Access Management Strategies for Major Corridors

Town of Amherst, New York
Erie County

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CPA
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Section I—Introduction to the Project

A. Project Background

As a component of the Transit Road Corridor Management Study in the Towns of Amherst and Clarence, *Access Management Strategies for Major Corridors* was developed to identify techniques and tools to assist the Town of Amherst with access management and in future land use and transportation decisions on various types of highways.

The general guidelines identified in this Study will provide the Town with a menu of techniques and strategies that can be used to encourage efficient access along area roadways in a way that will complement and enhance neighboring land uses. The Study is intended to illustrate ways that the towns can support land development and preservation goals through access management.

Section II—Overview of Access Management

Significant background information on access management was included in the Transit Road Corridor Management Study (CMS). This overview was designed to provide a general understanding of the concept and outline the major benefits associated with the use of access management techniques at the local level. Since many of the recommendations provided in the Transit Road CMS apply to this Study, it makes sense to reprint the background information on access management presented in the Transit Road CMS.

A. What is Access Management?

Access management is a comprehensive approach to improving corridor safety and access. Transportation systems are designed to complement existing and future land uses along the targeted roadways. As a result, improved access and movement are achieved in a manner that respects the surrounding community and its plans for future development.

Access management does more than preserve the safety and efficiency of travel. Well-designed access systems can help preserve community character, advance economic development goals, and protect the substantial public investment in roads and highways.

Recommendations for access management usually include physical design elements, coordinated land development and subdivision regulations, as well as transportation and land use strategies that work together to address the issues identified by the communities involved.

B. Why is Access Management Important?

Whether it is applied to an intersection or an entire region, access management is designed to address several key issues: safety; access to goods and services; efficiency of travel; and economic impact. When the key issues are examined, it is important to consider their connection to one another and their collective impact on the surrounding communities.

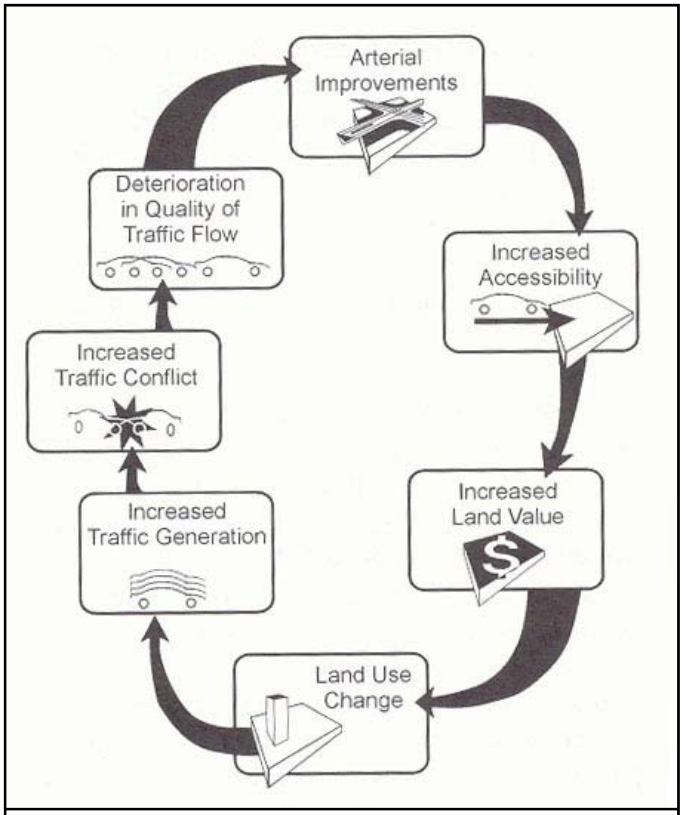


Figure II-1: Transportation and land use cycle.

Connectivity is an important aspect of access management. In addition to affecting how well motorists and pedestrians can access their respective destinations, access management is also inherently tied to a community's vision, sense of place and future success.

Figure II-1 illustrates the symbiotic relationship between access and development. Changes to the transportation system or adjacent land uses do not occur in isolation. Modifications to one have a tremendous impact on the other. Consequently, it makes sense to consider these factors collectively.

Safety

One of the primary concerns of an access management study is safety. At intersections along roadways (of public streets as well as driveways), a variety of vehicle paths will cross, merge into or diverge from one another, resulting in multiple conflict points.

Conflict points are good indicators of the potential for accidents. The more conflict points that occur at an intersection, the higher the potential for vehicular crashes. As the number of conflicts along a corridor increases, the potential for number of crashes is significantly increased. Improving vehicular circulation along local streets and in parking lots reduces the severity of vehicular collisions by reducing motorists' speeds along the corridor and in parking areas.

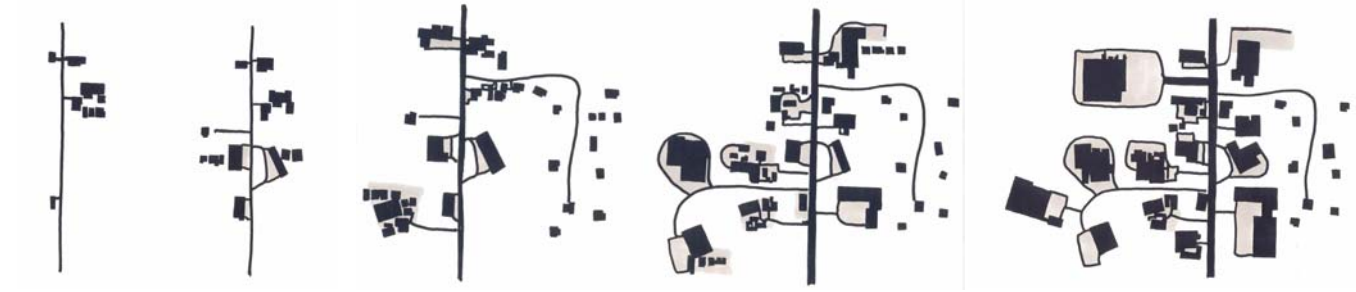
Access management also explores ways to separate conflict points and reduce interference with through traffic. For example, adequate spacing between intersections allows drivers to react to one intersection at a time and provides greater opportunities to avoid potential conflicts at each

successive intersection. Consequently, design decisions related to intersection spacing, corner clearance standards, turning lanes and restricted turning movements positively impact a corridor's safety.

Access to Goods and Services

Access to goods and services translates into access to business. Whether businesses are located along a rural country road or in a densely developed commercial center, similar access management techniques can be applied. People's ability to get to where they need to go is maximized by sensible transportation design along with well planned land use.

The illustrations shown in Figure II-2 illustrate a common cycle of development and its impact on land use. Transportation design plays a big part in how these changes take place and their impact on the surrounding community. If access to these new developments is managed well, motorists, pedestrians, and bicyclists can easily reach their destination. Successful access management, at every scale, makes "approaching, entering, exiting, communicating with, or making use of something" easier.



1) Rural, two-lane road with limited development

2) More development with intersection improvements

3) Adjacent residential development

4) Add Center Turn Lane and Traffic Signals

5) Full 4 or 5 -Lane Suburban Strip

Figure II-2: These diagrams illustrate how the typical land use development and transportation improvement cycle often occurs in a community.

Efficiency of Travel

The two images shown in Figure II-3 illustrate good and bad examples of access management. These images are particularly helpful in showing how efficiency of travel is impacted by access management or the lack thereof.

The upper image shows a typical suburban corridor with little or no access management provisions. Each parcel has one to two curb cuts, the driveways are not spaced properly, and there is no interconnection between parcels.

The lower image shows two highway commercial uses that are interconnected and serviced by one full access driveway on the main road, one right-in and right-out access on the main road closer to the intersection, and a full access driveway onto the lower volume side road.

This corridor design improves efficiency of travel by limiting the number of movements and conflict points along the main corridor. The shared access drive and the reduction of curb cuts limit the frequency of motorists entering and exiting the main road for multiple stops along the way. The right-in, right-out access also reduces the time needed to enter and exit the access driveway which improves traffic flow. This design also eliminates left turns exiting and entering the site from this drive.

