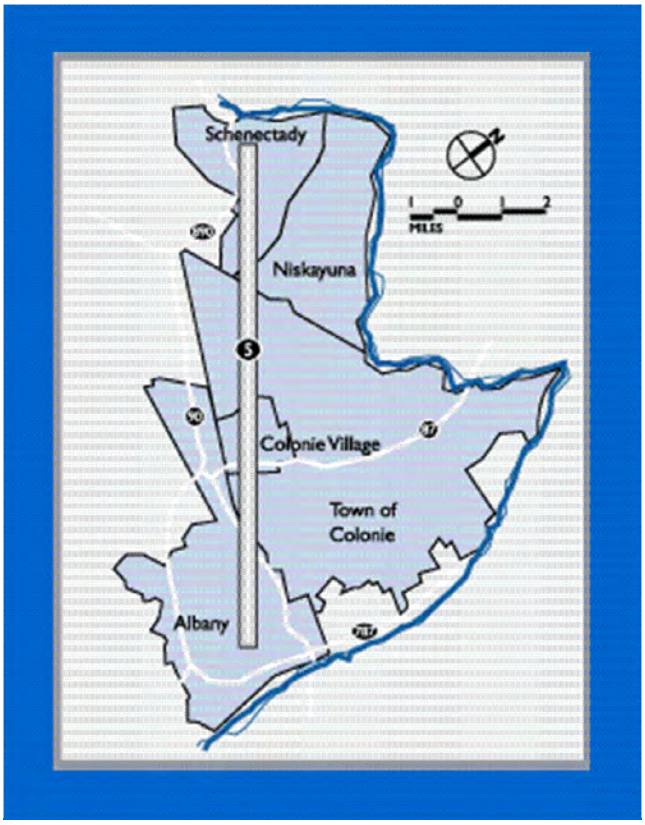
NY5 Access Management Plan

June 2009



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Document Purpose

It is the intent of the Study Advisory Committee that the NY5 Access Management Plan will be a handy reference tool for access management decisions in the NY Route 5 Corridor and throughout the five municipalities located along the corridor. Proper access control improves safety, parcel access, and mobility. All roadway users including motorists, business owners, transit riders, pedestrians, and bicyclists will benefit from the proper implementation of access management throughout these communities.

A. Guidance Goals

The *NY5 Access Management Plan* has three primary goals:

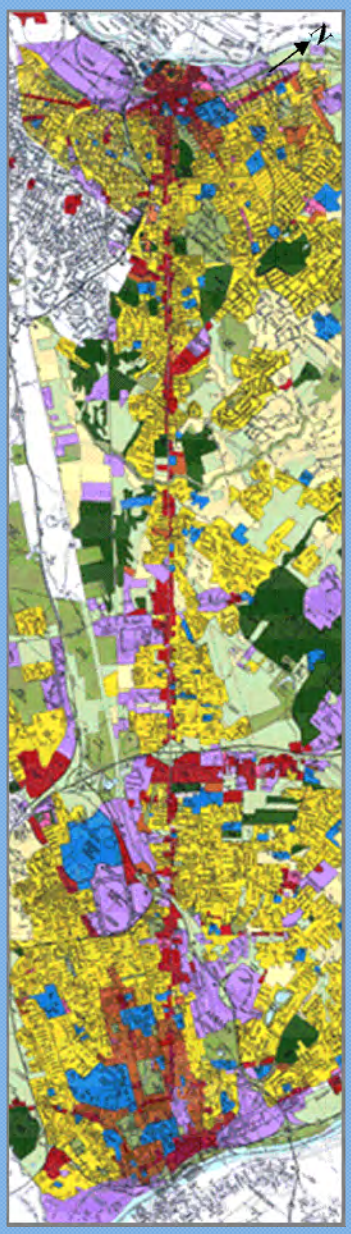
- Provide general information on access management tools.
- Illustrate site-specific access management recommendations along NY5.
- Create a checklist and primary resource to facilitate access management improvements during the site plan review process in the communities along NY5.

The Plan will further work completed by the Capital District Transportation Authority (CDTA), the Capital District Transportation Committee (CDTC), the New York State Department of Transportation (NYSDOT), and the five municipalities along NY5 (City of Schenectady, Town of Niskayuna, Town of Colonie, Village of Colonie, and City of Albany in the *New York Route 5 Corridor Land Use and Transportation Study* and implementation of Bus Rapid Transit (BRT). Consistent access management along NY5 is especially important as BRT is implemented through the corridor. Although the Plan provides a detailed look at NY5, the access management tools and the review checklist are applicable during the site plan review process throughout the municipalities.

B. Study Area

The study area for the *NY5 Access Management Plan* is a 16.5-mile stretch of NY5 from Washington Avenue in the City of Schenectady through the Town of Niskayuna, Town of Colonie, and the Village of Colonie to Broadway in the City of Albany. The study area includes the traveled way and the land uses and development parcels on both sides of NY5.

New York
Route 5 Corridor



City of Schenectady
Town of Niskayuna
Town of Colonie
Village of Colonie
City of Albany

C. Pieces of the Plan

The *NY5 Access Management Plan* includes the following chapters:

- Chapter 1: Introduction – What is access management and why NY5?
- Chapter 2: Access Management Toolbox – Descriptions and illustrations of some access management techniques
- Chapter 3: Study Area Recommendations – Specific access management recommendations for NY5
- Chapter 4: Implementation – Various techniques and roadblocks for implementing access management recommendations including the access management checklist

D. Resource Documents

There are a number of local, state, and federal agencies that have created education materials and guidelines related to access management. These materials provide detailed information about the types of access management techniques, the benefits of access management, statistical information about the impacts of implementing access management, and the trade-offs that can occur as a result of access management. A list of access management resources is included below. Many of these resources were used in the creation of the *NY5 Access Management Plan*.

- Transportation Research Board Committee on Access Management. Access Management Manual. Washington, D.C.: National Academy of Sciences, 2003.
- U.S. Department of Transportation Federal Highway Administration. Benefits of Access Management. FHWA Document Number FHWA-OP-03-066. Washington, D.C. http://ops.fhwa.dot.gov/access_mgmt/docs/benefits_am_trifold.pdf
- U.S. Department of Transportation Federal Highway Administration Office of Operations. Safe Access is Good for Business. FHWA-HOP-06-107. Washington, D.C.: August, 2006. http://ops.fhwa.dot.gov/publications/amprimer/access_mgmt_primer.htm
- State of Florida Department of Transportation. Access Management Balancing Access and Mobility. Office of the State Transportation Planner brochure. http://www.dot.state.fl.us/planning/systems/sm/accman/pdfs/ampromo3.pdf
- New York State Department of Transportation. Residential Driveway Standards. November 24, 2003. https://www.nysdot.gov/regional-offices/region4/Repository/residentialdriveways.pdf
- A/GFTC Access Management Study prepared for the Adirondack/Glens Falls Transportation Council. Glens Falls, NY: 2006. http://www.agftc.org/asp/Documents.asp?Directory=1
- NY5 Land Use and Transportation Study prepared for the Capital District Transportation Committee. Albany, NY. http://www.ny5.org/
- New Jersey Department of Transportation and Pennsylvania Department of Transportation. Smart Transportation Guidebook: Planning and Designing Highways and Streets That Support Sustainable and Livable Communities. March, 2008. http://www.smart-transportation.com/assets/download/Smart%20Transportation%20Guidebook.pdf
- Houston-Galveston Area Council. FM 2920 Access Management Study. November 2008 http://www.fm2920mobility.org/Documents%20and%20Maps.htm
- Capital District Transportation Committee. New Visions 2030 Principles. 2007. http://www.cdtcmpo.org/rtp2030/principles.pdf

Chapter 1: Introduction

This chapter will answer the question "What is access management?", go through the principles of access management, and outline many of the benefits for system users associated with proper access control. The importance of balancing land use access with mobility in proper access management will become apparent.

A. What is Access Management?

"Access management is the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway."

~Access Management Manual, Transportation Research Board of the National Academies, 2003

Roadways have several different classification levels depending upon the primary function of the road. For example, the primary purpose of a local road is to provide access to residences and small commercial land uses. This type of road will have a large number of driveways with little or no access limitations and a lower operating speed. On the other end of the spectrum, the primary purpose of a freeway is to move people and goods. This type of roadway will have restricted access and a much higher operating speed. Good access management provides a safe operating system for all users while balancing the function of the roadway with the access needs of the adjacent land uses. NY5 is a principal arterial with a high mobility function, yet it is characterized by numerous driveways to individual parcels.

"Access Management contributes to how well vehicles, bicycles and pedestrians can enter and exit commercial and residential areas adjacent to highways or arterials."

~ FM 2920 Access Management Study, Houston-Galveston Area Council, November 2008

When roadway access is not managed there are several adverse impacts. The Transportation Research Board (TRB) *Access Management Manual* outlines some of these consequences:

- An increase in vehicular crashes
- More collisions involving pedestrians and cyclists
- Accelerated reduction in roadway efficiency
- Unsightly commercial strip development
- Degradation of scenic landscapes
- More cut-through traffic in residential areas due to overburdened arterials
- Homes and businesses adversely affected by a continuous cycle of widening roads
- Increased commute times, fuel consumption, and vehicular emissions as numerous driveways and traffic signals intensify congestion and delays along major roads

Source: USDOT FHWA Access Management

The goal of access management is to balance the mobility function of the roadway with the access needs of the adjacent land uses.

