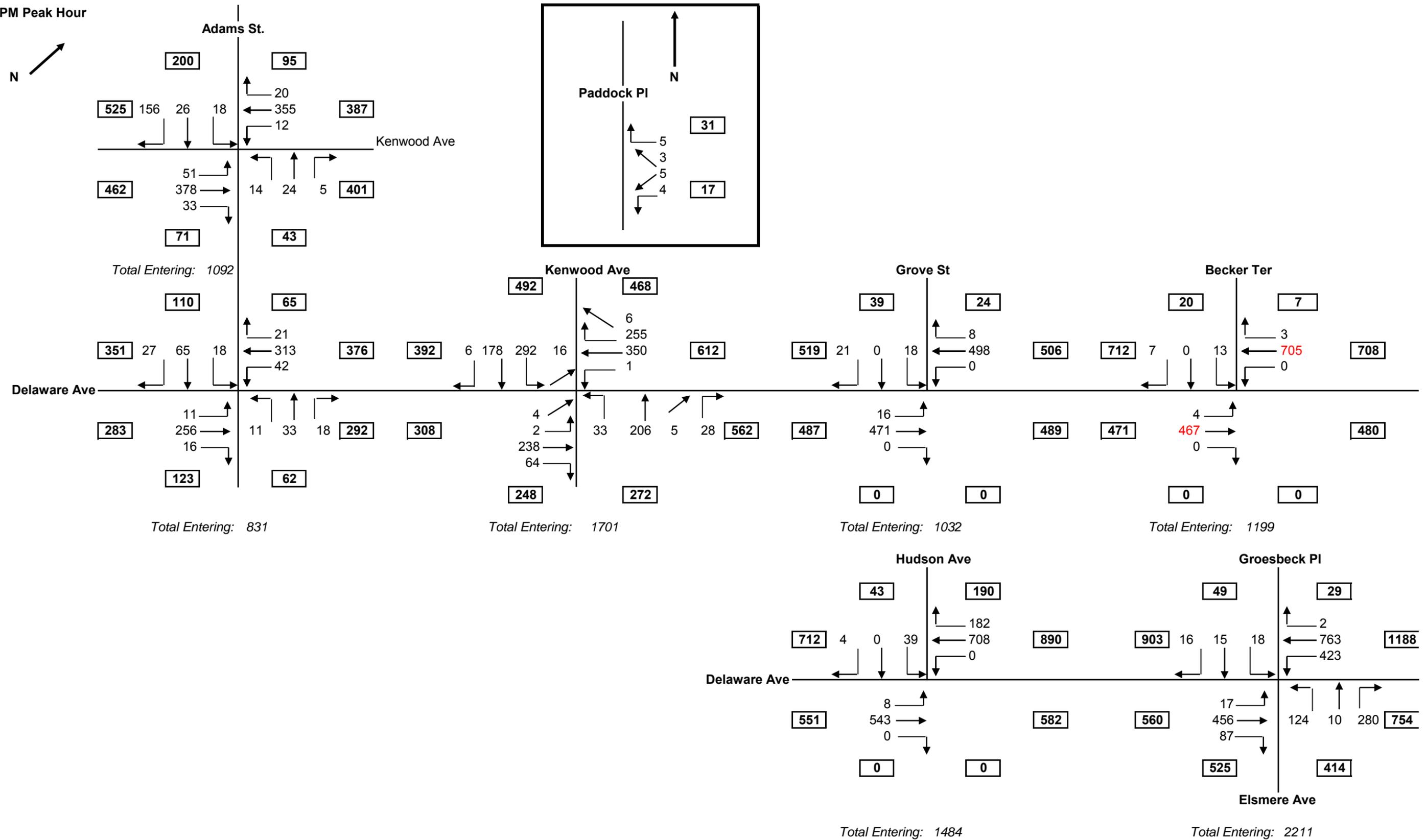
Source: New York State Department of Transportation
 Van Dyke Rd. to Elm / Cherry Ave (2006)
 Elm / Cherry Ave to Kenwood Ave (2006)
 Kenwood Ave to Elsmere (2007)
 Elsmere to Southern Blvd. (2002)

