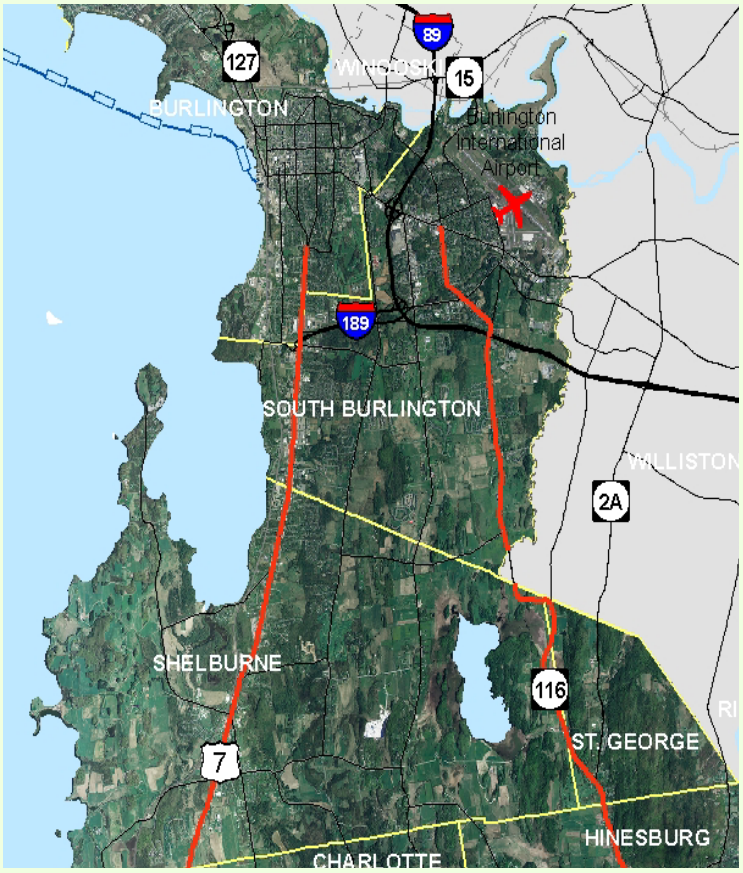
NORTHWEST VERMONT PROJECT

January 2007



Prepared By: Chittenden County Regional Planning Commission

ACKNOWLEDGMENTS

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CCRPC thanks all who helped in this project, especially Chittenden County Metropolitan Planning Organization (CCMPO) staff who assisted with the analysis and access management outreach effort and members of the Corridor Advisory Committee (CAC) who provided invaluable input. The members of the CAC include:

- Marcel Beaudin, Planning Commissioner, South Burlington
- Marty Illick, Charlotte
- John Hammer, Charlotte
- Dean Pierce, Town Planner, Shelburne
- David Roberts, Senior Planner, CCMPO
- Alex Weinhagen, Town Planner, Hinesburg
- David White, Comprehensive Planner, City of Burlington

INTRODUCTION

The Vermont Agency of Transportation (VTrans) worked with the five Regional Planning Commissions (RPCs) of Northwest Vermont on the Northwest Vermont Project (NVP). The NVP was a series of interconnected studies:

1. To assist municipalities in planning for possible transportation impacts of future growth associated with improvements to the Northwest Vermont's transportation system and

2. To develop model tools to be used by municipalities to plan for future growth in a manner that reflects local land use and transportation goals.

The Chittenden County Regional Planning Commission (CCRPC) undertook an individual component of the NVP in close cooperation with the Chittenden County Metropolitan Planning Organization (CCMPO) and a Corridor Advisory Committee (CAC). The purpose of the project was to provide each of the municipalities with the tools and information necessary to make informed decisions regarding future transportation functionality and land-use change along US 7 and VT 116 under current and alternative policies. The CAC consisted of municipal representatives within two highway corridors:

1. US 7- Burlington, South Burlington, Shelburne, and Charlotte and

2. VT 116- Hinesburg, St. George, Shelburne, and South Burlington

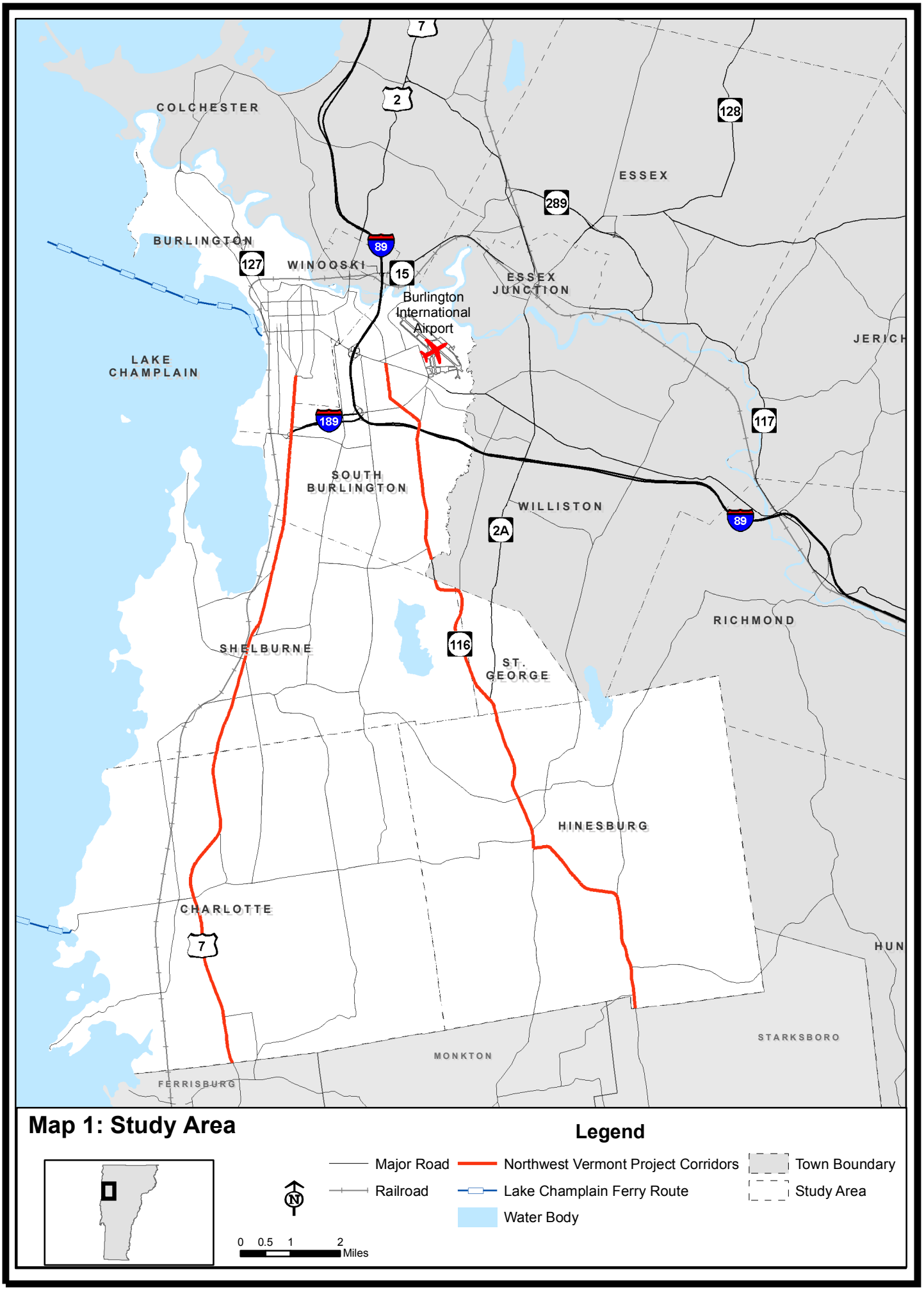
(See Map 1). The project consisted of two major phases:

