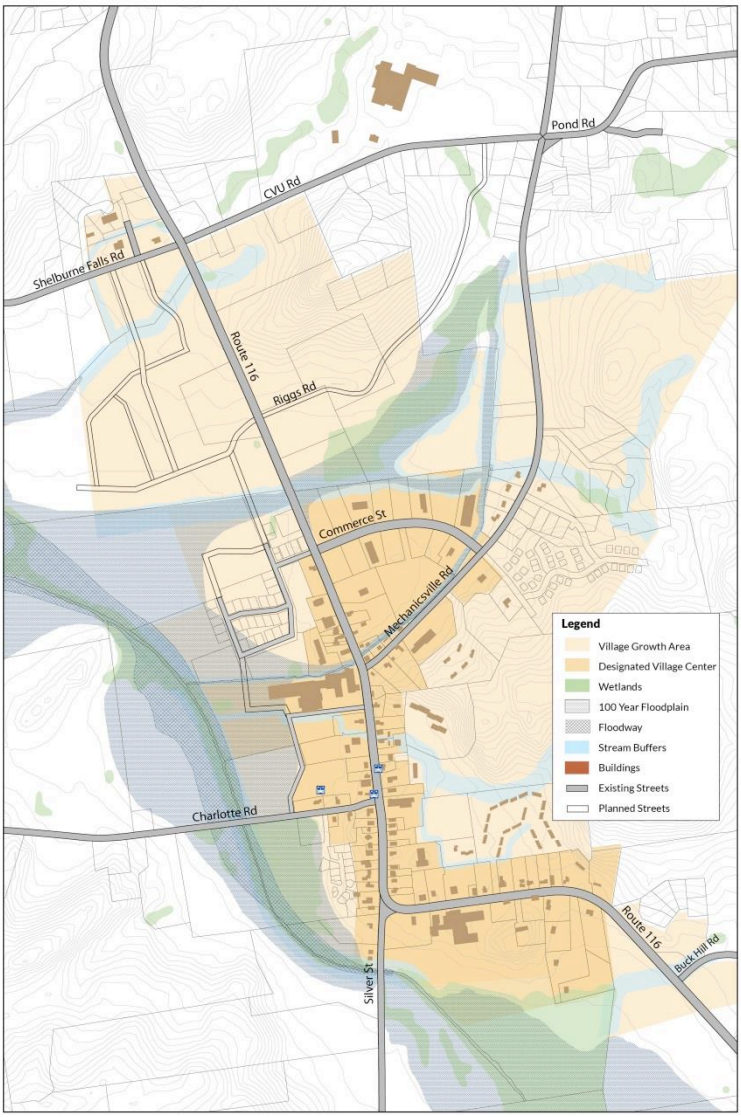
Executive Summary

Vermont Route 116 Corridor Study



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Prepared for:

CCRPC

Town of Hinesburg

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About this Report

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Executive Summary

The Chittenden County Regional Planning Commission (CCRPC) and the Town of Hinesburg have collaborated to prepare a corridor plan for Route 116 through Hinesburg's village growth area. The intent of this plan is to:

