

Overview

This report represents the work effort and recommendations of the Addison County Regional Planning Commission's participation in the Northwest Vermont Project.

The Northwest Vermont Project, begun in 2003 by VTrans and the Federal Highway Administration (FHWA), was intended to help the northwestern Vermont municipalities plan for growth. Future land use patterns affect the functionality of the state transportation system, the type of system that will be needed to satisfy demand, and the investment necessary to build, maintain and operate the system. In addition, transportation improvements affect local land use patterns.

The five Regional Planning Commissions in northwest Vermont; Chittenden, Addison, Northwest Vermont, Lamoille and Central Vermont worked with selected municipalities to:

1. Project future growth at the local level forecasting tools.
2. Assessing the towns' abilities to manage and plan for growth
3. Provide recommendations and tools to encourage wise growth management

Addison RPC Project Purpose:

To help towns assess and manage the functional and visual impacts of access management alternatives and implement appropriate mitigation techniques at the municipal level in three corridors which provide primary access to the Chittenden County metropolitan region. The US Route 7 Corridor through the towns of Ferrisburgh, Vergennes, Waltham, and New Haven. The Vermont Route 116 Corridor thorough Starksboro and Bristol. And the local street network comprising Silver St and Bristol Road in Monkton as well as Burpee Road and Monkton Road in Bristol. This local road network functions as a minor arterial into Chittenden County.

The ACRPC approached the three corridors from a set of analyses which functioned well together. Undertake a visual evaluation of the corridors to identify scenic resources and evaluate safety issues. Conduct a build-out analysis to help identify existing development patterns and project potential development based on current land use policies. And finally, recommend specific Access Management guidelines and policies to local governments addressing safe and efficient roadway functions in anticipation of future growth, while not compromising the existing landscape quality.

Visual Analysis for Road Corridors

A visual analysis of the landscape along road corridors is an effective tool for dealing with growth and helps in the efforts to preserve scenic resources and safe efficient roadways. Understanding the pieces that make up the landscape is particularly useful for the laypeople who make most of the development and regulatory decisions since it

helps define what makes a landscape scenic, what makes those qualities vulnerable and ultimately, what can be done or avoided to preserve those qualities.

The road corridor visual analysis begins with an inventory of data about the different elements that comprise the corridor landscape. These include readily available information on features such as wetlands, conserved lands, historic structures, major intersections and zoning districts. Other important parts of the landscape to consider include scenic views, open lands that form the edges to villages and the transition areas from sections enclosed by vegetation and topography to open views.

Once the inventory is complete, the second step is to analyze those landscape components for their relationships, their contribution to scenic qualities and to assess how changes impact the visual and functional characteristics of the landscape. The history of the corridor and the changes in land use patterns are also key to understanding the landscape of today. When these relationships are understood planning for growth and change is more effective.

The ACRPC partnered with the The Champlain Valley Greenbelt Alliance to work on the visual assessments. The Champlain Valley Greenbelt Alliance (CVGA) was founded in April 2000 by a group of local citizens committed to the creation of greenbelts of open space along major road corridors as a way to conserve Vermont's treasured scenic, agricultural and natural resources. The Shelburne, Vermont, based organization used both conservation and land use planning tools and worked in partnership with individuals, organizations and governments to preserve open landscapes in the Route 7 corridor of western Vermont's Champlain Valley.

The CVGA (with Terra Firma Urban Design, 2003) had previously undertaken a detailed graphic depiction of the US Route 7 corridor from Ferrisburgh to New Haven. Under this project, the CVGA completed the text descriptions of individual road segments, and with this and other funding developed a printed booklet *The View from the Road* highlighting the US Route 7 corridor. The CVGA's original graphic, the complete road segment analysis, and a pdf of the booklet are contained in Appendix A.

The View from the Road has been provided to municipalities in the Bristol/Monkton Corridor and in the Route 116 Corridor as an example of how to conduct a visual analysis along a road corridor. ACRPC staff and a Middlebury College intern, Baker Lyon, undertook a preliminary visual assessment of the corridors, but not a detailed description of road segments.