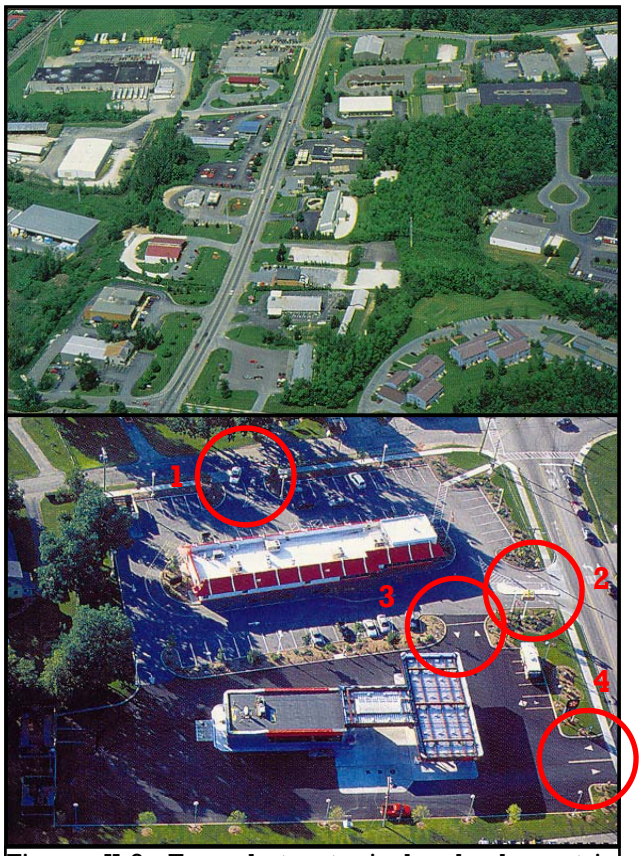


Figure II-3: Top photo—typical suburban strip with no access management provisions. Bottom photo—highway commercial uses that are interconnected (3) and have full access to both roadways (1)(4) while restricting turning movements at the driveway nearest the intersection (2).

Economic Impact

Recent studies have shown it is reasonable to assume that improvements to traffic flow and safety will draw more motorists to an area, which increases the number of potential customers. However, it is difficult to assess the actual economic impact of access management projects due to the lack of financial data available.

Studies on this issue typically rely upon opinion surveys of affected businesses and motorists since sales and business activity data are sensitive and not readily available. While opinion survey results have been largely favorable, they are very subjective and, therefore, less

convincing to some. However, some of the recent studies have found that land values, which are a more objective measure of economic impact, also remained the same or increased after access management projects were completed.

The economic impact of access management extends beyond the businesses on or near the corridor. Access management can provide a substantial reduction in accident costs. According to the American Association of State Highway and Transportation Officials (AASHTO), 50 to 70 percent of all accidents are access related. Economic benefits are also realized in the reduced need to build more roadways, which can be a substantial cost to communities and businesses.

Section III—Defining Corridors

A. Highway Functional Classification System

Roadway functional classification is the process by which streets and highways are grouped into classes or systems according to the character of traffic service that they are intended to provide. All streets and highways are grouped into one of these classes, depending on the character of the traffic and the degree of land access they allow, or are designed to accommodate. For these reasons, the functional classification system is the backbone of an access management program. This system establishes the planned function of different types of highways and the priority for access.

There is a fundamental relationship between functional classification of highways and how they serve traffic mobility and land access. An example of the typical interaction of the different classifications is depicted in Figure III– 1.

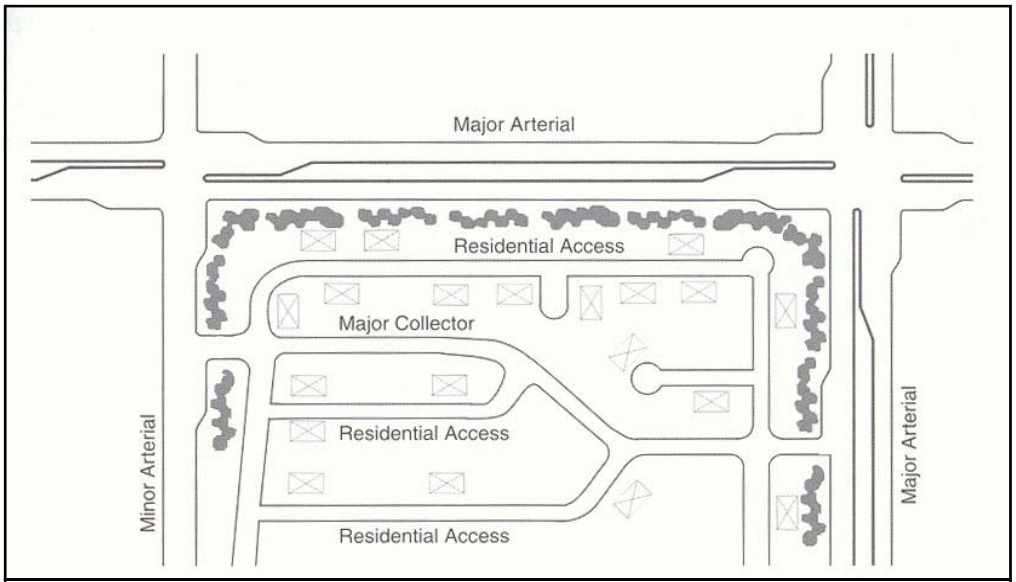


Figure III-1: Illustrate the function and inter-relationship of the highway classifications described in the narrative. *(Source: Access Management Manual, TRB, 2003)*

In general, classifications are defined as follows:

Freeways: High volume, access-controlled, divided roadways (also called an expressway or interstate highway). Access is controlled through the use of interchanges, and the type of interchange depends upon the kind of intersecting roadway.

Major Arterials: High volume roadways that carry the major portion of daily trips to centers of activity in the metropolitan area. Major Arterials (also called principal arterials) place a greater emphasis on mobility rather than access to land and include fully and partially controlled access categories. A major arterial serves major through movements between important centers of activity in a metropolitan area, and a substantial portion of trips entering and leaving the area. It also connects freeways with major traffic generators.

Minor Arterials: Streets that connect and augment the major arterial system. Although its main function is still traffic mobility, a minor arterial performs this function at a somewhat lower level and places more emphasis on land access than does a major arterial. A system of minor arterials serves trips of moderate length and distributes travel to geographical areas smaller than those served by a major arterial.

Major Collectors: Streets that distribute trips from and channel trips to arterials. Additionally, these roadways provide access and circulation within residential neighborhoods, commercial and industrial areas. Their access function is more important than that of arterials, and unlike arterials, their operation is not always dominated by traffic signals.

Minor Collectors: Streets that distribute lower volumes of traffic from predominantly residential developments to major collector streets and arterials. Minor (or local) collectors carry through traffic, but at lower volumes than major collectors.

Local Streets: Streets that provide for local traffic with the highest level of property access and lowest level of mobility. Through traffic movement is discouraged on local streets. Cul-de-sacs are a form of local street that provides direct access to property and eliminates through traffic.

Arterials provide a high level of mobility and a greater degree of access control, while local facilities provide a high level of access to adjacent properties but a low level of mobility. Collector roadways provide a balance between mobility and land access (See Figure III-2).

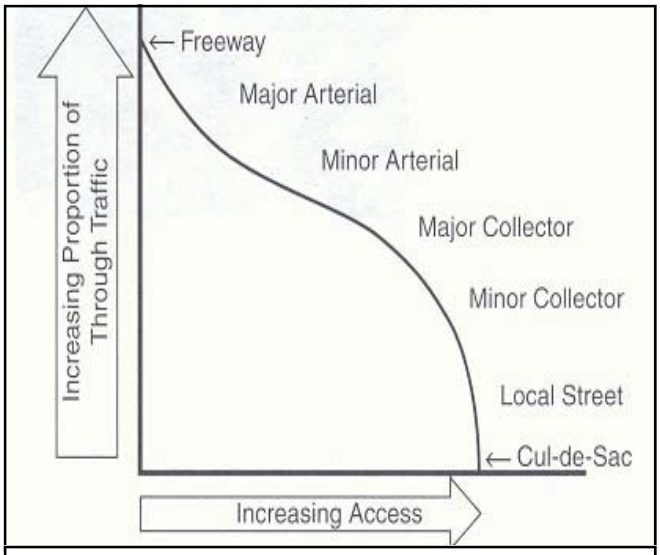


Figure III-2: Illustrates changing levels of access and through traffic across functional roadways. *(Source: Access Management Manual, TRB, 2003)*

B. Character Corridor Designations

The Vision Statement in the Amherst Bicentennial Comprehensive Plan expresses the importance of Amherst's diverse physical environment – including distinct urban, suburban, and rural areas – to overall community character. To help reestablish and reinforce physical diversity and sense of place within Amherst, the Comprehensive Plan identifies four character designations that can be used to classify highway corridors. The Comprehensive Plan encourages the Town to develop and adopt roadway design standards that are sensitive to the established context. These standards should address the highway, the treatment of the public right-of-way, the form and appearance of adjacent development, and land use in an integrated fashion.