Mid-Day Peak Hour



**Delaware Ave Corridor
Delaware Ave Hamlet Enhancement Study
Summer 2008**

PM Peak Hour



Appendix L:
Driver Compliance to Yield to Pedestrian in
Crosswalk 1998 & 2008

Driver Compliance to Yield to Pedestrian in Crosswalk 1998 & 2008

Delmar Post Office, Delaware Avenue

Town of Bethlehem

Date:	3/5/98	9/1/98	7/10/08	7/29/08
Time:	10:30am – 1:00pm	10:30am – 1:00pm	11:00am – 1:00pm	10:30am – 1:00pm
Total Number of Pedestrians	75	95	25	68
Number of Pedestrians Crossing With No Vehicles Present	37 46		14	30
Number of Pedestrians Crossing When Vehicles Stopped	38 49		4	16
Number of Pedestrians Waiting to Cross and Vehicle(s) in One or Both directions Did Not Yield	NA NA		7	22
Total Number of Vehicles Stopping for Pedestrians	42 (31%)	60 (52%)	9 (50%)	21 (49%)
Total Number of Vehicles Not Stopping for Pedestrians	94 (69%)	55 (48%)	9 (50%)	22 (51%)
Total Number of Vehicles Parked in the Crosswalk	16 11		NA	NA

2008 Data Collection Notes:

- Cars coming out of bank driveway turning right do not stop for peds in walk and accelerate through it
- Cars parked in front of post office are too close to cross walk for cars to see ped behind it
- Cars heading eastbound turning left into post office parking lot, queue up and block crosswalk often
- Many peds were noticed crossing in front of TD Banknorth instead of Post Office cross walk- more than 10 peds

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Appendix M:

Disclosures

Disclosure Statements

This report was prepared in cooperation with the Town of Bethlehem, Albany County, CDTA, NYSDOT, and the Federal Highway Administration and Federal Transit Administration of the United State Department of Transportation. The contents do not necessarily reflect the official views or policies of these governmental agencies.

The transportation recommendations presented in this report are designed to help support the existing and future land use pattern described in the Town's Comprehensive Plan. The various transportation options identified in the report are based on an analysis of existing and expected future travel conditions in the Delaware Avenue corridor of the town.

Many of the actions identified in the study are not intended for short-term implementation. A considerable amount of design work still remains to be done before any of these projects can be constructed. The recommendations set forth in this report are conceptual in nature and do not commit NYSDOT, Albany County, CDTA, or the Town of Bethlehem to funding any of the improvements. The concepts need to be investigated in more detail before any financial commitment can be made.

Compliance with the Americans with Disabilities Act (ADA) of 1990: Providing Accessible Sidewalks and Street Crossings in the Delaware Avenue Corridor

Plans and programs developed by CDTC must comply with the accessibility standards in the Architectural Barriers Act (ABA) of 1968, the Rehabilitation Act of 1973 (Section 504), and the Americans with Disabilities Act (ADA) of 1990. Sidewalks, like roadways, should be planned and designed to serve all users. This includes children, older people, parents with strollers, pedestrians who have vision impairments, and people who use wheelchairs and other assistive devices. Just as a roadway will not be designed for one type of vehicle, the design of sidewalks should not be limited to only a single type of pedestrian user. Because the sidewalk is the basic unit of mobility within the overall system of transportation, every route, facility, and crossing must be usable, safe, and convenient to everyone in the community.

The Plan's recommendations for new sidewalks, sidewalk reconstruction, protected street crossings, high visibility crosswalks, and other treatments will go a long way toward making Delaware Avenue and connecting roadways more walkable and usable to everyone in the community. The proposed road diet for Delaware Avenue from Hudson Avenue to Elsmere Avenue will improve the pedestrian environment significantly by making it easier and safer for pedestrians to access neighboring businesses and the new rail trail.

Environmental Justice Statement

Increased attention has been given to the National Environmental Policy Act (NEPA) related to its ability to balance overall mobility benefits of transportation projects against protecting quality of life of low-income and minority residents of a community. President Clinton issued Executive Order 12898 to bring attention to environmental and human health impacts of low-income and minority communities – referred to as environmental justice – when federal funding is involved. The goal of environmental justice review is to ensure that any adverse human health or environmental effects of a government action, such as federally-supported roadway or transit project, does not disproportionately affect minority or low-income residents of a community or neighborhood. Environmental justice is a public policy objective that can help improve the quality of life for those whose interests have traditionally been overlooked.

The CDTC staff has completed a review of civil rights/environmental justice impacts of transportation actions proposed under this study. Based on a review of the latest socioeconomic data available, the CDTC staff has determined that there are a total of 0 TAZ's in Delaware Avenue Hamlet Enhancement study area that are identified as Environmental Justice Target Population Areas. All of the transportation recommendations for the study would provide fair access and do not result in negative impacts to any minority or low-income residents. However, additional information gathered through the public review process could suggest a different outcome. In addition, examination of regional equity impacts would be necessary if any transportation action is considered for inclusion in CDTC's *Transportation Improvement Program*.

