

## CHAPTER 4 – IMPACTS AND MITIGATION

### 4.1 Introduction

This chapter evaluates the impact causing activities of each alternative in the context of the surrounding demographic, housing, economic, and community conditions. This evaluation focuses primarily on the direct impacts of the alternatives. The potential for the alternatives to result in indirect and cumulative land use and economic effects is evaluated in the Indirect Effects and Cumulative Impacts Technical Report (DEIS Appendix J). The potential for direct impacts to occur are evaluated for each alternative, including the No Build Alternative, in Sections 4.2 through 4.5 below.

#### 4.1.1 Context and Key Issues

Improvements to transportation systems can result in both benefits and adverse impacts to communities. The following potential impacts of activities associated with the project alternatives were evaluated.

- *Direct Displacements* – Highway improvements may result in the direct displacement of residents and businesses through right-of-way acquisitions necessary to widen an existing highway, provide space for new traffic flow and control features, or construct a highway on a new location. In some cases, these right-of-way activities involve partial acquisitions of properties and no substantial alteration in their function or appearance. In cases where entire properties are within the new right-of-way or when a partial acquisition results in encroachment on a structure or such a substantial portion of a parcel as to impair its use, the entire property is acquired. As noted in Chapter 2, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended provides guidelines and procedures for the acquisition of real property for federally funded projects. Although displaced residents and business are compensated and relocated, a substantial number of residential displacements can alter the socioeconomic composition, and function of a community, as well as its character and cohesion. Displacement of businesses or disruption of business districts with unique function or importance to a community may also be a result of a transportation improvement, regardless of the number of business displacements. Extensive displacement of businesses may also affect the number and location of job opportunities in a community.
- *Alteration of Access* – Transportation improvements, while improving overall mobility, may also alter existing patterns of access and travel. Examples include medians and roadway dividers, turn prohibitions, one-way streets, curb cuts, and changes in pedestrian/bicycle accommodations. Limited access highways can alter travel patterns through an elimination of an intersection or interruption of existing roadways or pedestrian access. These changes in access and travel patterns may alter patronage of businesses, access to community facilities, emergency access, and community cohesion. Alterations in access can also bring benefits of increased mobility, enhanced access, and visibility, and improved non-motorized circulation.
- *Indirect Displacements* – The combination of direct displacements and any substantial alteration in access can result in indirect displacement of businesses and residents. If relocations are substantial in number and result in movements of households beyond traditional community boundaries the viability of the community left behind could be threatened. Similarly, extensive residential or business displacements or alterations in

travel patterns could alter the function and utility of the business district beyond the area directly affected resulting in isolation from markets/customers/labor, reduced patronage, and elimination of supplier/vendor relationships.

- *Economic Impacts* – Investment in transportation may result in one-time benefits to the local and regional economy during the construction period as workers are employed, and materials are purchased. These temporary increases in economic activity may have multiplier effects for related sectors of the economy. Longer term benefits to the economy include time savings for commuting, travel, and goods movement, as well as locally captured operational expenditures for maintenance of the facility.
- *Fiscal Impacts* – Acquisition of privately owned property for transportation improvements may result in reductions in local property tax revenue, or in the case of a business that can not be located within the community, a loss in business or sales tax revenue.
- *Concerns Noted During Public Involvement* – In the Public Design Workshops held in February 2006,<sup>1</sup> participants expressed several concerns related to the extent of property acquisitions and the width of the roadway in the VT 2A corridor. There were also comments regarding opportunities for pedestrian connections across the Circ A/B corridor to promote access between neighborhoods. Comments related to community character and cohesion include the following.
  - Comments received during the Public Design Workshop on the VT 2A corridor in Williston indicated concern that the width of a three or four lane roadway coupled with increased traffic flow and speed would be incompatible with the residential character of the area north of Blair Park. The widened roadway and increased traffic flow would also constitute a barrier between neighborhoods in an area where intersections are widely spaced.
  - Nearly all participants at the Public Design Workshop on the Circ A/B corridor in Williston called for a grade-separated crossing for the shared use path to maintain non-motorized connectivity between neighborhoods. Many participants indicated an overpass was preferable to an underpass to promote use and safety. Participants also indicated that the design of the approaches should be closely coordinated with developments to preserve character and promote use of the connection.
  - Comments received during the Public Design Workshop in Essex Junction indicated concern that the extent of partial property acquisitions required to widen the existing roadway would substantially alter the character of land use in residential areas to the north of Blair Park in Williston and along the Park Street corridor in Essex Junction, as applicable to each of the alternatives. Particular concerns expressed included the shortening of front yards and setbacks resulting in alteration of the appearance of properties and utility of the space, and the loss of shade trees.
  - Comments received during the Public Design Workshop in Essex Junction also indicated concern that a widened roadway would not be compatible with current plans for streetscape improvements that maintain current curblines and provide additional on-street parking. Overall, participants noted that increased traffic flow and speed would hamper pedestrian crossings posing a barrier incompatible with the character and planning objectives of the Village.

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<sup>1</sup> Summary of February 2006 Public Design Workshops, held February 7, 2006 in Williston (on VT 2A Corridor), February 8, 2006 in Essex Junction (on VT2A Corridor), and February 9, 2006 in Williston (on Circ A/B Corridor).

## 4.2 No Build Alternative

### 4.2.1 Demographics, Housing, and Economics

For the evaluation of future transportation and land use conditions, a forecast of regional population, housing, and employment conditions was conducted for the Circ-Williston Transportation Project. The forecast was developed for Chittenden County and the surrounding five counties in the Northwest Vermont region. Within Chittenden County, the Land Use Allocation Module (LUAM) of the Chittenden County Transportation Model was used to distribute the county-level forecast totals to municipalities and sub-municipal areas (Traffic Analysis Zones—TAZs). The Indirect Effects and Cumulative Impacts Technical Report (DEIS Appendix J) outlines the methods and results of these regional forecasts and local distributions for the 2000 to 2030 time period. Household and employment growth estimates for the TAZs falling within the socioeconomics study areas for the VT 2A and Circ A/B corridors are outlined below to establish future conditions under the No Build Alternative.

#### VT 2A Corridor Study Area

The TAZs within the VT 2A study area are expected to see an increase in housing units of approximately 73 percent, from 3,400 in 2000 to just over 5,800 in 2030. This amounts to an average annual growth rate of 1.8 percent. Just over half of the growth in housing units is expected to occur in the Williston portion of the corridor south of Industrial Avenue/Mountain View Road, where growth is expected to keep pace with the historical average for the Town from 1960 to 2005 at approximately 3.7 percent per year.

A review of housing locations in Chittenden County maintained by CCRPC revealed that approximately 180 housing units were added to the VT 2A study area from 2000 to 2005. These units are included in the growth estimate cited above. In addition, a review of growth and development reports, development review board applications, and discussions with local planners indicated the potential for nearly 1,000 units to be developed in the TAZs within the VT 2A study area from 2005 to 2015.<sup>2</sup> Notable projects within the corridor in Williston include the Pecor property on US 2 just off of VT 2A with the potential for 300 units; the adjacent Village Associates development with up to 110 units; and the Brandywine development with 49 units. Major projects in Essex Junction include Riverside in the Village on Park Street with up to 300 units; and Highland Village on Pearl Street with 77 condominium units.

Land use and transportation modeling indicates that the study area can expect an increase in employment of approximately 75 percent, from 12,400 in 2000 to over 21,700 in 2030. This amounts to an average annual growth rate of 1.9 percent. Much of this employment would be accommodated through build-out and infill in the existing commercial areas surrounding Taft Corners.

In general, the *Williston Town Plan* indicates that the Town expects future development to be concentrated in the Taft Corners and Village areas that are zoned for residential and commercial growth. The *Town Plan* anticipates growth through mixed use development on currently vacant parcels, infill, and redevelopment as the need for housing and commercial establishments grows in the future. The Plan indicates that the Town will “work with landowners to build the grid streets that have been planned for the Taft Corners area. These streets will

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<sup>2</sup> See Indirect Effects and Cumulative Impacts Technical Report for full description of method and results for identifying recent and near-term future developments within Chittenden County as inputs to the LUAM feature of the Chittenden County Transportation Model.

provide the access needed for a more intense, pedestrian friendly development pattern.”<sup>3</sup> The Plan also indicates that the area east of Maple Tree Place zoned for mixed-use residential development

*...is intended to permit higher density residential development mixed with limited retail and office uses. The Town’s vision for its commercial center can only be realized if a substantial number of people live here, within walking distance of the theater, shops, cafes, and other businesses in the TCZD [Tafts Corners Zoning District].<sup>4</sup>*

The *Essex Junction Comprehensive Plan* notes that the Park Street corridor has been in a state of transition, with the areas nearest Five Corners undergoing conversion from single family to multi-family and commercial development. The Village expects this development pattern to continue into the future and notes the following goals for the Village Center area which include Five Corners:

*Creation or preservation of affordable housing within this area is encouraged. Emphasis is placed upon pedestrian and bicycle access to the commercial center. Design criteria may be developed to encourage construction similar to existing structures. Setbacks, parking and other requirements will be drafted to encourage development similar to existing development. Special Review may be required within the designated Village Center area.<sup>5</sup>*

### **Circ A/B Corridor Study Area**

The TAZs within the Circ A/B study area are expected to see an increase in housing units of approximately 73 percent, from 1,900 in 2000 to just over 3,300 in 2030. This amounts to an average annual growth rate of 1.8 percent. Most of the growth in housing units is expected to occur in the Williston portion of the corridor south of the quarry, where growth is expected to be about one percentage point less than the historical average for the Town from 1960 to 2005 at approximately 2.7 percent per year.

A review of housing locations in Chittenden County maintained by CCRPC revealed that approximately 240 housing units were added to the Circ A/B corridor study area from 2000 to 2005. These units are included in the growth estimate cited above. In addition, a review of growth and development reports, development review board applications, and discussions with local planners indicated the potential for nearly 1,000 units to be developed in the TAZs within the Circ A/B corridor study area from 2005 to 2015.<sup>6</sup> Notable projects within the corridor in Williston include the Pecor property on US 2 just off of VT 2A with the potential for 300 units; the adjacent Village Associates development with up to 110 units; the Coyote Run development to the east of the Circ A/B right-of-way and north of Metcalf Drive with 10 units, and the Goodrich/Barone property along US 2 with 14 units.

Land use and transportation modeling indicates that the study area can expect an increase in employment of approximately 93 percent from 4,070 in 2000 to over 7,870 in 2030. This amounts to an average annual growth rate of 2.2 percent. Much of this employment would be accommodated through build-out and infill in the existing commercial areas surrounding Taft Corners in the western portion of the study area.

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<sup>3</sup> Town of Williston Comprehensive Plan 2006, page 15.

<sup>4</sup> Town of Williston Comprehensive Plan 2006, page 16.

<sup>5</sup> 2002 Essex Junction Comprehensive Plan Update, page 67.