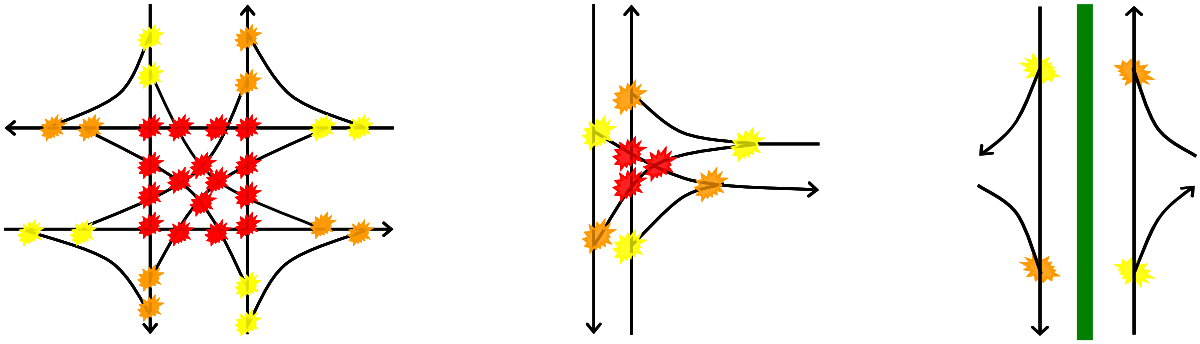
The goals of access management are to limit and consolidate access while promoting a supporting street system for development. These goals are accomplished through ten principles defined in the *Access Management Manual*:

1. Provide a specialized roadway system
2. Limit direct access to major roadways
3. Promote intersection hierarchy
4. Locate signals to favor through movements
5. Preserve the functional area of intersections and interchanges
6. Limit the number of conflict points
7. Separate conflict areas
8. Remove turning vehicles from through-traffic lanes
9. Use nontraversable medians to manage left-turn movements
10. Provide a supporting street and circulation system

Further discussion about the safety benefits of access management and creating an appropriate balance between access to adjacent land uses and mobility are included below.

1. Safety

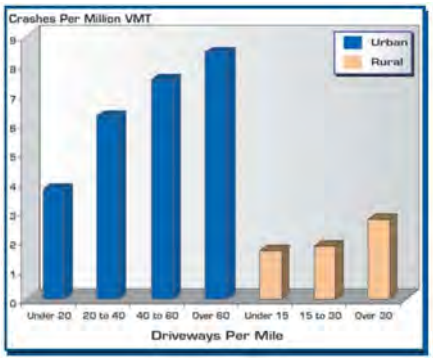
A conflict point is defined as any point where intersecting traffic merges, diverges, or crosses. A typical four-way intersection has 32 vehicular conflict points; 8 diverges, 16 crossings maneuvers, and 8 merges as shown below in Figure 1.1. As intersection movements are eliminated, the number of conflict points is reduced. A typical three-way intersection has nine conflict points and a restricted access right-in right-out only intersection has two conflict points. When speaking strictly from an "accident potential" perspective, a right-in right-out only intersection is the safest of these three types of intersections.



Conflicts at typical four-way, three-way, and right-in right-out only intersections

One of the main goals of access management is to provide a safe environment for all roadway users. The figure shows that limited access intersections have the fewest number of conflict points.

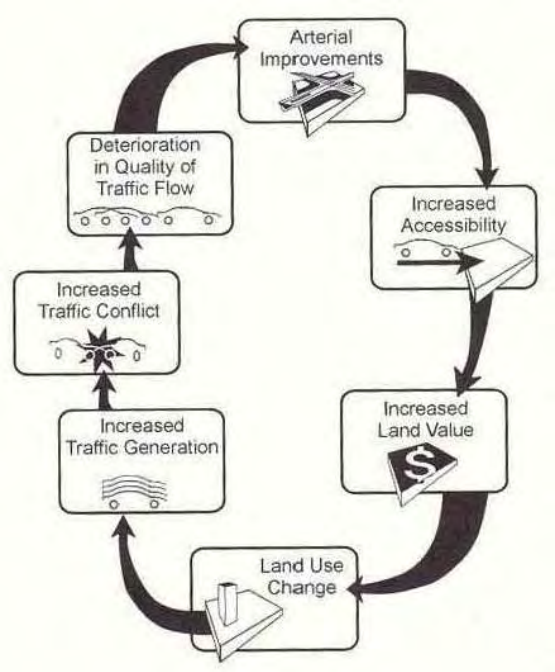
In addition to the type of access, access frequency plays a role in roadway safety. For example, the adjacent chart shows that crashes increase with the number of driveways per mile. The safest roadways are those that minimize the number of potential conflicts. Therefore, by minimizing the number of access points (driveways) for each parcel and by limiting the type of access to the parcels, the roadway becomes safer.



Source: USDOT FHWA Benefits of Access Management brochure

2. Balancing Access and Movement

Within the study area, NY5 is classified as an Urban Principal Arterial. As such, a primary role of NY5 is to serve through traffic. Providing direct access to abutting land is secondary. Access to land use parcels is regulated through the local municipality's zoning code and site plan review process. Additional regulation is provided through the application for a NYSDOT Highway Work Permit.



Source: TRB Access Management Manual

Tension between parcel access and vehicle mobility occurs as the traffic volume on a roadway and the parcel access demands reach a critical mass. The typical response to this tension is to increase roadway capacity through arterial improvements. The adjacent chart shows the transportation and land use cycle and how this type of response does not necessarily provide a long-term sustainable solution. Roadway improvements lead to increased accessibility which increases the value of the land. As the land value increases the uses on the corridor change and trip generation for the new uses increases. As the traffic volumes increase conflicts between through traffic and access to adjacent parcels increase deteriorating the mobility of the roadway which leads to another roadway capacity improvement. Without understanding the primary purpose of the roadway and creating the appropriate balance between access and mobility, the tension between parcel access and vehicle mobility continues to increase and the transportation and land use cycle continues. By properly managing access for the roadway function, parcel access and vehicle mobility can operate at the appropriate balance.

B. Benefits of Access Management

The benefits of good access management are numerous and affect all roadway users. The TRB *Access Management Manual* describes many of these benefits some of which are relayed below:

- Motorists face fewer decision points and traffic conflicts which simplifies driving and increases safety.
- Cyclists can choose alternative travel routes as supporting roadway systems are developed and face fewer conflicts with motorists which increases safety.
- Pedestrians face fewer and less frequent access points where motorists enter and exit the roadway making it safer to walk along major roadways.
- Transit riders experience reduced delay and travel times and more convenient access to transit stops as connectivity is improved.
- Business persons experience a more predictable development environment served by a more efficient roadway system that captures a broader market area.
- Communities have a safer transportation system with less need for road widening thereby avoiding displacement of existing businesses and residences.

C. Importance of Managing Access Within the Route 5 Corridor

"The arterial street system in the Capital District serves as the basic foundation of the region's transportation system elevating the importance of employing good arterial management practices to improve safety and accessibility for all users, reduce travel delays, and postpone or eliminate major capital expenditures for new roadway capacity.

Where and how the region's cities and towns plan and design the places we work, live, and shop can have a real and direct impact on the region's arterial and collector street system. A comprehensive arterial management program that promotes properly located and spaced driveways and signalized intersections, use of raised medians, and emphasizes connected streets, sidewalks, and transit access, in the end, both supports a safe and efficient arterial street system and enhances transportation – land use compatibility."

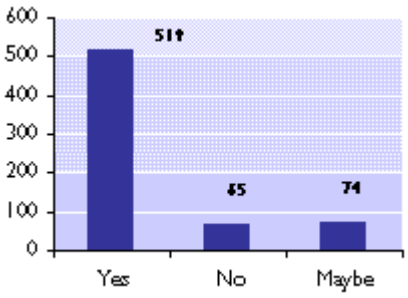
~ New Visions 2030 Principles, Capital District Transportation Committee

The NY5 Corridor is one of the busiest corridors within the Capital District and the most heavily traveled transit route. As such, it plays an important role in the area. The Request for Expression of Interest for this study notes that traffic congestion and crash rates along portions of NY5 are relatively high due to the corridor's relationship to other regional highways, major retail and activity centers, as well as the number of driveways. The situation occurs in part due to the corridor's dual role of serving both through trips and local trips, and is made worse by the fact there are few secondary streets and little connectivity between the commercial area and surrounding residences and community facilities. Commercial driveways that are found every few feet confuse drivers. Too many driveways have resulted in a large number of turning movements and conflict points, making this one of the highest crash corridors in the Region. The many opportunities to turn onto or off NY5 are a source of congestion throughout the day, negatively impacting this important transit corridor.