1. Growth Forecasting and Analysis and

2. Development of Smart Growth Tools.

CCRPC employed CCMPO's Land Use Allocation Model (LUAM)[1] in the growth forecasting and analysis element to illustrate to local officials the relationship between land development patterns and improvements to transportation infrastructure. The CAC identified the Vermont Agency of Transportation Access Management Guidelines[2] as the appropriate tool needed for responding to anticipated growth along the corridors, in the development of smart growth tools phase.

This report explains the source of the land-use policies and transportation improvement projects captured in LUAM and documents the results and conclusions of two land-use/transportation scenarios. In addition, it describes the outreach and education component involved in providing Access Management information to municipalities within the study area. The findings produced from this project are not an official policy statement of CCRPC. Rather, this study is intended as a planning tool for member municipalities and partner organizations to demonstrate the relationship between land-use and transportation functionality. As well, this study is not a prediction of travel conditions or land-use activity in the future.


COLCHESTER
BURLINGTON
WINOOSKI
ESSEX
ESSEX JUNCTION
Burlington International Airport
LAKE CHAMPLAIN
SOUTH BURLINGTON
WILLISTON
SHELBURNE
ST. GEORGE
RICHMOND
HINESBURG
CHARLOTTE
MONKTON
FERRISBURG
STARKSBORO
JERICH
HUN
7
2
128
289
89
127
15
189
117
2A
116
Map 1: Study Area
Legend
Major Road
Railroad
Northwest Vermont Project Corridors
Lake Champlain Ferry Route
Water Body
Town Boundary
Study Area
N
0 0.5 1 2
Miles

CCRPC staff developed two LUAM scenarios to examine land-use activity and transportation functionality under current and alternative policies. In both scenarios, increased household and employment growth over a 30-year period resulted in increased traffic volumes on both the US 7 and VT 116 corridors. At the corridor level, increased volumes did not appear to degrade transportation functionality to the extent that motorists would experience delays in travel times or a reduction in safety. Alternative land-use policies were more effective at maintaining transportation functionality on US 7 than current municipal land-use policies. Along the VT 116, corridor there was little difference in transportation functionality between each policy scenario. At a finer scale, transportation functionality did degrade significantly along selected segments of both corridors in each of the scenarios from 2000 to 2030. However, when comparing future transportation functionality of road segments under the alternative policy with future transportation functionality under current land-use policies no significant difference was observed. This suggests that these policies may not have been effective at addressing traffic coming from Addison County. Overall, use of LUAM has shown that increased land-use growth from 2000 to 2030 results in increased transportation pressure on these corridors and that land-use policies applied in Chittenden County municipalities may not address commuting patterns from outside the County.

Findings of the growth forecasting and analysis phase and CAC discussions on maintaining travel efficiency along US 7 and VT 116 informed the selection of Access Management Guidelines as the smart growth tool of choice. Access management guidelines seek to limit and consolidate access along major roadways, while promoting supporting street systems and unified access and circulation systems for development. These guidelines seek to create a safe and efficient corridor for a multiple range of uses while allowing growth to occur according to individual municipal goals.

The next section of the report describes the Growth Forecasting Analysis phase in more detail. The final section describes three aspects of the second project phase: the rationale for selecting the Vermont Agency of Transportation's Access Management Guidelines, outreach conducted by CCRPC and CCMPO staff to inform local boards about the guidelines, and a review of each municipality's local land use regulations for access management language.

GROWTH FORECASTING AND ANALYSIS

CCRPC staff used LUAM in this component of the project to model future growth distribution according to various changes in transportation and land use polices. LUAM is a component of the Chittenden County Travel Demand Model, which allocates future households and jobs based on land-use and transportation policies to Traffic Analysis Zones (TAZs) in Chittenden County. Each of the 335 TAZs is an area of land defined by CCMPO to tabulate employment and land use data. For the purpose of this project, only those TAZs in Burlington, South Burlington, Shelburne, Charlotte, Hinesburg, and St. George were assessed.

CCRPC's household forecast[3] is the source for the total number of households expected in 2030 for Chittenden County and Louis Berger's Employment forecast[4] is the source for the total number of employees expected in 2030 for Chittenden County. The 2025 Metropolitan Transportation Plan (MTP) network is the source for the transportation improvement projects included in the analysis. The MTP identifies major transportation projects, programs, and policies needed over a 25-year period and establishes the vision and goals that will guide public decisions affecting transportation facilities and services in the County. The major improvement projects modeled for the study area include a new future I-89 Interchange at VT 116 and the Shelburne Road widening project, completed in 2006. Not all improvement projects recommended by the MTP were included in the analysis because of model limitations resulting in scenarios that are only estimated representations of what could happen to future travel demand and land use.

Two LUAM land-use/transportation scenarios were developed with CAC input:

- Current Land-Use Policy Scenario and
- Alternative Land-Use policy Scenario.

Current Land-Use Policy Scenario

The Current Land-use Scenario simulates transportation functionality of US 7 and VT 116 when the roadway improvements (described in Table 1) and land use regulations (described in Table 2) are applied in the study towns.

Table 1
Transportation Improvement Projects*

Corridor	Improvement
US 7	Shelburne Road Widening Project
VT 116	New I-89 interchange at VT 116

*The transportation improvement projects for US 7 and VT 116 are recommended by the CCMPO's 2025 MTP.

Table 2
Municipal Trends for Future Development*

Municipality	Residential	Employment
Burlington	Encouraged in City Center area. Restricted on University of Vermont properties	Enterprise, Institution, and Downtown Area have the greatest potential for jobs
Charlotte	Striving to meet CCRPC 2010 Housing Target	Based on a 2.62% average annual rate of change between 1990 and 2000
Hinesburg	Re-zoning effort in the Village will encourage greater density with the village area and decrease development outside	Planned expansion of existing employer in the Village and growth in commercial and industrial zones
Shelburne	Town plan policies direct growth to sewer service area and encourage retention of rural character in outlying areas.	Town plan policies promote economic development in the Village and other areas with adequate services.
South Burlington	Consistent with LUAM methodology**	Consistent with LUAM methodology **
St. George	Consistent with LUAM methodology **	Consistent with LUAM methodology **

*Municipal trends for future development were based on recommendations from the CAC.