Equitable access to, consideration within, and effects of the design and implementation of federally assisted projects is also a key aspect of environmental justice. However, design and construction is the responsibility of implementing agencies in the region. For projects identified in this study, implementing agencies would either be the New York State Department of Transportation, Capital District Transportation Authority, Albany County, or the Town of Bethlehem.

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Appendix N:

Road Diets

Road Diet Alternative

Pursuing a road diet in this section of Delaware Avenue was discussed during several Study Advisory Committee meetings and at the study's first public meeting. Comments at the public meeting were supportive. This section of Delaware Avenue transitions from two lanes to four lanes. This area is located in a commercial hamlet zone surrounded by residential neighborhoods; Elsmere School is located nearby to the northeast of Elsmere Avenue.

The intersection of Delaware Avenue and Elsmere Avenue is somewhat of a transition area with motor vehicle traffic volumes southwest of the intersection at less than 15,000 vehicles per day (vpd), while to the northeast volumes increase to between 16,000 and 18,500+ (estimated) vpd. A 2008 survey tallied pedestrian crossings of 35, 112 and 100 in the morning, mid-day and afternoon peak travel periods, respectively at this intersection.

Dan Burden, of Walkable Communities, Inc., notes that virtually every urban community in the U.S. has four lane roads that are overbuilt in a manner that encourages speeding. As Burden explains, the capacity of a three-lane road is almost equivalent to that of a four-lane road, because it operates more efficiently, and because left-turning vehicles are removed from the flow of traffic, reducing delay. Further, three-lane roads are inherently safer because the speed is set by the most prudent driver, because there is only a single lane of on-coming traffic to monitor when turning left, and because the two directions are separated by the median.

Examples outside the Capital District include Baxter Street in Atlanta, Georgia (Figures 32 and 33 above) which carried approximately 20,000 vehicles per day on its four lanes prior to a road diet implemented through a re-striping project that reduced the roadway to two 14 ft shared lanes with the addition of a center left turn lane. Baxter Street is also a transit route. After the road was re-striped crashes were reduced by over 50%, travel speeds were moderated and pedestrian safety was improved. 4% of pre-diet motor vehicle traffic was diverted from the roadway (which would not be an option northeast of the Delaware Ave /Elsmere intersection). Total collisions declined 20% (27% decline in midblock collisions and 31% decline in intersection collisions). Collisions with bicyclists declined 49% while collisions with pedestrians declined 36%.

Valencia Street, San Francisco, California is a 19.1 m (62 ft 6 in) – wide street through a shared-use area of mostly two- to three-story buildings with commercial at street level and residential units above, and metered on-street parking on both sides. The street lies in a grid pattern and is paralleled by four other north-south arterials. Before the project, the arterial was a four-lane street with an Average Daily Traffic (ADT) of approximately 22,000 vehicles per day. A motor coach transit line with a headway of 15 to 20 minutes travels along the street. There is a heavy pedestrian presence because the street is a popular area with restaurants, nightclubs, and a variety of shops. All intersections have signals. A photo of Valencia Street with four lanes before the road diet is shown below (see figures 34 and 35 on the next page).

An example of a road diet in the Capital District can be found on Fuller Road in Guilderland. Between Tricentennial Drive and Western Avenue. Fuller Road's cross section consists of 1 travel lane in each direction with a two way center left turn lane.

The 2008 AADT both north and south of this intersection is 12,700 and 11,350 respectively. For the three year period prior to the implementation of the road diet the number of crashes on this segment was 22; after its completion during the time period from 2005 to 2007 the number of crashes tallied was 4.

Altamont Ave in Rotterdam was expanded to 1 lane in each direction plus a center turn lane or two way left turn lane (TWLTL). This NYS route carries over 21,000 AADT.

NYS DOT Region 1 Traffic and Safety staff was asked to consider the feasibility of a potential road diet along the section of Delaware Avenue from the vicinity of Hudson Avenue to the Elsmere Avenue intersection.

NYS DOT Evaluation of Road Diet Concept

In examining the potential feasibility of a road diet concept for this area, NYSDOT Region 1 staff undertook an investigation by looking at the number and type of crashes that occurred in the area surrounding the Elsmere Avenue/Delaware Avenue intersection over a three year period, the current signal and overall intersection operations at that intersection, locations of utilities, the available right-of-way (ROW) and other potential constraints or opportunities.



Figure 30: Elsmere Ave/Delaware Ave intersection east side proposed lane reconfiguration

As part of this investigation, NYSDOT Region 1 staff created a VISSIM model for existing conditions in this area as well as several lane reduction/reallocation scenarios. The results of this modeling effort are outlined below.