The Comprehensive Plan further states that standards should be established for highway design and the treatment of adjacent land uses to help maintain the visual and functional character of corridors. These standards should incorporate flexibility consistent with the approach to planning for transportation improvements known as "Context Sensitive Design," which emphasizes collaborative planning with stakeholders to develop solutions appropriate to local conditions. The Comprehensive Plan also recommends the use of access management techniques as a means of encouraging and supporting context sensitive design standards. The following section of this report links access management policies and tools with each type of character corridor discussed in the Comprehensive Plan. Although not all highways in the Town have been classified by Character, the categories and associated access management techniques can be applied to all roads throughout the Town.

The following are definitions of the four character corridor designations identified in the Comprehensive Plan, followed by general recommendations for the application of access management techniques and tools for each type of corridor. Examples of access management techniques, applied to specific roadways with various character corridor designations are found in the Appendices.

Traditional:

"Traditional" refers to corridors located within higher intensity centers and older neighborhoods. Design guidelines for these corridors should promote pedestrian-friendly environments, encourage historic preservation, and emphasize traffic calming features.

Suburban:

"Suburban" refers to corridors serving newer residential subdivisions and arterial or collector roadways serving non-local traffic and which typically support automobile-oriented development. Design guidelines for these corridors should promote all forms of travel equally while emphasizing mobility, safety, and accessibility.

Commercial:

"Commercial" refers to *roadway corridors that have an established linear, non-residential development pattern.* Design guidelines for these corridors should promote increased control of access through physical design elements both within the right-of-way and through site plan development, encourage shared or consolidated access and visual improvements, and emphasize improving pedestrian access.

Rural:

"Rural" character corridors possess a unique visual character due to their agricultural value and/or scenic qualities. Design guidelines for these corridors should promote traffic safety issues, preservation of visual resources, and emphasize natural features of the surrounding landscape.

Section IV—General Recommendations

A. Planning for Access Management

Access management plans are typically implemented through a combination of regulations, interagency or public-private agreements, development/site plan review, and roadway improvement projects. A successful plan is achieved through the involvement and cooperation of local leaders, affected property owners and the agencies responsible for carrying out the plan or project. Since many of the roadways in the Town are under State or County jurisdiction, it will be important that future access management plans be completed with their full involvement.

Basic considerations for effective access management plans include identifying participating agencies, developing a public involvement plan, establishing the vision, analyzing the corridor, evaluating the alternatives, adopting the recommended alternative, and implementing the plan.

The recommendations of this Study are based on local knowledge, work completed for the Transit Road Corridor Management Study in the Towns of Amherst and Clarence, and a review of existing literature, studies, and other access management plans used in other communities. The recommendations included in this report center around three key topical areas:

- Zoning Considerations;
- Land Division, Subdivision Regulations and Site Planning
- Physical Design Controls

Each topical area will be discussed in general terms regarding their role in access management. An overview of the types of techniques and tools available to address each topic area will be discussed. For each character corridor type (i.e., Traditional, Suburban, Commercial and Rural), a set of effective tools will be provided for each topical area to provide a guide for future actions and policies that will support access management on a given corridor. Although the recommendations and guidelines included in this report are generalized and conceptual, they will assist the town in its future planning efforts and development decisions. Each roadway is unique and the specific strategies selected for implementation will vary based on the circumstances surrounding the area. As roadway corridors come under significant development pressure or face planned significant development or construction, a corridor-specific access management plan may be needed to address the relevant issues, trends and dynamics of that corridor.

B. Topical Area Overview

Zoning Considerations

Zoning regulations outline how and where land uses and development should be located in a community. Consequently, the requirements, guidelines, restrictions and recommendations identified in a zoning code play an important role in determining how a community looks, feels and functions. Zoning codes specify, to varying degrees, regulations regarding:

- Allowable uses by right and by permit as well as prohibited uses;
- Lot size and building setback requirements;
- Parking and loading facilities;
- Pedestrian accommodations; and
- Guidelines for building design and materials used.

Although all of these considerations impact how adjacent roadways will function, some will play a more significant role depending on the type of corridor. Consequently, the extent to which the regulations related to each of the above areas need to be examined, modified or focused upon will vary across the access categories.

Land Division, Subdivision Regulations and Site Planning

Land division and subdivision regulations guide the division and subdivision of land into lots, blocks and public ways. They provide an opportunity to positively impact access and street layout in relation to existing and planned development. Site plan review, regardless of land use (i.e., residential, commercial and industrial) requires careful consideration of access-related issues. In residential site plan review, major access issues include internal street layout and connectivity, pedestrian and bicycle accommodations, and direct access to collectors and arterials. In commercial and industrial site plan review, parking configuration, site circulation, the number of access points and the provision of shared or cross access are primary considerations.

In general, the following access-related issues should be addressed in subdivision and site plan review processes:

- Assessment of current road system and its ability to meet projected traffic demands;
- Number and distance between access points permitted along major roadways (i.e., collectors and arterials);
- Driveway design;
- On-site circulation;

- Shared and cross access provisions;
- Pedestrian and bicycle facilities linking buildings, parking areas, entrances to the development, recreational and residential uses;
- Parking requirements (spaces and location in relation to the building).

Physical Design Controls

Physical design controls are another set of tools that can be used to better manage access along roadways. Access controls address a spectrum of design considerations and can include such factors as the number and width of travel lanes, driveway location, design and spacing standards, corner clearance guidelines, signal spacing and timing, joint and cross access provisions, and out-parcel requirements. The use of traffic calming mechanisms along roadways is also included in the discussion of physical design controls since they are paramount to ensuring safe vehicular access and a pedestrian-friendly environment.

C. Recommendations for Character Corridors

Traditional Corridors

Traditional Corridors, as defined earlier in this report, are typically associated with denser, smaller scale development and are accustomed to higher levels of pedestrian activity and destination traffic. Consequently zoning considerations in these areas are critical to the successful function of the corridor and adjacent land uses.

Zoning Considerations

A zoning code that utilizes the standard Euclidian approach to zoning districts often does not go far enough in preserving and enhancing more traditional neighborhoods. To remedy this, the town should consider the adoption and use of a "traditional" or "neighborhood" zoning district or overlay district to provide greater flexibility and encourage traditional development, land use patterns and transportation design.

The traditional zoning or overlay district should:

- Encourage or require the provision of pedestrian facilities in the right-of-way with all new developments and major redevelopment projects to ensure that the pedestrian focus of the areas is maintained and enhanced to help reduce multiple vehicle trips in these busy areas;
- Encourage or require the inclusion of other pedestrian amenities, such as benches, lighting and on-site pedestrian facilities (paths, walkways, sidewalks, etc.) to ensure that pedestrian linkages are available, safe, attractive and usable. These pedestrian linkages could be provided on and between commercial sites and should also provide connections between

residential and commercial development in areas where right-of-way sidewalk facilities are not available or feasible for future construction;

- Require zero setbacks where possible to preserve and encourage development up to the sidewalk, which is a hallmark of development along traditional corridors (See Figure IV-1).