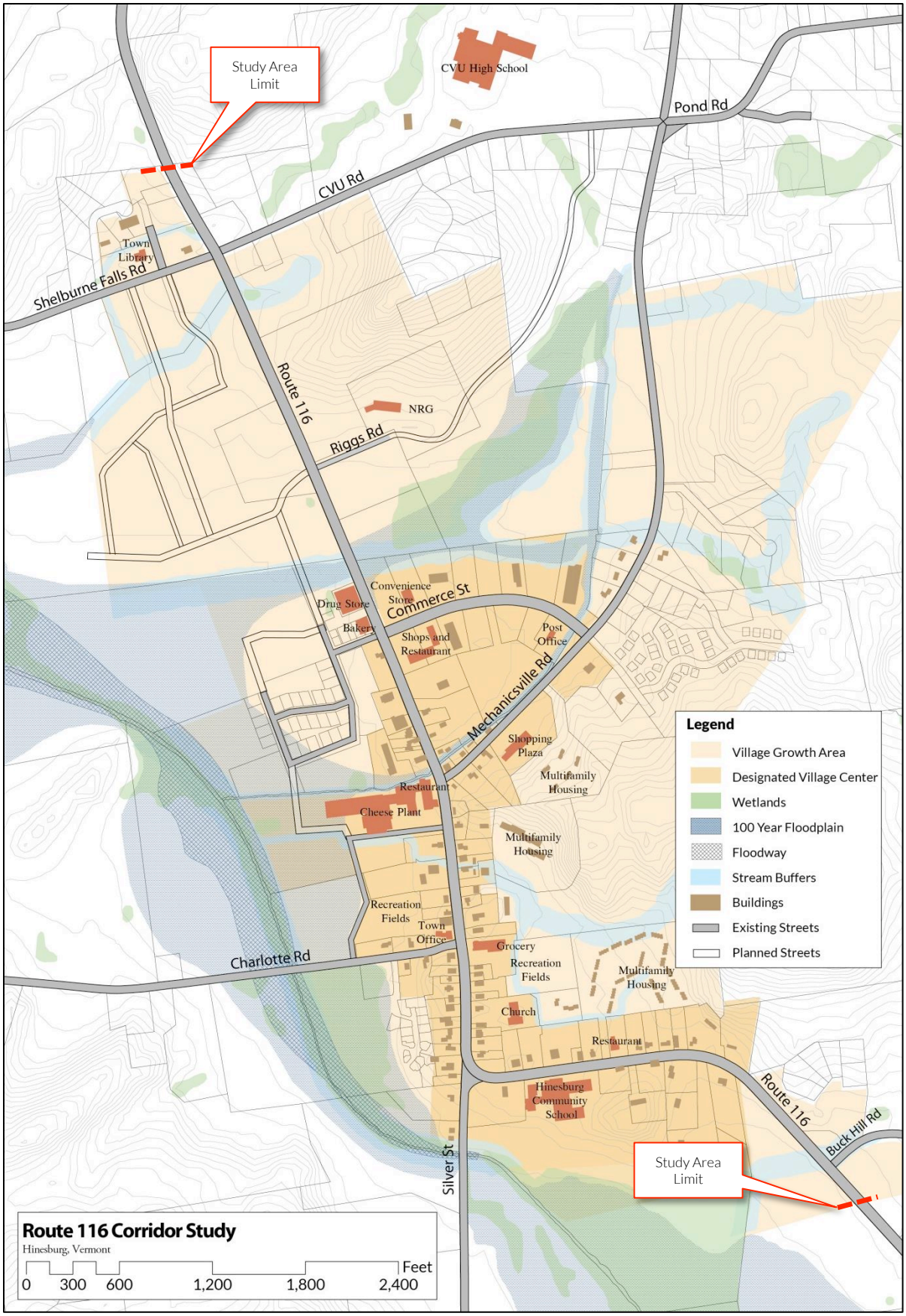
- define a vision for the future of Route 116 through Hinesburg's village growth area to guide decisions about public and private investments in the corridor,
- consider how to balance Route 116's role as both Main Street and regional commuter route,
- identify a set of strategies, plans and actions for the Route 116 corridor to address issues and concerns in the corridor in a manner that will support the vision of Hinesburg's Village Growth Area, and
- address complex transportation and land use issues and opportunities comprehensively, acknowledging that a variety of players must work together toward a vision of the corridor's future.

Background

This study was initiated by CCRPC and the Town of Hinesburg in response to concerns which include traffic congestion; safety and mobility for all modes of travel; and the coordination between land use development, transportation infrastructure and stormwater management. Route 116 through Hinesburg has seen substantial changes in recent years, including land development within the village growth center, increases in through-traffic volumes due to growth and development south of the village, and several intersection projects to address safety and congestion.

Study Area

The study focuses on Route 116 and its connecting streets within Hinesburg's Village Growth Area, which extends from 0.12 miles north of the CVU/Shelburne Falls intersection to 0.06 miles south of the Buck Hill Road intersection. The study area, shown on the following page, is where the traffic congestion and safety issues are most intense and also where future growth is planned. The study area is traversed by several stream corridors, wetlands, floodplains, and the LaPlatte River floodway. Therefore, managing stormwater and flooding is important to consider in conjunction with planning for growth and transportation.