<sup>6</sup> See Indirect Effects and Cumulative Impacts Technical Report for full description of method and results for identifying recent, and near-term future developments within Chittenden County as inputs to the LUAM feature of the Chittenden County Transportation Model.

In general, the *Williston Town Plan* indicates that the Town expects future development to be concentrated in the Taft Corners and Village areas that are zoned for residential and commercial growth. The *Town Plan* anticipates growth through mixed use development on currently vacant parcels, infill, and redevelopment as the need for housing and commercial increases in the future. The Plan calls for the extension of the Village Zoning District west to the Circ A/B right-of-way. The purpose of this expansion is as follows:

*It will continue the historic design themes of the village to a logical breaking point: the Circ right-of-way between the "old" and "new" centers of Williston.... It recognizes the difficulties of developing the narrow strip of land between Rt. 2 and the watershed protection buffer along Allen Brook, which is not suitable for the type of development anticipated by the Medium Density Residential zoning. Placing this parcel in the VZD will permit a planned development of modest home that are compatible with those in the village, and can take advantage of the opportunities for small businesses that are available in the VZD. The ability to have businesses should make the homes attractive even with the higher traffic volumes along Route 2.<sup>7</sup>*

The Plan indicates that the remainder of the study area to the north up to Mountain View Road is medium density residential. North of Mountain View Road, the Plan indicates that the area should remain agriculture/rural residential with the exception of the Chittenden Solid Waste District (CSWD) properties including the quarry, VELCO, and the retired town landfill which would be in an expanded Industrial B zoning district. This would allow the Town to eliminate landfills as a permitted use in the general agricultural district and permit a methane recovery and power generation plan proposed by CSWD as an accessory use in the expanded district. As noted in Chapter 3 of the Land Use Technical Report, portions of the land on either side of the existing Circ A/B right-of-way are conserved as open space.

In Essex, the area surrounding the VT 289 and VT 117 junction is within the sewer core and zoned for medium density residential.

#### **4.2.2 Community Character and Neighborhood Cohesion**

As noted in Section 4.2.1, the Towns of Williston and Essex and Village of Essex Junction expect future community character in the VT 2A and Circ A/B study areas to be largely consistent with patterns observed today. Each community expects continued infill development and redevelopment along the VT 2A corridor and seeks in its land use plans to encourage mixed use development, pedestrian connections, grid street patterns, and bulk and setbacks consistent with existing structures. Along the Circ A/B corridor, residential development is to be concentrated in an extension of the Williston village center, and in vacant unconserved lands south of Mountain View Road. North of Mountain View Road much of the land is dedicated to utility and landfill uses.

As newly developed neighborhoods become established and connections between commercial and residential areas expand, it is anticipated that current levels of neighborhood cohesion in the VT 2A and Circ A/B corridors would strengthen.

#### **4.2.3 Environmental Justice**

Projections of future demographic and employment conditions in the project area can be made through use of the forecasting tools typically employed in regional land use and transportation planning in Chittenden County. These tools do not provide the capability to estimate the future location and characteristics of low-income and minority communities, however. Because future

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<sup>7</sup> Town of Williston Comprehensive Plan 2006, page 16.

conditions for environmental justice evaluations are often subject to considerable uncertainty, recommended practice calls for evaluating potential impacts based on existing conditions and established data sets such as the U.S. Census.<sup>8</sup>

## 4.3 VT 2A Alternatives

### 4.3.1 Alternative 2 – Four-Lane VT 2A with Signalized Intersection Improvements

#### **Demographics, Housing, and Economics**

##### ***Potential Full Property Acquisitions***

Based on a review of the preliminary design plans for Alternative 2, the acquisition of additional right-of-way under this alternative would require the full acquisition of eight parcels in the VT 2A corridor. The properties to be acquired would include three residential units, four commercial establishments and one vacant property. Table 4-1 provides further information on the location and use of properties that would be acquired under Alternative 2.

**Table 4-1  
Alternative 2  
Properties with Potential for Full Acquisition**

Parcel ID	Address	Acres	Property Description	No. of Residential Units	No. of Employees
03:102:059:000	1136 Essex Road, Williston	0.50	Residence	1	
03:102:080:000	1239 Essex Road, Williston	0.70	Residence	1	
10:210:800:00	106 Park Street, Essex Junction	0.80	Residence	1	
08:102:001:000	2200 Essex Road, Williston	0.50	Gas Station		5
08:102:008:000	2033 Essex Road, Williston	1.10	Restaurant		10
03:102:111:000	500 Essex Road, Williston	1.80	Gas Station and Deli		10
10:292:120:00	3 Maple Street, Essex Junction	0.40	Commercial		3
03:102:057:000	Route 2A & Industrial Avenue, Williston	0.60	Vacant		
			<b>Total</b>	<b>3</b>	<b>28</b>

Based on the average household size of residential units in the study area, the acquisition of the three residential units would result in the displacement of approximately eight persons from their present dwelling unit.<sup>9</sup> The housing inventory provided by the Chittenden County Regional Planning Commission (CCRPC) indicates that the building at 3 Maple Street may include a five-unit residential structure. However, field visits and interviews with local planning staff indicate that the building is presently occupied by one commercial establishment.<sup>10</sup>

The four commercial establishments that would be displaced include two gas stations, one restaurant, and one retail establishment. One of the gas stations to be acquired includes a convenience store/deli on-site. The acquisition of these business establishments is expected to result in the loss of approximately 28 jobs.<sup>11</sup>

##### ***Potential Partial Property Acquisitions***

In addition to the complete acquisition of the above listed properties, Alternative 2 is also expected to result in the partial acquisition of lots occupied by residential units, commercial establishments, community facilities and manufacturing units. Appendix A to this Technical

<sup>8</sup> FHWA Environmental Justice guidance: <http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm>

<sup>9</sup> U.S. Department of Commerce, Bureau of Census. 2000. U.S. Census of Population and Housing, SF1 and SF3 Data Tables.

<sup>10</sup> CCRPC Housing point database (housingpts04.shp)

<sup>11</sup> CCMPO Employment point database (dss\_employment\_12\_20\_2001\_matched.shp)

Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Nearly 111 residential parcels would have a portion of their lots acquired due to this alternative. This includes nine parcels with condominiums located on them. However, no portion of the dwelling unit would be impacted by the proposed acquisition of additional right-of-way (ROW). Additionally, 29 parcels with commercial establishments would lose a portion of their lot due to ROW acquisition. The acquisition of additional ROW is not expected to impact the present or future operations of establishments located on the affected parcels. Eleven parcels with manufacturing units on them would also lose a portion of their lots due to this alternative. The acquisition of additional ROW would not impact manufacturing operations on-site at the present time or in the future. Three lots with community facilities would lose portions of their parcels due to the proposed acquisition. The proposed acquisition of these facilities is not expected to alter the present or future operations of these facilities. Additionally, one vacant parcel located in a potential stormwater management area south of Marshall Avenue would lose a portion of its land area due to the proposed acquisition.

### ***Impacts Attributable to Full Property Acquisitions***

Alternative 2 is expected to result in the displacement of three households. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost, as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicate that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced households and the limited number of displacements, the proposed acquisitions are not expected to alter the demographic or socioeconomic characteristics of the population in the area.

Alternative 2 would displace four businesses employing approximately 29 persons. Should the displacements result in closing or relocation of these businesses outside the area, there is the potential for (1) laying off or relocation of employees who live within the community; (2) economic losses to a business owner who lives in the community; (3) loss of professional, commercial and retail establishments serving the local community; and (4) the loss of workers and businesses that utilize the goods and services purchased from local businesses in the primary study area that would be displaced.

Displacement of businesses is unlikely to have broader impacts on the local employment base or industry composition because the businesses account for less than one percent of employment within the study area, the overall number of displacement is limited, and the businesses are in industries (auto service, food service, retail) that are currently well represented in the study area. Given future land use plans for the immediate area (i.e., infill, grid streets, mixed use with auto-oriented uses at the gateway areas), it is likely that suitable locations would be available for relocation.

### **Regional Economic Impacts**

Table 4-2 summarizes the regional economic impact of Alternative 2. Alternative 2 is estimated to directly support 348 person-years of construction-related employment over a 36-month construction period, or an annual average of 116 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 2 is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$17.8 million. Payroll expenses are estimated to amount to \$13.3 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, the Alternative 2 is estimated to create \$16.1 million in direct sales, \$8.3 million in employee earnings and 327 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$45.8 million in sales, \$16.7 million in employee earnings, and 577 person-years of employment.

**Table 4-2  
Alternative 2  
Regional Economic Impacts**

		<b>Total</b>		
<b>Total Construction Budget</b>		\$33,500,000		
- Construction Materials and Services Purchases		\$17,806,000		
- Payroll		\$13,311,000		
- Contingency, Indirect Business Taxes, Profits		\$2,383,000		
Total Construction Jobs		348		
Construction Period (months)		36		
Annual Construction Jobs		116		
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>	<b>Jobs (Person Years)</b>
Initial Change (Direct)		\$16,138,000	\$8,313,000	327
Multiplier Effect		\$29,655,000	\$8,401,000	250
<b>Total Regional Impact</b>		<b>\$45,793,000</b>	<b>\$16,714,000</b>	<b>577</b>
<b>Annual Impacts - Each Year of Construction</b>				
Initial Change (Direct)		\$5,379,000	\$2,771,000	109
Multiplier Effect		\$9,885,000	\$2,800,000	83
<b>Total Regional Annualized Impact</b>		<b>\$15,264,000</b>	<b>\$5,571,000</b>	<b>192</b>

### **Fiscal Impacts**

Alternative 2 would require full and partial property acquisitions for roadway widening along VT 2A in Williston and Essex Junction. VTrans estimates that the full market value of these acquisitions would amount to approximately \$6.3 million in the Town of Williston and \$1.2 million in the Village of Essex Junction. As outlined in Table 4-3, removal of this value from the taxable rolls would result in a loss of approximately \$9,500 in Williston municipal taxes and \$90,600 in education taxes—four-tenths of one percent of annual revenues. Impacts to Essex Junction would amount to approximately \$3,100 in Village taxes, \$4,000 in Town taxes and \$17,200 in education taxes—approximately one-tenth of one percent of annual revenues in each jurisdiction.

