

VERMONT BEST PRACTICES FOR ACCESS MANAGEMENT

INTRODUCTION

This document is intended to provide guidance on the best access management practices for the state of Vermont. The first step in developing an access management program is to classify the transportation system into categories that describe the function of the roadway with respect to traffic volume, flow, speed, and accessibility. Once that classification has been completed, specific access management techniques can be applied to improve existing conditions or minimize development impacts on the roadway in the future.

At the state level, VTTrans has recently categorized the State's highway system into six categories. Since this includes only state highways, it excludes many of Vermont's important roadways (the Town Highway System); therefore it is important that local and regional transportation planning bodies also create a similar classification system for their roadways.

A toolbox for implementing access management is provided to give planners a look at the techniques that are available for solving existing or potential access management issues. The tools are then applied to each the state's access management categories to give planners an idea as to what techniques are appropriate for each roadway class.

Finally since there are a wide range of communities in the State, three community types have been developed to assist communities in determining what access management techniques can be applied at a local level.

HIGHWAY/ROADWAY ACCESS MANAGEMENT CATEGORIES

The first step in implementing a regional access management program is to create highway or roadway access management categories. By classifying specific roadways under these categories, the primary functional use of the roadway is defined and therefore access management techniques can be applied that fit the recognized function of the road.



DEFINE ACCESS MANAGEMENT CATEGORIES

Creating a “roadway functional classification is the foundation of an access management program¹.” The functional classification system for access management should take into consideration the following factors:

- Level of importance of roadways within the jurisdiction – How critical to the roadway system is the roadway?
- Characteristics of system roadways – How much traffic can the roadway handle? What is the designated/appropriate speed for the roadway? What is the geometric design of the roadway? How much delay is appropriate for the roadway? What is the roadway’s supporting street system?
- Land use and growth management – What is the current/future land use? What are the growth objectives?
- Current and potential future presence of pedestrians, bicyclists, and transit – How do multimodal needs fit into access categories? Will design standards include multimodal needs?

National literature recommends five to six categories, but this could vary depending on the region.

ESTABLISH APPROPRIATE ACCESS MANAGEMENT STANDARDS FOR EACH CATEGORY

For each defined category appropriate access management standards must be developed. Some core access management criteria that should be included in the standards for each category include:

- Spacing standards for interchanges, signalized intersections, unsignalized median openings, and unsignalized access connections (i.e. driveway density),
- The presence or absence of a median and the type of median; undivided, continuous two-way left turn lane, traversable, or nontraversable,
- Degree of urbanization,
- Appropriate operational speed, and
- Safety.

¹ Transportation Research Board Committee on Access Management, *Access Management Manual*, Washington, D.C. 2003.



VERMONT'S STATEWIDE HIGHWAY ACCESS MANAGEMENT CATEGORIES

VTrans has established a statewide roadway access category system that considers the factors mentioned above for state maintained roadways and Class 1 town highways. Some of Vermont's larger cities and towns may also want to consider adopting their own access management roadway categories, since many of Vermont's roadways do not fit specifically into the statewide category system.

Below are described the six highway access management categories for Vermont's highways and summarize the established access management standards for each category¹.

- Category 1 - Interstates: These highways have the capacity for high speed and high volume traffic movements over long distances in an efficient and safe manner, including interstate, interregional, inter-city, and in larger urban areas, intra-city travel.
- Category 2 - Limited or Controlled Access Highways: These highways have the capacity for high speed and high volume traffic movements in an efficient and safe manner, providing for interstate, interregional, and some inter-city travel needs. Category two is the highest category that permits any at-grade intersections.
- Category 3 - Principle Arterials and "Other Principle Arterials": These highways have the capacity for medium to high speeds or medium to high traffic volumes over medium and long distances in an efficient and safe manner, providing for interregional and inter-city travel needs.
- Category 4 - Minor Arterials and Minor Collectors: These highways have capacity for moderate travel speeds and moderate traffic volumes over medium and short travel distances providing inter-city, intra-city, and intra-community travel needs.
- Category 5 - Frontage or Service Roads: These highways are not intended to provide long distance or high traffic volumes. Access needs will take priority over through traffic movements without compromising the public health, welfare, or safety.
- Category 6 - Urban Arterials (both State Highways and Class 1 Town Highways): These highways have the capacity for moderate to low travel speeds and moderate to high traffic volumes over medium to short travel distances providing inter-city, intra-city, and intro-community travel needs.
- Uncategorized - Town highways (Class 2 and 3): Many of Vermont's larger cities and towns have town highways that could benefit from access management. These

¹ Vermont Agency of Transportation, *Access Management Program Guidelines*, July 2000.



highways can have characteristics similar to state maintained highways, but as they are not maintained by the state they are not included (except for Class 1) in the statewide access category system. Larger cities and towns should develop roadway access management categories similar to those developed by the state.