Study Area Limit
CVU High School
Pond Rd
CVU Rd
Town Library
Shelburne Falls Rd
Route 116
NRG
Riggs Rd
Convenience Store
Drug Store
Commerce St
Bakery
Shops and Restaurant
Post Office
Mechanicsville Rd
Shopping Plaza
Multifamily Housing
Restaurant
Cheese Plant
Multifamily Housing
Recreation Fields
Town Office
Grocery
Recreation Fields
Multifamily Housing
Charlotte Rd
Church
Restaurant
Hinesburg Community School
Route 116
Buck Hill Rd
Silver St
Study Area Limit
Legend
Village Growth Area
Designated Village Center
Wetlands
100 Year Floodplain
Floodway
Stream Buffers
Buildings
Existing Streets
Planned Streets
Route 116 Corridor Study
Hinesburg, Vermont
0 300 600 1,200 1,800 2,400 Feet

What is a Corridor Study

A Corridor Study is based on a comprehensive assessment of issues, needs, and potential solutions to address these objectives, and consider all modes, including transit, bicycling, and walking, as well as automobile and commercial vehicle travel. It identifies a set of strategies that will work together to maintain or enhance mobility, accessibility, safety, economic development, and environmental quality of the corridor.

Process

This study generally followed the process outlined in the VTrans *Corridor Management Handbook*, which included the following steps:

- Assess existing and future conditions and identify primary issues of concern
- Develop a shared vision for the corridor and goals
- Identify the stakeholders in the corridor and an engagement plan
- Identify and analyze strategies that will advance the corridor goals
- Select and prioritize strategies
- Prepare implementation plan

The relationships between the current conditions and issues, strategies, outcomes and goals is summarized in the graphic on the following page. With input from stakeholders, the plan has focused on a set of strategies that are feasible and likely to enjoy support of the corridor stakeholders.