**Table 4-3**  
**Alternative 2**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, Essex Junction, and Essex (Year 2007 \$)**

	Town of Williston		Village of Essex Junction		Town of Essex	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Estimated Market Value of Takings	\$1,614,000	\$4,704,000	\$386,000	\$783,000	\$386,000	\$783,000
Common Level of Appraisal Ratio	0.8538	0.8538	0.6287	0.6287	0.6287	0.6287
Estimated Assessed Value of Takings	\$1,378,033	\$4,016,275	\$242,678	\$492,272	\$242,678	\$492,272
Municipal Tax Rate	0.1759	0.1759	0.4159	0.4159	0.5345	0.5345
Estimated Municipal Tax Impact	\$2,424	\$7,065	\$1,009	\$2,047	\$1,297	\$2,631
<b>Total Municipal Tax Impact</b>		<b>\$9,489</b>		<b>\$3,057</b>		<b>\$3,928</b>
Grand List Revenues		\$2,111,520		\$2,566,090		\$3,297,848
% of Grand List Revenues		0.4%		0.1%		0.1%
	Residential	Commercial	Residential	Commercial	N/A	
Education Tax Rate	1.6850	1.6789	2.4535	2.285		
Estimated Education Tax Impact	\$23,220	\$67,429	\$5,954	\$11,248		
<b>Total Education Tax Impact</b>		<b>\$90,649</b>		<b>\$17,203</b>		
Grand List Revenues		\$20,186,063		\$14,647,571		
% of Grand List Revenues		0.4%		0.1%		

Source: The Louis Berger Group, 2007; Tax rates and revenues, Vermont Department of Taxes 2007 Property Valuation and Review, Estimated market value of takings, Vtrans Right-of-Way Section, 2007.  
Note: Tax Rates in dollars per \$100 of assessed value for Fiscal Year 2007. Essex Junction residents pay full Town of Essex Municipal Taxes less the highway tax.

## **Community Character and Neighborhood Cohesion**

### ***Impacts Related to Property Acquisitions***

The full property acquisitions under Alternative 2 are not concentrated in one location and would not result in a substantial reduction in population or diminishment of commercial uses that integral to the functioning of the community. Given the number and uses to be affected, there are opportunities for relocation within the project area.

The extent of partial property acquisitions under Alternative 2, although individually small, could result in alteration of the character of the landscape in the areas to the north of Blair Park in Williston and along the Park Street corridor in Essex Junction. Acquisitions that result in the shortening of front yards and setbacks may result in alteration of the appearance of properties, the utility of the space, and the loss of shade trees.

### ***Impacts Related to Roadway Width***

The potential for increased traffic and speed, and the four-lane width of the roadway under the Alternative 2, could make crossing VT 2A by foot or bicycle more difficult, discouraging connectivity between neighborhoods and community facilities on opposite sides of the roadway. Public comments have also expressed concern that increased traffic and a four-lane profile would be incompatible with the character of these residential and village areas.

### ***Temporary Impacts***

Alternative 2 has the potential to cause temporary disruptions in local access and mobility during the construction period. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

### **Environmental Justice**

To determine if a high proportion of a population of concern would potentially be affected by the proposed alternative, the proportion of minority and low-income populations among the population to be potentially displaced was compared with the proportion of similar populations in the study area as a whole.

A total of three single-family residential units and approximately six persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing units within the study area, none of the three affected units are located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

### 4.3.2 Alternative 3 – Four-Lane VT 2A with Roundabouts

#### **Demographics, Housing, and Economics**

##### ***Potential Full Property Acquisitions***

Based on a review of the preliminary design plans for Alternative 3, the acquisition of additional ROW under this alternative would require the full acquisition of twelve parcels within the study area. The properties to be acquired would include six residential units, four commercial establishments and two vacant properties. Table 4-4 provides further information on the location and use of properties that would be acquired under Alternative 3.

**Table 4-4  
Alternative 3  
Properties with Potential for Full Acquisition**

Parcel ID	Address	Acres	Property Description	No. of Residential Units	No. of Employees
03:102:059:000	1136 Essex Road, Williston	0.54	Residence	1	
10:210:800:00	106 Park Street, Essex Junction	0.77	Residence	1	
10:210:730:00	76 Park Street, Essex Junction	0.23	Residence	1	
10:210:690:00	70 Park Street, Essex Junction	0.16	Residence	1	
10:210:680:00	68 Park Street, Essex Junction	0.22	Residence	1	
10:210:670:00	54 Park Street, Essex Junction	0.17	Residence	1	
03:102:111:000	500 Essex Road, Essex Junction	1.80	Gas Station and Deli		10
10:292:130:00	1 Maple Street, Essex Junction	0.20	Gas Station		3
10:290:470:00	1 Main Street, Essex Junction	0.19	Gas Station		3
10:292:120:00	3 Maple Street, Essex Junction	0.41	Commercial		3
03:102:057:000	Route 2A & Industrial Avenue, Williston	0.64	Vacant		
03:102:055:000	Route 2A & Industrial Avenue, Williston	0.62	Vacant		
			<b>Total</b>	<b>6</b>	<b>19</b>

Based on the average household size of residential units in the study area, the acquisition of the three residential units would result in the displacement of approximately 15 persons from their present dwelling unit.<sup>12</sup> The housing inventory provided by the CCRPC indicates the building at 3 Maple Street may include a five-unit residential structure. However, field visits and interviews with local planning staff indicate that the building is presently occupied by one commercial establishment.<sup>13</sup>

The four commercial establishments that would be displaced include three gas stations and one retail establishment. One of the gas stations to be acquired includes a convenience store/deli on-site. The acquisition of these business establishments is expected to result in the loss of approximately 19 jobs.<sup>14</sup>

<sup>12</sup> U.S. Department of Commerce, Bureau of Census. 2000. U.S. Census of Population and Housing, SF1 and SF3 Data Tables.

<sup>13</sup> CCRPC Housing point database (housingpts04.shp)

<sup>14</sup> CCMPO Employment point database (dss\_employment\_12\_20\_2001\_matched.shp)

**Potential Partial Property Acquisitions**

In addition to the complete acquisition of the above listed properties, Alternative 3 is also expected to result in the partial acquisition of lots occupied by residential units, commercial establishments, community facilities and manufacturing units. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Nearly 108 residential parcels would have a portion of their lots acquired due to the proposed action. This includes nine parcels with condominiums located on them. However, no portion of the dwelling unit would be impacted by the proposed partial acquisition of additional right of way. Additionally, 35 parcels with commercial establishments would lose a portion of their lot due to ROW acquisition. The acquisition of additional ROW is not expected to impact the present or future operations of establishments located on the affected parcels. Ten parcels with manufacturing units on them would also lose a portion of their lots due to the alternative. The acquisition of additional ROW would not impact manufacturing operations on-site at the present time or in the future. Three lots with community facilities would lose portions of their parcels due to the proposed acquisition. The proposed partial acquisition of these parcels is not expected to alter the present or future operations of these facilities. Additionally, one vacant parcel located in a potential stormwater management area south of Marshall Avenue would lose a portion of its land area due to the proposed acquisition.

**Impacts Attributable to Full Property Acquisitions**

Alternative 3 is expected to result in the displacement of six households. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale, accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicate that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced households and the limited number of displacements, the proposed acquisitions are not expected to alter the demographic or socioeconomic characteristics of the population in the area.

Alternative 3 would displace four businesses employing approximately 19 persons. Should the displacements result in closing or relocation of these businesses outside the area, there is the potential for (1) laying off or relocation of employees who live within the community; (2) economic losses to a business owner who lives in the community; (3) loss of professional, commercial and retail establishments serving the local community; and (4) the loss of workers and businesses that utilize the goods and services purchased from local businesses in the study area that would be displaced.

Displacement of businesses is unlikely to have broader impacts on the local employment base or industry composition because the businesses account for less than one percent of employment within the study area, the overall number of displacement is limited, and the businesses are in industries (auto service, retail) that are currently well represented in the study area. Given future land use plans for the immediate area (i.e., infill, grid streets, mixed use with auto-oriented uses at the gateway areas) it is likely that suitable locations would be available for relocation.

### **Regional Economic Impacts**

Table 4-5 summarizes the regional economic impact of Alternative 3. Alternative 3 is estimated to directly support 297 person-years of construction-related employment over a 36-month construction period, or an annual average of 99 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 3 is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$15.2 million. Payroll expenses are estimated to amount to \$11.4 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, the Alternative 3 is estimated to create \$13.8 million in direct sales, \$7.1 million in employee earnings and 279 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$39.1 million in sales, \$14.3 million in employee earnings, and 493 person-years of employment.

**Table 4-5  
Alternative 3  
Regional Economic Impacts**

		<b>Total</b>	
<b>Total Construction Budget</b>		\$28,600,000	
- Construction Materials and Services Purchases		\$15,201,000	
- Payroll		\$11,364,000	
- Contingency, Indirect Business Taxes, Profits		\$2,035,000	
Total Construction Jobs		297	
Construction Period (months)		36	
Annual Construction Jobs		99	
			<b>Jobs (Person Years)</b>
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>
Initial Change (Direct)		\$13,777,000	\$7,097,000
Multiplier Effect		\$25,317,000	\$7,172,000
<b>Total Regional Impact</b>		<b>\$39,094,000</b>	<b>\$14,269,000</b>
			<b>493</b>
<b>Annual Impacts - Each Year of Construction</b>			
Initial Change (Direct)		\$4,592,000	\$2,366,000
Multiplier Effect		\$8,439,000	\$2,391,000
<b>Total Regional Annualized Impact</b>		<b>\$13,031,000</b>	<b>\$4,757,000</b>
			<b>164</b>

### **Fiscal Impacts**

Alternative 3 would require full and partial property acquisitions for roadway widening and roundabouts along VT 2A in Williston and Essex Junction. VTrans estimates that the full market

value of these acquisitions would amount to approximately \$5.4 million in the Town of Williston and \$3.6 million in the Village of Essex Junction. As outlined in Table 4-6, removal of this value from the taxable rolls would result in a loss of approximately \$8,100 in Williston municipal taxes and \$77,000 in education taxes—four-tenths of one percent of annual revenues. Impacts to Essex Junction would amount to approximately \$9,300 in Village taxes, \$11,900 in Town taxes and \$53,100 in education taxes—approximately four-tenths of one percent of annual revenues in each jurisdiction.

**Table 4-6  
Alternative 3  
Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions  
Williston, Essex Junction, and Essex (Year 2007 \$)**

	Town of Williston		Village of Essex Junction		Town of Essex	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Estimated Market Value of Takings	\$1,233,000	\$4,130,000	\$1,826,000	\$1,737,000	\$1,826,000	\$1,737,000
Common Level of Appraisal Ratio	0.8538	0.8538	0.6287	0.6287	0.6287	0.6287
Estimated Assessed Value of Takings	\$1,052,735	\$3,526,194	\$1,148,006	\$1,092,052	\$1,148,006	\$1,092,052
Municipal Tax Rate	0.1759	0.1759	0.4159	0.4159	0.5345	0.5345
Estimated Municipal Tax Impact	\$1,852	\$6,203	\$4,775	\$4,542	\$6,136	\$5,837
Total Municipal Tax Impact		\$8,054		\$9,316		\$11,973
Grand List Revenues		\$2,111,520		\$2,566,090		\$3,297,848
% of Grand List Revenues		0.4%		0.4%		0.4%
	Residential	Commercial	Residential	Commercial	N/A	
Education Tax Rate	1.6850	1.6789	2.4535	2.285		
Estimated Education Tax Impact	\$17,739	\$59,201	\$28,166	\$24,953		
Total Education Tax Impact		\$76,940		\$53,120		
Grand List Revenues		\$20,186,063		\$14,647,571		
% of Grand List Revenues		0.4%		0.4%		

Source: The Louis Berger Group, 2007; Tax rates and revenues, Vermont Department of Taxes 2007 Property Valuation and Review. Estimated market value of takings, Vtrans Right-of-Way Section, 2007.  
Note: Tax Rates in dollars per \$100 of assessed value for Fiscal Year 2007. Essex Junction residents pay full Town of Essex Municipal Taxes less the highway tax.