The *NY5 Land Use and Transportation Study* was initiated to examine the future of land use and transportation in this important corridor. The goal of the study was to make recommendations which:

- maximize the effectiveness of public investment in the transportation system
- seek to stabilize and invigorate the economy of the five Corridor Communities
- are pedestrian and transit-friendly
- satisfy the needs of the real estate market, automobile and service access
- provide a benefit to adjacent mixed-use and residential neighborhoods, and mixed-use and employment districts

One survey during the study asked the question "Would you be willing to accept traffic levels and congestion roughly as they are on Route 5 now if we could improve transit, walking, biking, landscaping, attractiveness and safety?" The response was an overwhelming yes as shown in the adjacent chart. Maintaining existing traffic congestion and mobility levels while promoting growth in existing and future development can only be accomplished through proper access management in the corridor.



Proper access management becomes especially important with the expansion of transit in the corridor and the implementation of Bus Rapid Transit (BRT). Successful BRT must provide pedestrian accommodations to and from the corridor land uses. Just like successful BRT, successful access management must provide for pedestrians. The creation of a corridor-wide access management plan, as recommended in the *NY5 Land Use and Transportation Study*, is one part of improving conditions on NY5 for all system users and helping to ensure the success of BRT in the corridor.

Chapter 2: Access Management Toolbox

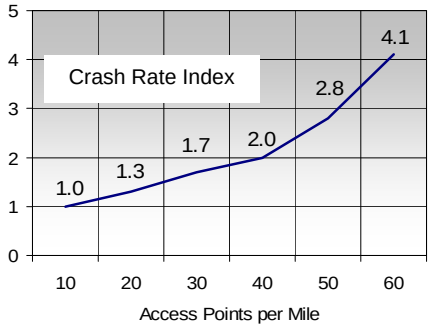
Literature on access management is extensive and there are a large number of resources and references that describe the various tools and techniques used to improve access and maintain arterial function. Research indicates that when implemented appropriately, access management tools can have a significant and positive impact on safety and traffic efficiency. This toolbox contains techniques that are divided into two major categories: Site Design and Roadway Design. Table A.1 contained in Appendix A summarizes the noted techniques and implementation advantages and disadvantages.

A. Site Design

Some of the most important techniques in access management require a commitment from reviewing agencies during all phases of planning, land use development, and site plan review from project conception through final approval. Each project should be evaluated and understood with respect to access to the roadway system with an eye toward minimizing main street access points and maximizing inter-parcel connections.

The number and location of parcel access points, the type of access allowed (or restricted), the availability to connect to adjacent parcels (now or in the future), pedestrian connections on site and through the area, and the location of parking must all be considered in the review process. These site plan features can typically be controlled through the local zoning code. Each of the five municipalities has the ability to control site access through their respective zoning codes. Ensuring access to nearby side streets or traffic signals typically occurs on a site by site basis. Over time, the implementation of access management at the site level can result in major corridor benefits. Without the concerted effort of the local planning boards taking care to implement access management on each site, larger corridor benefits cannot be realized.

The chart to the right shows that the crash rate index increases as the number of access points increases. Site design access management techniques control the number of access points throughout a corridor and therefore limit the number of accidents through a number of small decisions rather than one major decision.



Source: NCHRP Report 420 "Impacts of Access Management Techniques"

Access Management techniques can be divided into two categories: Site Design and Roadway Design.

Site Design elements discussed in this chapter include:

- **Pedestrian Connections**
- **Shared Driveways**
- **Cross Access Connections**
- **Access and Turn Restrictions**
- **Align Driveways/ Roadways**
- **Rear/Side Parking**

Roadway Design elements discussed in this chapter include:

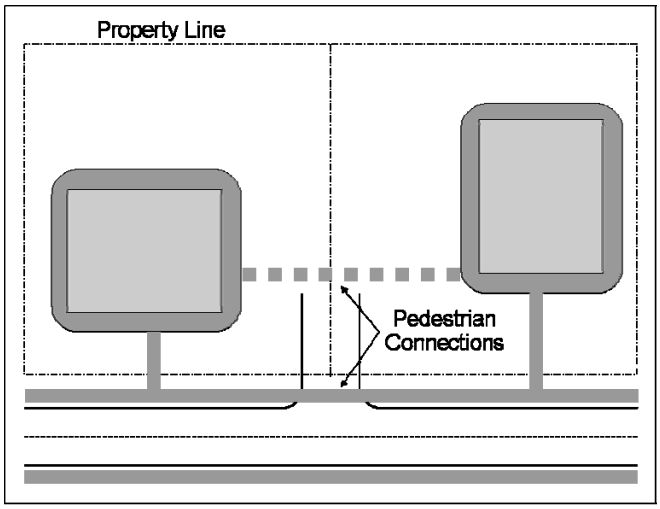
- **On-street Parking**
- **Dedicated Turn Lanes**
- **Access/Service Roads**
- **Raised Medians**

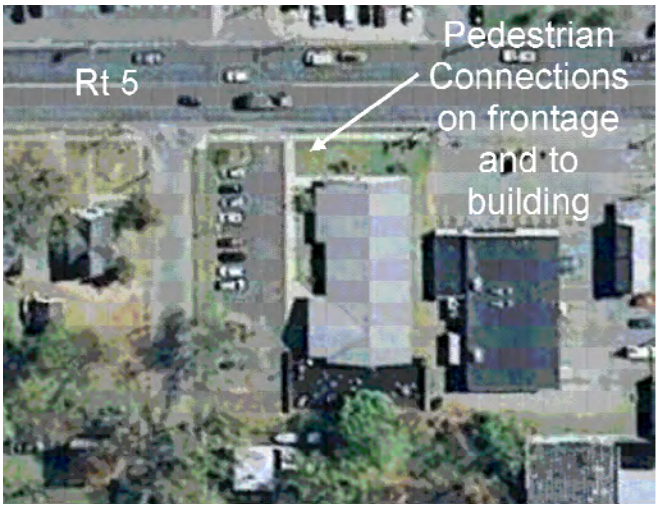
1. Pedestrian Connections

Pedestrian connections between parcels and to the adjacent travel network can include sidewalks, crosswalks, and multi-use paths. The provision of these connections calls attention to the presence of pedestrians and clearly delineates where pedestrians should be for both drivers and pedestrians. Good pedestrian connections also encourage transit use by providing the transit user a clear, easy path between the bus stops and to the adjacent land uses. Access management features like shared driveways, rear parking and cross access connections can have a positive impact on pedestrian access and mobility.

When determining where to place pedestrian connections, consideration should be given to providing logical travel paths, the location of transit stops, minimizing pedestrian/vehicle conflicts, and the volume of conflicting vehicle traffic. Sidewalks should extend through driveway openings as shown in the sketch and aerial photograph below, and crosswalks should be clearly visible and well marked.

Determination of a logical termination point is also an important factor. In some instances sidewalks may be constructed in a piece-meal fashion and may appear to lead to nowhere until additional sections of the sidewalk can be completed. Construction of a sidewalk can take several years to construct parcel by parcel. It is preferable for the Planning Board to require funds be set in escrow for use in a complete sidewalk project in the future rather than to construct the sidewalk without a logical terminus.





This parcel along NY5 has a sidewalk extending through the site driveway and provides sidewalk connections from the site frontage to the building entrances.

The provision of pedestrian connections and easements should be required in local land use standards and ordinances. On-site pedestrian connections and connections to the adjacent roadway network should be required when landowners are before the local Planning Boards with new development proposals or with changes to existing land uses.

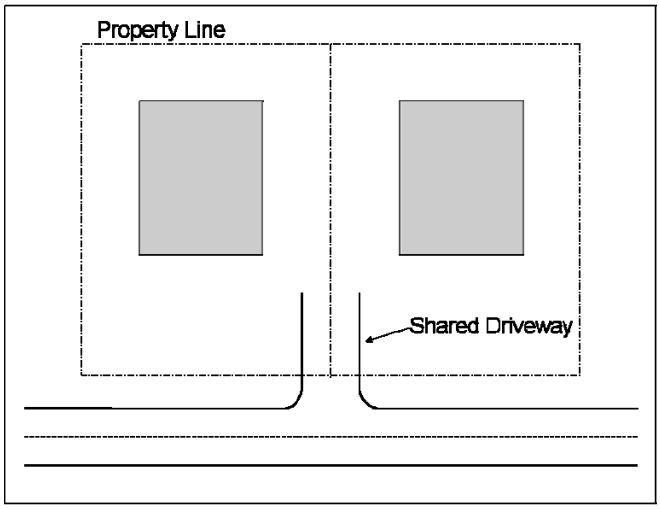
2. Shared Driveway

A shared driveway serves two or more adjacent lots or parcels with a single access point. Shared driveways reduce the number of roadway access points and therefore increase safety by reducing the number of conflict points. Mobility is increased because traffic flow is more consistent as there are fewer tarts and stops caused by vehicles turning onto and off of the main roadway.

Shared driveways can encourage pedestrian movement between parcels and can reduce pedestrian related accidents by decreasing the number of pedestrian/vehicle conflict points associated with turning vehicles. Shared driveways with high traffic volumes can cause safety concerns for pedestrians. Therefore, good pedestrian connections like marked crosswalks with appropriate signing and traffic control should be provided between parcels. Special consideration should be given to the placement of the pedestrian connection to minimize the potential for pedestrian/vehicle conflicts.