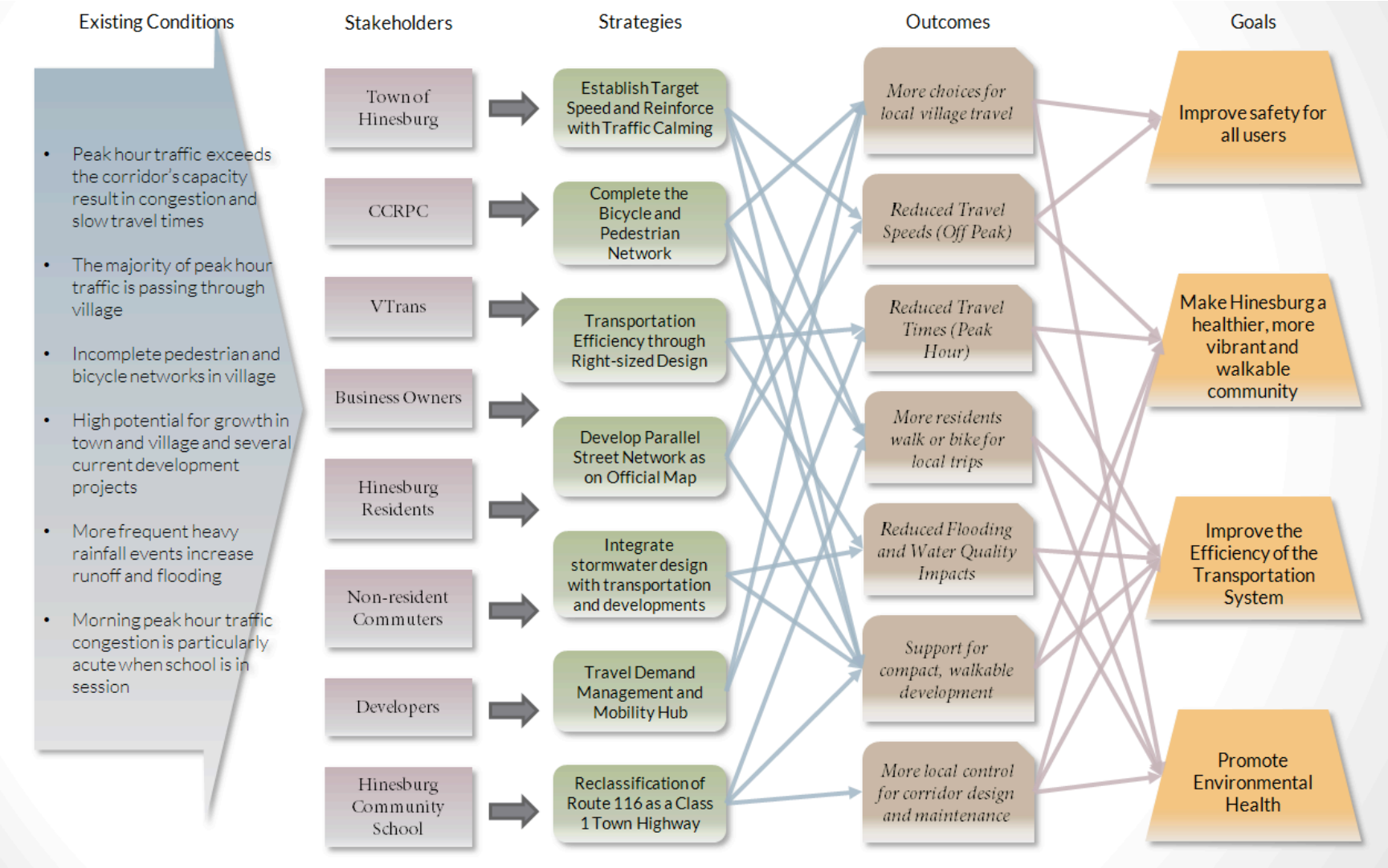
Goals and Vision

The study began with the committee and project staff articulating a vision and goals for the corridor.

- Safety for all users
  - Slower speeds to avoid or mitigate crashes and conflicts between users
  - Reduce conflicts from vehicle access onto Route 116 through network and land use planning and access management.
- Transportation System Efficiency
  - Maximize performance of existing transportation infrastructure
  - Establish a Complete Street network throughout the village that offers choices for mode and route of travel
- Economic Vitality and Livability
  - Attractive Streetscapes for an walkable, vibrant village center
  - Support compact, mixed use, walkable growth to add to village vibrancy
- Environmental Health
  - Minimize stormwater runoff from pavement with efficient, right-sized transportation designs
  - Integrate stormwater management into the design of public and private projects
  - Provide hydrologically adequate structures to maintain natural flow through village waterways

Corridor Plan Summary

The following graphic provides an overview of the corridor plan and its assumptions, strategies, desired outcomes and goals.



Land Use and Transportation Assessment

The following sections summarize the land use and transportation issues in the study area.

Land Use and Demographics

- The village has a mix of residential development ranging from low to moderately high density (by Vermont standards), and a wide array of commercial, retail, industrial, and other services.
- The town has seen significant growth in the village area, including the mixed use Hinesburg Center, adaptive reuse of the Cheese Factory, NRG Systems, and many more. Further growth in the Village is encouraged by town policies, with several significant projects in the permitting process.

Traffic and Multimodal Transportation

- The majority of peak hour traffic is through traffic of commuters from communities to the south.
- Peak hour traffic congestion is a problem. The bottlenecks are the CVU Road and Charlotte Road intersections, both of which have planned projects that should significantly alleviate congestion.
- Silver Street and Mechanicsville Road have poor levels of service for the side streets. At Silver Street during the morning peak hour, Route 116 traffic yields to allow Silver Street vehicles to enter in an alternative pattern. This could change after the Charlotte Road signal project is completed, changing peak hour traffic queuing and flow through this area. Mechanicsville traffic has an alternate route via Commerce Street during peak hours.
- There are two "High Crash Locations" in the village area.
    - Route 116/CVU Road/Shelburne Falls Road intersection, to be addressed by a VTrans intersection project.
    - A 0.6 mile segment from Commerce Street through Silver Street has primarily rear-end collisions, which suggests that traffic congestion and conflicts with traffic turning at driveways are important factors.
- The study area's pedestrian network has expanded considerably in the past ten years. There remain a number of gaps in the pedestrian network, some of which are being addressed in ongoing projects.
- Bicycle infrastructure includes a shared use path along CVU Road and shoulders or shared lanes on other routes in the village. While experienced cyclists are reasonably well served by the existing network, less confident riders are unlikely to consider bicycling for transportation purposes until a larger network of routes that are separated from traffic is established.
- Peak hour transit service is seeing modest ridership from Hinesburg. More frequent service, and service extending later into the evening and on weekends, could lead to higher ridership.