1. On the west side of the intersection (the side with CVS at the corner to the south):
 - retain two eastbound through lanes as exists today
 - retain only one westbound through lane
 - convert the existing inside westbound through lane to a two-way left turn lane from around Rural Place eastward. This lane then becomes a left turn only lane as it approaches the intersection.

2. On the east side of the intersection:
 - retain one westbound through lane
 - convert the existing inside westbound through lane to a left turn only lane starting at Herrick Avenue.

This proposed reconfiguration will likely result in a reduction of the incidence of aggressive driving and potentially lower travel speeds of vehicles leaving the intersection, traveling west, compared to the existing condition. By transitioning from two westbound through lanes to one through lane (and one left turn lane) on the other side of the intersection at Herrick Avenue, vehicles exiting the intersection to the west won't be jockeying for position as they previously were when transitioning from two through lanes to one.

Signal operations at this intersection would be improved by providing protected left turn phases under the one westbound through, two eastbound through lanes, and two dedicated left turn lane scenario as phasing can be made more efficient. The modeling results indicate that delay will be slightly reduced. The pedestrian phase won't be impacted negatively in that the all red, protected pedestrian phase will be retained.

The current inside through lanes on Delaware Ave currently function as de facto left turn lanes but impact the ability to provide more efficient operations. The proposed reconfiguration should remedy this and should result in fewer left turn related crashes.

NYS DOT staff also modeled a scenario with only one eastbound through lane approaching the intersection from the west --- this is essentially the Study Advisory Committee's road diet proposal that reallocated pavement to bicycle lanes. NYS DOT found that in both the morning and afternoon peak hours removal of the second through lane resulted in long queues that extended westward beyond the railroad bridge. This queue length was deemed unacceptable. The discussion shifted to the possibility of constructing a roundabout (long term) at the intersection. A roundabout could permit eliminating one eastbound and one westbound lane between Elsmere Avenue and Hudson Avenue, resulting in a road diet which would allow reallocating space for bicycle lanes. CDTC staff asked NYS DOT to examine the feasibility of a roundabout at this location for a potential long term option.

Appendix O:

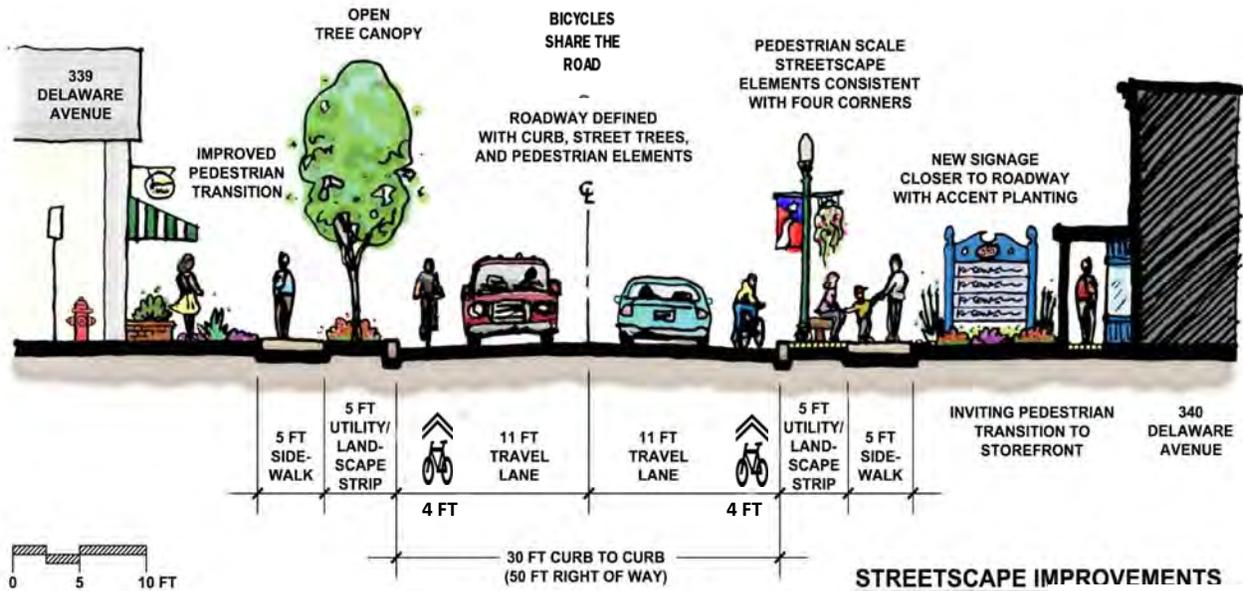
.....Alternate Cross Section

(Reviewed as an alternative but not selected as the recommended approach)

Cross Section Alternative - The following cross section for 340 Delaware Avenue was reviewed but not recommended at this time by the Study Advisory Committee due to the fact that it would remove on-street parking.