In determining whether shared driveways are appropriate Planning Boards need to consider, among other factors, whether the type of traffic at abutting parcels is compatible (like two retail uses) and whether the driveway provides sufficient storage for the traffic generated by both parcels. In some cases a shared driveway system may be preferable to a single shared driveway.

Driveway sharing is a successful access management tool that has been utilized throughout the country. Typically, some form of access easement or other landowner agreement is needed to ensure that the shared access stays with the land. An access easement is a grant of access by one land owner to an adjacent land owner or to the public.



The shared driveway provides vehicle access for multiple parcels in the southwest corner of the NY Route 5/Lanci Lane intersection.

Driveway sharing may be required in local land use standards and ordinances. Shared driveways and easements should be required, where appropriate, when landowners are before the local Planning Boards with new development proposals or with changes to existing land uses.

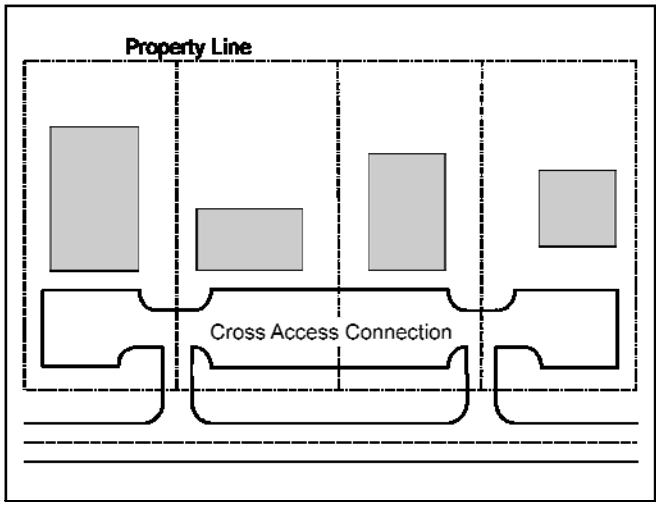
3. Cross Access Connections

Cross access connections have some of the same benefits as shared driveways. The development of formal connections between adjacent parcels creates the opportunity for fewer driveways for more parcels. Similar to shared driveways, cross access connections between parcels increase corridor safety by reducing the number of conflict points and reducing turning movements on the main street. The connections can also encourage pedestrian movement between parcels.

Extensive cross access connections can also function as parallel roadways by allowing motorists and pedestrians to move between parcels without traveling on the main street and reach a nearby signalized intersection to access the major street. These connections can also include pedestrian accommodations between sites. Cross access connections and shared driveways for properties located on roadways with high volumes and high driveway density is vital to create safe and efficient traffic flow. Cross access connections are a low cost alternative to constructing parallel roads. The general layout of a cross access connection and an example of a driveway connection along NY5 are shown below.

When cross access connections are located between buildings and the main street, it is important to maintain safe, defined pedestrian access from the main street to the buildings and along the cross access connection. This pedestrian access should be considered during the site plan review process.

A complete connection to a signalized intersection is not always possible, such as at a mid block parcel. In these cases the Planning Boards should consider how access could eventually be gained to the signal and obtain necessary easements over time, such that the entire connection can ultimately be completed. Clear signing must also be considered when constructing cross access connections.



The cross access connections provide vehicle access between parcels and can provide pedestrian connections as well.

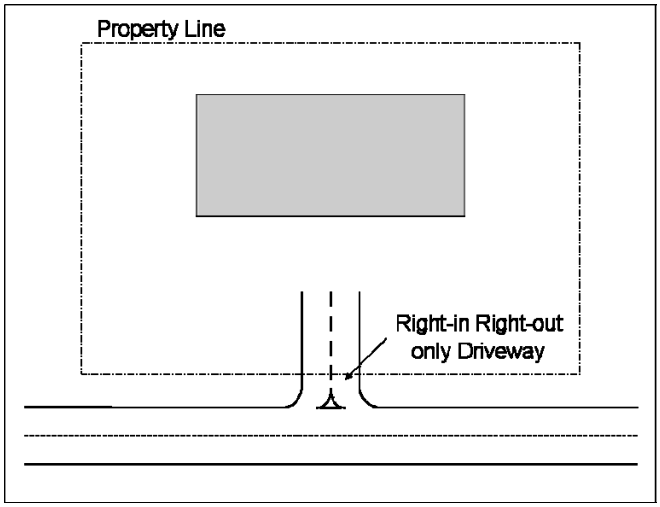
Cross access connections should be required in local land use standards and ordinances. At a minimum, pedestrian connections and cross easements to adjacent parcels should be required, where appropriate, when landowners are before the local Planning Boards with new development proposals or with changes to existing land uses.

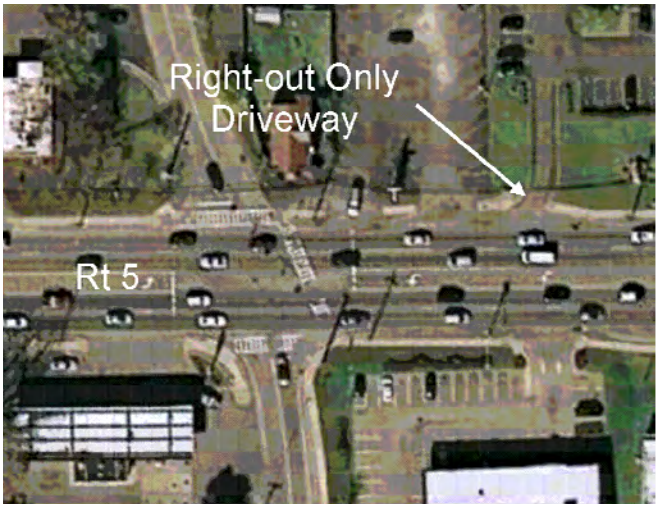
4. Access and Turn Restrictions

Access and turn restrictions limit the vehicular access to a parcel by not allowing access on a particular roadway or by limiting how a vehicle can enter a parcel or roadway. Access restrictions are most usually employed within the influence area of an intersection. For example, a right-in only driveway may be implemented on a parcel immediately upstream of a signalized intersection where normal queuing is present or where turn lanes exist. Restricting turning movements, closing driveways, or only allowing vehicular access to a lower volume side street are all types of access restrictions. Access restrictions lend themselves well to roadway design techniques like raised medians and roundabouts.

Business owners are often concerned about the potential impact of access restrictions because closing or limiting movements at a driveway dictates customer movements and can be seen as an inconvenience or potential deterrent for customers. *Safe Access Is Good for Business* published by FHWA, states that "Access management projects alone do not appear to increase or decrease business failure rates." Providing safe access to a parcel typically outweighs any perceived negative impacts. When access restrictions are used in conjunction with full access from a minor road this can ameliorate land owner concerns.

When businesses are located with access on a high volume major roadway like NY5, it would be beneficial for developers and site plan reviewers to consider alternative access points during the development and approval process. As traffic volumes on the adjacent roadway network increase so does the potential for increased accident occurrences and access restrictions. The earlier in the review process alternative access points are identified the more easily businesses can accommodate them in their site layout and other planning.





The right-out only driveway is located within the influence zone of the traffic signal controlled upstream intersection.

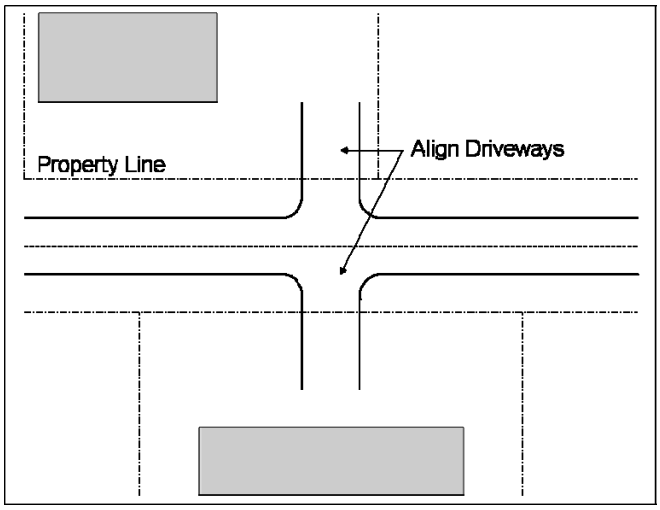
The impact of turn and access restrictions should be evaluated during the site plan review process for all proposed developments. If access points are within the influence zone of an intersection, if there is potential for access from a lower volume side street, or if access can be obtained through a shared driveway or cross access connection then access restrictions should usually be required. Local land use standards and ordinances should indicate that turn and access restrictions may be required as a condition of site plan approval.

5. Align Driveways/Roadways

Driveways located directly opposite each other or opposite an existing road are aligned properly to create a typical four-leg intersection. The appropriate driveway alignment reduces driver confusion and eliminates the potential for left-turning vehicle conflicts. Improperly aligned driveways cause driver confusion and create competition for storage or acceleration space for left-turning vehicles. An example of properly aligned driveways is shown below.