Environment

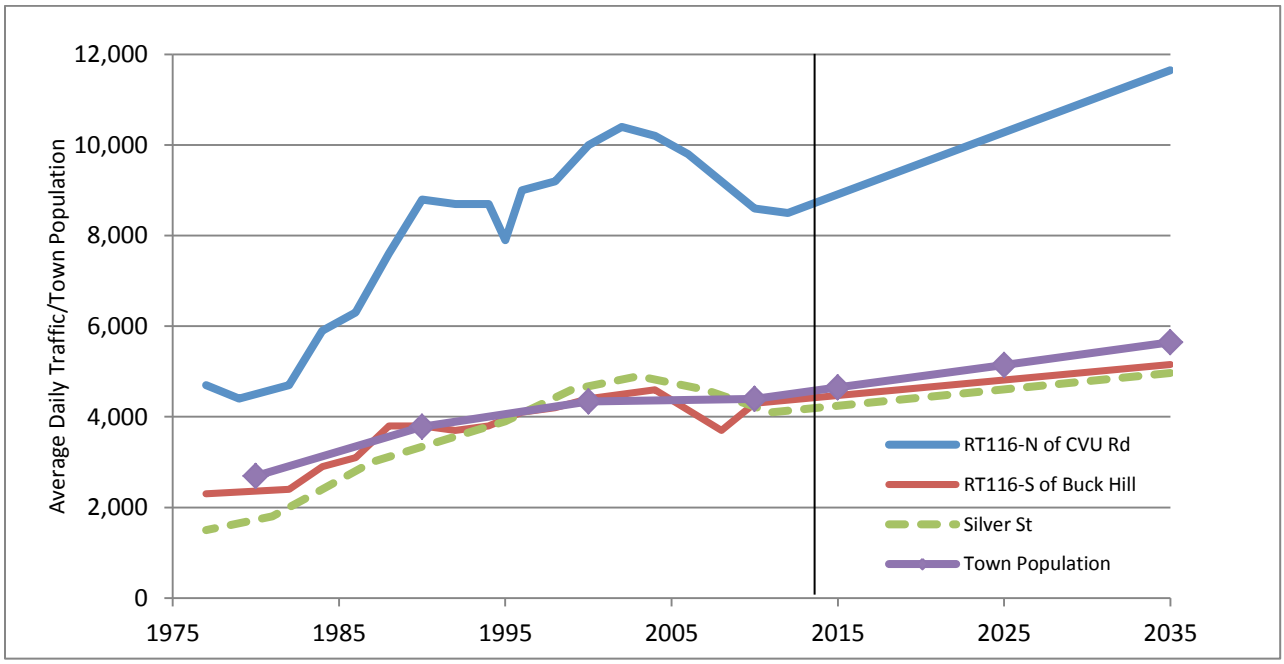
- Hinesburg's village is laced with waterways, wetlands and floodplains. Flooding is worsened by undersized culvert on Route 116, which leads to water backups and potentially overtopping of Route 116 during high flood events.

Future Conditions

An analysis of land use and traffic conditions for the year 2035 was developing using the CCRPC regional model.

- Hinesburg is projected to grow by about 25%, from 1,879 households in 2010 to 2,353 in 2035. Currently, 24% of Hinesburg's households are inside the Village Growth Area. By 2035, the portion inside the Village Growth Area is expected to grow to 29%.
- Employment is projected to grow by 10%. Currently, more than three quarters of the Town's employment is within the Village Growth Area, which is expected to continue through 2035.
- There is high growth potential in Hinesburg due to attractive rural/village environment, affordability relative to the region, employment opportunities and consistency with local plans and regulations.
- The effect of growth on traffic volumes will depend on the actual modes of transportation used, which can be shaped by the design and form of newly developed areas. Compact, mixed use development patterns, with high pedestrian connectivity should generate less vehicular traffic than more conventional development patterns.

Traffic and population data from the past 3 decades are shown below, and compared to a 25 year forecast from CCRPC's model. The traffic on the corridors south of the village (Route 116-South of Buck Hill Road and Silver Street) is projected to grow at a lower rate than Route 116 north of the village, indicating that traffic growth will result primarily from local development rather than through traffic.



Toolbox of Strategies

The following sections outline a range of strategies to meet the goals and achieve the vision for the community, and are practical and feasible. Many of these strategies can have multiple influences and can advance more than one goal.

Efficient, Right-sized Intersection Design

Intersections and streets within the village area should be designed and managed to allow them to function as efficiently as possible within their current footprint before considering widening or expansion.