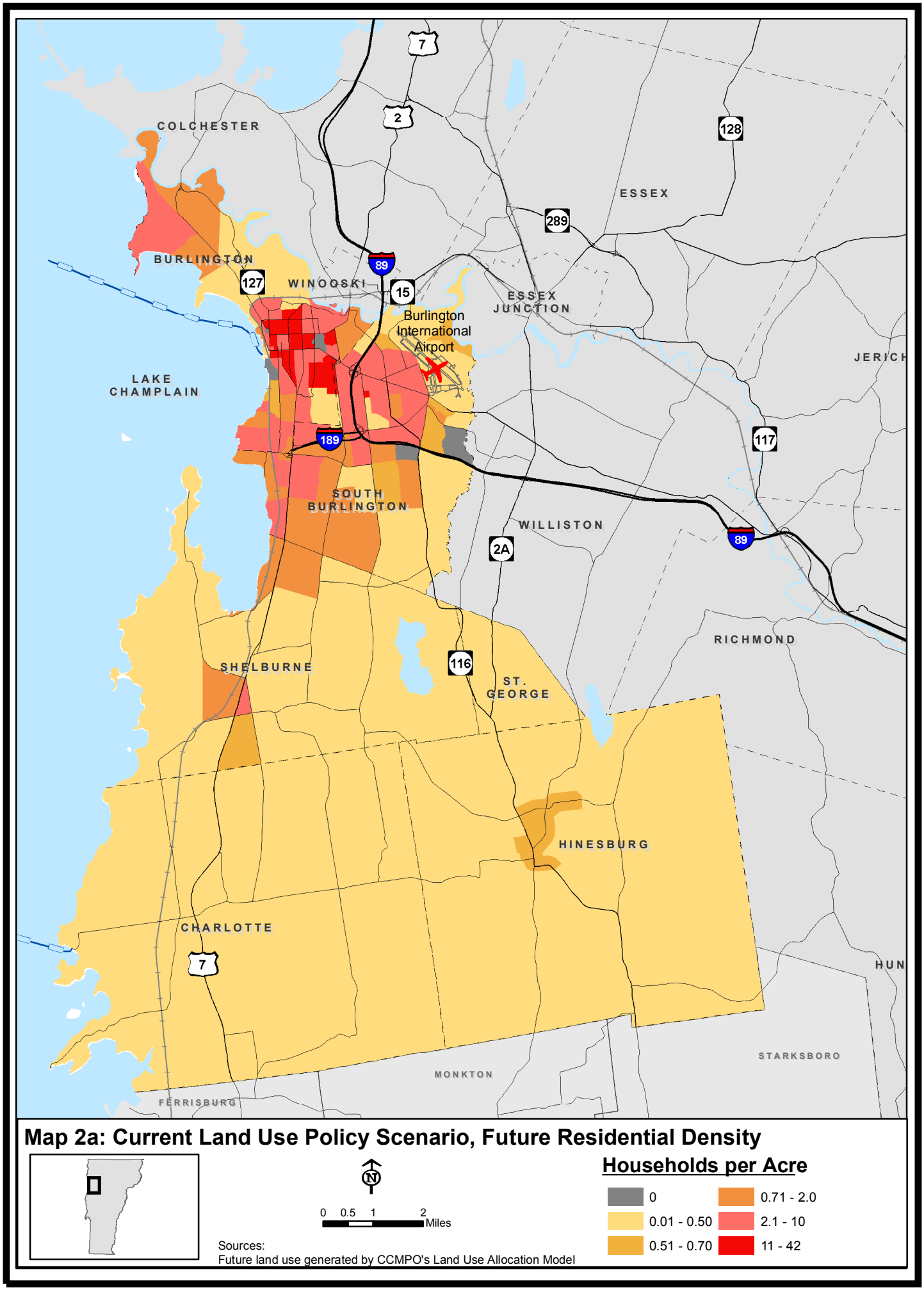
**Municipal trends for future development were consistent with the LUAM methodology if the town planner confirmed that the results met municipal goals for future development or if municipal input was unavailable.

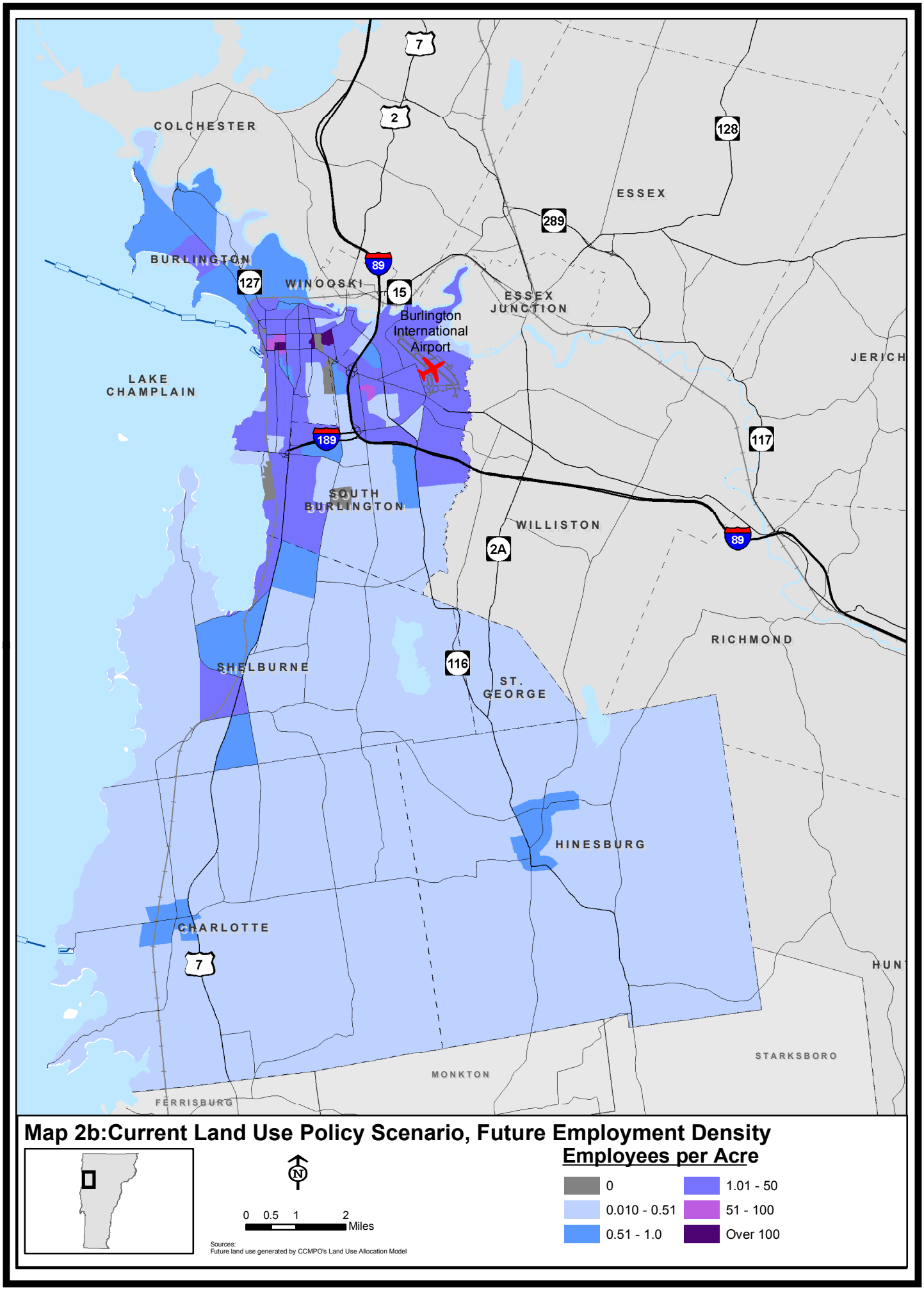
Maps 2a and Map 2b illustrate the future land use activity for current land-use scenario. Future land use activity is expressed by either residential or employment density. Residential density is the amount of households per acre within a TAZ. Employment density is the number of employees per acre within a TAZ.