Site layout constraints such as building placement, parcel size, and environmental concerns can impede the implementation of an appropriate alignment. In instances where driveways cannot be aligned directly across from each other, the site plan should show driveway alignments where left-turning vehicles from the main street are not competing for the same storage space.

In considering the need for opposed driveways Planning Boards need to consider whether the combined traffic volumes at opposed developments would warrant a traffic signal and the affect of such a signal on traffic operations on the main street and adjacent intersections. Where possible it may be preferable to place a signal at intersecting local roads and route left-turning traffic from the businesses through this signal.

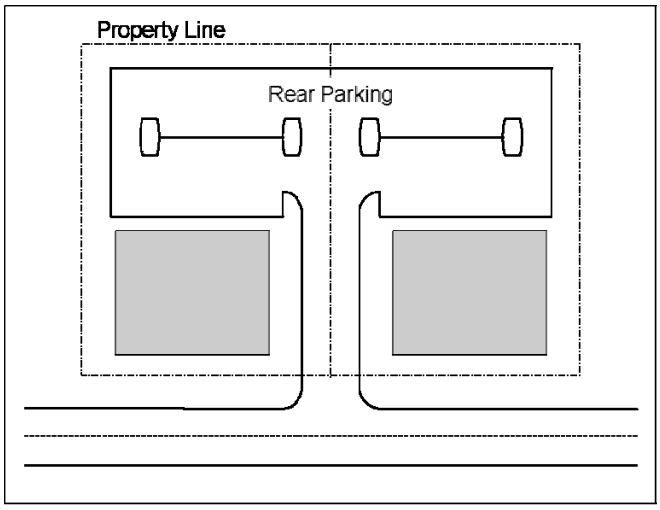


The right-out only driveway is located within the influence zone of the traffic signal controlled upstream intersection.

When possible, roadway and site access points should align properly to create typical four-leg intersections in order to decrease conflict points and create a more efficient roadway. Planning Boards should require site plans to show nearby driveways and parcels so driveway alignment and access can be properly considered.

6. Rear or Side Parking

Placing parking lots in the rear of buildings allows for a more walkable, pedestrian and transit friendly, and visually appealing corridor. Pedestrians and transit users, business owners, and drivers benefit from rear and side parking. Pedestrians and transit users benefit by not having to travel through a sea of parking to enter a store. Business owners benefit by creating a more visible storefront for passing motorists by removing parked cars from the front of properties which can increase the volume of pass-by customers and increase sales. Rear parking can benefit drivers because it allows for easier development of cross-access connections to adjacent parcels providing easy access to adjacent parcels without having to enter the main street. The general layout and an example of rear parking along NY5 are shown below.



The right-out only driveway is located within the influence zone of the traffic signal controlled upstream intersection.

Parking in the rear of buildings should be strongly encouraged in local planning standards and ordinances to create a more pedestrian and transit friendly environment.

B. Roadway Design

The following access management techniques apply to roadway design rather than on-site layout and design. Roadway techniques typically have a high impact on corridor safety and mobility. For example, the construction of a left-turn lane at an intersection can reduce conflicts by removing turning traffic from through lanes and increase mobility for other motorists. Implementation of roadway access management techniques typically requires the cooperation of municipalities, review agencies, and when right-of-way is required, landowner cooperation is also needed. In many cases implementation can also take a long time. However, the safety and mobility benefits associated with implementation of the more major roadway techniques like raised medians and parallel service roads are significant.

1. On-street Parking

On-street parallel parking on a public roadway narrows the street and calms traffic while creating a buffer between vehicles and pedestrians. Lower speed roadways in urban areas with sidewalks and pedestrian and transit activity associated with adjacent commercial land uses are ideal locations for on-street parking. The parking benefits pedestrians by providing a buffer between the pedestrians and traveling vehicles and benefits business owners by providing parking immediately adjacent to store fronts.

On-street parking is not appropriate for all locations. Providing on-street parking on high speed, multi-lane roadways can create a dangerous situation. Therefore, on-street parking is not recommended throughout most of the NY5 Corridor. However, locations in downtown Schenectady and Albany where vehicle speeds are slower, pedestrian activity is higher, and the buildings are located closer to the roadway are appropriate to maintain and enhance on-street parking using bulb-outs and proper delineation.

2. Dedicated Turn Lane

Separating turning traffic from through traffic at intersections and near busy driveways reduces the number of crashes while increasing capacity and mobility. This is accomplished by creating dedicated lanes for turning movements. Dedicated turning lanes allow through traffic to continue to flow, and reduce the potential for rear end and right-angle accidents. Information published by the Federal Highway Administration (FHWA) indicates that exclusive left-turn lanes reduce crashes by an average of 50 percent while increasing capacity by about 25 percent. Providing exclusive right-turn lanes also reduces crashes and increases capacity, though to a lesser extent. When considering the addition of turn lanes in transit stop locations and pedestrian crossings, the need for a turn lane must be balanced with the impact on the transit stop and the impact of the increased crossing distance for pedestrians.

Providing turn lanes at an intersection or driveway can typically be accomplished by a single applicant as part of a land use development project or as part of an agency or municipality sponsored intersection or corridor improvement. Turn lanes typically increase the size of an intersection and may require right-of-way acquisition. Along NY5, implementation of any roadway improvements like turn lanes will also require approval from NYSDOT or the cities of Albany or Schenectady. The figure shown at the end of this chapter illustrates dedicated turn lanes at an intersection. It is noted that a large-scale project proposal could change traffic characteristics on NY5 to a sufficient extent to require exclusive turn lanes at an intersection.

Although not currently evaluated along NY5 and not appropriate for all situations, it is noted that roundabout controlled intersections have a significant impact on crash reductions at intersections. Information published by FHWA indicates that roundabouts can reduce injury crashes at an intersection by up to 88 percent.

3. Service Roads

A service road is a road that parallels a major road. Constructing a road parallel to the main street relieves main street vehicular traffic and minimizes access points by providing an opportunity to separate through traffic from traffic entering or exiting a site. Travel speeds on parallel roadways are also slower than those of the major roadway.

Construction of a service road is typically the responsibility of the local municipality and can be expensive. However, a large development may be required to construct a service road to mitigate their impacts. Right-of-way takings or donations are generally needed to accomplish construction of a parallel roadway. Information published by FHWA states that service roads that run behind highway properties are generally less disruptive to businesses, less costly for the municipality, and more functional than a frontage road. This is because rear service roads can provide access to businesses on both sides of the service road rather than just business with frontage along the major roadway. These types of facilities may also allow the placement of pedestrian and bicycle accommodations along the lower volume roads. Signing for vehicular access to the service road may be needed to show drivers how to access the service road. Appropriate signing for access between the service road and a side street may be especially important.

Service roads are typically a long-term undertaking and require the cooperation of the local municipality, review agencies, and landowners. Due to the length of time that implementation of a service road may take, interim steps are required to provide access to existing businesses or to proposed developments that may be constructed prior to the service road. In these instances, the applicant or business owner can be provided a temporary access to the major roadway. The access to the major roadway would then be eliminated when access to the service road is provided. Special consideration must be given to on-site vehicular access and circulation plans during the site plan review process to insure that the site will still function well with access to the service road. Right-of-way takings may result in an existing business being out of compliance with setback requirements or other portions of the local zoning code. In these instances the municipality may need to provide a waiver to the landowner. Another interim step for a formal service roadway is requiring cross access connections between parcels at specified locations and minimizing access to the major roadway by requiring shared driveways. These short-term access management measures will provide the foundation for the formal service road. The locations of a few possible service roads are discussed in the next chapter.

4. Raised Median

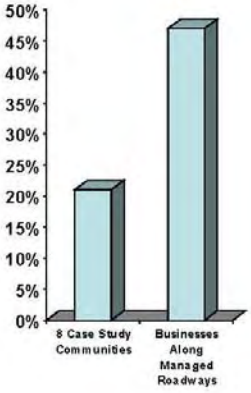
A raised median is a barrier separating opposing traffic that restricts turns across the barrier. A raised median can provide sufficient width for attractive landscaping or where space may be limited, or can be as simple as a jersey barrier. The wider medians also provide benefits for pedestrians by creating a refuge for pedestrians crossing many lanes of traffic. Raised medians reduce the number of accidents by restricting left-turn movements at uncontrolled intersections and driveways and therefore decreasing conflict points. Information published by FHWA in *Safe Access Is Good for Business* shows that raised medians reduce crashes by over 40 percent in urban areas and over 60 percent in rural areas. When compared to a continuous two-way left-turn lane, raised medians were found to reduce pedestrian crashes by 45 percent and pedestrian fatalities by 78 percent.