340 Delaware Avenue - Streetscape Improvements - Example 2

A second example of potential streetscape improvements for the Delaware Avenue corridor between the Grove Street and Veterans Memorial Park are illustrated below in figure 29. These proposed improvements again focus on strengthening the pedestrian experience, but also provide for bicycle use. This is achieved by establishing streetscape conditions that reduce motor vehicle travel speed, allow for share the road markings within the roadway, and by defining the adjacent pedestrian zone. Installation of a curb with six to eight inches of reveal creates a strong roadway edge. Curb to curb width is 30 ft., with two 15 ft. travel lanes. As in example 1, the addition of appropriately scaled streetscape elements such as furnishings, lighting and planting provides both separation from the roadway and a clear use zone for pedestrians. Burying overhead utilities frees surface area to accommodate streetscape improvements. Again, replacing undesirable signage with new, compliant signs, and improving storefronts with awnings, walkways and landscape plantings establishes an inviting transition from the sidewalk to local businesses. If the centerline of the roadway was shifted, a wider utility/landscape strip could be established, on one side or the other that could also accommodate parallel parking, with the curb immediately adjacent to the sidewalk on the opposite side.



Cross Section – Streetscape Improvements Example 2

Appendix P: NYS Department of Transportation Final Comments





REC-8
12/10/10

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION - REGION ONE
328 STATE STREET
SCHENECTADY, NEW YORK 12305
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MARY E. IVEY
REGIONAL DIRECTOR

STANLEY GEE
ACTING COMMISSIONER

December 8, 2010

Mr. Michael Morelli,
Director, Economic Development & Planning
Town of Bethlehem
445 Delaware Avenue
Delmar, NY 12054

RE: Delaware Ave Hamlet Enhancement
Study – Transportation Improvement Plan
Rt 443, Albany County

Dear Mr. Morelli:

Similar to Supervisor Messina, I too was very surprised, yet pleased, to see the substantive turn at the Delaware Avenue Hamlet Enhancement Study Advisory Committee's November 15, 2010 Public Information meeting at which the Draft Delaware Avenue Hamlet Enhancement Study Design Standards and Guidelines and Transportation Improvement Plan were presented to the community.

I believe that the SAC put has put forth a commendable effort to bring out the definitive land use and transportation connection. The documents prepared identify transportation and land use design treatments that will sustain and further enhance Delaware Avenue's main street character – not only its architectural style, pedestrian scale and aesthetics, but the elements and attributes that will create a convenient travel corridor for all that live and work along, or commute through, the corridor, while acknowledging the needs of all transit modes. (The clarity and the detail of the visuals provided were superior, and afforded those in attendance a better chance of 'visualizing' what the hamlet could look like.)

Related to the October 29, 2010 Transportation Improvement Plan document, we can garner an understanding of why many of the modifications (including additions or removal) of traffic control devices may be deemed desirable. Yet, recognition needs to be given that the decision to add or remove of traffic control devices along a NYS highway is made only after an engineering study concludes it is proper to do so. Ultimately, implementation would be based upon applying engineering logic, as well as balancing cost – which was not fully acknowledged within the study.

Specific comments are denoted on the following page.

Page 35: 2. Proposed Improvements (to Delaware Ave, Kenwood, & Paddock Place)

- a. Use of a textured and/or colored asphalt in an entire intersection requires FHWA approval as an experimental feature, and would necessitate a before/after engineering study to document the cost/benefits.
- b. 1) NO TURN ON RED blankout LED signs are only installed where part time turn restrictions are needed. Due to the unique 5-legged nature of the Delaware @ Kenwood intersection, the existing static black on white signs better serve the intersection. 2) Audible pedestrian signals are installed by NYSDOT when we are made aware of a visually impaired person who uses the intersection. This request typically comes from the NYS Association for the Blind, who trains visually impaired persons to use the intersection.
- e. In order to remove the existing right turn slip ramp, currently controlled by a YIELD sign, the existing traffic signal would need to be replaced (because the signal pole sits in the curbed triangle area separating the lanes). Replacing the signal would necessitate the relocation of existing utilities, drainage structures, and would incorporate roadway reconstruction work. NYSDOT typically would consider such a project to address an existing safety problem and/or there is a major road reconstruction project.