**Community Character and Neighborhood Cohesion**

***Impacts Related to Property Acquisitions***

The full property acquisitions under Alternative 3 are not concentrated in one location and would not result in a substantial reduction in population or diminishment of commercial uses that integral to the functioning of the community. Given the number and uses to be affected, there are opportunities for relocation within the project area.

The extent of partial property acquisitions under Alternative 3, although individually small, could result in alteration of the character of the landscape in the areas to the north of Blair Park in Williston and along the Park Street corridor in Essex Junction. Acquisitions that result in the shortening of front yards and setbacks may result in alteration of the appearance of properties, the utility of the space, and the loss of shade trees.

***Impacts Related to Roadway Width***

The potential for increased traffic and speed, and the four-lane width of the roadway under the Alternative 3 could make crossing VT 2A by foot or bicycle more difficult, discouraging connectivity between neighborhoods and community facilities on opposite sides of the roadway. Public comments have also expressed concern that increased traffic and a four-lane profile would be incompatible with the character of these residential and village areas.

***Impacts Related to Roundabouts***

During Design Workshops, members of the public were concerned that it could become more difficult for pedestrians and bicycles to cross the roundabout intersections proposed under Alternative 3, because of the continuous nature of traffic flow at roundabout intersections (compared to the defined crossing sequence at signalized intersections) and the potential for

vehicles to not yield to pedestrians waiting to cross the roundabout. The FHWA Report, *Roundabouts: An Informational Guide* provides design guidelines to maintain pedestrian mobility across roundabout intersections that have been incorporated into the design of Alternative 3 to minimize potential effects on pedestrian mobility. Pedestrian crossings at roundabout intersections for the proposed project are located before the point where the roadway approach flares to meet the roundabout. This minimizes the distance pedestrians have to cross. In addition, splitter islands provide refuge for pedestrians to cross one direction of traffic at a time.

A recent comprehensive study of roundabouts in the United States concludes that roundabouts do not pose a substantial safety problem for pedestrians and bicyclists (NCHRP, 2007). However, the study notes that if vehicle and/or pedestrian traffic increases over time, that the ability of pedestrians and bicyclists to use the roundabout may be compromised. The study also concludes that multilane roundabouts in particular may need additional measures to improve vehicle, pedestrian and bicycle behaviors, such as changes in design, operations, enforcement and education.<sup>15</sup> Another potential design issue with roundabouts relates to crossings by blind or visually impaired pedestrians. At a signalized intersection, blind pedestrians typically rely upon sound cues to determine when traffic has stopped and it is safe to cross the roadway. At a roundabout, crossing may be more difficult for blind pedestrians due to the continuous nature of traffic flow through the roundabout.

In addition to potential drawbacks related to pedestrian and bicycle movement, roundabouts also have several potential advantages that can enhance community character in residential areas. Roundabout geometry is designed to calm traffic and slow vehicle movements through intersections. Roundabouts can also provide an attractive visual focus in residential and commercial areas through various landscaping options for the roundabout center island (FHWA, 2000).

### ***Temporary Impacts***

Alternative 3 has the potential to cause temporary disruptions in local access and mobility during the construction period. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

### **Environmental Justice**

A total of six single-family residential units and approximately 12 persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing units within the study area, none of the six affected units are located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

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<sup>15</sup> NCHRP Report 572: Roundabouts in the United States, 2007.

### 4.3.3 Alternative 22 – Tapered Widening on VT 2A with Signalized and Roundabout Intersections

#### **Demographics, Housing, and Economics**

##### ***Potential Full Property Acquisitions***

Based on a review of the preliminary design plans for Alternative 22, the acquisition of additional ROW under this alternative would require the full acquisition of eight parcels within the study area. The properties to be acquired would include one residential unit, five commercial establishments and two vacant properties. Table 4-7 provides further information on the location and use of properties that would be acquired under Alternative 22.

**Table 4-7  
Alternative 22  
Properties with Potential for Full Acquisition**

Parcel ID	Address	Acres	Property Description	No. of Residential Units	No. of Employees
03:102:059:000	1136 Essex Road, Williston	0.54	Residence	1	
08:102:008:000	2033 Essex Road, Williston	1.10	Restaurant		10
03:102:111:000	500 Essex Road, Williston	1.80	Gas Station and Deli		10
10:292:130:00	1 Maple Street, Essex Junction	0.20	Gas Station		3
10:290:470:00	1 Main Street, Essex Junction	0.19	Gas Station		3
10:292:120:00	3 Maple Street, Essex Junction	0.41	Commercial		3
03:102:057:000	Route 2A & Industrial Avenue, Williston	0.64	Vacant		
03:102:055:000	Route 2A & Industrial Avenue, Williston	0.62	Vacant		
			<b>Total</b>	<b>1</b>	<b>29</b>

Based on the average household size of residential units in the study area, the acquisition of the three residential units would result in the displacement of approximately three persons from their present dwelling unit.<sup>16</sup> The housing inventory provided by the CCRPC indicates the building at 3 Maple Street may include a five-unit residential structure. However, field visits and interviews with local planning staff indicate that the building is presently occupied by one commercial establishment.<sup>17</sup>

The four commercial establishments that would be displaced include three gas stations, one restaurant, and one retail establishment. One of the gas stations to be acquired includes a convenience store/deli on-site. The acquisition of these business establishments is expected to result in the loss of approximately 29 jobs.<sup>18</sup>

##### ***Potential Partial Property Acquisitions***

In addition to the complete acquisition of the above listed properties, Alternative 22 is also expected to result in the partial acquisition of lots occupied by residential units, commercial establishments, community facilities and manufacturing units. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Nearly 43 residential parcels would have a portion of their lots acquired due to the proposed action. This includes nine parcels with condominiums located on them. However, no portion of the dwelling unit would be impacted by the proposed acquisition of additional right of way. Additionally, 23 parcels with commercial establishments would lose a portion of their lot due to ROW acquisition. The acquisition of additional right-of-way is not expected to impact the present or future operations of establishments located on the affected

<sup>16</sup> U.S. Department of Commerce, Bureau of Census. 2000. U.S. Census of Population and Housing, SF1 and SF3 Data Tables.

<sup>17</sup> CCRPC Housing point database (housingpts04.shp)

<sup>18</sup> CCMPO Employment point database (dss\_employment\_12\_20\_2001\_matched.shp)

parcels. Eight parcels with manufacturing units on them would also lose a portion of their lots due to the alternative. The acquisition of additional right-of-way would not impact manufacturing operations on-site at the present time or in the future. Two lots occupied by churches would lose portions of their parcels due to the proposed acquisition. The proposed acquisition is not expected to alter the operations of these facilities. Additionally, one vacant parcel located in a potential stormwater management area south of Marshall Avenue would lose a portion of its land area due to the proposed acquisition.

### **Impacts Attributable to Full Property Acquisitions**

Alternative 22 is expected to result in the displacement of one household. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicates that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced household and the limited number of displacements, the proposed acquisitions are not expected to alter the demographic or socioeconomic characteristics of the population in the area.

Alternative 22 would displace five businesses employing approximately 29 persons. Should the displacements result in closing or relocation of these businesses outside the area, there is the potential for (1) laying off or relocation of employees who live within the community; (2) economic losses to a business owner who lives in the community; (3) loss of professional, commercial and retail establishments serving the local community; and (4) the loss of workers and businesses that utilize the goods and services purchased from local businesses in the primary study area that would be displaced.

Displacement of businesses is unlikely to have broader impacts on the local employment base or industry composition because the businesses account for less than one percent of employment within the study area, the overall number of displacement is limited, and the businesses are in industries (auto service, retail) that are currently well represented in the study area. Given future land use plans for the immediate area (i.e., infill, grid streets, mixed use with auto-oriented uses at the gateway areas) it is likely that suitable locations would be available for relocation.

### **Regional Economic Impacts**

Table 4-8 summarizes the regional economic impact of Alternative 22. Alternative 22 is estimated to directly support 247 person-years of construction-related employment over a 36-month construction period, or an annual average of 82 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 22 is also estimated to generate total industry sales for construction

materials, subcontractors and other goods and services of \$12.7 million. Payroll expenses are estimated to amount to \$9.5 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, the Alternative 22 is estimated to create \$11.5 million in direct sales, \$5.9 million in employee earnings and 232 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$32.5 million in sales, \$11.9 million in employee earnings, and 410 person-years of employment.

**Table 4-8  
Alternative 22  
Regional Economic Impacts**

		<b>Total</b>	
<b>Total Construction Budget</b>		\$23,800,000	
- Construction Materials and Services Purchases		\$12,650,000	
- Payroll		\$9,457,000	
- Contingency, Indirect Business Taxes, Profits		\$1,693,000	
Total Construction Jobs		247	
Construction Period (months)		36	
Annual Construction Jobs		82	
		<b>Jobs (Person Years)</b>	
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>
Initial Change (Direct)		\$11,465,000	\$5,906,000
Multiplier Effect		\$21,068,000	\$5,968,000
<b>Total Regional Impact</b>		<b>\$32,533,000</b>	<b>\$11,874,000</b>
<b>Annual Impacts - Each Year of Construction</b>			
Initial Change (Direct)		\$3,822,000	\$1,969,000
Multiplier Effect		\$7,023,000	\$1,989,000
<b>Total Regional Annualized Impact</b>		<b>\$10,845,000</b>	<b>\$3,958,000</b>

### ***Fiscal Impacts***

Alternative 22 would require full and partial property acquisitions for roadway widening and roundabouts along VT 2A in Williston and Essex Junction. VTrans estimates that the full market value of these acquisitions would amount to approximately \$5.3 million in the Town of Williston and \$1.5 million in the Village of Essex Junction. As outlined in Table 4-9, removal of this value from the taxable rolls would result in a loss of approximately \$7,900 in Williston municipal taxes and \$75,500 in education taxes—four-tenths of one percent of annual revenues. Impacts to Essex Junction would amount to approximately \$3,900 in Village taxes, \$5,100 in Town taxes and \$21,800 in education taxes—approximately two-tenths of one percent of annual revenues in each jurisdiction.