Construction of a raised median can be the mechanism to obtain easements, cross connections, and/or parallel roads. Due to the access restrictions imposed, installation of a restrictive median raises many questions with local land owners. Business owners are generally concerned that eliminating left-turns into their property will have a negative impact on business. However, information published by FHWA in *Benefits of Access Management* shows that most businesses maintain or increase sales following installation of a restrictive median. Specific data from a study conducted in Iowa shows the following:

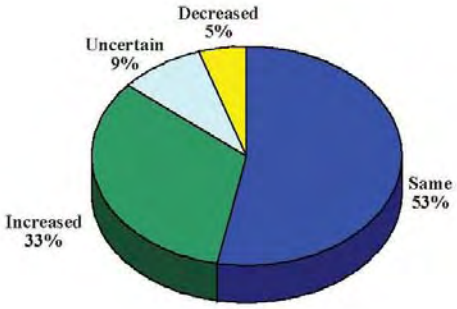
Businesses affected by access management projects in Iowa tended to do at least as well in terms of growth in retail sales, but usually better than those in surrounding communities, after the projects were completed. Most of these Iowa business proprietors said that sales were similar or greater following the completion of the projects. Only five percent reported a sales decrease *(6)*.

Impact of Access Management on Retail Sales Growth

- In the 1990s, retail businesses along eight recently access managed roadways in Iowa were compared to their surrounding communities.
- The businesses along the managed corridors experienced much higher retail sales growth during the decade than those businesses in other locations in these eight communities.



Business Proprietors' Reported Sales Comparisons



~ Safe Access Is Good For Business, US Department of Transportation, 2006

It is important to conduct a public outreach program in order to plan, design and construct a project that is acceptable to all (or most) stakeholders. NY5 does not have any raised medians, however, the possibility of a raised median is discussed for one of the opportunity sites in the next chapter west of New Karner Road at the Village of Colonie/Town of Colonie line.

The aerial photograph on the next page shows NY Route 146, west of I-87 Exit 9 which is a high volume roadway with a concentration of commercial activity. This area of Clifton Park uses a number of roadway access management techniques including designated turn lanes, a parallel roadway system, raised medians, and turn restrictions to balance access and mobility. The only access directly to NY Route 146 is provided at a signalized intersection and at a limited access right-in right-out only intersection. All access to the commercial parcels is provided via the supporting parallel roadway system. Left-turns are restricted through the presence of medians and the lack of driveways. Right and left-turns are generally provided through dedicated turn lanes.

Good use of access management techniques on NY Route 146 west of I-87 Exit 9 in Clifton Park, Saratoga County, New York.

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Chapter 3: Study Area Recommendations

As part of the access management plan, a corridor-wide assessment of NY5 was completed. The assessment included a screening of the entire corridor to identify a number of sites that would provide overall corridor benefits after implementation of access management techniques. This chapter illustrates the screening process and the specific recommendations at the "opportunity" sites.

The study area includes 15 opportunity sites.

A. Screening Process

The Route 5 corridor assessment involved a two-tiered screening process. The entire corridor was initially screened by members of the study advisory committee (SAC) to identify fifteen (15) candidate sites for access management improvements. The SAC includes representatives of CDTC, CDTA, NYSDOT, the City of Schenectady, the Town of Colonie, the Village of Colonie, and the City of Albany. The screening process was based upon several factors:

- review of aerial mapping
- driveway spacing
- driveway density
- potential redevelopment sites
- locations of proposed transit queue jump lanes
- pedestrian crashes
- priority investigation location (PIL) sites
- traffic volumes
- knowledge of the area

A number of potential sites were identified and ranked by the committee based on potential benefit and feasibility. The list was reduced to 15 candidate sites for further study. Of the 15 sites identified, two were located in the City of Schenectady, six were located in the Town of Colonie, six were located in the Village of Colonie, and one was located in the City of Albany. Field visits were then made to determine major constraints and conditions at each site. A matrix of the screening process and a corridor map showing the locations of the 15 sites is contained in Appendix B.

A second committee meeting was held to review the conclusions from the field visits and provide additional input on access management solutions. The initial 15 sites were then narrowed down for further analysis and were grouped into the following categories:

- Elimination From Further Analysis
- Sketch Level Plans
- Detailed Concept Plans
- Property Owner Meetings

The results/recommendations for each site are described below.

B. Opportunity Sites

1. Elimination From Further Analysis

- Location 1 – Brandywine Avenue Area (City of Schenectady) – This location was chosen due to potential redevelopment of land in the northwest corner of the Brandywine Avenue/Route 5 intersection. Existing turning restrictions at the signalized intersection are also a concern. The proposed access management improvement at this location involved creating a connection from Brandywine Avenue to McClellan Street along the back of the redevelopment site. However, it was decided that this location would be removed from further analysis as part of this study because the City was actively engaged in the site review process and possible access management. Issues with the connection included potential impact to residential property on McClellan Street. While a physical connection was dismissed, future intersection improvements, including pedestrian accommodations, should be implemented to aid with pedestrian mobility and safety. Refer to Sheet L-1 in Appendix B. Signal timing issues also exist between the Brandywine Avenue and McClellan Street intersections. However, additional engineering analysis is necessary to address the signal timing issues and is not part of this study.

- Location 8 – Goldstein Auto (Village of Colonie) – This location was initially chosen as an access management opportunity site due to the location of the South Colonie School District Bus Garage. A connection from the bus garage to the intersection of Route 5/Broderick Street was discussed as a way to remove bus traffic from the adjacent residential streets. However, it was decided that this location would be removed from further analysis due to minimal overall benefit and the lack of a signal at Broderick Street to accommodate buses traveling to and from Central Avenue. Refer to Sheet L-8 in Appendix B.

2. Sketch Level Plans

Sketch level plans are higher level plans with conceptual connections shown by dashed lines and notes.

- Location 3 – Lishakill Road Area (Town of Colonie) – This location includes the northern side of Route 5 from Atwood Avenue to Lishakill Road. Four closely spaced driveways exist within this segment, one of which is approximately 40 feet from the signalized intersection. The proposed access management improvement at this location involves extending the existing driveway behind the carwash on Lishakill Road to the existing adjacent residential parcel when redevelopment occurs. This would allow the residential driveway on Route 5 to be converted to right-in only. Converting the car wash driveway on Route 5 immediately east of Lishakill Road to right-out only should also be pursued. These changes will reduce conflict points within the vicinity of the signalized intersection. Refer to Sheet L-3 in Appendix B.

- Location 9 – Jupiter Lane/Locust Park (Village of Colonie) – This location was chosen for access management improvements to minimize driveway movements along the westbound approach to Locust Park/Jupiter Lane. A connection to Locust Park along the back of the businesses should be pursued as redevelopment occurs. An easement will need to be obtained from the first residential property on Locust Park. With a connection in place, the

driveways along the frontage should be modified to reduce conflict points on Route 5. Refer to Sheet L-9 in Appendix B.

- Location 10 – Exit 2 Northwest (Village of Colonie) – This location includes the north side of Route 5 from the I-87 Exit 2 Off-Ramp to Parkwood Drive. It falls into the most heavily traveled portion of the Route 5 corridor and has numerous driveways. Cross-easements between Del Monico's Steakhouse, Smoky Bones, and the former L-Kens site, which is planned for redevelopment, are proposed. Access management improvements for this location include providing a connection along the back of the businesses from the Northway Inn to Nicholas Drive and from Nicholas Drive (behind the bowling alley) to Parkwood Drive, as redevelopment occurs. Upon completion of the connections, driveways along Route 5 should be consolidated and/or eliminated to reduce conflict points. Refer to Sheet L-10 in Appendix B.

- Location 12 – Babyland Area (Town of Colonie) – This location was chosen for access management improvements because it includes a potential redevelopment site. There are also multiple driveways within close proximity of the signalized intersection of Route 5/Northway Mall Road/Colonie Center Driveway that create conflict points for drivers traveling through the area. Improvements for this location include creating a connection behind the businesses on the south side of Route 5 with access to Nolan Road. The western end of the connection would terminate behind the existing dry cleaner building due to a 15-20 foot drop in grade. The connection would allow several driveways to be channelized. In the event that the dry cleaner redevelops (Parcel 2 on Sheet L-12), extending the connection to the mall driveway should be evaluated. Refer to Sheet L-12 in Appendix B.

- Location 15 – Everett Road Area (City of Albany) – This location was initially chosen for access management improvements due to a potential redevelopment site located on the south side of Route 5. The improvement consists of providing a connection from Colvin Avenue along the back of the existing Shopping Plazas, through the redevelopment site to the Mooradians parking area for access to the signalized intersection of Route 5/Everett Road. However, aligning the new access road directly opposite Everett Road is not currently possible due to the location of the Mooradians Furniture building. The committee agreed that the intersection should be modified to create a standard 4-way intersection when redevelopment of the Mooradians parcel occurs. The proposed connection will allow for consolidation and/or elimination of some driveways on the south side of Route 5. It will also provide a route for pedestrians and bicyclists separate from Route 5. Refer to Sheet L-15 in Appendix B.

  A second, long-term idea was also discussed by the SAC during the initial screening process. It involved constructing a northern, rear access road along I-90 from the I-90 overpass to Everett Road. It was decided that this idea could be revisited but detailed investigation would not be considered as part of this study (See Appendix C for the Summary of Meeting 1).