Adopt a Target Speed and Reinforce with Traffic Calming

Managing speed is important to make the village safer for all modes, but especially for walking and biking. A target speed in the village core can be reinforced with traffic calming measures located at intervals along the Route 116 corridor in the village, such as raised crosswalks, landscaped medians, tight corner radii, and narrow widths. Establishing gateways to the village with speed transitions zones is important. These features together will increase driver attention and awareness of the village environment, and decrease travel speeds. Examples of traffic calming design features on a rural arterial route that are applicable to Hinesburg are shown below.

Landscaped Median Island

Textured Intersection

Village Gateway

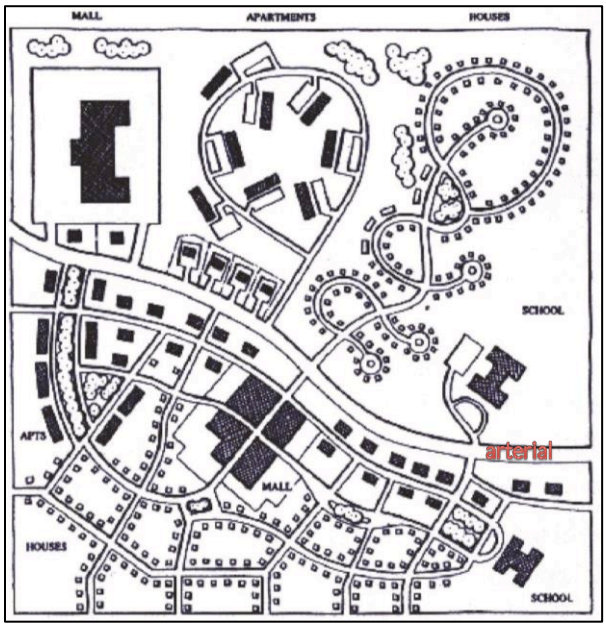
Pedestrian and Bicycle Network

The Town has an extensive network of sidewalks and shared use paths that can be expanded over time to fill gaps and serve new developing areas. A variety of design approaches for pedestrians can be explored, including bicycle boulevards, share space design of traffic calmed local streets.

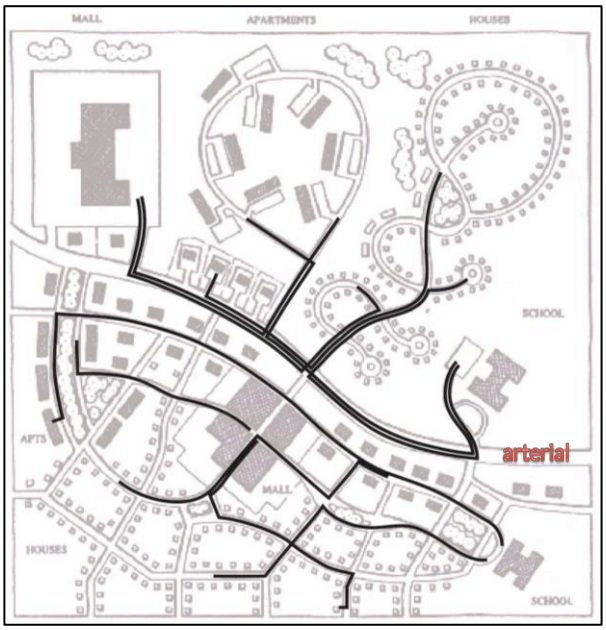
Connected Local Street Network

Hinesburg has long planned to support growth and development in the village area by building out a local street network. Advantages of a connected street network include greater convenience and more direct routes for pedestrians and more efficient development patterns. An additional benefit is the potential to reduce traffic volume on the main arterial routes. Two contrasting street networks are shown on the following page, with the travel routes afforded by each type of network on the right.