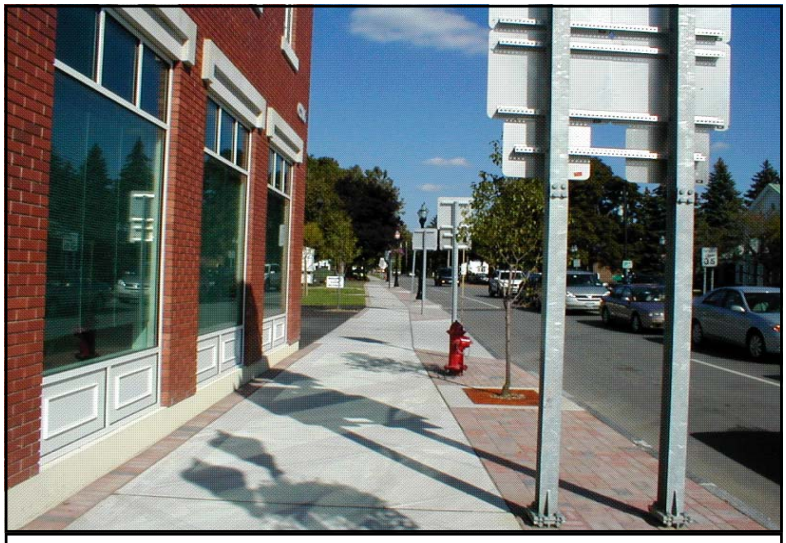


Figure IV-1: Example of traditional corridor that includes zero-setback development and on-street parking. Orchard Park, completed 2004.

- Reduced lot sizes and frontage requirements will ensure that smaller-scaled development and redevelopment occurs in the areas adjacent to traditional corridors.
- Right-of-way easements to provide future sidewalk, on-street parking and bike lane facilities where none currently exists;
- Minimize or eliminate off-street parking in front of buildings. On-site parking along Traditional Corridors should be located to the side or rear of the building. This approach will yield more visually appealing development and provide opportunities for shared parking and site access;
- Although the Town's current parking requirements outlined in the zoning code allow for some variation, a number of strategies deserve further consideration.
    - ⇒ Exemption or partial exemption from parking requirements for designated areas
    - ⇒ Credit for on-street parking spaces without Planning Board consideration
    - ⇒ Improved provisions for shared parking
    - ⇒ Credit for remote (off-site) parking
    - ⇒ Credit for transportation management plans (TMP), including car pooling or van pooling, flexible hours, preferential parking spaces, and bus or shuttle provisions
    - ⇒ Modified parking ratios based on developer-submitted data
    - ⇒ Cross-access and rear access easements (to allow parking area connections other than public streets)

- Allow for mixed-use development, both horizontally and vertically. A mix of land uses is a common thread along Traditional Corridors.
- Specify specific materials and design approaches that should be utilized in the Traditional Corridor areas (overlay or district). Design and material guidelines should address, at minimum, building facades, on-site parking areas, sidewalks and other pedestrian facilities.

Land Division, Subdivision Regulations and Site Planning

In areas where Traditional Corridors are located, subdivision regulations and site planning issues are critical in preserving the appearance and function of the corridor and surrounding areas. Site plan review, in particular, offers significant opportunities to control the type of developments permitted on or near traditional corridors, the number and location of direct access points to the corridor and the quality of the designs being proposed and approved. These decisions will have a major effect on preserving the corridor's traditional design, scale and functionality.

In subdivision review, the provision of a local road system in, or local road access to, a new residential subdivision development is a critical step for minimizing curb cuts along major arterials and collectors and preserving the integrity of the traditional neighborhood area. New roads in subdivisions should also connect to the existing street grid to improve circulation to and through residential developments. Although street connectivity is an important element for any subdivision, it is particularly important in preserving traditional neighborhood development in areas adjacent to traditional corridors. Typically higher development density is encouraged in areas adjacent to traditional corridors in order to maintain consistent scale and maximize the area's walkability and pedestrian access to adjacent commercial development.

Redevelopment issues are a particular concern along and near Traditional Corridors. Redevelopment presents opportunities in site plan review to address problems with current access and circulation that existed at the site previously. Decision makers should take advantage of this opportunity and recommend, or require where possible, changes to the site that will improve safety and access, both on-site and in the right-of-way. For example, involved agencies and board members should consider the following questions :

- Can the number of access points (curb cuts) be reduced ?
- Can parking be relocated to meet the objectives identified under the Zoning Code?
- Is shared access, cross access or shared parking a possibility at the site now?
- Should the town consider requesting, or mandating if possible, the provision of an easement for future cross or shared access?

Physical Design Controls

Along Traditional Corridors, the primary physical design issues that need to be addressed center around slowing speeds, reducing conflict points and improving pedestrian access and safety. The priority access management considerations with regard to controls include:

Figure IV-2: Example of new "traditional development" (front view) with on-street parking, zero setback, and appropriate scale to fit with the surrounding development. East Aurora, built 2002.

Figure IV-3: Example of new "traditional development" (rear view) with parking in the rear and provided cross access with the adjacent parking lot. East Aurora, built 2002.

- Provision of well designed, on-street parking (Figure IV-2);
- On–site parking facilities should be consolidated and located to the side or rear of buildings (Figure IV-3);
- Cross access among adjacent properties provides safer, more efficient vehicular movement between properties;
- Context sensitive design solutions that complement the area's architectural elements and character;
- Narrow lane widths (10-12 feet) should be considered to slow traffic and reduce crossing distances for pedestrians ;
- Textured, easily identifiable cross-walk areas in the right-of-way and on pedestrian facilities should be considered to improve safety and access;
- Installation of roundabouts and medians in high traffic areas to calm traffic; these additions also improve the aesthetic appeal of the corridor and can be designed to enhance the character of the corridor and surrounding area; and
- Use of curb extensions (at crossings and street corners that protrude into roadway), which

reduce crossing distances for pedestrians, more clearly define on-street parking areas, and serve as a traffic calming device for motorists. Curb Extensions must be designed to preserve ample turning radii for emergency vehicles and permitted truck traffic.

- Installation of bicycle facilities, where feasible, should be included in the corridor design (e.g. dedicated bike lane).

Figure IV-4: Example of traffic calming techniques along a "traditional" corridor can be found on N.Y. Route 20A, Main Street. Orchard Park, completed 2004.

Suburban Corridors

Suburban Corridors typically serve residential subdivisions and include arterial and collector roadways serving non-local traffic. They are designed to support automobile-oriented development. The suburban corridor must accommodate increasing through traffic while still supporting access to local commercial and residential uses.

Zoning Considerations

Current zoning regulations generally support suburban-scaled development. However, improvements could be made to address the multi-modal needs in these areas (e.g. pedestrian and bike access). Amherst's Bicentennial Comprehensive Plan identified the need for expanded mobility of all modes of transportation, and included the following recommendations:

- Encourage or require the provision of pedestrian facilities in the right-of-way with all new developments and major redevelopment projects to ensure that the pedestrian focus of the area is maintained and enhanced;

- Encourage or require the inclusion of other pedestrian amenities, such as benches, lighting and on-site pedestrian facilities (paths, walkways, sidewalks, etc.) to ensure that pedestrian linkages are available, safe, attractive and usable. These pedestrian linkages could be provided on and between commercial sites and could also provide connections between residential and commercial development in areas where right-of-way sidewalk facilities are not available or feasible for future construction. Figure IV-5, on the next page, provides an example of how residential uses could be linked to adjacent commercial development along an arterial or collector corridor.

- Increase driveway spacing standards and corner clearance requirements where possible to improve traffic flow and safety. Fewer curb cuts yield fewer conflict points and lessens speed reduction and change through a given area, which are important factors along suburban arterials;
- Encourage shared access and cross access drives in new residential and commercial development and redevelopment projects along these corridors to reduce curb cuts;