Page 40: 2. Proposed Improvements (to Delaware Ave/Elsmere Ave/Groesbeck Pl/Booth Rd)

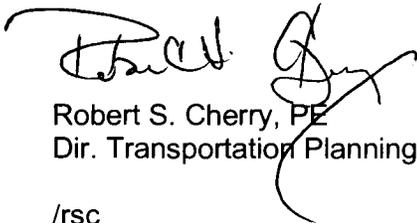
Future development of the former CVS should include a shared driveway on Elsmere, south of the Delaware Avenue intersection in order to provide patrons the ability to proceed west on Delaware Avenue.

- a. Similar to the comment above, NO TURN ON RED blankout LED signs are only installed where part time turn restrictions are needed.

It was my understanding that the comments generated from the meeting would be compiled, and that they would be addressed in some manner, prior to issuance of the final document. I seemed to recall that this was going to be accomplished without having to reconvene the SAC, but am unsure of the methodology proposed to ensure that SAC members were 'satisfied' with the means or manner which the comment(s) were addressed. Your insight on this would be appreciated.

Please feel free to contact me at 388-0228 should you have any questions on the comments resented above.

Very truly yours,



Robert S. Cherry, PE
Dir. Transportation Planning, R1

/rsc

cc. D. Jukins, CDTC
M. Kennedy, Traffic, Safety & Mobility, R-1
dhescomt.doc

DELAWARE AVENUE HAMLET ENHANCEMENT STUDY

Transportation Improvement Plan- February 7, 2011

Appendix Q: Public Comments November, 2010



Delaware Avenue Hamlet Enhancement Study Community Workshop Response to Comments	
Comment	Response
Comments/Questions	
1. Continue dialogue with the business community. We want successful thriving businesses	Town recognizes the importance of viable businesses in the study area.
2. Are hamlet boundaries the same as the study area?	Yes, the study area exhibits quality Main Street character and the reason why this area was chosen.
3. Delaware Avenue from Elsmere Avenue to Albany City line should be the next study area to be addressed.	Logical next step depending on available funding.
4. Enforcement/traffic calming techniques should be used around Elsmere School	Needs to be addressed and coordinated with DOT during intersection improvements at Elsmere and Groesbeck Place.
5. Concerned about making improvements/raising taxes so high that it drives businesses out	The Town's essentially maintaining is tax rate for next year and is cognizant about having a balance. Once the plan is adopted by the Town Board, the Town can get funding for implementation with this blue print for the future.
6. Boundary of the study area includes Elsmere Elementary, the middle school and St. Thomas. The schools won't let kids walk to school because of the traffic. Why isn't traffic calming in front of the school recommended? Why aren't the Middle School or St. Thomas in the report	There is a crossing guard at the School. Sidewalk improvements are recommended throughout the study area, including those connecting to the Middle School and St. Thomas. Need to look at enforcement and driver education.
7. The plan is important. It will help to unify the corridor and encourage variety of land uses (lots of opportunities to pursue grant funding)	Thank you!
8. Road diet for all four lanes of Delaware Ave to better accommodate/welcome pedestrians and cyclists	The Town will continue to explore opportunities to study a larger road diet as funding opportunities become available.
9. Clarify that when property owners improve the building facade that assessment does not increase.	Normal maintenance, repairs (including improvements and upgrades to facades) do not impact assessments.
Railroad to Becker	
10. Construct full crosswalks at intersection of Poplar Street and Herber Avenue	In Transportation Report, see page 43 and conceptual master plan graphic.
11. Use traffic calming and enforce traffic laws on Herber Avenue at Winding Road	Town Planning staff will speak with the Police Department
12. Use a standard set of street furniture	Recommended in transportation report. The TIP report recommends street furniture but does not call for any uniformity or standard. Should it?
13. Implement design standards	Recommendation is to use a zoning overlay district covering the hamlet area
14. Encourage shared parking at St. Thomas Church	Recommended, but there is no formal agreement at this time except for postal workers, who may use the parking lot during the work day
15. Make side street connections to Hudson (part	Bike and pedestrian connections could be made