Map 2c illustrates transportation functionality for current land-use scenario. Transportation functionality is measured in terms of maximum volume/capacity ratio (V/C). V/C is the ratio of actual or expected traffic volume (V) in relation to the amount of designed capacity(C) for a roadway segment. Since a roadway segment is made up of two directions it has two V/Cs. Maximum V/C is the greater of the two V/Cs. When the V/C ratio equals 1 the roadway is functioning at capacity and congested conditions may occur. A reduction of transportation functionality occurs when maximum V/C is approaching 1.

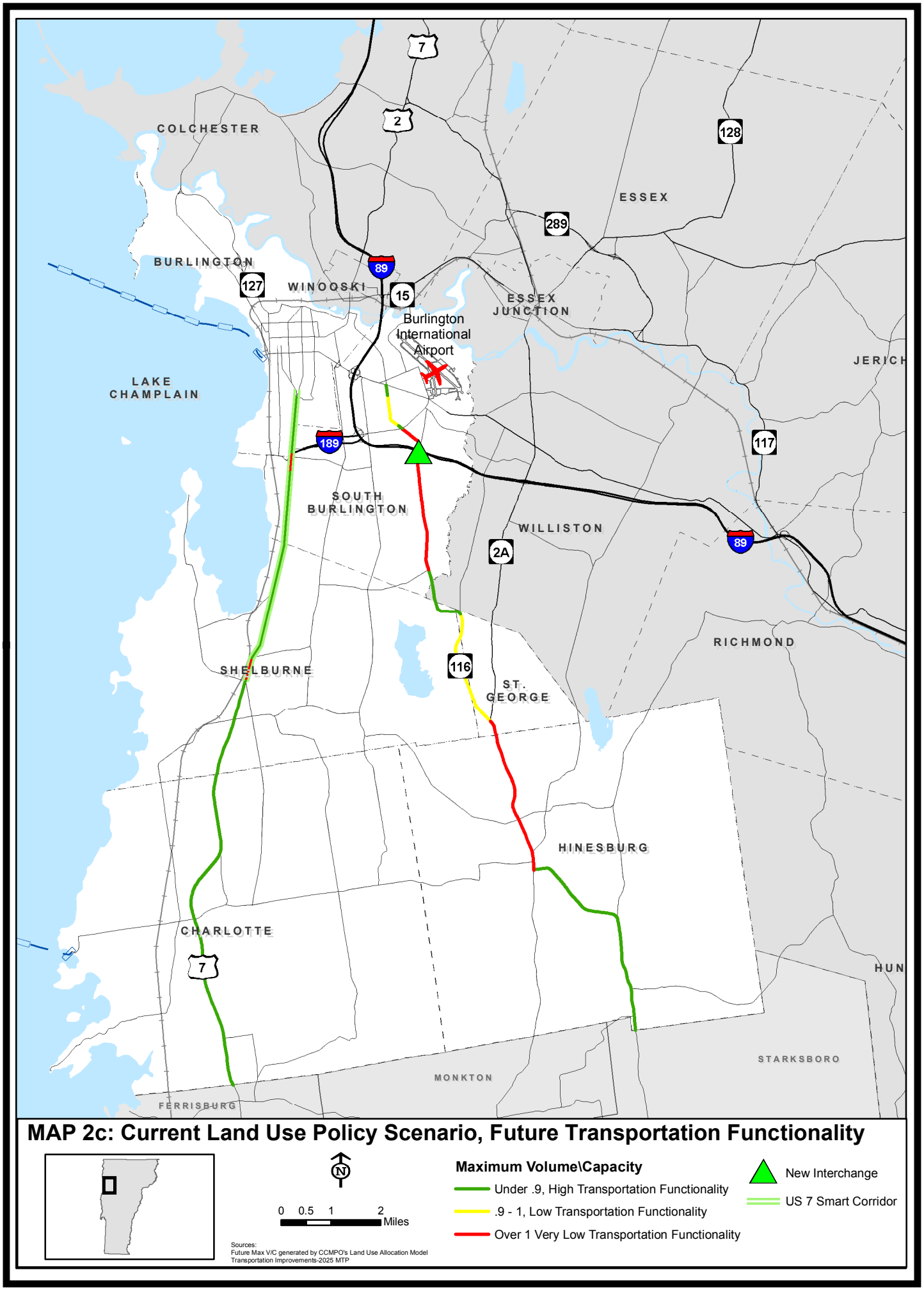
Alternative Land- Use Policy Scenario

The Alternative Land-use Policy Scenario is a model of the land-use pattern and associated transportation functionality of US 7 and VT 116 if housing and employment location choices were based solely on accessibility. An area is more accessible (relative to other areas) if travel times to other locations are low and the area has a high amount of existing development or is located in close proximity to a largely developed area. The transportation improvement projects in this scenario are the same as in the current land-use policy scenario. Maps 3a, 3b, and 3c illustrate the future land use activity and transportation functionality for this scenario.