**Table 4-9  
Alternative 22  
Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions  
Williston, Essex Junction, and Essex (Year 2007 \$)**

	Town of Williston		Village of Essex Junction		Town of Essex	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Estimated Market Value of Takings	\$976,000	\$4,287,000	\$0	\$1,515,000	\$0	\$1,515,000
Common Level of Appraisal Ratio	0.8538	0.8538	0.6287	0.6287	0.6287	0.6287
Estimated Assessed Value of Takings	\$833,309	\$3,660,241	\$0	\$952,481	\$0	\$952,481
Municipal Tax Rate	0.1759	0.1759	0.4159	0.4159	0.5345	0.5345
Estimated Municipal Tax Impact	\$1,466	\$6,438	\$0	\$3,961	\$0	\$5,091
Total Municipal Tax Impact		\$7,904		\$3,961		\$5,091
Grand List Revenues		\$2,111,520		\$2,566,090		\$3,297,848
% of Grand List Revenues		0.4%		0.2%		0.2%
	Residential	Commercial	Residential	Commercial	N/A	
Education Tax Rate	1.6850	1.6789	2.4535	2.285		
Estimated Education Tax Impact	\$14,041	\$61,452	\$0	\$21,764		
Total Education Tax Impact		\$75,493		\$21,764		
Grand List Revenues		\$20,186,063		\$14,647,571		
% of Grand List Revenues		0.4%		0.1%		

Source: The Louis Berger Group, 2007; Tax rates and revenues, Vermont Department of Taxes 2007 Property Valuation and Review, Estimated market value of takings, Vtrans Right-of-Way Section, 2007.  
Note: Tax Rates in dollars per \$100 of assessed value for Fiscal Year 2007. Essex Junction residents pay full Town of Essex Municipal Taxes less the highway tax.

**Community Character and Neighborhood Cohesion**

***Impacts Related to Property Acquisitions***

The full property acquisitions under Alternative 22 are not concentrated in one location and would not result in a substantial reduction in population or diminishment of commercial uses that integral to the functioning of the community. Given the number and uses to be affected, there are opportunities for relocation within the project area.

The extent of partial property acquisitions under Alternative 3, although individually small, could result in alteration of the character of the landscape in the areas to the north of Blair Park in Williston and at the Five Corners intersection in Essex Junction. Acquisitions that result in the shortening of front yards and setbacks may result in alteration of the appearance of properties, the utility of the space, and the loss of shade trees.

***Impacts Related to Roadway Width***

The potential for increased traffic and speed, and the four or three-lane width of the roadway under the Alternative 22, could make crossing VT 2A by foot or bicycle more difficult, discouraging connectivity between neighborhoods and community facilities on opposite sides of the roadway. Public comments have also expressed concern that increased traffic and a four or three-lane profile would be incompatible with the character of these residential and village areas.

***Impacts Related to Roundabouts***

During Design Workshops, members of the public were concerned that it could become more difficult for pedestrians and bicycles to cross the roundabout intersections proposed under Alternative 22, because of the continuous nature of traffic flow at roundabout intersections (compared to the defined crossing sequence at signalized intersections) and the potential for vehicles to not yield to pedestrians waiting to cross the roundabout. The FHWA Report: *Roundabouts: An Informational Guide* provides design guidelines to maintain pedestrian mobility across roundabout intersections that have been incorporated into the design of Alternative 22 to minimize potential effects on pedestrian mobility. Pedestrian crossings at roundabout intersections for the proposed project are located before the point where the roadway approach flares to meet the roundabout. This minimizes the distance pedestrians

have to cross. In addition, splitter islands provide refuge for pedestrians to cross one direction of traffic at a time.

A recent comprehensive study of roundabouts in the United States concludes that roundabouts do not pose a substantial safety problem for pedestrians and bicyclists (NCHRP, 2007). However, the study notes that if vehicle and/or pedestrian traffic increases over time, that the ability of pedestrians and bicyclists to use the roundabout may be compromised. The study also concludes that multilane roundabouts in particular may need additional measures to improve vehicle, pedestrian and bicycle behaviors, such as changes in design, operations, enforcement and education.<sup>19</sup> Another potential design issue with roundabouts relates to crossings by blind or visually impaired pedestrians. At a signalized intersection, blind pedestrians typically rely upon sound cues to determine when traffic has stopped and it is safe to cross the roadway. At a roundabout, crossing may be more difficult for blind pedestrians due to the continuous nature of traffic flow through the roundabout.

In addition to potential drawbacks related to pedestrian and bicycle movement, roundabouts also have several potential advantages that can enhance community character in residential areas. Roundabout geometry is designed to calm traffic and slow vehicle movements through intersections. Roundabouts can also provide an attractive visual focus in residential and commercial areas through various landscaping options for the roundabout center island (FHWA, 2000).

### ***Temporary Impacts***

Alternative 22 has the potential to cause temporary disruptions in local access and mobility during the construction period. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

### ***Environmental Justice***

A total of one single-family residential unit and approximately three persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing unit within the study area, the affected unit is not located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

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<sup>19</sup> NCHRP Report 572: Roundabouts in the United States, 2007.

## 4.4 Circ A/B Alternatives

### 4.4.1 Alternative 16a – Circ A/B Limited Access Highway (No Connection to US 2 and Trumpet Interchange at Redmond Road) with VT 2A Spot Improvements

#### **Demographics, Housing, and Economics**

##### ***Potential Full Property Acquisitions***

Based on a review of the preliminary design plans for Alternative 16a, no additional right-of-way would be acquired in the Circ A/B corridor. In the VT 2A corridor, the full acquisition of one vacant parcel would be required to accommodate the VT 2A spot improvements (See Chapter 4 of the DEIS for a description of the VT 2A spot improvements).

##### ***Potential Partial Property Acquisitions***

The VT 2A spot improvement component of Alternative 16a would require seven partial property acquisitions. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Five of the partial property acquisitions would be from residential properties and two would be from vacant parcels.

##### ***Impacts Attributable to Full Property Acquisitions***

Alternative 16a would not result in the displacement of any residents or businesses.

##### ***Regional Economic Impacts***

Table 4-10 summarizes the regional economic impacts of Alternative 16a. Alternative 16a is estimated to directly support 700 person-years of construction-related employment over a 36-month construction period, or an annual average of 233 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 16a is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$35.9 million. Payroll expenses are estimated to amount to \$26.8 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, the Alternative 16a is estimated to create \$32.5 million in direct sales, \$16.8 million in employee earnings and 658 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$92.3 million in sales, \$33.7 million in employee earnings, and 1,163 person-years of employment.

**Table 4-10**  
**Alternative 16a**  
**Regional Economic Impacts**

	<b>Total</b>		
<b>Total Construction Budget</b>	\$67,500,000		
- Construction Materials and Services Purchases	\$35,877,000		
- Payroll	\$26,821,000		
- Contingency, Indirect Business Taxes, Profits	\$4,802,000		
Total Construction Jobs	700		
Construction Period (months)	36		
Annual Construction Jobs	233		
			<b>Jobs</b>
<b>Total Impacts - Term of Construction</b>	<b>Sales</b>	<b>Earnings</b>	<b>(Person Years)</b>
Initial Change (Direct)	\$32,517,000	\$16,750,000	658
Multiplier Effect	\$59,752,000	\$16,927,000	505
<b>Total Regional Impact</b>	<b>\$92,269,000</b>	<b>\$33,677,000</b>	<b>1,163</b>
<b>Annual Impacts - Each Year of Construction</b>			
Initial Change (Direct)	\$10,839,000	\$5,583,000	219
Multiplier Effect	\$19,917,000	\$5,642,000	168
<b>Total Regional Annualized Impact</b>	<b>\$30,756,000</b>	<b>\$11,225,000</b>	<b>388</b>

### ***Fiscal Impacts***

Alternative 16a would require property acquisitions in the VT 2A corridor to accommodate the VT 2A spot improvements. VTrans estimates that the full market value of these acquisitions would amount to approximately \$173,000 in the Town of Williston. As outlined in Table 4-11, removal of this value from the taxable rolls would result in a loss of approximately \$260 in Williston municipal taxes and \$2,489 in education taxes— less than one-tenth of one percent of annual revenues. There would be no impacts to taxable properties or tax collections in the Village of Essex Junction or Town of Essex.

**Table 4-11**  
**Alternative 16a**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, (Year 2007 \$)**

	Town of Williston	
	Residential	Commercial
Estimated Market Value of Takings	\$173,000	\$0
Common Level of Appraisal Ratio	0.8538	0.8538
Estimated Assessed Value of Takings	\$147,707	\$0
Municipal Tax Rate	0.1759	0.1759
Estimated Municipal Tax Impact	\$260	\$0
<b>Total Municipal Tax Impact</b>		
		\$260
Grand List Revenues		\$2,111,520
% of Grand List Revenues		0.0%
	Residential	Commercial
Education Tax Rate	1.6850	1.6789
Estimated Education Tax Impact	\$2,489	\$0
<b>Total Education Tax Impact</b>		
		\$2,489
Grand List Revenues		\$20,186,063
% of Grand List Revenues		0.0%

### **Community Character and Neighborhood Cohesion**

#### ***Impacts Related to Property Acquisitions***

Alternative 16a would not involve any full acquisitions that would require the relocation of residences or businesses. The limited number of partial property acquisitions under Alternative 16a would not have an effect on community character.

#### ***Impacts Related to Physical Barriers***

The Alternative 16a would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including an overpass to carry the existing Williston Alternative Transportation Path (WATP) over the roadway.

#### ***Temporary Impacts***

Alternative 16a has the potential to cause temporary disruptions in local access and mobility during the construction period at select locations on existing roadways. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

#### ***Environmental Justice***

No displacements of residences of businesses would occur, therefore minority or low income communities would not be affected.

#### **4.4.2 Alternative 16b – Circ A/B Limited Access Highway (Partial Cloverleaf at US 2 and Trumpet Interchange at Redmond Road) with VT 2A Spot Improvements**

##### **Demographics, Housing, and Economics**

###### ***Potential Full Property Acquisitions***

In the Circ A/B corridor, Alternative 16b would require the full acquisition of one residential parcel and one vacant parcel for an interchange at US 2. In the VT 2A corridor, the VT 2A spot improvements would require the full acquisition of one vacant parcel.

###### ***Potential Partial Property Acquisitions***

In the Circ A/B corridor, Alternative 16b would require five partial property acquisitions. The VT 2A spot improvement component of Alternative 16b would require seven partial property acquisitions. Five of the partial property acquisitions would be from residential properties and two would be from vacant parcels. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative.

###### ***Impacts Attributable to Full Property Acquisitions***

Alternative 16b is expected to result in the displacement of one household. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicates that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced household, the proposed acquisition would not alter the demographic or socioeconomic characteristics of the population in the area.

###### ***Regional Economic Impacts***

Table 4-12 summarizes the regional economic impacts of Alternative 16b. Alternative 16b is estimated to directly support 726 person-years of construction-related employment over a 36-month construction period, or an annual average of 242 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 16b is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$37.2 million. Payroll expenses are estimated to amount to \$27.8 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, Alternative 16b is estimated to create \$33.7 million in direct sales, \$17.4 million in employee earnings and 683 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$95.7 million in sales, \$34.9 million in employee earnings, and 1,206 person-years of employment.