ASSIGN ACCESS CATEGORIES TO ROADWAY SEGMENTS

After the roadway categories are defined each segment of the roadway system needs to be assigned to an access management category. Specific factors to consider in the assignment of access categories are¹:

- The intended function of the roadway as a component of a complete system,
- The roadway segment's environment (rural and undeveloped, urban fringe, suburban, urban, and densely developed or urban core),
- The availability of a supporting roadway system to supply alternative access, and
- The desired or appropriate balance between safety and frequency of access.

After the roadway segment is assigned to an access management category, the roadway should be subject to the category's requirements during the permitting and project development process. Ideally this should be the case at all levels of permitting including local development/zoning/planning review boards, Act 250, and state highway access permits. This necessitates knowledge of the required access management standards as they apply to roadways under each jurisdiction. In Vermont this is challenging because many of Vermont's permitting review boards are comprised of interested community members that may or may not have knowledge of transportation issues and because of the high rate of turnover related to volunteer review boards. Public education of access management will be critical to implementing these standards at all permitting levels.

¹ Transportation Research Board Committee on Access Management, *Access Management Manual*, Washington, D.C. 2003.



Vermont has assigned state highways to the access management categories defined above. Examples of this assignment are listed below:

Table 1: Example Vermont Roadways for Each of the Statewide Categories

Category	Example 1	Example 2
1	Interstate – 91	Interstate – 189
2	US 7 – Rutland to Wallingford	63 in Berlin and Barre
3	US 5 – Hartford to Rutland	VT 9 – Bennington to Brattleboro
4	Most of VT 100 except downtown areas	VT 22A – West Haven to Ferrisburg
5	Norwich State Highway (River Road)	Berlin State Highway (Airport Road)
6	US 4 – Woodstock	US 2 – South Burlington (Class 1 T.H.)

ACCESS MANAGEMENT TOOLBOX

Many of Vermont’s engineers, planners, and developers are already applying good access management techniques because they make sense and improve site access designs. This following list and descriptions of access management techniques is designed to point out specific practices that have the potential to improve access along Vermont’s roadways.

The toolbox is broken into four categories:

- Planning Level Access Management Techniques (Table 2) – This category include regulation related access management techniques.¹
- Driveway and Minor Intersection Access Management Techniques (Table 3) – This category includes access management techniques that would be implemented at a site driveway or minor intersection and do not include major changes to the highway.²
- Turning Related Access Management Techniques (Table 4) – This category includes changes to the actual highway to improve turning related access management.³

¹ Transportation Research Board Committee on Access Management, *Access Management Manual* (Appendix A), Washington, D.C. 2003.

² Ibid.

³ Ibid.



- Rural/General Access Management Techniques (Table 5) – This category includes site and planning related techniques for access management implementation particularly for rural areas.^{1,2} However, the techniques described in this table are applicable in most areas.

¹ Vermont Local Roads Program, *Developing a Highway Access Policy*, May 1997.

² Minnesota Department of Transportation, Local Road Research Board, *Best Practices for Rural Entrance Policy*, September 2002.