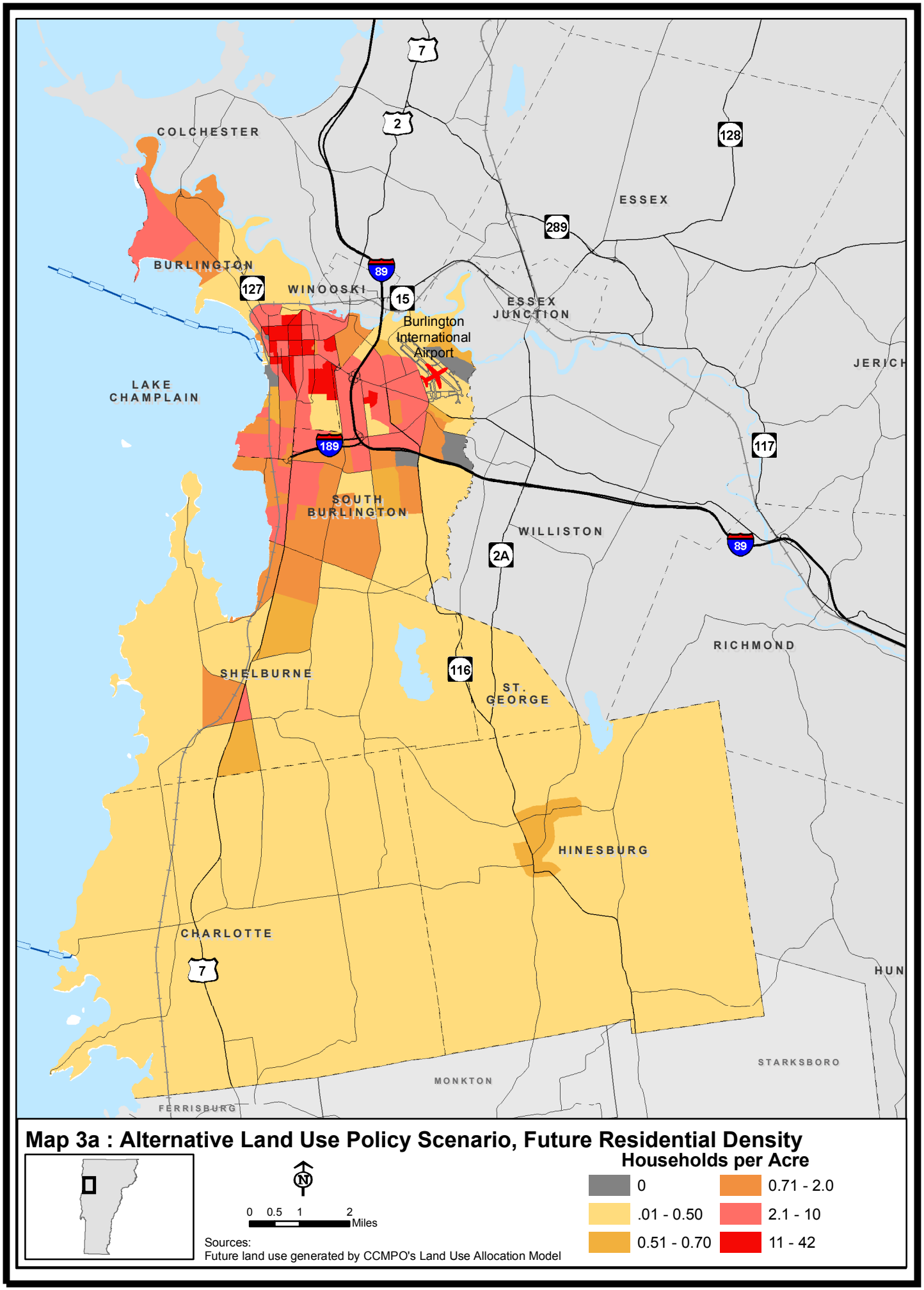

COLCHESTER
BURLINGTON
WINOOSKI
ESSEX
ESSEX JUNCTION
Burlington International Airport
LAKE CHAMPLAIN
SOUTH BURLINGTON
WILLISTON
RICHMOND
SHELBURNE
ST. GEORGE
HINESBURG
CHARLOTTE
MONKTON
STARKSBORO
FERRISBURG
JERICH
HUN
7
2
128
289
89
127
15
189
117
2A
116
Map 2a: Current Land Use Policy Scenario, Future Residential Density
Households per Acre
0
0.01 - 0.50
0.51 - 0.70
0.71 - 2.0
2.1 - 10
11 - 42
N
0 0.5 1 2
Miles
Sources:
Future land use generated by CCMPO's Land Use Allocation Model