3. Detailed Concept Plans

Concept plans provide more detail than sketch plans. They include scaled drawings of roadway, driveway, and parking modifications.

- Location 2 – Route 7 Interchange Area (City of Schenectady) – This location includes a possible road diet in the 4-lane segment of Route 5 from Lawnwood Avenue to Roosevelt Avenue. Currently, this segment is characterized by multiple driveways, closely spaced traffic signals, and a potential redevelopment site at the former Ground Round location. An eastbound stop for CDTA's Bus Rapid Transit (BRT) route will also be located at the intersection of Lawnwood Avenue. The road diet design aims to reduce the pavement by narrowing the roadway cross-section to three lanes, with the exception of the area between the Interchange Ramps, coordinating the traffic signals at the Interchange Ramps, improving pedestrian accommodations, and street scaping. A traffic engineering evaluation showed that the signals currently operate at LOS A and will continue to operate at LOS A after the road diet. Refer to Sheet L-2 in Appendix B.

  To improve access management within this area, driveways should be minimized in front of Wedekind Pontiac and OTB. A cross-connection should be pursued behind Midas and Frank Gallo & Son Florist, extending to Pine Avenue. This would allow for driveway modifications, thereby minimizing conflict points near the Route 7 Interchange. With redevelopment of the Ground Round site, a rear connection to the adjacent Motel with access to Jackson Avenue should be pursued. A single, shared driveway between the two parcels is also ideal with redevelopment of the site.

- Location 4 – Reber Street to Route 155 (Town of Colonie) – The segment of Route 5 between Reber Street and Route 155 is currently a 5 lane roadway with two lanes in each direction and a center two-way left-turn lane. Multiple driveways exist along this part of Route 5. There is a potential redevelopment site on the north side of Route 5 at the existing trailer park location. A number of pedestrian fatalities have also been reported along this segment.

  One of the access management improvements for this area includes creating an access road along the back of the businesses on the north side of Route 5 from Reber Street to Route 155 with a connection to the signalized intersection of Route 5/Price Chopper Driveway. This connection would allow for consolidation and/or elimination of several driveways and provide a safer route for pedestrians and bicyclists to travel. Installation of a raised median along Route 5 in this segment could be a mechanism for the off-street connections and could form a gateway between the Town and Village. It would also provide a refuge for crossing pedestrians and minimize left-turns along the segment. Refer to Sheet L-4 in Appendix B.

  A long term access management improvement for the southern side of Route 5 includes creating a grid-like roadway system on the undeveloped land west of the K-Mart and Price Chopper Plaza. This idea should be pursued as an official map and written into a future land development policy for the Town of Colonie.

- Location 5 – Route 155 Queue Jump (Town of Colonie) – The area near Route 155 is a key location for CDTA's Bus Rapid Transit (BRT) project. A queue jump lane for BRT buses will be installed on the westbound approach to the signalized intersection of Route 5/Route 155. Other characteristics that make this location ideal for access management improvements include a potential redevelopment site on the north side of Route 5 east of the intersection and status of the intersection as a PIL.

  Improvements include modifying the business parking areas on the north side of Route 5 during construction of the queue jump lane and creating three one-way driveways with left-

turn prohibitions. A connection should be pursued behind the businesses to allow access to Route 155 via the existing bank exit. These changes will reduce driveway conflicts and interference with the BRT buses in the queue jump lane. Refer to Sheet L-5 in Appendix B.

- Location 7 – Lanci Lane/Red Fox Drive (Village of Colonie) – This location is characterized by multiple driveways and includes access management improvements on both sides of Route 5. To the north, driveway closures can be made between Birch Avenue and Red Fox Drive with the construction of a connection along the back of the properties during redevelopment. East of Red Fox Drive there are two driveways in close proximity of the intersection that should be modified to reduce conflict points. To the south, access management improvements include parking modifications and establishing shared parking behind the businesses between Lanci Lane and Lapham Drive. A shared connection behind the businesses would allow for consolidation and/or elimination of several driveways, provide access to the signalized intersection of Route 5/Lanci Lane, and provide a safer environment for pedestrians and bicyclists. The concept shows a few buildings would be impacted but infill development is possible. Refer to Sheet L-7 in Appendix B.

4. Property Owner Meetings

- Location 6 – Karner Road Area (Village of Colonie) – This location is classified as a PIL and was therefore chosen as an access management opportunity site. One improvement for this area includes creating a new driveway entrance to the Kohl's Shopping Plaza across from the existing Village Square delivery driveway. This would allow vehicles turning onto Route 5 to access the signal at Vly Road. This idea has been discussed with representatives of the Kohl's Shopping Plaza due to the proposed modifications to their parking lot. Detailed concepts were developed to portray the new driveway entrance and impacts to on-site parking. Kohl's generally agreed to the concept and requested a sign variance in exchange for the connection. The Village is waiting for an active proposal from Kohl's to implement the change. . A second improvement is to pursue a northern connection parallel to Route 5 along the back of the businesses between Vly Road and Poplar Street as redevelopment occurs. This would provide another route for vehicles, pedestrians, and bicyclists to travel and would allow for the consolidation and/or elimination of driveways along Route 5. Refer to Sheet L-6 in Appendix B.

- Location 11 – Exit 2 Southwest (Village of Colonie) – This access management site includes the south side of Route 5 from Tanglewood Road to Woolard Avenue. As discussed for Location 10, this segment of Route 5 falls into the most heavily traveled portion of the corridor and has numerous driveways. One improvement for this area involves widening the existing connection at Tanglewood Road along the back of the businesses when redevelopment of the residential property on Tanglewood Road occurs. A second improvement includes pursuing a connection along the back of the properties between Holland Avenue and Woolard Avenue as redevelopment occurs. With this connection, consolidation and/or elimination of some of the driveways on Route 5 is recommended. These connections will reduce conflict points on Route 5 and allow traffic to access the signalized intersection of Route 5/Woolard Avenue. Refer to Sheet L-11 in Appendix B.

  Discussions with the property owner of 1510 Central Avenue (shown as parcel 9 on Sheet L-11) confirmed that motorists wanting to turn left onto Route 5 currently travel through the residential neighborhood via Holland Avenue to reach the signal at Woolard Avenue. The owner also agreed that widening the connection behind his property at Tanglewood Road would be beneficial to traffic flow, and could reduce traffic in the residential neighborhood.

- Location 13 – South Colonie High School Area (Town of Colonie) – The area around the South Colonie High School was chosen as an opportunity site because there are no signalized intersections for traffic entering/exiting the high school from Route 5. During peak times, making a left-turn movement from Hackett Avenue onto Route 5 is problematic. The improvement for this location includes providing alternate access to and from the school via a connection between Hackett Avenue/Raider Boulevard and the Colonie Center Loop Road. The connection abuts multiple properties and thus requires easements and discussions with property owners to implement. Refer to Sheet L-13 in Appendix B.

  Discussions with representatives from the South Colonie School District during two separate meetings resulted in some concerns. These include the potential for cut through traffic in front of the school, increased traffic near the ball fields, conflicts with pedestrians, maintenance responsibility and cost, and ownership of the road (public vs. private). The possibility of a one-way connection from the school to Colonie Center was discussed as a way to ameliorate some of the concerns about the cut-through traffic. They also stated that sidewalks and lighting would be necessary along with reconfiguring the school parking lot at the east end of the connection. The idea of providing exiting traffic with access to a signal was well received and the School District indicated that school buses would use the connection. Installation of a "No Left-Turn" sign on Hackett Avenue at the intersection with Route 5 was suggested as an alternative by the School District. Although the school does not have funding available for such an improvement at this time, the possibility of a land swap with the Town of Colonie near the school's bus garage was mentioned to help facilitate the connection in the future.

- Location 14 – Osborne Road Area (Town of Colonie) – This access management opportunity site includes the vacant parcel of land to the southwest of the Route 5/Osborne Road intersection. It is bounded by Route 5 to the east, I-90/railroad tracks to the south/west and businesses along Kraft Avenue to the north. The ideal access management improvement for this area is to create a 4-way intersection with Route 5 and Osborne Road by extending Railroad Avenue through the vacant parcel. Such a connection would create another route for vehicles to travel to/from Fuller Road and Railroad Avenue and would decrease the amount of heavy truck traffic using the adjacent residential streets. It would also provide access to a signalized intersection on Route 5. Refer to Sheet L-14 in Appendix B.