Table 2: Planning Level Access Management Techniques

Access Management Technique	Description	Advantages	Disadvantages
Acquisition of Access Rights	State or city/town taking ownership of property along a major route.	Access restriction runs with the land and provides assurance of long-term access control. Negotiated dedication avoids the expense of purchase or condemnation. Compensating property owners for access rights avoids concerns over individual property rights.	Cost may be prohibitive. May be difficult to dedicate a funding source with competing needs. An effective tracking mechanism is required for enforcement. Condemnation is required when a negotiated purchase fails.
Joint and Cross Access	Circulatory system that is shared by two or more adjacent lots or developments that includes shared driveways and internal cross access between abutting properties.	Reduces number of individual driveways and therefore increases driveway spacing. Increased customer convenience. Gets people out of their cars and encourages walking. Access helps remove a portion of short local trips. Amount of corridor frontage is increased and available for landscaping. May improve internal circulation.	Existing properties cannot be forced to interconnect with developing properties. Closure of temporary driveways can be contentious. It is difficult to establish without coordination between local and state agencies. Typically must be created as a permit condition during subdivision proceedings.
Internal Access to Outparcels	Outparcels are on the perimeter of a larger parcel that break its frontage along the abutting roadway. Access to these outparcels can be achieved through internal access instead of driveways on the main roadway.	Regulation promotes unified access and circulation systems for major developments. Reduces the number of driveway connections on major roadways. Number of turning movements onto roadway are reduced. Area available for landscaping is increased.	Property owners may avoid regulation by incrementally splitting off and selling outparcels. Regulation is controversial, often owners of outparcels lobby intensely for direct thoroughfare access on the basis that direct access is essential to their business (common with fast-food chains.)
Access Management Overlay District	Special access management requirements added to existing zoning districts through smaller overlay districts that would be applied along a thoroughfare or near a major intersection.	Versatile tool that can be tailored to an area's unique circumstances. Can be applied as needed in local areas or along segments of roadways to prevent access problems. Typically does not require changes to underlying zoning or an overhaul of existing ordinances.	May be tough to get local support for this in Vermont. If overused, overlay district can lead to overly complex regulations and administrative procedures. Would need to follow same approval process as zoning ordinance amendments.
Land Division and Subdivision Regulations	Regulations that manage the division or subdivision of lots which ensures proper access and street layout in relation to existing or planned roadways.	Most local governments have the authority to regulate land subdivision. Attention to access management in subdivision review helps ensure that street systems and access connections are safe and properly designed.	After a subdivision is approved and lots have been sold, it is difficult to correct inappropriate access to public roadways. Minor land division is difficult to regulate and requires interagency coordination.
Vehicular Use Limitations	Vehicular use restrictions can be applied for nonconforming access connections. Visa versa, properly designed connections can have greater vehicular use.	Vehicular use limitation serves as an incentive for lot reassembly, alternative access, and shared access. Provides agencies with a mechanism for addressing land use problems. Helps mitigate the adverse impacts of nonconforming access connections.	Such limitations may require a more complex traffic impact study than would otherwise be necessary. More complex approach requires a skilled staff to administer.
Service Road	Public or private road auxiliary to an arterial that provides access to parcels adjacent to the arterial (typically for non-residential development).	Allow development of small tracks adjacent to major roadway. Separation between service road and major road is adequate for good traffic operations and safety. Businesses are visible from major roadway. Often less costly and more functional than frontage roads.	Rely heavily on new development or redevelopment where implemented through land development process. Conflicts can occur between state and local agencies where coordination is lacking.



Table 3: Driveway and Minor Intersection Access Management Techniques

Access Management Technique	Description	Advantages	Disadvantages
Uniform Signal Spacing	Signalized intersections and those that might be signalized are spaced at long, uniform intervals.	Decreased travel time and delay. Improved safety. Improved fuel economy and decreased vehicular emissions.	Difficulties in resolving terrain conflicts, existing development and street patterns. High planning level involvement determining which roadways/developments are to be signalized. Funding.
Upstream Corner Clearance on Major Road	Upstream access points are located a sufficient distance away from an intersection such that access is not blocked by queuing and drivers only have to think and react to one intersection at a time.	Enhanced safety because through traffic is allowed to maneuver through the intersection without conflicts from turning vehicles at the access point. Improved intersection capacity.	May be difficult to implement in areas with small isolated corner lots, short block spacing, and/or small property frontages.
Downstream Corner Clearance on Major Road	Downstream access points are located a sufficient distance away from an intersection such that a driver can pass through the intersection without having to react to an event taking place at the access point.	Improved safety because conflicts occurring at the intersection are separated from those occurring at the access point.	May be difficult to implement in areas with small isolated corner lots, short block spacing, and/or small property frontages.
Driveway Channelizing Islands	Channelizing in the driveway to restrict left turn maneuvers into or out of the driveway.	Driveway channelization islands are less controversial than construction of a median. The islands provide a refuge for pedestrians.	Violations are common because drivers can make the prohibited movements with relative ease.
Nontraversable Medians	A divider separates opposing traffic streams with a design that actively discourages or prevents crossing the divider.	Increased safety. Space for left turn bays. The islands provide a refuge for pedestrians. Space for landscaping. Number and complexity of conflicts are reduced.	Difficult to implement in developed areas due to right-of-way constraints. Opposition to left-turn restrictions from business proprietors or other effected parties.
Directional Median Openings for Left Turns and U-Turns	An opening in a median for left turn or U-turns and discourages/prevents all other movements.	Improves safety. Can be signalized without interfering with traffic progression.	Cross-median movements are limited to specific locations and to specific turns. Not always practical to design for large vehicles.