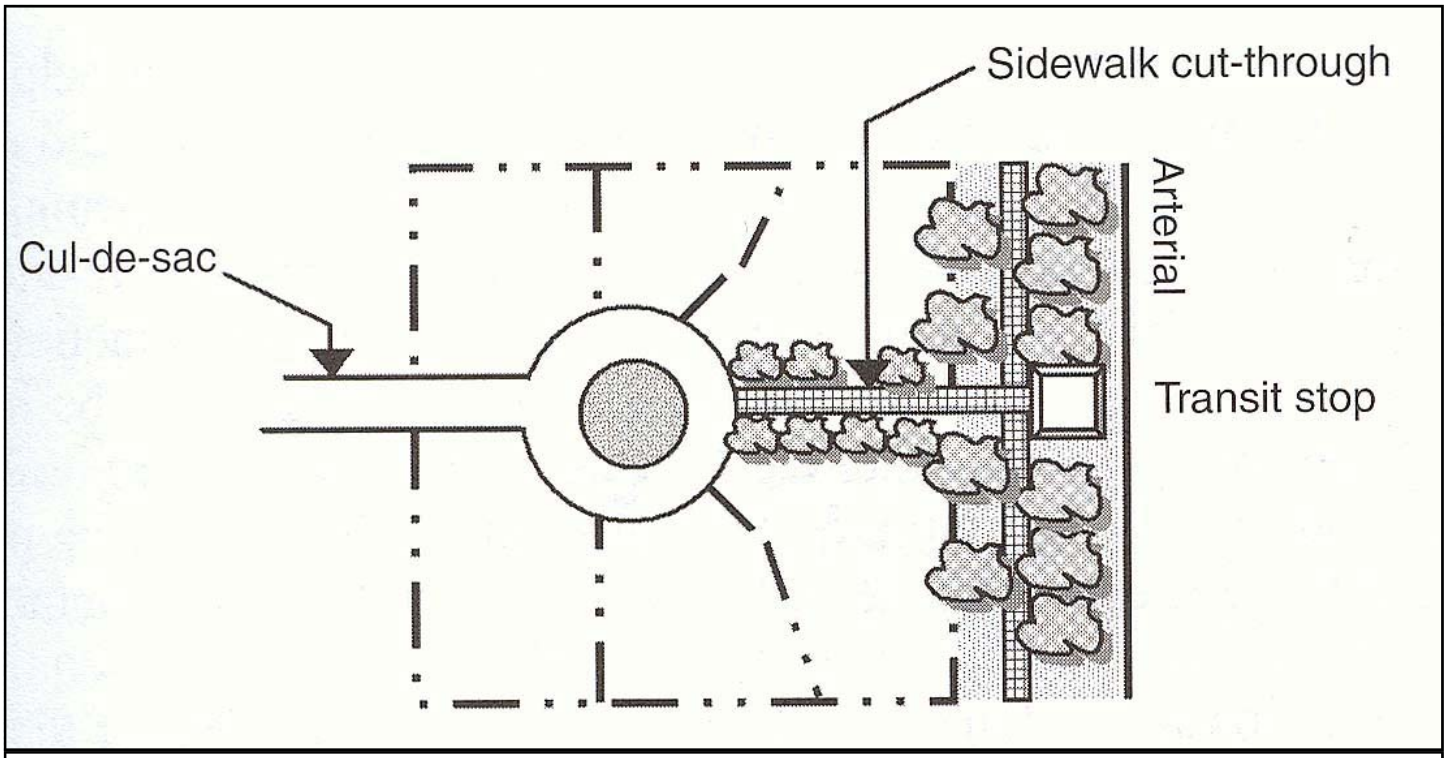


Figure IV-5: Example of a pedestrian cut-through between residential development and adjacent development along an arterial. *(Source: Access Management Manual, TRB, 2003)*

- Increase lot frontage requirements, where practical, to allow for greater spacing between driveways along Suburban Corridors.
- Consider utilization of appropriate lot width-to-depth ratios to prevent long and narrow or irregularly shaped lots. Along a Suburban Corridor, a 1:2 ratio would be acceptable. However in areas where corridors are intended for future widening, a larger ratio (e.g. 1:3) may be needed to accommodate larger setbacks.
- Encourage board members to adopt a more stringent approach to variance reviews and decision making to avoid zoning decisions that will negatively impact roadway safety and efficiency;

- Consider down-zoning at intersections along major suburban corridors to ensure that the intensity of land uses along the corridor does not exceed the capacity of the roadway. Suburban arterials and collectors that become too intensely developed (because zoning in these areas permits it) may require future widening, which will ultimately change the character of the roadway.

Land Division, Subdivision Regulations and Site Planning

Many corridors in Town are Suburban in nature, therefore, significant emphasis should be placed on the review of new developments along and adjacent to these corridors to ensure safe and efficient access in the future. Along Suburban Corridors, site plan review becomes a critical step in that process. The following subdivision and site plan review guidelines are recommended:

- Limit, or prohibit, the creation and use of flag lots, except under extenuating circumstances along rural segments of Suburban Corridors. Figure IV-6 illustrates how flag lots negatively impact a corridor by increasing curb cuts. There are cases where developers or landowners will subdivide a large parcel into two or three flag lots at a time to avoid the requirement of providing a new road(s) to service a subdivision. Eliminating flag lots will prevent this option from being used and encourage residential development that expands street connectivity and reduces negative impacts along adjacent arterials and collector roadways.

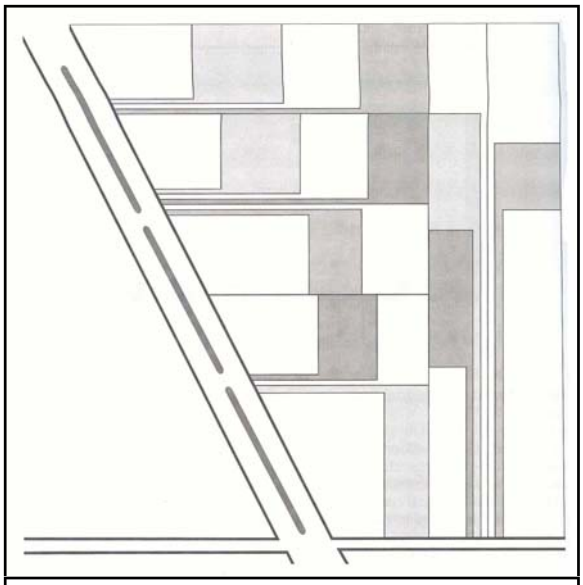


Figure IV-6: Stacking of flag lots significantly increases the number of curb cuts along the corridor and results in a disjointed pattern of development with inconsistent setbacks. *(Source: Access Management Manual, TRB, 2003)*

- As suggested by Duncan Associates in the Development Regulations Policy Memorandum (November 2002), vehicle circulation could also be greatly improved if the subdivision regulations contained a specific connectivity policy. "*This could require that any development contain a certain minimum ratio of "nodes" (intersections and corners greater than 75 degrees) and "links" streets between these nodes. What results is a network of streets better connected within and outside of the development."*

- Consider use of an overlay district on critical Suburban Corridors that are currently under-developed to manage direct access to/from future residential development .
- Encourage use of reverse frontage development that provides access to the subdivision from a residential access street and not the major highway. An example is provided in Figure IV-7.
- Minimum access spacing standards must be actively enforced. A spacing guide for unsignalized access is included in Table IV-1. Although distances can be based on other criteria (e.g. trips), speed is the preferred criterion, supported by traffic engineers and access management guides. The spacing standards should be applied to proposed local roadways constructed for new, large-scale residential or commercial development.

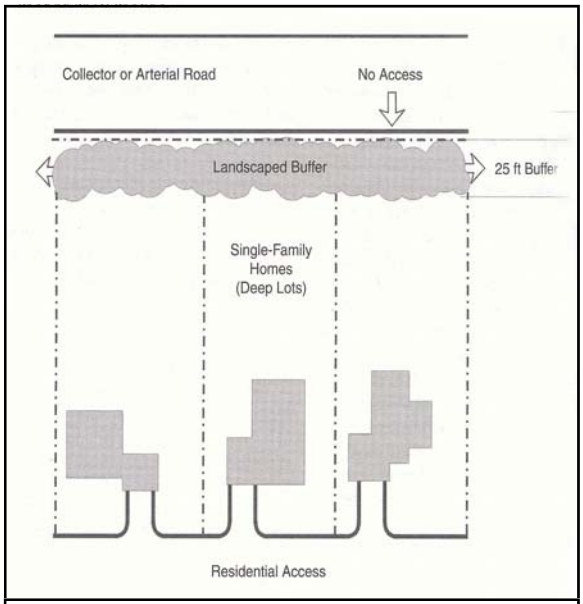


Figure IV-7: Example of reverse frontage development. *(Source: Access Management Manual, 2003)*

TABLE IV-1
UNSIGNALIZED ACCESS SPACING CRITERIA

Speed (mph)	*Distance (ft.)*
30	200
35	250
40	305
45	360
50	425
55	495

Reverse frontage development along Renaissance Drive

Reverse frontage development along Millersport Highway

Physical Design Controls

Along Suburban Corridors, physical design controls are needed to maintain sufficient travel speeds, provide safe, convenient access for local and through traffic, and improve pedestrian safety. In order to do this, the following tools should be considered:

- Reductions in spacing requirements (see Table IV-1) may be accommodated under special circumstances (e.g. driveway services multiple properties). However if the deviation from the minimum spacing requirement is greater than 10 percent, a traffic impact analysis should be required.