Street Network Connectivity and Traffic Patterns

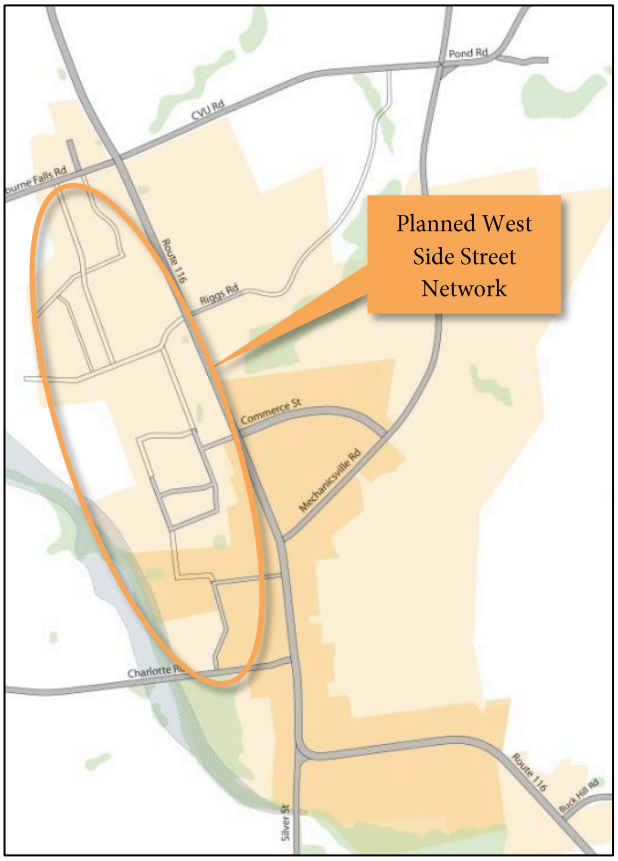


The development pattern in the upper portion of the above graphic above has every land use connect directly to the arterial. The lower pattern has a highly connected street network with small blocks.



Every trip to or from the land uses in the upper pattern must use the arterial street, resulting in congestion and conflicts with through traffic. In the connected street network (lower), local trips can avoid the arterial, reducing conflicts and congestion.

As part of this study, CCRPC conducted a sub-area analysis and traffic simulation modeling that showed that p.m. peak hour average travel times along Route 116 between Place Road and Silver Street will be reduced by 22% with the development of the street network on Hinesburg's west side.



Stormwater Management

Every transportation and land development project can incorporate design that will contribute to stormwater management in the village.

- Reducing stormwater discharge through low impact street design that minimizes new pavement, incorporates bioretention, and other green street design practices into each project as appropriate.
- Replacement of Bridge #28 with a culvert that is adequately sized to carry flood waters.

Examples of bio-retention swales, parking lined with a rain garden, and curbless street

Travel Demand Management

Beyond providing a network for walking and bicycling, there are several initiatives that can further reduce the share of trips made by automobiles.

Transit Stop/Park and Ride/Mobility Hub

A plan for a multi-use parking facility and relocated bus stop provides an opportunity to establish a "mobility hub" in Hinesburg's village. This is a place where all modes of travel conveniently intersect, and connections are encouraged by design. The mobility hub could include parking, a transit stop with shelter and real time bus information, bicycle parking, pedestrian accessibility, and be designed as an attractive community focal point and public space.

School Transportation

Observations suggest that morning traffic congestion is significantly worse when school is in session, and there may be an opportunity to alleviate congestion by increasing walking, biking or taking the bus to school. An improved pedestrian network would also allow for alternate drop-off locations that could reduce congestion created by the concentration of traffic and turning movements at the school.

Access Management

Access management is an important tool in balancing between the need for access for existing or new land uses, and efforts to reduce conflicts between through and local traffic. While access management is currently required for new development on Route 116, there are several places where existing wide curb cuts on Route 116 form a barrier for pedestrians. Pedestrian and streetscape projects in these areas will be opportunities for access management retrofits, which could also extend to Commerce Street.

Reclassification of Route 116 as a Class 1 Town Highway

The possibility of taking jurisdiction of Route 116 through all or some of the designated Village Growth Area by requesting reclassification for a portion of Route 116 to a Class 1 Town Highway is an option which would have the following implications:

- The Town takes responsibility to maintain the roadway, including snow removal, pavement markings, traffic signals, signs, and cleaning drainage structures.

- The Town will receive funding from VTrans to compensate the additional road maintenance costs, on the order of $10,000 to $15,000 per year depending on the length that is reclassified.

VTrans would continue to fund resurfacing, bridge, and transportation alternatives projects (i.e. bicycle and pedestrian). An analysis of costs and revenue shows that if Route 116 was re-classified from Riggs Road to Buck Hill Road, the net annual net cost to the town could be up to $3,000. The town's highway budget currently exceeds $900,000, so the additional cost of local maintenance of Route 116 will be quite small compared to total town highway spending. The benefits of reclassification include:

- Improved coordination of maintenance activities, especially plowing of roads and sidewalks.
- More control over traffic signal operations.
- More flexibility in street design and signage, such as crosswalks, speed limits, lane and shoulder widths, traffic calming features and landscaping.
- Complete decision-making authority for accesses for development.