Map 2b:Current Land Use Policy Scenario, Future Employment Density



MAP 2c: Current Land Use Policy Scenario, Future Transportation Functionality


COLCHESTER
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Burlington International Airport
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SHELBURNE
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Map 3a : Alternative Land Use Policy Scenario, Future Residential Density
Households per Acre
0
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0.51 - 0.70
0.71 - 2.0
2.1 - 10
11 - 42
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0 0.5 1 2
Miles
Sources:
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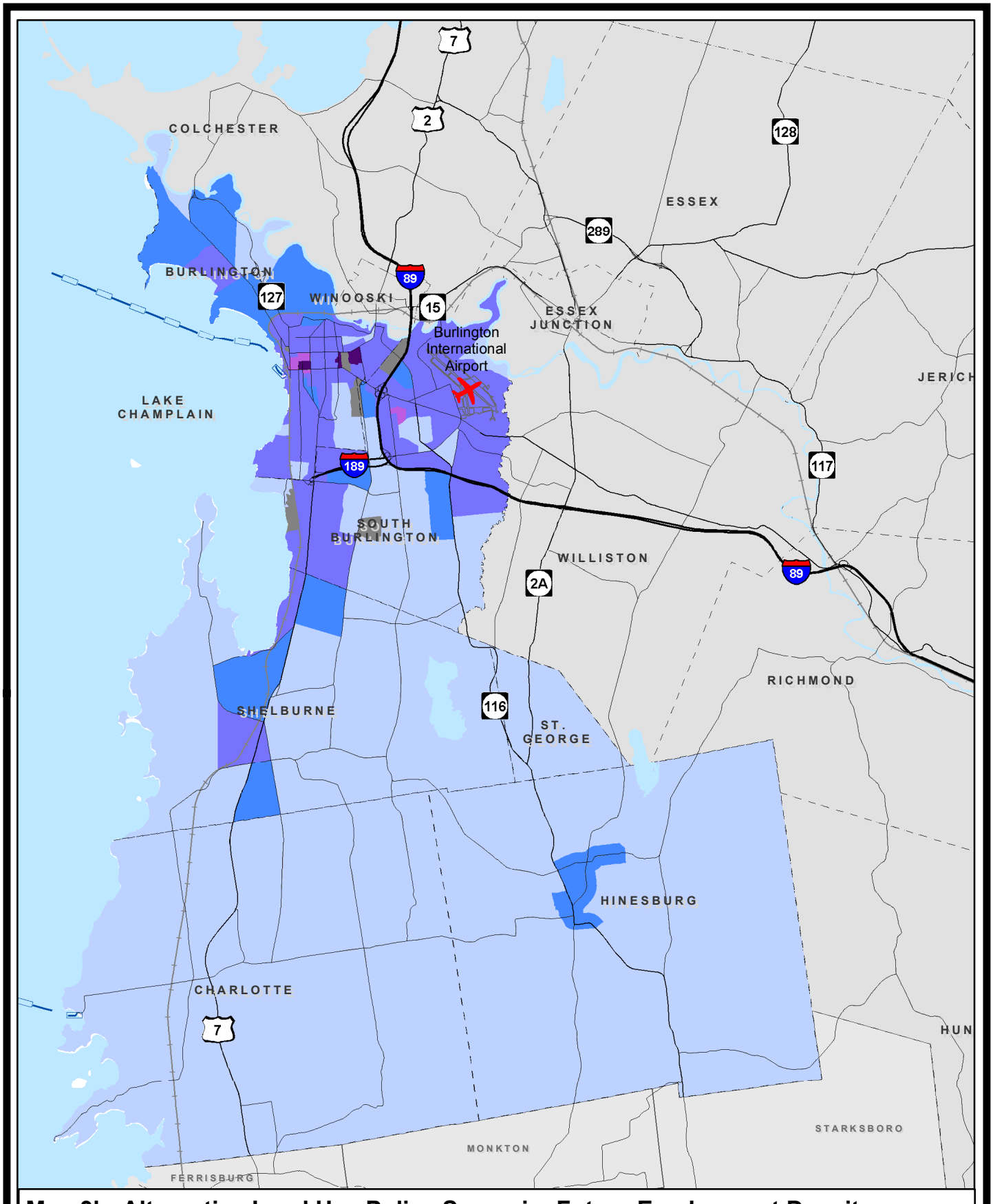
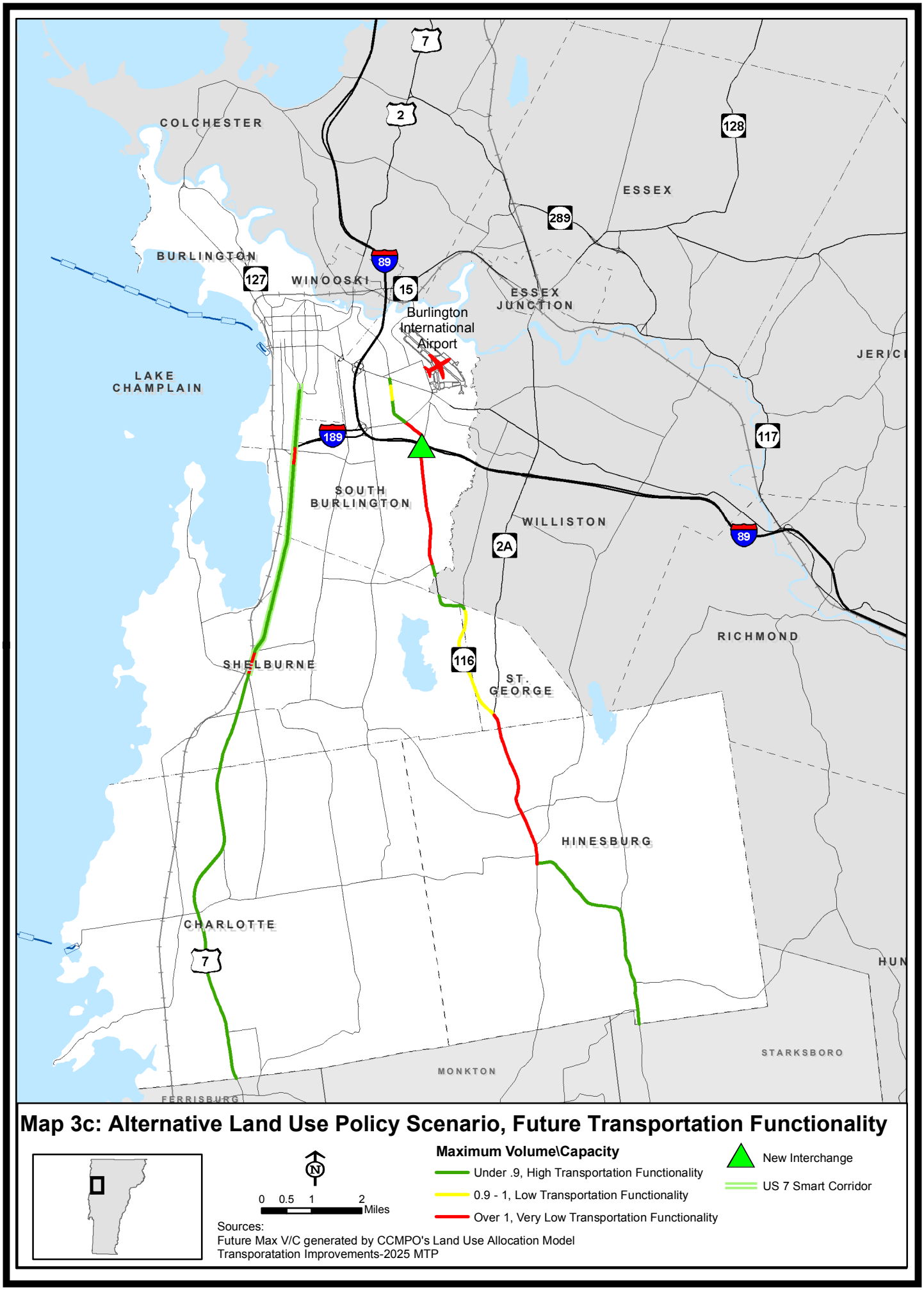


Map 3b: Alternative Land Use Policy Scenario, Future Employment Density

Sources:
Future land use generated by CCMPO's Land Use Allocation Model



Map 3c: Alternative Land Use Policy Scenario, Future Transportation Functionality

Comparison of Current and Alternative Policies

Table 3 identifies the base year (2000) land use, the future land use pattern of current municipal policies, and the future land use pattern of the alternative policy. The 2000 land-use pattern in each policy scenario is the same. As mentioned previously, LUAM allocates future growth from 2000 to 2030 according to either the current land use policy or the alternative land use policy.

Table 3
Alternative Future Growth Under Current and Alterative Land-Use Policies

		Future Growth			
Municipality	**2000**	**Current Land Use Policy Scenario**	**Alternative Land Use Policy Scenario**	**Difference Between Scenarios**	**Percent Difference Between Scenarios**
BURLINGTON					
Households	19,898	25,109	25,342	233	0.93%
Employment	30,062	32,142	31,840	-302	-0.94%
CHARLOTTE					
Households	1,304	1,387	1,350	-37	-2.67%
Employment	560	849	599	-250	-29.45%
HINESBURG					
Households	1,532	2,300	1,807	-493	-21.43%
Employment	795	949	849	-100	-10.54%
SHELBURNE					
Households	2,452	3,313	3,487	174	5.25%
Employment	3,093	3,472	3,464	-8	-0.23%
SOUTH BURLINGTON					
Households	5,912	14,656	15,224	568	3.88%
Employment	18,098	31,446	31,931	485	1.54%
ST GEORGE					
Households	260	320	312	-8	-2.50%
Employment	46	62	62	0	0.00%
TOTAL					
Households	31,358	47,085	47,522	-437	-0.93%
Employment	52,654	68,920	68,745	175	0.25%

Table 4 identifies the change in transportation functionality between the current land-use policy scenario and the alternative land-use policy scenario of four selected road segments along US 7 and VT 116. As mentioned previously, transportation functionality is measured by the ratio of maximum volume to capacity (V\C). When the maximum V\C ratio is approaching 1, transportation functionality is reduced. A reduction in transportation functionality means the roadway is operating at or beyond its designed capacity and motorists will likely experience congested travel conditions. As seen in Table 4, the impact of changes in land-use polices had little effect on the difference between future transportation functionality or maximum V\C ratios at selected locations along US 7 and VT 116 when comparisons were made between the scenarios. This

suggests that for specified corridor segments the alternative land use policy resulted in essentially the same impacts on transportation capacity as did the current municipal land-use policies for future growth.