Table 4: Turning Related Access Management Techniques

Access Management Technique	Description	Advantages	Disadvantages
Isolated Left Turn Bay on Undivided Roadways	An auxiliary lane which removes left-turning vehicles from the through-traffic lane.	Rear-end and left-turn collisions are reduced. Capacity is increased. Left-turning vehicle can clear opposing gap with sufficient speed.	May require considerable construction to attain additional pavement width. Alternatively achieving the lane by paint stripping results in loss of shoulder. A transition by through traffic is required.
Paved Shoulder Bypass at Three-way Intersection	Allows through vehicles to bypass a stopped turning vehicle using the shoulder.	Reduces rear-end collisions. Reduces through traffic delays. Inexpensive especially if paved shoulder already exists. Takes less space than an isolated left-turn bay.	A transition by through traffic is required. Less safe than isolated left-turn lane. Driver expectancy is violated. Additional right-of-way and construction may be needed to widen roadway.
Continuous Two-way Left Turn Lane	Flush painted median lane intended for vehicles that are making left turns from both directions on a roadway.	Safer than undivided roadways. Increased capacity. Reduces delay. Less controversial than nontraversable median.	Less safe than nontraversable medians. Promote strip development. No pedestrian refuge. Necessitates long pedestrian clearance intervals. Potential for conflicting left turns. Difficult to provide dual left turn lanes at intersections in the future. Left turns from abutting properties are difficult then roadway is operating at high volumes.
Left-Turn Bay at Median Opening	Median opening large enough for deceleration and storage of left turn movements.	Refuge for drivers making left turns. Left turn lane may help maintain an acceptable speed on the through lane. Reduced crash rates. Increased capacity. Delay to through traffic is reduced.	Cannot be used if median is too narrow. Proximity of the bay to any other median opening may limit the length of the turn lane.
Indirect Left Turn and U-Turn	Often referred to as "Jug handle". Forces traffic for left turns and U-turns to the outside of the roadway and crosses both directions of traffic at a signal.	Can accommodate left/U- turns where the median is too narrow for a turn bay. Multiple lanes can be provided for the redirected left/ U- turn traffic. Allows two phase traffic signal control. Can be easily designed to accommodate trucks.	Right-of-way can be costly if property needed for construction of the indirect left turn is developed.
Right-Turn Bay	An auxiliary lane which removes high volumes of right-turning vehicles from the through-traffic lane.	Improved safety. Right turning vehicles can leave through traffic at an acceptable speed. Increased capacity. Reduced delay.	Require roadway widening. Longer pedestrian crossing length.



Table 5: Rural/General Access Management Techniques

Access Management Technique	Description	Advantages	Disadvantages
Agency coordination	Coordination between state and local agencies to encourage better decision making.	Education of local entities on access management strategies for a specific roadway. Better final decisions.	Challenging to coordinate.
Appropriate residential and commercial driveway design	Driveways are designed with a proper slope, angle, width, turning radii, sight distance, and adequate drainage.	Reduce flood damage, erosion, maintenance costs, and accidents. Improved snow removal.	Cost to property owner. Has to be managed/regulated by officials.
Varying permit requirements based on use of property	Requirements for access design can be varied depending on the proposed use of the property.	Lower cost to low impact user. Access is appropriate size for use.	Has to be managed/regulated and periodically reviewed by officials to ensure property use compliance.
Ensure adequate sight distance at driveway	Adequate stopping or intersection sight distances at driveways and intersections. Require signs if sight distance is not adequate.	Improved safety.	May not be feasible for all roadways/properties.
Shared driveways	More than one property accessing a driveway.	Shared driveway maintenance. Fewer conflict points on main roadway. Less snow plowed across main roadway.	Requires coordination between property owners and likely property deed changes.

ACTION STRATEGIES FOR IMPLEMENTING ACCESS MANAGEMENT ALONG VERMONT'S HIGHWAY SEGMENTS

Every tool described above is not appropriate for every type of roadway. Using the roadway access management categories defined by VTTrans as a template, we have listed the techniques that would be appropriate on that category of roadway.