of rail-trail planning access points)	over the right-of-way and explored further through development of the rail-trail
16. Drainage at railroad overpass is a problem	A drainage solution would need to be part of a larger, future reconstruction project that goes beyond the proposed partial road diet/NYS DOT safety project.
17. Plan for connections over railroad right of way for bicyclists and pedestrians	The plan supports bicycle and pedestrian connections wherever possible. See p. 60 of the Transportation Improvement Plan for a map illustrating potential connections to rail trail.
18. Ensure that the rail trail can be converted back to light rail	The Right of Way has been railbanked and preserved if future light-rail is feasible.
19. What is a Hawk signal?	A HAWK beacon (High-Intensity Activated crosswalk beacon) is a traffic signal used to allow protected pedestrian crossings while stopping road traffic only as needed. In the study area there are two options at identified locations: the Hawk Signal and the Rectangular Rapid Flash LED Beacons. The LED beacons are already allowed in NYS, less expensive than the HAWK signal and they can be put in right at the intersection. See page 40-41.
Elsmere Ave to Railroad Bridge	
20. How will the transitions to the road dieted section occur?	NYS DOT is currently working on designs for the partial road diet as part of a safety improvement project at Elsmere Ave/Delaware Ave.
21. How can speeding be addressed (especially in front of the school)	Speed Limits are under NYSDOT control. The Town will discuss concerns with DOT and may be addressed with DOT Safety Project as improvements at Elsmere Avenue and Delaware Avenue are pursued. Potential signage/device is illustrated on p. 39 of the Transportation Improvement Plan.
22. How were improvements selected at the Hudson/ Delaware intersection	Much discussion took place. Recommendations are limited due to skewed geometry of intersection.
23. Rural Place is a narrow Street. There are concerns that turn restrictions onto Delaware will create issues for truck deliveries	This is a challenging intersection and there are few simple solutions. Assessment was made that truck deliveries to restaurant are limited.
24. Elsmere/Delaware Ave pedestrian crossing times are not sufficient	Crossing times will be evaluated as part of the road diet assessment.
25. Cars are speeding through the Hudson Ave/Delaware Ave crosswalk	Address as part of enforcement action. Needs further review. Consider HAWK signal/LED rapid beacon. Will ask DOT for guidance.
26. What is the timeframe for long term improvements to be implemented?	The construction for the partial road diet is scheduled to begin in Spring 2011. The Town will continually explore opportunities to implement recommendations as funding becomes available.
27. Use the “Bikes may Use Full Lane” signage along with sharrows – don’t use share the road signs	Changed sign on graphic where we have sharrows to “Bikes may use full lane”
28. East of Elsmere bike safety is an issue. Bikes	This is outside the study area. However, it is on the

have to use sidewalks	Town's priority network so the Town will explore opportunities to make improvements as funding becomes available.
29. Use bike friendly drainage gates	The Town currently uses bike friendly grates. Others will be upgraded as part of future road improvement projects.
30. At curve on Herber Ave needs warning signs and traffic calming	Enforcement issue – will discuss with Town police
31. Move Hudson/Delaware Avenue crosswalk to a route behind Toole's Restaurant	This is currently not feasible because of the limited public right-of-way in this location.
32. Monitor for traffic signal at Hudson/Delaware Ave road diet section. Narrowed pavement to reduce aggressive driving	Currently does not meet NYS warrant for a traffic signal. Will continue to monitor.
33. Support for continuing "road diet" further toward Albany	As mentioned above, the Town will continue to explore opportunities to study a larger road diet as funding opportunities become available.
34. Support lower speed limit beyond Elsmere School	Recommended in the Transportation Report
35. Support bike boxes at intersections and signal accommodations for bikes	Bike boxes are typically associated with dedicated bike lanes. Will explore other intersection treatments. Study recommends sharrows and signs for bike improvements. Bike boxes may not be consistent with sharrows.
36. In the area of Elsmere Avenue south of Delaware Avenue construct a walking path/sidewalk on west side of Elsmere to maintain a continuous pedestrian path and connection to the bike path, perhaps via easement thru properties on south side of Herber	Elsmere Avenue is part of the bike/pedestrian priority network. The plan supports bicycle and pedestrian connections wherever possible. See p. 60 of the Transportation Improvement Plan for map illustrating potential bicycle and pedestrian connections.
37. Enforce the double/double yellow lines.	Will be referred to DOT.
Becker to Four Corners	
38. Add better signage so autos know pedestrians have the right of way	Address as part of enforcement campaign
39. Crosswalk across Kenwood by Adams (near Methodist church/Peter Harris)	This improvement is included in the Study recommendations.
40. Bikes ought not be relegated to bike routes cyclists use the same routes cars do	The streets identified as bicycle routes are just recommendations. Cyclists are allowed to use all streets.
41. Do more to create bike lanes that are usable	Sharrows are recommended instead of bike lanes because of limited right-of-way.
42. Eliminate left turn west-bound on Delaware Avenue in front of I Love Books Driveway (people block it)	Vehicle turn movement does not currently support change. Can't restrict left turn and force traffic on to Adams which is undesirable
43. Cars come to a dead stop at the intersection with Paddock Place.	Addressed in Transportation Improvement Plan Report
44. Bump out parking in front of I Love NY Pizza	Recommended consistent with streetscape section. See Figure 31.
45. Eliminate "little lane" on Kenwood (to make a right turn going west on Delaware Ave).	It is currently not feasible to remove lane. The plan includes a recommendation to install a stop sign instead of a yield sign (see page 44).
46. Past efforts to regrade Delaware Avenue were	Will evaluate as part of future regrading efforts.