**Table 4-12**  
**Alternative 16b**  
**Regional Economic Impacts**

		<b>Total</b>		
<b>Total Construction Budget</b>		\$70,000,000		
- Construction Materials and Services Purchases		\$37,206,000		
- Payroll		\$27,814,000		
- Contingency, Indirect Business Taxes, Profits		\$4,980,000		
Total Construction Jobs		726		
Construction Period (months)		36		
Annual Construction Jobs		242		
				<b>Jobs (Person Years)</b>
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>	
Initial Change (Direct)		\$33,721,000	\$17,370,000	683
Multiplier Effect		\$61,965,000	\$17,554,000	523
<b>Total Regional Impact</b>		<b>\$95,686,000</b>	<b>\$34,924,000</b>	<b>1,206</b>
<b>Annual Impacts - Each Year of Construction</b>				
Initial Change (Direct)		\$11,240,000	\$5,790,000	228
Multiplier Effect		\$20,655,000	\$5,851,000	174
<b>Total Regional Annualized Impact</b>		<b>\$31,895,000</b>	<b>\$11,641,000</b>	<b>402</b>

### ***Fiscal Impacts***

This alternative would require full and partial property acquisitions beyond the Circ A/B right-of-way to accommodate an interchange at US 2, in addition to property acquisitions in the VT 2A corridor to accommodate the VT 2A spot improvements. VTrans estimates that the full market value of these acquisitions would amount to approximately \$1.8 million in the Town of Williston. As outlined in Table 4-13, removal of this value from the taxable rolls would result in a loss of approximately \$2,800 in Williston municipal taxes and \$26,800 in education taxes—one-tenth of one percent of annual revenues. There would be no impacts to taxable properties or tax collections in the Village of Essex Junction or Town of Essex.

**Table 4-13**  
**Alternative 16b**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, (Year 2007 \$)**

	Town of Williston	
	Residential	Commercial
Estimated Market Value of Takings	\$1,862,656	\$0
Common Level of Appraisal Ratio	0.8538	0.8538
Estimated Assessed Value of Takings	\$1,590,335.69	\$0
Municipal Tax Rate	0.1759	0.1759
Estimated Municipal Tax Impact	\$2,797	\$0
<b>Total Municipal Tax Impact</b>		
		\$2,797
Grand List Revenues		\$2,111,520
% of Grand List Revenues		0.1%
	Residential	Commercial
Education Tax Rate	1.6850	1.6789
Estimated Education Tax Impact	\$26,797	\$0
<b>Total Education Tax Impact</b>		
		\$26,797
Grand List Revenues		\$20,186,063
% of Grand List Revenues		0.1%

### **Community Character and Neighborhood Cohesion**

#### ***Impacts Related to Property Acquisitions***

Alternative 16b would require the acquisition of one residential unit to accommodate an interchange between the Circ A/B Limited Access Highway with US 2. The acquisition of a single residential unit would not have an effect on overall community character and cohesion. The limited number of partial property acquisitions under Alternative 16b would not have an effect on community character.

#### ***Impacts Related to Physical Barriers***

The Alternative 16b would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including an overpass to carry the existing Williston Alternative Transportation Path (WATP) over the roadway.

#### ***Temporary Impacts***

Alternative 16b has the potential to cause temporary disruptions in local access and mobility during the construction period at select locations on existing roadways. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

#### **Environmental Justice**

A total of one single-family residential unit and approximately three persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing unit within the study area, the affected unit is not located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census

blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

#### **4.4.3 Alternative 16c – Circ A/B Limited Access Highway (No Connection to US 2 and Diamond Interchange at Mountain View Road) with VT 2A Spot Improvements**

##### **Demographics, Housing, and Economics**

###### ***Potential Full Property Acquisitions***

In the Circ A/B corridor, Alternative 16c would require the full acquisition of one vacant parcel. In the VT 2A corridor, the VT 2A spot improvements would also require the full acquisition of one vacant parcel.

###### ***Potential Partial Property Acquisitions***

In the Circ A/B corridor, Alternative 16c would require four partial property acquisitions to accommodate a diamond interchange at Mountain View Road. The VT 2A spot improvement component of Alternative 16c would require seven partial property acquisitions. Five of the partial property acquisitions would be from residential properties and two would be from vacant parcels. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative.

###### ***Impacts Attributable to Full Property Acquisitions***

Alternative 16c would not result in the displacement of any residents or businesses.

###### ***Regional Economic Impacts***

Table 4-14 summarizes the regional economic impacts of Alternative 16c. Alternative 16c is estimated to directly support 656 person-years of construction-related employment over a 36-month construction period, or an annual average of 219 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 16c is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$33.6 million. Payroll expenses are estimated to amount to \$25.1 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, Alternative 16c is estimated to create \$30.4 million in direct sales, \$15.7 million in employee earnings and 616 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$86.4 million in sales, \$31.5 million in employee earnings, and 1,089 person-years of employment.

**Table 4-14**  
**Alternative 16c**  
**Regional Economic Impacts**

		<b>Total</b>		
<b>Total Construction Budget</b>		\$63,200,000		
- Construction Materials and Services Purchases		\$33,591,000		
- Payroll		\$25,112,000		
- Contingency, Indirect Business Taxes, Profits		\$4,497,000		
Total Construction Jobs		656		
Construction Period (months)		36		
Annual Construction Jobs		219		
				<b>Jobs (Person Years)</b>
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>	
Initial Change (Direct)		\$30,445,000	\$15,683,000	616
Multiplier Effect		\$55,946,000	\$15,848,000	473
<b>Total Regional Impact</b>		<b>\$86,391,000</b>	<b>\$31,531,000</b>	<b>1,089</b>
<b>Annual Impacts - Each Year of Construction</b>				
Initial Change (Direct)		\$10,148,000	\$5,228,000	205
Multiplier Effect		\$18,649,000	\$5,283,000	158
<b>Total Regional Annualized Impact</b>		<b>\$28,797,000</b>	<b>\$10,511,000</b>	<b>363</b>

### ***Fiscal Impacts***

This alternative would require full and partial property acquisitions beyond the Circ A/B right-of-way for the diamond interchange at Mountain View Road, in addition to property acquisitions in the VT 2A corridor to accommodate the VT 2A spot improvements. VTrans estimates that the full market value of these acquisitions would amount to approximately \$1.3 million in the Town of Williston. As outlined in Table 4-15, removal of this value from the taxable rolls would result in a loss of approximately \$1,900 in Williston municipal taxes and \$18,300 in education taxes—one-tenth of one percent of annual revenues. There would be no impacts to taxable properties or tax collections in the Village of Essex Junction or Town of Essex.

**Table 4-15**  
**Alternative 16c**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, (Year 2007 \$)**

	Town of Williston	
	Residential	Commercial
Estimated Market Value of Takings	\$1,270,728	\$0
Common Level of Appraisal Ratio	0.8538	0.8538
Estimated Assessed Value of Takings	\$1,084,948	\$0
Municipal Tax Rate	0.1759	0.1759
Estimated Municipal Tax Impact	\$1,908	\$0
<b>Total Municipal Tax Impact</b>		
		\$1,908
Grand List Revenues		\$2,111,520
% of Grand List Revenues		0.1%
	Residential	Commercial
Education Tax Rate	1.6850	1.6789
Estimated Education Tax Impact	\$18,281	\$0
<b>Total Education Tax Impact</b>		
		\$18,281
Grand List Revenues		\$20,186,063
% of Grand List Revenues		0.1%

### **Community Character and Neighborhood Cohesion**

#### ***Impacts Related to Property Acquisitions***

Alternative 16c would not involve any full acquisitions that would require the relocation of residences or businesses. The limited number of partial property acquisitions under Alternative 16c would not have an effect on community character.

#### ***Impacts Related to Physical Barriers***

The Alternative 16c would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including an overpass to carry the existing Williston Alternative Transportation Path (WATP) over the roadway.

#### ***Temporary Impacts***

Alternative 16c has the potential to cause temporary disruptions in local access and mobility during the construction period at select locations on existing roadways. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

#### **Environmental Justice**

No displacements of residences of businesses would occur, therefore minority or low income communities would not be affected.

#### **4.4.4 Alternative 17 – Circ A/B Boulevard with VT 2A Spot Improvements**

##### **Demographics, Housing, and Economics**

###### ***Potential Full Property Acquisitions***

In the Circ A/B corridor, Alternative 17 would not require any full property acquisitions beyond the existing Circ A/B right-of-way. In the VT 2A corridor, the VT 2A spot improvements would require the full acquisition of one vacant parcel.

###### ***Potential Partial Property Acquisitions***

In the Circ A/B corridor, Alternative 17 would require three partial property acquisitions. The VT 2A spot improvement component of Alternative 17 would require seven partial property acquisitions. Five of the partial property acquisitions for the spot improvements would be from residential properties and two would be from vacant parcels. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative.

###### ***Impacts Attributable to Full Property Acquisitions***

Alternative 17 would not result in the displacement of any residents or businesses.

###### ***Regional Economic Impacts***

Table 4-16 summarizes the regional economic impacts of Alternative 17. Alternative 17 is estimated to directly support 515 person-years of construction-related employment over a 36-month construction period, or an annual average of 172 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 17 is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$26.4 million. Payroll expenses are estimated to amount to \$19.7 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, Alternative 17 is estimated to create \$23.9 million in direct sales, \$12.3 million in employee earnings and 484 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$67.8 million in sales, \$24.7 million in employee earnings, and 854 person-years of employment.

**Table 4-16**  
**Alternative 17**  
**Regional Economic Impacts**

		<b>Total</b>		
<b>Total Construction Budget</b>		\$49,600,000		
- Construction Materials and Services Purchases		\$26,363,000		
- Payroll		\$19,708,000		
- Contingency, Indirect Business Taxes, Profits		\$3,529,000		
Total Construction Jobs		515		
Construction Period (months)		36		
Annual Construction Jobs		172		
				<b>Jobs (Person Years)</b>
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>	
Initial Change (Direct)		\$23,894,000	\$12,308,000	484
Multiplier Effect		\$43,907,000	\$12,438,000	371
<b>Total Regional Impact</b>		<b>\$67,801,000</b>	<b>\$24,746,000</b>	<b>854</b>
<b>Annual Impacts - Each Year of Construction</b>				
Initial Change (Direct)		\$7,965,000	\$4,103,000	161
Multiplier Effect		\$14,636,000	\$4,146,000	124
<b>Total Regional Annualized Impact</b>		<b>\$22,601,000</b>	<b>\$8,249,000</b>	<b>285</b>

### ***Fiscal Impacts***

This alternative would require full and partial property acquisitions beyond the Circ A/B right-of-way for the Circ A/B boulevard interchange with I-89 and the VT 2A spot improvements. VTrans estimates that the full market value of these acquisitions would amount to approximately \$315,300 in the Town of Williston. As outlined in Table 4-17, removal of this value from the taxable rolls would result in a loss of approximately \$473 in Williston municipal taxes and \$4,536 in education taxes—less than one-tenth of one percent of annual revenues. There would be no impacts to taxable properties or tax collections in the Village of Essex Junction or Town of Essex.