CATEGORY 1

In Vermont most Category 1 highways (Interstates) are controlled by the Federal Highway Administration and by the State. Large, long-term planning studies are required to implement change on these highways. These highways provide the strictest access management controls by allowing no access to adjacent properties along the highway. By design and because these highways are the most recent large addition to the state's transportation infrastructure, this category of highway in the past did not typically have access management problems. However, access management problems are starting to appear especially where there is development pressure for services for the traveling public. The appropriate access management tools for this category include only those required when building a new Category 1 highway or converting an existing highway to a Category 1 highway. These include:

- Agency Coordination
- Acquisition of Access Rights
- Frontage Roads



CATEGORY 2

Most Category 2 highways in Vermont are controlled by the State. There are relatively few highway segments that fall under this category statewide. Many of these highways have nontraversable medians and few left turn possibilities. By design and because these highways have been relatively new additions to the transportation infrastructure, these highways currently have few access management issues. However they provide examples of highly controlled access management. The main priority with these highways is maintaining the existing tight control of access from these highways. VTrans has written into their Access Management Program Guidelines that access to Category 2 highways is not permitted unless access was reserved when the facility was established. Existing and potential access management treatments for this highway category include:

Planning Level

- Agency Coordination
- Acquisition of Access Rights
- Joint and Cross Access
- Internal Access to Outparcels
- Land Division and Subdivision Regulations
- Service Road

Design Level

- Uniform Signal Spacing
- Upstream and Downstream Corner Clearance
- Driveway Channelizing Medians
- Nontraversable Medians
- Directional Median Openings for Left Turns and U-Turns
- Isolated Left Turns Bays
- Left-Turn Bay at Median Opening
- Indirect Left Turn and U-Turn
- Right Turn Bay



CATEGORY 3

Most Category 3 highways in Vermont are controlled by the State and local agencies. This category includes many of the high volume, rural, two lane highways within the state. The future management of access to these highways is critical to the state's transportation system. It is possible that as regions and traffic grow some highways included in this category could be upgraded to Category 2 highways which would include stricter access management requirements. Access to a Category 3 highway is typically granted to existing properties abutting the highways, however the access must meet stricter standards than for Category 4 highways and even then turning movements may be restricted (especially left-turns). Access may be denied if access is obtainable from a side road. These highways have relatively few existing access management problems, so the focus should be on planning and preventing potential problems. Existing and potential access management treatments for this highway category include:

Planning Level

- Agency Coordination
- Acquisition of Access Rights
- Joint and Cross Access
- Internal Access to Outparcels
- Access Management Overlay Districts
- Land Division and Subdivision Regulations
- Vehicular Use Limitations
- Service Road

Design Level

- Uniform Signal Spacing (1/4 (urban) to 1/2 (rural) mile intervals)
- Upstream and Downstream Corner Clearance
- Driveway Channelizing Medians
- Nontraversable Medians
- Directional Median Openings for Left Turns and U-Turns
- Isolated Left Turns Bays
- Paved Shoulder By-Pass at Three-way Intersections
- Left-Turn Bay at Median Opening



- Indirect Left Turn and U-Turn
- Right Turn Bay
- Use of Alternative Access, when available
- Appropriate Residential and Commercial Driveway Design
- Varying Permit Requirements Based on Use of Property
- Ensure Adequate Sight Distances
- Shared Driveways

CATEGORY 4

Most Category 4 highways in Vermont are controlled by the State and local agencies. This category includes many of Vermont's moderate volume inter-town highways. Access to Category 3 highways is typically granted to abutting property owners as long as the access meets basic design standards. Unlike Category 3 highways, turning movements into and out of access points along Category 4 highways are typically not restricted unless the additional turning movements cause the highway category to change or a nontraversable median exists. Like Category 3 highways, the future management of access on these highways is critical to the state's transportation system. These highways have relatively few existing access management problems, so the focus should be on planning and preventing potential problems. Existing and potential access management treatments for this highway category include:

Planning Level

- Agency Coordination
- Joint and Cross Access
- Internal Access to Outparcels
- Access Management Overlay Districts
- Land Division and Subdivision Regulations
- Vehicular Use Limitations