- Installation of medians to create a parkway environment. Medians can be effective access management tools along both larger suburban residential corridors and commercial corridors. In residential areas, they discourage arterial fronting development and encourage residential development with a dedicated street system that gains access from an existing side street. Along Suburban Corridors with commercial development, medians limit where and how development can be located on the corridor and encourages the use of shared access and cross-access drives. A guide to median spacing is contained in Table IV-2 below:

TABLE IV-2
Minimum Spacing Between Median Openings

Posted Speed	Directional Opening*	Full Opening**
Less than 45 mph	660 feet	1320 feet
45 mph or greater	1320 feet	2640 feet

* Directional openings do not allow all traffic movements
** Full openings allow all traffic movements

- Consolidation of driveways, either by eliminating additional access points on individual parcels or through the development of joint/cross access,

- Improving sight distance, increasing the effective approach width of driveways, and limiting exiting left-turns are also effective tools for access management along Suburban Corridors.

- In areas where there are no sidewalks (current or possible in the future) and/or single lane travel in each direction, generous shoulder widths should be provided and maintained (e.g. eight to 10 feet wide) to accommodate multi-modal travel along the corridor and to minimize the effects of turning movements on traffic flow, speed and safety.

- Traffic calming techniques, such as curb extensions, paved crosswalks and speed tables, can also be employed at key intersections and/or mid-block crossings to help accommodate all modes of travel along the Suburban Corridor, including bicyclists and pedestrians.

- Eliminating driveways or limiting turning movements to/from driveways within the functional area of intersections. The functional area of an intersection is defined as: That area beyond the physical intersection of two controlled access facilities that comprises decision and maneuver distance, plus any required vehicle storage length, and is protected through corner clearance standards and driveway connection spacing standards. See Figure IV-8 for a diagram of the functional area of an intersection.

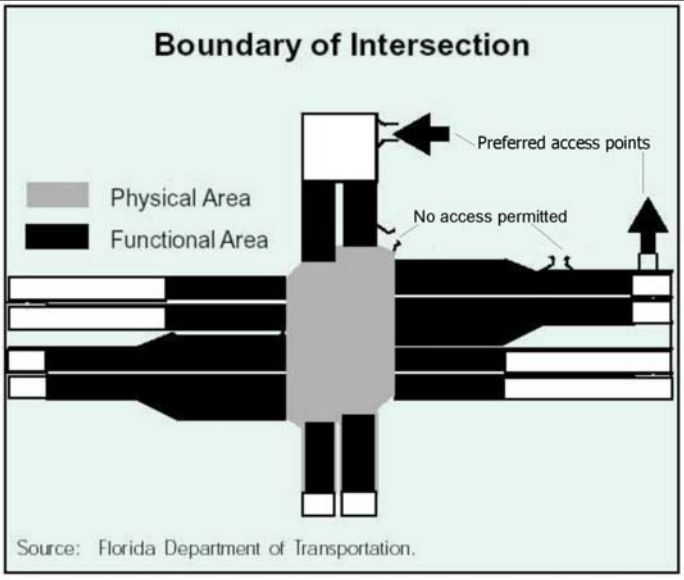


Figure IV-8: The functional area of an intersection vs. the physical area of an intersection. Proper and improper driveway placement is illustrated.

Commercial Corridors

Commercial Corridors are characterized by a predominance of commercial development and limited or no residential development directly fronting the corridor. These corridors often serve as regional transportation routes, and therefore must accommodate high volumes of through and destination traffic. Typically, Commercial Corridors are developed in a linear fashion (e.g. strip development). A consequence of this type of development, when not managed well , is a high concentration of driveways and the associated access difficulties that result.

Applying access management techniques to commercial corridors requires a comprehensive approach that includes right-of-way modifications and site plan improvements.

Zoning Considerations

Zoning regulations that support access management principles are, perhaps, most critical in commercial areas, where traffic volumes and conflict points tend to be highest. Although there are a number of zoning modifications that the town can institute to improve access management along Commercial Corridors, limiting direct access to commercial corridors is, by far, one of the most critical. As Figure IV-9 (next page) illustrates, direct access to fronting parcels significantly increases the number of conflict points and potential turning movements, which negatively impact roadway safety and operation.

Other zoning considerations related to Commercial Corridors include:

- Improved sidewalk and pedestrian access provisions related to commercial development

applications to ensure that pedestrian needs are being met within commercial areas. Although commercial areas are, by definition, more automobile oriented, pedestrian linkages should be provided to ensure multi-modal availability where feasible. Amherst's Bicentennial Comprehensive Plan identified the need for people to move around town regardless of their mode of transportation. Requiring pedestrian and/or bicycle access to be included in circulation plans would help achieve this goal.

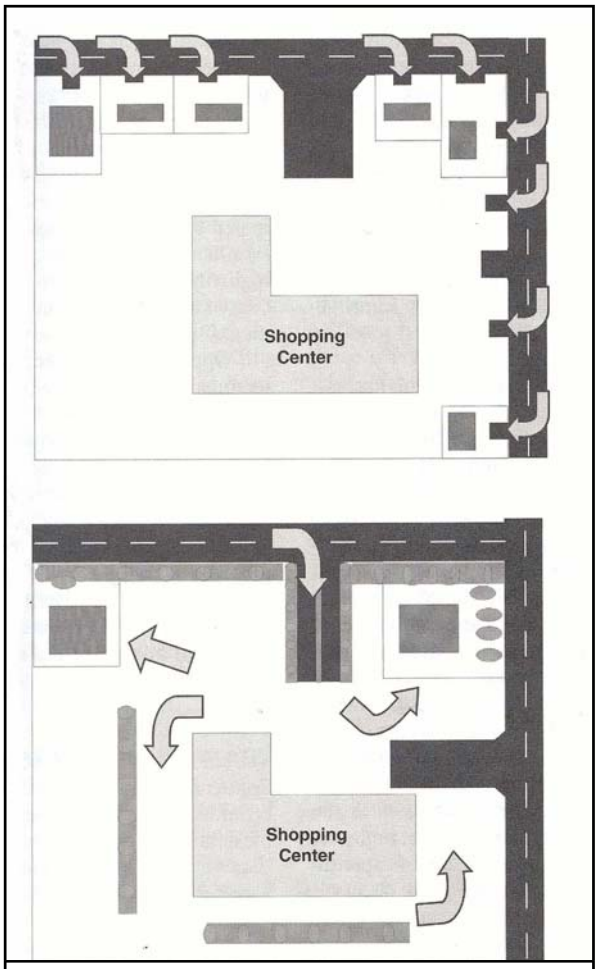


Figure IV-9: The potential conflict points of unlimited direct access to commercial sites (top image) compared to those of on-site access to out-parcels and limited direct access (bottom image).

- Enhance definition of and differentiation among different types of Commercial Corridors. Not all Commercial Corridors share the same character and environment—and access management solutions will vary as a result. For example, corridors supporting neighborhood commercial centers and regional commercial centers have different contexts and would require different regulations related to allowable uses, minimum and maximum lot sizes, building size and setbacks.
- Include zoning provisions that encourage or require cross access for new development and redevelopment along Commercial Corridors. Zoning regulations can include incentives for developers and property owners who utilize cross access.
- Ensure that current lot depth, width and size are adequate for well-designed on-site circulation, driveway throat length and service drives. Figure IV-10, on the following page, provides an example of how inadequate throat length negatively impacts access to and from the abutting corridor as well as on-site circulation.
- Increase lot frontage requirements, where necessary, to allow for greater spacing between driveways along commercial corridors. (See minimum driveway spacing guidelines provided in Table 1 on page 19)