not well constructed. Ice builds up on crosswalks	
47. Bicycle turning boxes should be boldly painted to give bicyclists safety zones (bike box)	See discussion above.
48. The neighborhoods west of the study area absorb a great deal of traffic from Delaware Avenue and Kenwood Avenue intersection as individuals try to avoid the light.	Improving operations on Delaware Avenue, including those for bikes and pedestrians – will reduce auto dependency and positively impact side streets.
49. Some people are skeptical of the effectiveness of the proposal for one-way at Paddock Place (emptying the traffic through the municipal lot).	Discussion item for future consideration.
50. Lights can be timed to slow speeds (if you travel 20 mph through corridor you'll hit each light green). Also consider timing lights for cyclists.	This is not conducive for Delaware Avenue and Elsmere Avenue due to spacing of Kenwood Avenue and Elsmere Avenue lights.
Submitted Comments	
51. Concerned about traffic on Adams Place. We hope you can make Four Corners more efficient so less people use Adams Place as a short cut. It would also be great to do a campaign to urge more people to walk and ride bikes to cut down on traffic.	Part of the plan is to make the area multi-modal.
52. Clearly identify all entrances to the Hamlet Area and include signs informing everyone entering the area of the Town's commitment to enforcement of State and Local Traffic Laws.	This has been addressed in the Design Standards.
53. Establish a uniform speed limit for the Hamlet roads that includes a single motor vehicle speed for state and local roads except that of school zones that need a single limit that is 10 miles an hour slower (e.g. 30 miles an hour on roads outside school zones and 20 miles an hour in school zones).	As described earlier, this is an issue that will require DOT consultation and additional local enforcement.
54. Place mailboxes in the post office parking lot instead of those now on Delaware Avenue in front of, and across the street from, the post office.	This is not consistent with the overall purpose of the plan.
55. Introduce "your speed is" lighted sensors inside the entrances to school zones.	Town will discuss expanded use of speed trailers with the police. There may be locations where permanent installation is appropriate.
56. Prohibit left turn movement from Delaware Avenue (eastbound) to Kenwood Avenue and encourage this left turn movement to occur at Adams Street for motorists who desire to access Kenwood Avenue.	Vehicle turn movement does not currently support change. Can't restrict left turn and force traffic on to Adams which is undesirable.
57. The plan needs to address the traffic that bypasses the Kenwood/Delaware intersection and traverses our residential streets. Also look at the School District bus routes as we have more than 20 buses pass our home each day.	School district routes are outside of the Town's control. Will request increased speed enforcement.
58. We've often wondered if speed bumps on	They are very noisy and that may not be acceptable

<p>Adams Place between Adams Street and Kenwood might deter the cut-throughs and the speeding.</p>	<p>to neighbors. Increased enforcement should help.</p>
<p>59. Would making the side streets in neighborhoods bordering Delaware Avenue like Adams Place one-way help?</p>	<p>Research shows that one-way streets often result in higher travel speeds.</p>
<p>60. When improvements are considered, can the town be creative with “functional art” in the hamlet that might draw pedestrians to these common spaces.</p>	<p>Yes.</p>
<p>61. The Albany Bicycle Coalition submitted the following comments:</p> <ul style="list-style-type: none"> ○ Ensure that the bicycle-oriented enhancements are compatible with Albany’s initiatives on Delaware Ave and elsewhere ○ Reduce speed limits on Delaware Ave from 40 to 30 miles per hour ○ Use functional bicycle racks, properly placed. ○ Use bicycles may use full lane” signage 	<p>Bicycle enhancements are the key to the improvement plan. Change has been made on the graphics to use “Bicycles May Use Full Lane” symbol and identifier. Speed limits have been discussed previously. Bicycle racks matching those recently installed in the Town are proposed.</p>
<p>62. The Town received comments from Robert Cherry at NYS DOT.</p>	<p>The Town will work with NYSDOT to ensure all NYSDOT standards are met during project implementation.</p>