Design Level

- Uniform Signal Spacing (1/4 (urban) to 1/2 (rural) mile intervals)
- Upstream and Downstream Corner Clearance
- Nontraversable Medians
- Directional Median Openings for Left Turns and U-Turns
- Isolated Left Turns Bays



- Paved Shoulder By-Pass at Three-way Intersections
- Left-Turn Bay at Median Opening
- Right Turn Bay
- Use of Alternative Access, when available
- Appropriate Residential and Commercial Driveway Design
- Varying Permit Requirements Based on Use of Property
- Ensure Adequate Sight Distances
- Shared Driveways

CATEGORY 5

Category 5 highways are frontage or service roads. These roadways often run parallel to a major highway and are designed to provide access to property. Most Category 5 highways in Vermont are controlled by the State and local agencies. There are relatively few State highways currently classified as Category 5, but many city and town highways fall under a similar description. Unlike the previous 4 categories, Category 5 highways are designed such that access takes priority over traffic flow and speed. Access management techniques appropriate for this type of highway include excessive delay and safety improvements. Existing and potential access management treatments for this highway category include:

Planning Level

- Agency Coordination
- Joint and Cross Access
- Internal Access to Outparcels
- Access Management Overlay Districts
- Land Division and Subdivision Regulations
- Vehicular Use Limitations
- Service Roads (Any newly developed service roads or frontage roads would fall under this category)

Design Level

- Uniform Signal Spacing (300 feet)
- Upstream and Downstream Corner Clearance
- Isolated Left Turns Bays
- Paved Shoulder By-Pass at Three-way Intersections



- Right Turn Bay

CATEGORY 6

Most Category 6 highways in Vermont are controlled by the State and local agencies. Category 6 highways are urban by nature and therefore can be significantly influenced by local agency regulations and land use development rules. The goal of access management along these highways is to balance the need to access properties with the need to move high traffic volumes. These highways typically are lined with business establishments. Since there must be a tight balance between traffic flow and accessibility these roadways represent the greatest challenge to Vermont's access management program. Agency coordination between local and state agencies is critical. Many of these highways currently have significant access management issues and the focus for access management is on maintaining or improving the existing conditions. To ensure access management in the area does not degrade further, planning level access management is vital. When a roadway reaches a certain level where traffic flow is no longer acceptable, design level access management techniques should be implemented. However implementing highway design changes such as a median can be controversial and therefore time consuming and costly. Future planning can eliminate some of the inefficiencies related to major highway design changes. Existing and potential access management treatments for this highway category include:

Planning Level

- Agency Coordination
- Acquisition of Access Rights
- Joint and Cross Access
- Internal Access to Outparcels
- Access Management Overlay Districts
- Land Division and Subdivision Regulations
- Vehicular Use Limitations
- Service Road

Design Level

- Uniform Signal Spacing (500-foot intervals)
- Upstream and Downstream Corner Clearance
- Driveway Channelizing Medians
- Nontraversable Medians
- Directional Median Openings for Left Turns and U-Turns



- Continuous Two-way Left Turn Lanes
- Isolated Left Turns Bays
- Use of Alternative Access, when available
- Left-Turn Bay at Median Opening
- Indirect Left Turn and U-Turn
- Right Turn Bay

ACCESS MANAGEMENT STRATEGIES FOR COMMUNITIES

Typically, the greater the level of development in a town or region, the deeper the level of awareness of access management practices and techniques. For example, the planners, politicians and developers of Burlington have a different level of access management knowledge than the town manager of Tunbridge. Because of this wide spectrum, RSG recommends dividing the towns of Vermont into three community categories to provide action strategies that are appropriate for the particular community category:

- Rural
- Transitional
- Vermont Urban

The goal of these action strategies is to provide community leaders with tangible tools that can be controlled on a local level to improve access management within the community.

The following sections describe each community access management category.

RURAL

The Rural community category represents towns that have little or no development. They may not have any state highways and do not currently recognize access management problems. Access management techniques that are applied to this type of community are designed to improve safety and prevent future access management issues. VTtrans access management highway classification categories that can be found in this type of community often include Categories 1, 3 and 4. Often these smaller rural communities do not have, or have small, planning, zoning, or development review boards or departments. Even if they have boards, they may have little or no professional staff (perhaps a part time non-professional zoning administrator. Additionally, there is not typically the funding in the community budget to support such departments. Access management treatments that specific communities are responsible for should be limited to those that can be accomplished with little agency oversight and planning.