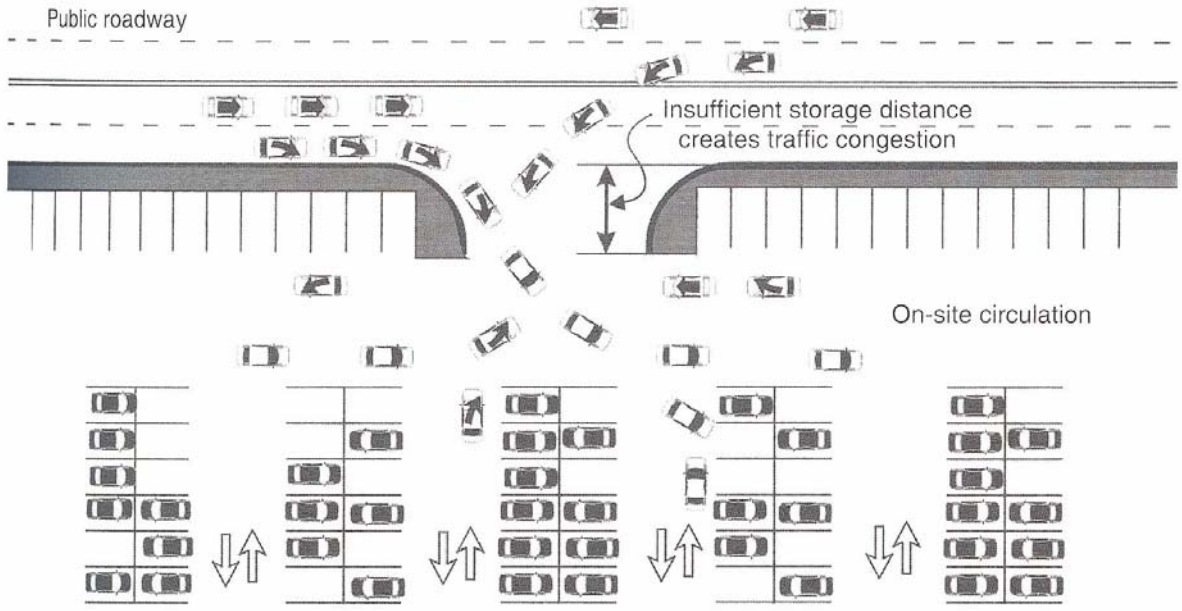


Figure IV-10: Inadequate throat length results in poor operation in the vicinity of the access drive. Congestion and high crash rates result on the abutting corridor and on site. *(Source: Access Management Manual, 2003)*

- Consider utilization of appropriate lot width-to-depth ratios to prevent long and narrow or irregularly shaped lots. Along Commercial Corridors, a 1:2 ratio would be acceptable. However in areas where corridors are intended for future widening, a larger ration (e.g. 1:3 or 1:4) may be needed to accommodate larger setbacks.
- Shared parking requirements would provide developers a way to meeting minimum parking standards without providing excessive parking areas that can dominate the landscape.

Although Commercial Corridors have the most access-related issues, they often present the most opportunities for instituting access management due their relatively fast rate of redevelopment and turnover. Therefore, it is possible to correct access deficiencies in a relatively short period of time.

Land Division, Subdivision Regulations and Site Planning

Along Commercial Corridors, land division and site plan regulations play an integral role in the successful application of access management techniques. How commercial parcels, particularly larger developments, are designed have a significant impact on site circulation and access to and from the abutting corridor. The most critical site planning and land division considerations for Commercial Corridors include:

- Utilization of cross-access and shared access drives to improve circulation between adjacent

commercial properties. This approach to site planning reduces the number of curb cuts along the corridor (which reduces conflict points) and minimizes motorists' need to enter and exit the corridor to travel between commercial developments along the corridor. Although the positive impacts of shared access may be more extensive with larger commercial developments, it is important to encourage shared access for smaller adjacent commercial developments as well. Figures IV-11 and IV-12 provide sample configurations for cross and joint access, and access easements, in larger and smaller commercial developments.

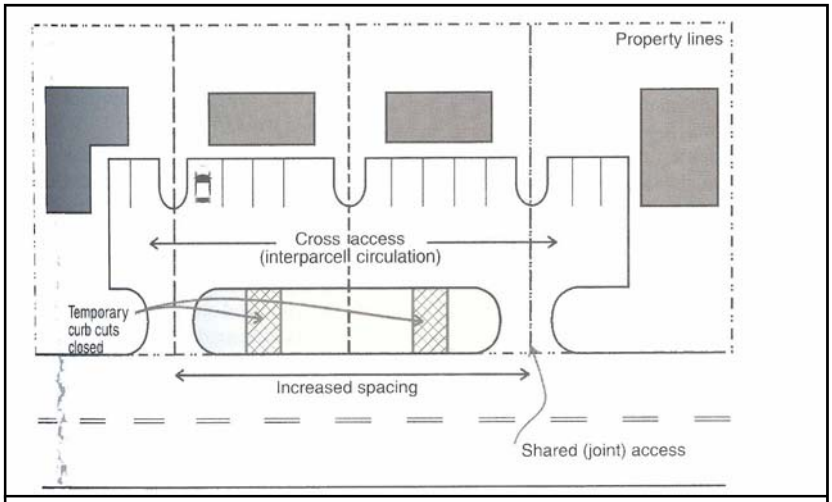


Figure IV-11: Example of joint and cross access. *(Source: Access Management Manual, 2003)*

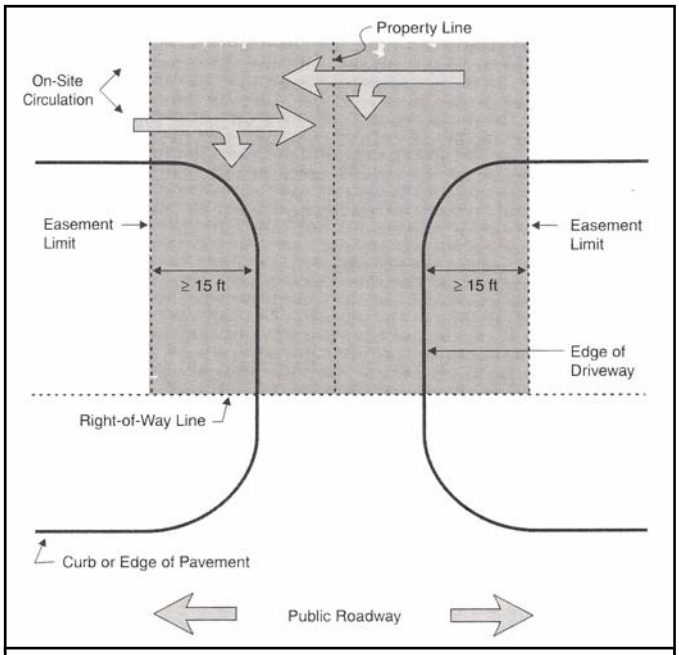


Figure IV-12 Sample schematic for shared access for small commercial development. *(Source: Access Management Manual, 2003)*

- Evaluate current parking space provisions to identify opportunities for reductions in minimum parking space requirements in order to avoid parking areas that far exceed future demand.

- Encourage out-parcel development, with on-site access (rather that direct access to the corridor) to maximize development space.

<u>Physical Design Controls</u>

Like commercial areas along Suburban Corridors, there are a number of right-of-way improvements that are related to access management along a Commercial Corridor. Some of the most critical along these corridors include:

- Minimum driveway spacing standards must be actively enforced. A spacing guide for unsignalized access is included in Table 1 on page 19 . Although distances can be based on other criteria (e.g. trips), speed is the preferred criterion, supported by traffic engineers and

access management guidelines.

- Reductions in minimum driveway spacing requirements may be accommodated under special circumstances (e.g. driveway services multiple properties). However if the deviation from the minimum spacing requirement is greater than 10 percent, a traffic impact analysis should be required.
- Consolidation of driveways, either by eliminating additional access points on individual parcels or through the development of joint/cross access,
- Improving sight distance, increasing the effective approach width of driveways, and limiting exiting left-turns are also effective tools for access management along Commercial Corridors.
- Although Commercial Corridors are designed with the automobile in mind, pedestrian accommodations should be considered where feasible. This is especially important along Commercial Corridors that also serve as mass transit routes in a community. In order to enhance use of alternative transportation available in the Town, the Commercial Corridors should support safe pedestrian access wherever possible. Sidewalks and other pedestrian facilities (walkways and pedestrian paths connecting commercial properties) should be provided.
- Traffic calming techniques, such as curb extensions, paved crosswalks and speed tables, can also be employed at key intersections and/or mid-block crossings to help accommodate all modes of travel along the commercial corridor, including facilities for bicyclists and pedestrians.
- Eliminating driveways or limiting turning movements to/from driveways within the functional area of intersections. See Figure IV-8 (page 21) for a diagram of the functional area of an intersection.