  It should be noted that the vacant parcel is classified as a former superfund site and is owned by the US Department of Energy (DOE). Therefore, the DOE was contacted to determine the status of the site and the feasibility of building a public road extension through the property. Discussions with representatives of DOE revealed that soil clean-up has been completed by the Army Corp. of Engineers (ACOE), and that the site is now in the midst of a 5 year ground water monitoring program. Some airborne settlement evaluations are also being verified on a few surrounding properties. If the ground water monitoring and airborne settlement evaluations show that the contamination levels have been reduced below acceptable thresholds, then the ACOE will send a letter to DOE indicating that the remedial action is complete. Assuming all evaluations are acceptable, this would happen in about three years or at the beginning of 2012. At that point, the property would transfer within DOE from the Legacy Management division to the Real Property Services division. Real Property would decide if they want to retain the property for their use. If not, the property would be offered to other agencies according to the following hierarchy:

1. Other offices within DOE
2. Other offices within the Office of Environmental Management
3. Other Federal Offices
4. Department of Housing and Urban Development
5. New York State
6. Town of Colonie
7. Active bidding

If no Federal or State agencies want the property, the Town can purchase it at fair market value, or it would be given to the Town at no cost if the Town entered into the Bureau of Land and Parks program committing to use the land as a public space, ball park, municipal center, etc. If the Town does not want to purchase the property at fair market value or put it into the Parks program, then it would be placed up for auction through the General Services Administration. Anyone could bid on it at that time, including the Town or other agencies. The greatest potential for the public road extension is if the State or Town purchases the land. Otherwise it would involve negotiating with the ultimate landowner.

A meeting was also held with the property owner of the adjacent ICS C&D Waste Transfer Station to discuss the impacts to the property if a connection is created. The property owner suggested a land swap in which the Town of Colonie would provide an equal amount of town owned property at the rear of the parcel in exchange for the needed right-of-way to create the connection. Although the land swap idea is still undergoing negotiations, it is clear that the owner is willing to help facilitate the proposed access management connection.

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Chapter 4: Implementation

The best plans can not work without follow through on the final piece of the puzzle – Implementation. Implementation of site design and roadway design access management techniques requires focus on a future, big picture vision. This ensures that decisions made on a site by site basis form the foundation to create a properly managed corridor, even in a retrofit situation.

A. Existing Zoning and Standards

Implementation of site design and roadway design access management techniques is possible primarily through the local municipality's land use standards and ordinances – The zoning code. A review of the zoning codes for the five municipalities in the study area found that each of the municipalities have some ability to control access whether through control of off-street parking, access location, or access spacing requirements. The local boards need to use the tools that are available. Access restrictions are generally limited to control of off-street parking. In addition, regulations tend toward general recommendations rather than specific standards. This is appropriate for a retrofit area like NY5 where the appropriate access management technique will be the treatment that makes the most sense.

In general, it would be beneficial for each of the communities to evaluate their existing codes with respect to site access for pedestrians, passenger vehicles, and buses. The adoption of the text contained in Appendix D would allow each of the municipalities to control access to land use parcels. With this text, the local municipalities have the ability to control access to land use parcels creating a greater opportunity to implement access management techniques on NY5 and throughout the area.

In addition to the local zoning codes and ordinances, access to state roads is also controlled by the NYSDOT. The NYSDOT *Residential Driveway Standards* which is based upon the Policy and Standards for the Design of Entrances to State Highways and dated November 24, 2003 states that all entrances to state highways are subject to the following:

In the interest of public safety and traffic flow and convenience, the Department may restrict the placement of a driveway to a particular location along the owner's frontage, restrict the type of access, or require shifting of an existing driveway. When a property fronting on a State highway also fronts on and has access to any other public street, road, or highway that intersects the State highway, the Department may restrict access to the State highway if it determines that such access would be detrimental to the safety and/or operation of the State highway.

~ Residential Driveway Standards, NYSDOT, November 24, 2003

Implementation of access management techniques requires the effort of all parties involved in the site plan review and development process from concept plan through approval and construction.

Although NYSDOT has some control of access to state highways, the follow table shows that local municipalities have many more tools available to manage roadway access.

Access Management Tools

Local	NYSDOT
➢ Rezoning for location and density	➢ Highway Work Permit
➢ Planned access prior to subdivision approval	➢ Purchase of access control
➢ Lot sizes and frontage requirements	➢ Medians
➢ Driveway spacing, location and design	
➢ Shared driveways and cross access	
➢ Clearance zones, larger setbacks	
➢ Intersection spacing standards	
➢ Signal spacing and linkage requirements	
➢ Restrict flag lots and lot splits	
➢ Reverse access / access roads	
➢ Complete the local road system	

Early coordination between the local municipality and NYSDOT during the site plan review process is crucial to provide the appropriate access to proposed land use developments. With cooperation between the two review agencies, individual site access will be viewed in the corridor context rather than at the site level. This will ensure that access along NY5 and other state roadways in the study area municipalities is properly managed.

B. Implementation Funding

Funding for implementation of access management occurs through private and public funding. Implementation occurs for one of three reasons:

- By the property owner(s) because it's beneficial to them
- By the property owner(s) because it's required by the municipality
- By the municipality because it's important enough to create a funding mechanism

Public funding mechanisms can include local access management districts similar to a sewer district where additional fees will be assessed for properties within the access management district. Access management projects can also be funded through state aid to correct an accident problem in a corridor.

C. Site Plan Review Access Management Checklist

The Site Plan Review Access Management Checklist (AM Checklist) is intended to be used to evaluate vehicular and pedestrian access during the site plan review process for all projects under review in the study area municipalities. Each question should be answered to determine whether the proposed project includes the necessary level of on-site access management. The practice of completing the AM Checklist will ensure that all aspects of pedestrian and vehicle access to a site will be considered. Continued use of the AM Checklist will also prioritize access management throughout the municipalities

while providing consistent reminders about the general and specific recommendations within the NY5 Access Management Plan. These consistent reminders will help with the implementation of the access management recommendations for the 10 opportunity sites and the corridor in general.

Site Plan Review Access Management Checklist

Topic		Question	Review Stage			Answer		
			Concept	Site Plan	Design	Yes	No	NA
Vehicle Access	V.1	Is there an opportunity to reduce the number of site driveways?	✓	✓				
	V.2	Can the proposed site provide a cross access connection to an abutting parcel?	✓	✓				
	V.3	Can the proposed site accommodate joint or shared access with an adjacent parcel?	✓	✓				
	V.4	Can the site be designed to provide an opportunity to allow joint access in the future?	✓	✓				
	V.5	Can the proposed project include a cross-access easement for future shared access or cross access?	✓	✓	✓			
	V.6	Can you achieve access from this parcel to an adjacent traffic signal?	✓	✓				
	V.7	Is the site driveway located within the influence area of an adjacent intersection?	✓	✓	✓			
	V.8	Are turning or access restrictions desirable for a proposed driveway located within the influence zone of an adjacent intersection?	✓	✓	✓			
	V.9	Is the site driveway located directly across from an existing driveway or at a location allowing for future shared use?	✓	✓	✓			
	V.10	Does the site plan show the property lines for properties to the rear, both sides, and across the street?	✓	✓	✓			
	V.11	Does the proposed project connect with the surrounding street system?	✓	✓	✓			
Pedestrian and Transit Accommodations	P.1	Does the site plan include a sidewalk connecting to adjacent properties, the adjacent roadway network, and ending at a logical terminus?	✓	✓	✓			
	P.2	Do sidewalks extend across the driveway opening?	✓	✓	✓			
	P.3	Is there an adequate pedestrian connection to a transit stop on both sides of the roadway?	✓	✓	✓			
	P.4	Is there an internal pedestrian connection to connect the building with the parking area?	✓	✓	✓			
	P.5	Are building entrances located and designed to be obvious and easily accessible to pedestrians?	✓	✓	✓			
	P.6	If there are multiple buildings on the parcel, is there an adequate pedestrian connection between the buildings?	✓	✓	✓			
	P.7	Are pedestrian accommodations sited along logical pedestrian routes?	✓	✓	✓			
	P.8	Does the site include pedestrian lighting where appropriate?		✓	✓			

Topic		Question	Review Stage			Answer		
			Concept	Site Plan	Design	Yes	No	NA
	P.9	Will snow storage disrupt pedestrian access or visibility?		✓	✓			
	P.10	Is the path clear from both temporary and permanent obstructions?		✓	✓			
	P.11	Are measures needed to direct pedestrians to safe crossing points and pedestrian access ways?		✓	✓			
	P.12	Are there any conflicts between bicycles and pedestrians?		✓	✓			
	P.13	Are pedestrian travel zones clearly delineated from other modes of traffic through the use of striping, colored and/or textured pavement, signing, and other methods?		✓	✓			
General Information and Agency Coordination	G.1	Has NYSDOT been identified as an interested or involved agency? If so, has NYSDOT been contacted?	✓	✓	✓			
	G.2	Has CDTA been identified as an interested or involved agency? If so, has CDTA been contacted?	✓	✓	✓			
	G.3	Has the County been identified as an interested or involved agency? If so, has the County been contacted?	✓	✓	✓			
	G.4	Has the Highway Work Permit application process been started?	✓	✓	✓			
	G.5	Is this one of the 10 opportunity sites noted in the Route 5 Access Management Guidelines?			✓			

D. Education

The final, though possibly most important part of access management implementation, is education. As noted previously there are a number of access management resources and education tools available online. These resources include documents and presentations providing general information and those that are intended specifically for business owners. In addition to these resources, the deliverables for the NY5 Access Management project include an educational presentation for the Capital District Transportation Committee to present to planning boards. These educational presentations should be given periodically in an effort to provide continuous education as members of the boards change. Continued education of the planning boards will help to ensure that those individuals involved in the site plan review process understand the importance of access management for NY5 and all roadways.