As land use developments increase along these highways, these communities may move to the Transitional community type.

TRANSITIONAL

The Transitional category encompasses towns that are just starting to see some sprawl development. These towns may or may not have access management policies in their plans and regulations, depending upon the foresight of their politicians and planners. Many of these towns have zoning, planning, and/or development review boards or departments. Those that do not should consider establishing a development oversight board to prevent future access management issues related to unmanaged growth. These communities could have any of the six roadways which fall into VTrans access management highway classification categories.

As land use developments increase along these highways, these communities may move to the Vermont Urban community type.

VERMONT URBAN

Vermont Urban is represented by Burlington, Rutland and for this issue, towns like Brattleboro and Williston. This category, Vermont Urban, acknowledges that our state does not have the issues that plague Boston, Chicago, Phoenix, or other large metropolitan cities. This category already has established development and is currently wrestling with access management issues. The problems tend to be retrofit issues as opposed to greenfield development. The communities have established planning, zoning, and/or development review boards. Planners, local government members and (in general) developers are familiar with traffic issues and recognize the need to include these access management strategies in their development designs. Almost all of these communities have VTrans access management highway classification Category 6 roadways. Unlike the Rural and Transitional community types, Vermont Urban communities often have the funding and planning resources to address existing access management issues with the help of State and Federal agencies and large institutional and commercial developers. All of the access management techniques listed are applicable in the Vermont Urban areas. Planners may want to consider significant updates to their planning and zoning regulations to improve access management in the future.



RELATIONSHIP BETWEEN COMMUNITY AND VTRANS ACCESS MANAGEMENT CATEGORIES

In an effort to make access management planning and implementation easy for communities, we have broken community types into three categories. Not all access management techniques fit all community types. Table 6 and Table 7 show the relationship between the VTrans access management highway classification categories, the community categories, and the treatments that are appropriate for implementation within the two category schemes.

Table 6: Access Management Techniques Guide for Table 7

Planning Level Access Management Techniques	
A	Acquisition of Access Rights
B	Joint and Cross Access
C	Internal Access to Outparcels
D	Access Management Overlay District
E	Land Division and Subdivision Regulations
F	Vehicular Use Limitations
G	Service Road

Design Level Access Management Techniques	
H	Uniform Signal Spacing
I	Upstream Corner Clearance on Major Road
J	Downstream Corner Clearance on Major Road
K	Driveway Channelizing Islands
L	Nontraversable Medians
M	Directional Median Openings for Left Turns and U-Turns
N	Isolated Left Turn Bay on Undivided Roadways
O	Shoulder Bypass at Three way intersection
P	Continuous Two-way Left Turn Lane
Q	Left-Turn Bay at Median Opening
R	Indirect Left Turn and U-Turn
S	Right-Turn Bay

Prevention/General Access Management Techniques	
T	Agency coordination
U	Appropriate residential and commercial driveway design
V	Varying permit requirements based on use of property
W	Ensure adequate sight distance at driveway
X	Shared driveways



Table 7: Access Management Techniques by Community and VTrans Highway Classification Category

		VTrans Access Management Highway Classification Category						
		1	2	3	4	5	6	7
		Interstate	Limited or Controlled Access	Principle Arterials	Minor Arterials	Collectors, Frontage, or Service Roads	Urban Arterials	Uncategorized: Class 2 and 3 Town Highways
Community Type	Rural	T		T, U, V, W, X	T, U, V, W, X	T, U, V, W, X		T, U, V, W, X
	Transitional	T	A, B, C, E, G, H, I, J, K, L, M, N, Q, R, S, T, U, X	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X	B, C, D, E, F, H, I, J, L, M, N, O, Q, S, T, U, V, W, X	B, C, D, E, F, G, H, I, N, O, S, T, U, V, W, X	A, B, C, D, E, F, G, H, I, J, K, L, M, P, Q, R, S, T	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X
	Vermont, Urban	A, G, T	A, B, C, E, H, I, J, K, L, M, N, Q, S, T, U, X	A, B, C, D, E, F, H, I, J, K, L, M, N, P, Q, S, T, U, V, W, X	B, C, D, E, F, H, I, J, L, M, N, Q, S, T, U, V, W, X	B, C, D, E, F, H, I, N, S, T, U, V, W, X	A, B, C, D, E, F, H, I, J, K, L, M, P, Q, S, T	A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X