**Table 4-17**  
**Alternative 17**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, (Year 2007 \$)**

	Town of Williston	
	Residential	Commercial
Estimated Market Value of Takings	\$315,262	\$0
Common Level of Appraisal Ratio	0.8538	0.8538
Estimated Assessed Value of Takings	\$269,171	\$0
Municipal Tax Rate	0.1759	0.1759
Estimated Municipal Tax Impact	\$473	\$0
Total Municipal Tax Impact		\$473
Grand List Revenues		\$2,111,520
% of Grand List Revenues		0.0%
	Residential	Commercial
Education Tax Rate	1.6850	1.6789
Estimated Education Tax Impact	\$4,536	\$0
Total Education Tax Impact		\$4,536
Grand List Revenues		\$20,186,063
% of Grand List Revenues		0.0%

### **Community Character and Neighborhood Cohesion**

#### ***Impacts Related to Property Acquisitions***

Alternative 17 would not involve any full acquisitions that would require the relocation of residences or businesses. The limited number of partial property acquisitions under Alternative 17 would not have an effect on community character.

#### ***Impacts Related to Physical Barriers***

The Alternative 17 would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including an overpass to carry the existing Williston Alternative Transportation Path (WATP) over the roadway.

#### ***Temporary Impacts***

Alternative 17 has the potential to cause temporary disruptions in local access and mobility during the construction period at select locations on existing roadways. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

#### **Environmental Justice**

No displacements of residences or businesses would occur, therefore minority or low income communities would not be affected.

## 4.5 Hybrid Alternatives (VT 2A Improvements plus Circ Street)

### 4.5.1 Alternative 18 – Four-Lane VT 2A with Signalized Intersection Improvements plus Circ Street

#### Demographics, Housing, and Economics

##### **Potential Full Property Acquisitions**

Based on a review of the preliminary design plans for Alternative 18, the acquisition of additional right-of-way under this alternative would require the full acquisition of eight parcels in the VT 2A corridor. The properties to be acquired would include three residential units, four commercial establishments and one vacant property. Table 4-18 provides further information on the location and use of properties that would be acquired under Alternative 18 in the VT 2A corridor. In addition to property acquisitions in the VT 2A corridor, Alternative 18 would require the acquisition of one vacant parcel in the Circ A/B corridor to accommodate a diamond interchange between the Circ Street and I-89.

**Table 4-18**  
**Alternative 18**  
**Properties with Potential for Full Acquisition– VT 2A Corridor**

Parcel ID	Address	Acres	Property Description	No. of Residential Units	No. of Employees
03:102:059:000	1136 Essex Road, Williston	0.50	Residence	1	
03:102:080:000	1239 Essex Road, Williston	0.70	Residence	1	
10:210:800:00	106 Park Street, Essex Junction	0.80	Residence	1	
08:102:001:000	2200 Essex Road, Williston	0.50	Gas Station		5
08:102:008:000	2033 Essex Road, Williston	1.10	Restaurant		10
03:102:111:000	500 Essex Road, Williston	1.80	Gas Station and Deli		10
10:292:120:00	3 Maple Street, Essex Junction	0.40	Commercial		3
03:102:057:000	Route 2A & Industrial Avenue, Williston	0.60	Vacant		
			<b>Total</b>	<b>3</b>	<b>28</b>

Based on the average household size of residential units in the study area, the acquisition of the three residential units would result in the displacement of approximately eight persons from their present dwelling unit.<sup>20</sup> The housing inventory provided by the Chittenden County Regional Planning Commission (CCRPC) indicates that the building at 3 Maple Street may include a five-unit residential structure. However, field visits and interviews with local planning staff indicate that the building is presently occupied by one commercial establishment.<sup>21</sup>

The four commercial establishments that would be displaced include two gas stations, one restaurant, and one retail establishment. One of the gas stations to be acquired includes a convenience store/deli on-site. The acquisition of these business establishments is expected to result in the loss of approximately 28 jobs.<sup>22</sup>

<sup>20</sup> U.S. Department of Commerce, Bureau of Census. 2000. U.S. Census of Population and Housing, SF1 and SF3 Data Tables.

<sup>21</sup> CCRPC Housing point database (housingpts04.shp)

<sup>22</sup> CCMPO Employment point database (dss\_employment\_12\_20\_2001\_matched.shp)

## **Potential Partial Property Acquisitions**

### **VT 2A Corridor**

In addition to the complete acquisition of the above listed properties, in the VT 2A corridor Alternative 18 would result in the partial acquisition of lots occupied by residential units, commercial establishments, community facilities and manufacturing units. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Nearly 111 residential parcels would have a portion of their lots acquired due to this alternative. This includes nine parcels with condominiums located on them. However, no portion of the dwelling unit would be impacted by the proposed acquisition of additional right-of-way (ROW). Additionally, 29 parcels with commercial establishments would lose a portion of their lot due to ROW acquisition. The acquisition of additional ROW is not expected to impact the present or future operations of establishments located on the affected parcels. Eleven parcels with manufacturing units on them would also lose a portion of their lots due to this alternative. The acquisition of additional ROW would not impact manufacturing operations on-site at the present time or in the future. Three lots with community facilities would lose portions of their parcels due to the proposed acquisition. The proposed acquisition of these facilities is not expected to alter the present or future operations of these facilities. Additionally, one vacant parcel located in a potential stormwater management area south of Marshall Avenue would lose a portion of its land area due to the proposed acquisition.

### **Circ A/B Corridor**

In the Circ A/B corridor, the Circ Street portion of Alternative 18 would require three partial property acquisitions from vacant parcels.

### **Impacts Attributable to Full Property Acquisitions**

Alternative 18 is expected to result in the displacement of three households. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost, as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicate that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced households and the limited number of displacements, the proposed acquisitions are not expected to alter the demographic or socioeconomic characteristics of the population in the area.

Alternative 18 would displace four businesses employing approximately 29 persons. Should the displacements result in closing or relocation of these businesses outside the area, there is the potential for (1) laying off or relocation of employees who live within the community; (2)

economic losses to a business owner who lives in the community; (3) loss of professional, commercial and retail establishments serving the local community; and (4) the loss of workers and businesses that utilize the goods and services purchased from local businesses in the primary study area that would be displaced.

Displacement of businesses is unlikely to have broader impacts on the local employment base or industry composition because the businesses account for less than one percent of employment within the study area, the overall number of displacement is limited, and the businesses are in industries (auto service, food service, retail) that are currently well represented in the study area. Given future land use plans for the immediate area (i.e., infill, grid streets, mixed use with auto-oriented uses at the gateway areas), it is likely that suitable locations would be available for relocation.

### **Regional Economic Impacts**

Table 4-19 summarizes the regional economic impacts of Alternative 18. Alternative 18 is estimated to directly support 500 person-years of construction-related employment over a 36-month construction period, or an annual average of 167 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 18 is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$25.6 million. Payroll expenses are estimated to amount to \$19.2 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, Alternative 18 is estimated to create \$23.2 million in direct sales, \$12.0 million in employee earnings and 470 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$65.9 million in sales, \$24.0 million in employee earnings, and 830 person-years of employment.

**Table 4-19  
Alternative 18  
Regional Economic Impacts**

	<b>Total</b>		
<b>Total Construction Budget</b>	\$48,200,000		
- Construction Materials and Services Purchases	\$25,619,000		
- Payroll	\$19,152,000		
- Contingency, Indirect Business Taxes, Profits	\$3,429,000		
Total Construction Jobs	500		
Construction Period (months)	36		
Annual Construction Jobs	167		
			<b>Jobs (Person Years)</b>
<b>Total Impacts - Term of Construction</b>	<b>Sales</b>	<b>Earnings</b>	
Initial Change (Direct)	\$23,219,000	\$11,961,000	470
Multiplier Effect	\$42,667,000	\$12,087,000	360
<b>Total Regional Impact</b>	<b>\$65,886,000</b>	<b>\$24,048,000</b>	<b>830</b>
<b>Annual Impacts - Each Year of Construction</b>			
Initial Change (Direct)	\$7,740,000	\$3,987,000	157
Multiplier Effect	\$14,222,000	\$4,029,000	120
<b>Total Regional Annualized Impact</b>	<b>\$21,962,000</b>	<b>\$8,016,000</b>	<b>277</b>

### ***Fiscal Impacts***

This alternative would require full and partial property acquisitions equal to those required for Alternative 2 combined with Alternative 17. VTrans estimates that the full market value of these acquisitions would amount to approximately \$6.5 million in the Town of Williston and \$1.2 million in the Village of Essex Junction. As outlined in Table 4-20, removal of this value from the taxable rolls would result in a loss of approximately \$9,700 in Williston municipal taxes and \$92,700 in education taxes—five-tenths of one percent of annual revenues. Impacts to Essex Junction would amount to approximately \$3,100 in Village taxes, \$4,000 in Town taxes and \$17,200 in education taxes—approximately one-tenth of one percent of annual revenues in each jurisdiction.

**Table 4-20**  
**Alternative 18**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, Essex Junction, and Essex (Year 2007 \$)**

	Town of Williston		Village of Essex Junction		Town of Essex	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Estimated Market Value of Takings	\$1,756,262	\$4,704,000	\$386,000	\$783,000	\$386,000	\$783,000
Common Level of Appraisal Ratio	0.8538	0.8538	0.6287	0.6287	0.6287	0.6287
Estimated Assessed Value of Takings	\$1,499,496	\$4,016,275	\$242,678	\$492,272	\$242,678	\$492,272
Municipal Tax Rate	0.1759	0.1759	0.4159	0.4159	0.5345	0.5345
Estimated Municipal Tax Impact	\$2,638	\$7,065	\$1,009	\$2,047	\$1,297	\$2,631
Total Municipal Tax Impact	\$9,702		\$3,057		\$3,928	
Grand List Revenues	\$2,111,520		\$2,566,090		\$3,297,848	
% of Grand List Revenues	0.5%		0.1%		0.1%	
	Residential	Commercial	Residential	Commercial	N/A	
Education Tax Rate	1.6850	1.6789	2.4535	2.285		
Estimated Education Tax Impact	\$25,267	\$67,429	\$5,954	\$11,248		
Total Education Tax Impact	\$92,696		\$17,203			
Grand List Revenues	\$20,186,063		\$14,647,571			
% of Grand List Revenues	0.5%		0.1%			

Source: The Louis Berger Group, 2007; Tax rates and revenues, Vermont Department of Taxes 2007 Property Valuation and Review. Estimated market value of takings, VTrans Right-of-Way Section, 2007.  
Note: Tax Rates in dollars per \$100 of assessed value for Fiscal Year 2007. Essex Junction residents pay full Town of Essex Municipal Taxes less the highway tax.

### **Community Character and Neighborhood Cohesion**

#### ***Impacts Related to Property Acquisitions***

The full property acquisitions under Alternative 18 are not concentrated in one location and would not result in a substantial reduction in population or diminishment of commercial uses that integral to the functioning of the community. Given the number and uses to be affected, there are opportunities for relocation within the project area.