Implementation

The table on the following page shows the recommended implementation projects, along with a generalized cost for scoping and design and construction. It has been assumed that the following projects are underway and funded, and therefore are not included in the implementation list:

- VTrans intersection project at Route 116/CVU Road/Shelburne Falls Road
- Signal phasing change and sidewalk relocation at Route 116/Charlotte Road
- Sidewalk from Charlotte Road south to Hinesburg Community School
- Sidewalk from Commerce Street to Riggs Road

In addition, the following planning and design recommendations will support the goals for the corridor, including:

- New streets planned as part of development projects should be designed to encourage slow travel speeds to provide safety and a comfortable environment for walking and bicycling. Their width should be minimized to reduce paved area, and they should use curbless designs to provide infiltration of stormwater.
- Development projects should consider access and safety for all modes of transportation in the development review process. This could result in requirements for bicycle parking, pedestrian connections to transit stops, and goals for mode share of travel for larger employers.
- Coordinate with the Hinesburg Community School to explore options that would alleviate morning traffic congestion, and encourage students to walk the last half mile to school from safe drop-off points, or the planned Mobility Hub.

Project	Next Step	Funding or Program Options	Initial Cost	Construction Cost *	Priority/Urgency (Short, medium or long term)	Notes
1) Silver Street Intersection	Scoping Study	CCRPC Scoping	$ 35,000	$ 1,500,000	Medium to Long	Study should wait until Charlotte signal project is complete
2) New and Enhanced Crosswalks	New and enhanced crosswalks at up to four locations	CCRPC Technical Assistance	$ 20,000	$ 200,000	**Short**	Design options affected by reclassification; potential to use textured/ colored materials.
3) Buck Hill Gateway	Traffic calming gateway and coordination with developers	CCRPC Technical Assistance	$ 10,000	$ 120,000	Medium	Design options affected by reclassification
4) Riggs Road Roundabout	Plans and cost estimate for roundabout; coordinate with adjoining landowners	CCRPC Scoping for concept design Public/Private for construction	$ 30,000	$ 1,250,000	Medium	Capital Planning and fair share cost allocation would allow for public/private cost sharing
5) Sidewalk: Mechanicsville to Commerce	Scoping Study	VTrans Bike-Ped or Trans Alts	$ 30,000	$ 220,000	Medium	Consider lane diet on Route 116 northbound during scoping
6) Sidewalk: School to Buck Hill Road	Scoping Study	VTrans Bike-Ped or Trans Alts	$ 30,000	$ 440,000	Medium to Long	Provide crosswalk at Buck Hill Road
7) Pedestrian Enhancements of Charlotte Rd and Commerce Street Intersections	Conceptual Design	CCRPC Technical Assistance	$ 25,000	$ 200,000	Long	Reinforce village design theme using colored/textured materials
8) Shared Use Path: Lantman's to Lyman Meadow	Conceptual Design	CCRPC Technical Assistance	$ 15,000	$ 200,000	**Short**	Primarily exists, and cost will depend on desired surface and design criteria
9) Mobility Hub/Park and Ride	Scoping / Design	VTrans Trans Alts	$ 30,000	$ 300,000	**Short**	Includes bicycle and pedestrian connection, bicycle parking and attractive urban design
10)a Bridge over Canal between Cheese Plant and Farmall Dr	Coordinated Scoping / Design/Financing Plan	Private Funding or Public/Private		$ 500,000	Medium to Long	Development activity at Cheese Plant should be considered in need and funding
10)b Bridge over Patrick Brook between Hinesburg Center and Bissonette	Coordinated Scoping / Design/Financing Plan	Private Funding or Public/Private		$ 750,000	Medium to Long	Ongoing development projects should incorporate this into their plans.
11) Replace Bridge #28	Scoping Study	Possible future resiliency fund	$ 30,000	$ 1,250,000	Medium to Long	Hannaford mitigation to extend existing culvert could be applied to replacement
12) Future Path Right-of-way	Conceptual Design	CCRPC Technical Assistance	$ 10,000	$ 1,000,000	**Short**	Ongoing development projects should incorporate this into their plans; Town should place on official map.