Table 4
Transportation Functionality of Selected Corridor Segments
Measured in Maximum Volume/Capacity (V\C)

			Future		
Location	**Length (Miles)**	**2000 (Max. V\C)**	**Current Land-Use Policy (Max. V\C)**	**Alternative Land-Use Policy (Max. V\C)**	**Percent Difference Between Scenarios**
VT 116					
Hinesburg Village	0.7	0.92	1.18	1.18	0%
South of Interstate 89	0.4	0.97	1.22	1.22	0%
US 7					
South of Ledge Rd	0.17	0.69	0.78	0.78	0%
Between Charlotte Village and Shelburne Village	3.28	0.61	0.77	0.75	2.6%

Table 5 identifies total transportation functionality for US 7 and VT 116. Total transportation functionality is measured in average weighted maximum V\C because of how the corridors are modeled. Corridors are modeled in the travel demand model as a series of road segments. Each of these road segments has their own maximum V\C. The maximum V\C of each road segment was calculated as a weighted average to discuss the overall future function of US 7 and VT 116. Average weighted maximum V\C is the maximum V\C of each corridor segment (as defined previously) weighted by the length of the segment, then averaged for each of the corridors. Transportation functionality for the entire lengths of both of the corridors was measured in this way to minimize the impact of long segments on the total maximum V\C factor.

As seen in Table 5 change in transportation functionality for the total length of VT 116 between scenarios was very low. Although there was a decrease in land-use activity along VT 116 from the current land-use policy scenario to the alternative land-use policy scenario, there was still pressure on VT 116 because the decrease in land-use activity still meant there was a need for people to travel to more developed areas for shopping, services, and employment.

Also in Table 5 it can be seen that transportation functionality on US 7 improved from the current land-use policy scenario to the alternative land-use policy scenario by about 11%. This is primarily due to an increase in land use-activity in the Burlington area or in areas that are in close proximity to existing development along US 7. Because more households were closer to employment, services, and shopping, traffic flow on US 7 was reduced.

Table 5
Transportation Functionality of US 7 and VT 116
Measured in (Average Weighted Maximum Volume/Capacity)

		Current	Future		
Corridor	**Length (Miles)**	**2000 (Max. V\C)**	**Current Land-Use Policy (Max. V\C)**	**Alternative Land Use Policy (Max. V\C)**	**Percent Difference Between Scenarios**
VT 116	15.26	0.70	0.90	0.89	1.01%
US 7	15.93	0.70	0.82	0.73	11.70%

The most significant change in transportation functionality or average weighted maximum V\C occurred between 2000 and 2030 in both scenarios. Transportation functionality decreased from the base year to 2030 in both scenarios because of an increase in the total number of countywide households and employment LUAM distributed along these corridors. As well as, in increase in traffic flow from Addison County. Both scenarios showed that an in increase in total household and employment growth over a 30-year period would cause degradation in travel on US 7 and VT 116.

Conclusion

To provide municipalities with information on how to manage increased congestion along the corridors, the CAC advised CCRPC staff to work collaboratively with CCMPO staff to conduct presentations for local boards on the Vermont Agency of Transportation's Access Management Guidelines. Access management is a process that provides or manages access to land development while simultaneously preserving the flow of traffic on the surrounding system in terms of safety, capacity needs, and speed[5]. Given that forecasts predict of an increase in the number of households and employment in the study area and people in neighboring Counties will continue to rely on the corridors for connections to services in Chittenden County, an access management program for US 7 and VT 116 is an appropriate tool.

The NVP does not conclude that additional improvements to the current transportation network will be needed or not needed. Rather, it demonstrates the likely impacts of increased growth on US 7 and VT 116. There are many different actions that may be undertaken in response to the forecasted outcomes. These results are intended to help these corridor municipalities develop plans and policies and select tools for managing increased growth and the associated impacts to transportation functionality. Within this project, the CAC chose the Vermont Agency of Transportation's Access Management Guidelines as the preferred smart growth tool.

ACCESS MANAGEMENT

This project phase focused on the development of smart growth tools to address road access, travel efficiency, and safety on US 7 and VT 116. CAC members expressed concern about preserving the corridors as major arterials through areas where the land use is less intense and to encourage slower, safer travel in locations that have a higher development density. Access Management seeks to (1) limit and consolidate access from lands along major roadways and (2) prompt a support street system and unified access and circulation systems for development. As a result, CAC members agreed that educating local boards about Access Management should be the smart growth tool of choice.

In order to preserve the functionality of corridors, the CAC identified the following access management strategies as having the highest priority:

- Limit direct access to major roadways
- Preserve the functional area of intersections and interchanges
- Limit the number of conflict points
- Provide a supporting street and circulation system
- Apply strategies both to rural and urban locations

CAC members also had concerns pertaining to the municipality, which they represented. For example, a Charlotte representative noted that the traffic signal at Ferry Road is accident-prone and that the railroad corridor and park & ride should play vital roles in relieving the travel demand on US 7. The CAC member from Shelburne noted the State's jurisdiction over the entire corridor, including Shelburne Village, is an issue particularly with regard to access management and roadway design. The CAC member from South Burlington noted that the City is interested in developing a parallel street system along VT 116 as a pro-active means to maintaining travel efficiency in locations that are experiencing development pressures.

Review of Local Land Use Regulations

CCRPC staff reviewed municipal zoning and subdivision regulations of towns within the project study area in order to determine if they are currently implementing Access Management. Some municipalities had incorporated principles that conflicted with existing language in their regulations. Others focused on issues such as pedestrian access, while not directly incorporating the Access Management principles in their regulations. Table 6 illustrates which access management principles were included in current municipal land use regulations. Following Table 6 the exact language from each by-law or plan is quoted for reference purposes.

Table 6
Access Management Principles Found in Municipal Regulations

Municipality	Limit Direct Access to Major Roadways	Preserve the Functional Area of Intersections and Interchanges	Limit the Number of Conflict Points	Provide a Supporting Street and Circulation System
Burlington	▪	▪	▪	▪
Charlotte	▪	X	▪	X
Hinesburg	X	▪	X	▪
Shelburne	▪	X	X	▪
St. George	▪	X	X	X
South Burlington	▪	X	▪	▪

X= Language related to issue was not found or appears to be contradictory
▪ = Language related to issue was identified in town plan or zoning regulation

Below are sections of quoted text from municipalities' land use regulations which refer to Access Management principles.

Burlington

2001 Subdivision Regulations 3. Streets: A. Planning standards: II. Streets shall be arranged so as to cause no undue hardship to adjoining properties, and shall be coordinated so as to compose a convenient system; V. Local streets shall be planned so their use by through traffic will be discouraged; X. Intersections of major streets by other streets shall be held to a minimum and shall be at least eight hundred (800) feet apart, unless this is determined by the board as impossible with respect to a particular intersection. Cross street intersections shall be avoided, except at important traffic intersections. A distance of at least one hundred twenty-five (125) feet shall be maintained between offset intersections. Within one hundred (100) feet of an intersection right-of-way, streets shall be approximately at right angles.