The CVGA has also produced a subsequent book, *The Roadscape Guide, Tools to Preserve Scenic Road Corridors* which incorporates tools and techniques learned from their work along US Route 7.

Build-Out Analysis

A build out analysis of each study corridor was conducted using the Community Build-Out Analysis software developed by the ACRPC. Residential build-out analysis was completed for the towns which lie within the ½ mile study area of each corridor. The Community Build-Out Analysis software uses current municipal zoning, tax parcels and E911 house locations to determine existing development capacity and project full build-out under current development regulations. Potential residential house sites (red dots) are randomly located on each parcel having the capacity for additional development. It is important to note that the maximum build-out potential is calculated for the corridor area in each town. The software has the ability to reduce development potential due to natural constraints, however in this study only property in public ownership or under a conservation easement (where available) was removed from development consideration. All of the towns had current zoning regulations, however the date of the digital tax parcel information varied by town, from 1993 thru 2005. Existing development was determined by 2006 E911 house locations. Existing and potential development was determined for the portion of each town with the study corridor. The development scenario will yield anticipated traffic volume increases. The potential AADT increase was reviewed to identify adverse impacts on congestion, mobility, safety, or the aesthetics of the community's future growth.

While the build-out software calculates accurate potential development totals for each zoning district based on the geometry of the input layers, it must be remembered that numerous considerations will modify actual build-out within an area. First and foremost, the software tool presents a model that strives for realism, but will always fall short. Its best use is as catalyst for policy discussion.

A separate software script was used to draw new roads and driveways from the potential development points (red dots) to existing roads.. The driveway generation software is a prototype and sometimes results in a haphazard depiction. Connecting roads were drawn between potential houses based on distances rather than parcel boundaries, so new development roads sometimes cross parcel boundaries. New driveways may be extended from existing roads and driveways. In a visual review of the new roads and driveways created from the script the appearance seems reasonable. A percentage of new house sites have driveways off of the principal roadway in the corridor while other new home sites are connected in a fashion similar to actual development with only one roadway access point. Adding new driveway and roads does provide a seemingly more realistic depiction of potential development.

Existing curb cuts were mapped in 2006 and potential curbcuts were generated from the potential development using the prototype driveway software. A percent increase was calculated and displayed along the roadway. These values should be considered tentative since the driveway software is very preliminary.

Access Management Survey and Recommendations

The Vermont Agency of Transportation, in conjunction with the Regional Planning Commissions, is concluding an Access Management Study of segment categories for all state highways (see map). Segment categories have been identified based on Highway Functional class, speed limit, AADT, Class 1 Town Highway sections, “limited access” sections and land use characteristics. ACRPC reviewed this data for accuracy, and evaluated it for future highway conditions, taking into account any planned capacity improvements, planned signal installations, and the future development under the build-out analysis.

The access management review looked at local system efficiency and safety. The Vermont Agency of Transportation controls permitting and design on US 7 and Vermont Route 116, but good access management on connecting local roads is of great importance to overall system performance. The Monkton/Bristol Corridor is comprised of local roads and access management can be directly implemented by the either town. This corridor could be managed to accommodate more traffic, but it is recommended to apply techniques to slow down traffic and limit additional accesses.

Growth rates in Average Annual Daily Traffic were also reviewed to give some idea of future traffic trends. Finally, basic access management principles are discussed, and local regulations reviewed to see if these principles are in currently place in local zoning regulations. Preservation of safety and efficiency is of the utmost importance as population and economic growth continue to result in increased demands on the roadway system. The application of good local zoning in conjunction with sound access management practices will help maintain and protect its rural landscape character, while simultaneously preserving corridor efficiency functionality, and safety.

Assistance to Each Municipality

The products of the evaluation phases noted above consist of a build-out map, report and *The View from the Road* booklet for use by towns in access management and land use planning. Graphics and text is geared to land owners at the local level and provides site-specific information on key areas along the corridor study area. Multiple approaches were recommended to allow a community to adopt the best mix of incentives and regulations to preserve the arterial function and aesthetic rural landscape along each of the project routes. A discussion of the issues faced by each community is provided in each report.