Rural Corridors

Rural Corridors are generally defined by their lack of abutting development and abundance of open space, agricultural lands or other natural and visual resources. Rural roads are also typically characterized by fewer intersecting streets, less densely spaced access drives and higher speeds. Most of the traffic on Rural Corridors is through traffic. Although some Rural Corridors may eventually become more developed to accommodate commercial and residential expansion needs, the town should identify ways to preserve their existing appearance and functionality.

Zoning Considerations

Current zoning regulations may not go far enough to support the preservation of character along Rural Corridors. In order to address this issue, the following zoning recommendations should be considered for implementation by the town:

- Modification of zoning districts along Rural Corridors to limit the scale, density and type of development permitted in areas directly abutting the corridors. Agricultural or rural residential districts are typically the most appropriate classifications for protecting open space and rural character.
- Rural Corridor overlay district to provide additional guidelines to the style and design of adjacent development. Design guidelines in these overlays can help to prevent suburban or commercial styled development from occurring in these areas, which would be out of context and inconsistent with surrounding uses.
- Increased setbacks, lot sizes and frontages to preserve a more open feel to development that does occur along the corridor.
- Utilization of appropriate lot width-to-depth ratios, which could be as much as 1:4 along Rural Corridors. A larger ratio is suitable for rural corridors to accommodate larger setbacks that are more consistent with rural residential and commercial development as well as any future road widening that may be needed over time.
- Provisions and incentives for the use of conservation easements, purchasing of development rights and transferring of development rights to permanently preserve contiguous parcels of open space.
- Provisions for conservation development or cluster zoning, which relaxes land use and dimensional criteria to promote creative site design. It generally involves applying performance standards that specify a desired result (e.g. amount or percentage of preserved

open space) without limiting how it will be achieved.

- Enhanced buffering and landscaping requirements to ensure that adequate buffering is provided along the Rural Corridor.
- Establish PUD zones for future development that maximizes existing infrastructure and provides opportunities for connections to existing side streets.

Land Division, Subdivision Regulations and Site Planning

There are several important subdivision and site planning considerations related to Rural Corridors that must be considered for access management planning.

- Subdivision statutes typically exempt certain types of minor land division activity from the platting process, provided the resulting plat does not include a road. Additional exemptions may be provided in local subdivision ordinances. The intended purpose of subdivision exemptions is to allow property owners to engage in minor subdivision activity, such as transferring a lot to a family member, without incurring the expense of platting. However, lot split exemptions also provide an avenue for property owners to circumvent platting requirements by incrementally subdividing land. The resulting "plats" may rely heavily on private access easements or flag lots. More commonly they may be divided into strips along existing roads and highways, increasing demand for direct driveway access to the corridor. The review process for lot splits ensures that public requirements are met and that lots have appropriate access without placing an unnecessary review burden on the property owner.
- Although flag lots can be useful for providing access where there are unique site constraints, excessive flag lot designations place an increasing demand for direct access to the abutting Rural Corridor. The narrow frontages result in a series of immediately adjacent driveways or become shared private access drives for multiple properties (See Figure IV-6 on page 18). Both scenarios result in increased conflict points and slower traffic flow through an area typically designed for higher travel speeds. In order to avoid this, flag lots should be prohibited except for specified situations, such as to eliminate access to collector or thorough-fare streets or to preserve natural amenities or important historical or archaeological values.
- Residential development adjacent to Rural Corridors should be designed with an internal street system that conforms to established access management and street design standards and utilizes good site design practices.

Physical Design Controls

Along Rural Corridors, physical design controls play a significant role in maintaining sufficient travel speeds, providing safe, convenient access for through traffic, and supporting the preservation of rural character. The following control tools should be considered:

- Increase minimum driveway spacing standards. Larger spacing requirements than those contained in Table IV-1 on page 19 may be appropriate along Rural Corridors. Although distances can be based on other criteria (e.g. trips), speed is the preferred criterion, supported by traffic engineers and access management guides.
- Installation of medians to create a parkway environment. In residential areas, they discourage arterial fronting development and encourage residential development with a dedicated street system that gains access from an existing side street. A general guide to median spacing is contained in Table IV-2 on page 20.
- Limiting the number of access drives permitted along Rural Corridors. This can be accomplished through the collective implementation of site planning and zoning recommendations outlined for Rural Corridors.
- Improving sight distance, increasing the effective approach width of driveways, and limiting exiting left-turns are also effective tools for access management along Rural Corridors.
- In areas where there are no sidewalks (current or possible in the future) and/or single lane travel in each direction, generous shoulder widths should be provided and maintained (e.g. eight to 10 feet wide) to accommodate multi-modal travel along the corridor and to minimize the effects of turning movements on traffic flow, speed and safety.

Section V—Implementation Strategies

Local governments can apply a variety of land development and access management strategies to achieve their objectives related to roadway design, operation and safety. The Town of Amherst should consider the following techniques for developing and maintaining transportation systems that are high functioning and contextually sensitive.

A. Amendment to the Zoning Code

The Town should consider adding access management language to their current codes to provide specific guidelines that will enhance transportation safety and efficiency. The access management language could be added as a chapter within the existing zoning codes or could be developed as stand-alone chapters. In either case, the code language should address, at a minimum, the following issues:

- Increased minimum lot frontage and setback requirements along major roadways to allow for greater spacing between driveways;
- Increased minimum lot sizes for corner lots to improve corner clearance;
- Optimized driveway location and access design to avoid access problems
- Standards for internal access for residential subdivisions to minimize direct access to residential lots from major thoroughfares;
- Regulated or restricted flag lots;
- Restricted access to out-parcels, which should be provided via an internal, shared circulation system of the principle development or retail center.
- Use of connected local road network of side streets and parallel roads to accommodate desired land development along major roadways.

As part of the Transit Road Corridor Management Study, model access management code language was developed to address needs along Transit Road. This model code language could be adapted to meet town-wide objectives regarding access management.

B. Overlay District

Another strategy for amending the code is the use of overlay districts. A corridor overlay district could be used for high priority corridors to address the unique circumstances of the corridor while promoting access management objectives. These types of districts are typically applied within a specific distance along the corridor and address a range of topics, including: right-of-

way preservations, joint and cross access, limitations on new driveways, driveway spacing standards, landscaping and pedestrian facilities. They can also specify the scale, style, density and type of development in a given area to support the Town's vision for the area and enhance the visual appeal and function of the corridor in question.

C. Incentive Zoning

Incentive zoning is a tool whereby a municipality may grant zoning incentives to property developers to encourage the provision of certain community benefits or amenities, such as parks, open space, public active and passive recreational opportunities, pedestrian or trail accommodations and other physical, social, or cultural benefits or amenities that address community objectives identified in the comprehensive plan. Incentives are only usually granted when the community benefits or amenities offered would not otherwise be required or likely to result from the proposed project being reviewed by the Planning Board. The benefits provided must exceed the requirements posed under all applicable provisions of town code or state law, including any mitigation measures required pursuant to the State Environmental Quality Review Act (SEQR).

With regard to corridor management, the Town could provide incentives for combining access points or relaxing parking and dimensional requirements to achieve shared access. For example, the Town could reduce the minimum lot size and frontage requirement as well as the required number of parking spaces, up to a certain percentage, for adjacent property owners who agree to establish a common driveway or for a property owner who agrees to provide a cross-access easement for future cross-access connections to adjacent properties.

D. NYSDOT/County Reconstruction Projects

Typically, reconstruction projects on state or county roads require some level of community involvement and consensus building prior to project initiation. In order to meet this requirement, the NYSDOT or County will conduct public scoping meetings to solicit input and feedback from community members. These scoping meetings present municipalities and community members with an important opportunity to address community concerns about safety, operation and contextual design related to the corridor(s) slated for reconstruction. Additionally, reconstruction projects provide a bargaining outlet through which communities can request that certain designs, amenities and features be included in the project in order to meet larger community goals and objectives for the area in question.

E. Specific Studies For "High-Incident" Corridors

Similar to the Corridor Management Study completed for Transit Road, the Town should consider initiating similar studies to focus on other key corridors or intersections in the community that have a multitude of land uses and access issues to be addressed. Corridor specific studies would provide the Town and other involved agencies (e.g. NYSDOT) with an opportunity to take a close look at current and future conditions and determine improvements and modifications that may be needed to address them. In addition to offering communities the opportunity to address transportation and land use concerns, these types of location specific studies provide a framework for future transportation improvement projects and development of adjacent lands.