Charlotte

2006 Land Use Regulations: 3.2 (C) Access Management Standards. The following access management standards shall apply to all land uses and development within the town under the jurisdiction of these Charlotte Land Use Regulations: (1) No lot may be served by more than one (1) access (curb cut), except for: (a) a lot for which it is determined, subject to subdivision, site plan, or conditional use review, that one or more additional accesses are necessary to ensure vehicular and pedestrian safety; or (b) instances in which strict compliance with this standard, due to the presence of one or more physical constraints (e.g., streams, wetlands, steep slopes) would result in adverse environmental impacts or a less desirable site design and layout than would be otherwise possible. (3) (b) A property having frontage on Route 7 and no frontage on a secondary road shall be allowed a maximum of one (1) access point onto Route 7. Where feasible, said access point shall be located and designed so as to provide access to the entire property, and

shall meet all applicable standards of these regulations. No access shall be permitted where traffic conditions, topography, or any physical site limitation would prevent the construction of a safe access. (c) A property having frontage on Route 7 and on a secondary road shall be required to locate all access points on the secondary road, except where the Planning Commission or Board of Adjustment determines that the topographical or traffic safety conditions make such location impracticable. Such access points shall be located and designed to provide access to the entire property, and shall meet all applicable standards of these regulations.

Hinesburg

2005 Subdivision Regulations: Application of Planning Standards 5.1.6 (2) Whether the layout and/or extension of any roads provides for appropriate access to the project and possible future projects as determined necessary by the Development Review Board. The Development Review Board shall consider the long term road network as it relates to existing, proposed, and potential roads and development in the Town, safety, emergency vehicle access, aesthetics, and any other impacts identified in the course of the review of the project. *6.2 Curbs, Sidewalks, and Pedestrian Access. 6.2.2. Sidewalks*: All developments in the Village and Commercial Districts, and in other districts where required by the Development Review Board, shall provide sidewalks at least 5' wide. *6.2.3. Pedestrian Accesses*: The Development Review Board may require, in order to facilitate pedestrian, bicycle or other non-vehicular access from the roads to schools, parks, playgrounds, or other nearby roads, perpetual unobstructed easements at least twenty (20) feet in width. Easements shall be indicated on the plat.

Shelburne

2005 Site Plan Regulations: 1600 (4)(D) Site plans shall give consideration to alternative transportation modes, including adequate access, linkage between modes, safety of users and provision for amenities such as shelters, park and ride lots and similar features.

2006 Zoning Regulations: 1600.2 Review Standards. The Planning Commission shall consider the following in its review of a site plan application: A. Maximum safety of vehicular and pedestrian circulation on site and between the site and adjacent roads. *1600.5 Access Requirements (E)* The Planning Commission may require service roads connecting to public roads, with provision for connection to similar service roads on adjacent property where it feels that limiting the number of intersections to the public road is in the interest of the health and safety of the community. 1600.7 Conditions. The Planning Commission may impose appropriate conditions to site plan approval including the following: 1. Installation of service roads…3. Consolidation or limitation of number and width of access drives. *1610 Conditional Uses 3.* Traffic on roads and highways in the vicinity. The creation of high traffic entry and exiting due solely to a single establishment along Route 7 should be discouraged.

2005 Comprehensive Plan Volume I RECOMMENDED ACTIONS, TRANSPORTATION 6. Continue to implement an access management program to ensure a proper balance between roadway function and access to adjacent properties.

VOLUME II h. Access Management As described by the Transportation Research Board (TRB), "access management programs seek to limit and consolidate access along major roadways, while promoting a supporting street system and unified access and circulation systems for

development. The result is a roadway that functions safely and efficiently for its useful life, and a more attractive corridor." Access management is sometimes a controversial approach to transportation management, since it can affect the level of direct access enjoyed by individual properties. Again as described by the TRB, Without access management, the function and character of major roadway corridors can deteriorate rapidly. Failure to manage access is associated with the following adverse social, economic, and environmental impacts:

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

Not only is this costly for government agencies and the public, but it also adversely affects corridor businesses. Closely spaced and poorly designed driveways make it more difficult for customers to enter and exit businesses safely. Access to corner businesses may be blocked by queuing traffic. Customers begin to patronize businesses with safer, more convenient access and avoid businesses in areas of poor access design. Gradually the older developed areas begin to deteriorate due to access and aesthetic problems, and investment moves to newer better-managed corridors. A number of access management principles have been incorporated into the design ***of*** the Shelburne Road reconstruction project. However, access management principles may be relevant to other, less heavily traveled highways in the Town. A comprehensive, Town-wide access management program could potentially involve the following elements:

1. Classifying roadways into a logical hierarchy according to function,
2. Planning, designing, and maintaining roadway systems based on functional classification and road geometry,
3. Defining acceptable levels of access for each class of roadway to preserve its function, including
criteria for the spacing of signalized and unsignahzed access points,
4. Applying appropriate geometric design criteria and tr&c engineering analysis to each allowable access point, and
5. Establishing policies, regulations, and permitting procedures to cany out and support the program.

South Burlington

2003 Land Development Regulations 10.02 Traffic Overlay District -to provide a performance-based approach to traffic and access management associated with development and re-development of properties in high traffic areas of the City.
5.01F(2)(b) Commercial District 1 - Requires compliance with an approved access management plan, providing for curb cut consolidation and secondary access.
13.01 F Access Management Requirements - It is the intent of the City to minimize traffic and pedestrian conflicts caused by vehicular driveways on public roadways by reducing the number of required driveways and by minimizing the number of vehicles utilizing such driveways off public roadways. All applicants must make an

effort to reduce these impacts. All commercial lots (retail, restaurant, office, service uses, excluding residential, agricultural and industrial uses) located adjacent to other commercial lots must provide a driveway connection to any adjacent commercial lot.

St. George

1980 Subdivision Regulations 880 Lot Layout 880.5 Access -Lots shall be laid out so as to avoid direct access to heavily traveled streets or highways.

Education and Outreach

With guidance from the CAC, CCRPC and CCMPO staff made presentations to the South Burlington Planning Commission, the Hinesburg Development Review Board, the Shelburne Planning Commission, and St. George's Planning Commission Access Management and worked with them to develop access management regulations or on other implementation strategies.

CCRPC continues to work with CCMPO and interested municipalities to implement the access management guidelines, with the understanding that this may take an extended amount of time depending on each municipality's schedule for updating their regulations. For example, St. George expressed interest in working with staff on this issue when they update their zoning and subdivision regulations in 2007.

One CAC member recommended the creation of an interactive user-friendly Access Management website as a helpful reference tool for town officials and laypeople. This website could define Access Management, illustrate how the principles help shape a community, disseminate updated case studies, and provide a forum where questions can be posted. Such a website could be developed and maintained by VTrans and CCMPO if there is enough interest by all parties.

[1]LUAM is an integrated component of the Chittenden County Travel Demand Model. See the following website for further reading: http://www.ccmpo.org/modeling/release_history.html
[2]See the following website for further reading http://www.vtaccessmanagement.info/
[3]See the following website for further reading www.ccrpcvt.org
[4]See the following website for further reading www.circeis.org
[5] Access Management Brochure, Vermont Agency of Transportation