The extent of partial property acquisitions in the VT 2A corridor under Alternative 18, although individually small, could result in alteration of the character of the landscape in the areas to the north of Blair Park in Williston and along the Park Street corridor in Essex Junction. Acquisitions that result in the shortening of front yards and setbacks would result in alteration of the appearance of properties, the utility of the space, and the loss of shade trees.

In the Circ A/B corridor, Alternative 18 would not involve any full acquisitions that would require the relocation of residences or businesses. The limited number of partial property acquisitions in the Circ A/B corridor under Alternative 18 would not have an effect on community character.

#### ***Impacts Related to Roadway Width***

The potential for increased traffic and speed, and the four-lane width of the roadway under the Alternative 18, could make crossing VT 2A by foot or bicycle more difficult, discouraging connectivity between neighborhoods and community facilities on opposite sides of the roadway.

Public comments have also expressed concern that increased traffic and a four-lane profile would be incompatible with the character of these residential and village areas.

### ***Impacts Related to Physical Barriers***

The Circ Street portion of Alternative 18 would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including a signalized at-grade crossing for the Williston Alternative Transportation Path (WATP).

### ***Temporary Impacts***

Alternative 18 has the potential to cause temporary disruptions in local access and mobility during the construction period. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

### **Environmental Justice**

To determine if a high proportion of a population of concern would potentially be affected by the proposed alternative, the proportion of minority and low-income populations among the population to be potentially displaced was compared with the proportion of similar populations in the study area as a whole.

A total of three single-family residential units and approximately six persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing units within the study area, none of the three affected units are located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

## **4.5.2 Alternative 19 – Four-Lane VT 2A with Roundabouts plus Circ Street**

### **Demographics, Housing, and Economics**

#### ***Potential Full Property Acquisitions***

Based on a review of the preliminary design plans for Alternative 19, the acquisition of additional ROW under this alternative would require the full acquisition of twelve parcels in the VT 2A corridor. The properties to be acquired would include six residential units, four commercial establishments and two vacant properties. Table 4-21 provides further information on the location and use of properties that would be acquired in the VT 2A corridor under Alternative 19. In addition to property acquisitions in the VT 2A corridor, Alternative 19 would require the acquisition of one vacant parcel in the Circ A/B corridor to accommodate the Circ Street.

**Table 4-21  
Alternative 19  
Properties with Potential for Full Acquisition –VT 2A Corridor**

Parcel ID	Address	Acres	Property Description	No. of Residential Units	No. of Employees
03:102:059:000	1136 Essex Road, Williston	0.54	Residence	1	
10:210:800:00	106 Park Street, Essex Junction	0.77	Residence	1	
10:210:730:00	76 Park Street, Essex Junction	0.23	Residence	1	
10:210:690:00	70 Park Street, Essex Junction	0.16	Residence	1	
10:210:680:00	68 Park Street, Essex Junction	0.22	Residence	1	
10:210:670:00	54 Park Street, Essex Junction	0.17	Residence	1	
03:102:111:000	500 Essex Road, Essex Junction	1.80	Gas Station and Deli		10
10:292:130:00	1 Maple Street, Essex Junction	0.20	Gas Station		3
10:290:470:00	1 Main Street, Essex Junction	0.19	Gas Station		3
10:292:120:00	3 Maple Street, Essex Junction	0.41	Commercial		3
03:102:057:000	Route 2A & Industrial Avenue, Williston	0.64	Vacant		
03:102:055:000	Route 2A & Industrial Avenue, Williston	0.62	Vacant		
			<b>Total</b>	<b>6</b>	<b>19</b>

Based on the average household size of residential units in the study area, the acquisition of the three residential units would result in the displacement of approximately 15 persons from their present dwelling unit.<sup>23</sup> The housing inventory provided by the CCRPC indicates the building at 3 Maple Street may include a five-unit residential structure. However, field visits and interviews with local planning staff indicate that the building is presently occupied by one commercial establishment.<sup>24</sup>

The four commercial establishments that would be displaced include three gas stations and one retail establishment. One of the gas stations to be acquired includes a convenience store/deli on-site. The acquisition of these business establishments is expected to result in the loss of approximately 19 jobs.<sup>25</sup>

### **Potential Partial Property Acquisitions**

#### **VT 2A Corridor**

In addition to the complete acquisition of the above listed properties, Alternative 19 is also expected to result in the partial acquisition of lots occupied by residential units, commercial establishments, community facilities and manufacturing units. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Nearly 108 residential parcels would have a portion of their lots acquired due to the proposed action. This includes nine parcels with condominiums located on them. However, no portion of the dwelling unit would be impacted by the proposed partial acquisition of additional right of way. Additionally, 35 parcels with commercial establishments would lose a portion of their lot due to ROW acquisition. The acquisition of additional ROW is not expected to impact the present or future operations of establishments located on the affected parcels. Ten parcels with manufacturing units on them would also lose a portion of their lots due to the alternative. The acquisition of additional ROW would not impact manufacturing operations on-site at the present time or in the future. Three lots with community facilities would lose portions of their parcels due to the proposed acquisition. The proposed partial acquisition of these parcels is not expected to alter the present or future operations of these facilities. Additionally, one vacant parcel located in a potential stormwater management

<sup>23</sup> U.S. Department of Commerce, Bureau of Census. 2000. U.S. Census of Population and Housing, SF1 and SF3 Data Tables.

<sup>24</sup> CCRPC Housing point database (housingpts04.shp)

<sup>25</sup> CCMPO Employment point database (dss\_employment\_12\_20\_2001\_matched.shp)

area south of Marshall Avenue would lose a portion of its land area due to the proposed acquisition.

### **Circ A/B Corridor**

In the Circ A/B corridor, the Circ Street portion of Alternative 19 would require three partial property acquisitions from vacant parcels.

### **Impacts Attributable to Full Property Acquisitions**

Alternative 19 is expected to result in the displacement of six households. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale, accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicate that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced households and the limited number of displacements, the proposed acquisitions are not expected to alter the demographic or socioeconomic characteristics of the population in the area.

Alternative 19 would displace four businesses employing approximately 19 persons. Should the displacements result in closing or relocation of these businesses outside the area, there is the potential for (1) laying off or relocation of employees who live within the community; (2) economic losses to a business owner who lives in the community; (3) loss of professional, commercial and retail establishments serving the local community; and (4) the loss of workers and businesses that utilize the goods and services purchased from local businesses in the primary study area that would be displaced.

Displacement of businesses is unlikely to have broader impacts on the local employment base or industry composition because the businesses account for less than one percent of employment within the study area, the overall number of displacement is limited, and the businesses are in industries (auto service, retail) that are currently well represented in the study area. Given future land use plans for the immediate area (i.e., infill, grid streets, mixed use with auto-oriented uses at the gateway areas) it is likely that suitable locations would be available for relocation.

### **Regional Economic Impacts**

Table 4-22 summarizes the regional economic impacts of Alternative 19. Alternative 19 is estimated to directly support 449 person-years of construction-related employment over a 36-month construction period, or an annual average of 150 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 19 is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$23.0 million. Payroll

expenses are estimated to amount to \$17.2 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, Alternative 19 is estimated to create \$20.9 million in direct sales, \$10.7 million in employee earnings and 422 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$59.2 million in sales, \$21.6 million in employee earnings, and 746 person-years of employment.

**Table 4-22**  
**Alternative 19**  
**Regional Economic Impacts**

	<b>Total</b>		
<b>Total Construction Budget</b>	\$43,300,000		
- Construction Materials and Services Purchases	\$23,014,000		
- Payroll	\$17,205,000		
- Contingency, Indirect Business Taxes, Profits	\$3,081,000		
Total Construction Jobs	449		
Construction Period (months)	36		
Annual Construction Jobs	150		
			<b>Jobs (Person Years)</b>
<b>Total Impacts - Term of Construction</b>	<b>Sales</b>	<b>Earnings</b>	
Initial Change (Direct)	\$20,859,000	\$10,745,000	422
Multiplier Effect	\$38,330,000	\$10,858,000	324
<b>Total Regional Impact</b>	<b>\$59,189,000</b>	<b>\$21,603,000</b>	<b>746</b>
<b>Annual Impacts - Each Year of Construction</b>			
Initial Change (Direct)	\$6,953,000	\$3,582,000	141
Multiplier Effect	\$12,777,000	\$3,619,000	108
<b>Total Regional Annualized Impact</b>	<b>\$19,730,000</b>	<b>\$7,201,000</b>	<b>249</b>

### ***Fiscal Impacts***

This alternative would require full and partial property acquisitions equal to those required for Alternative 3 combined with Alternative 17. VTrans estimates that the full market value of these acquisitions would amount to approximately \$5.5 million in the Town of Williston and \$3.6 million in the Village of Essex Junction. As outlined in Table 4-23, removal of this value from the taxable rolls would result in a loss of approximately \$8,300 in Williston municipal taxes and \$79,000 in education taxes—four-tenths of one percent of annual revenues. Impacts to Essex Junction would amount to approximately \$9,300 in Village taxes, \$11,900 in Town taxes and \$53,100 in education taxes—approximately four-tenths of one percent of annual revenues in each jurisdiction.

**Table 4-23**  
**Alternative 19**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, Essex Junction, and Essex (Year 2007 \$)**

	Town of Williston		Village of Essex Junction		Town of Essex	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Estimated Market Value of Takings	\$1,375,262	\$4,130,000	\$1,826,000	\$1,737,000	\$1,826,000	\$1,737,000
Common Level of Appraisal Ratio	0.8538	0.8538	0.6287	0.6287	0.6287	0.6287
Estimated Assessed Value of Takings	\$1,174,199	\$3,526,194	\$1,148,006	\$1,092,052	\$1,148,006	\$1,092,052
Municipal Tax Rate	0.1759	0.1759	0.4159	0.4159	0.5345	0.5345
Estimated Municipal Tax Impact	\$2,065	\$6,203	\$4,775	\$4,542	\$6,136	\$5,837
<b>Total Municipal Tax Impact</b>		<b>\$8,268</b>		<b>\$9,316</b>		<b>\$11,973</b>
Grand List Revenues		\$2,111,520		\$2,566,090		\$3,297,848
% of Grand List Revenues		0.4%		0.4%		0.4%
	Residential	Commercial	Residential	Commercial	N/A	
Education Tax Rate	1.6850	1.6789	2.4535	2.285		
Estimated Education Tax Impact	\$19,785	\$59,201	\$28,166	\$24,953		
<b>Total Education Tax Impact</b>		<b>\$78,987</b>		<b>\$53,120</b>		
Grand List Revenues		\$20,186,063		\$14,647,571		
% of Grand List Revenues		0.4%		0.4%		

Source: The Louis Berger Group, 2007; Tax rates and revenues, Vermont Department of Taxes 2007 Property Valuation and Review. Estimated market value of takings, Vtrans Right-of-Way Section, 2007.  
 Note: Tax Rates in dollars per \$100 of assessed value for Fiscal Year 2007. Essex Junction residents pay full Town of Essex Municipal Taxes less the highway tax.

## **Community Character and Neighborhood Cohesion**

### ***Impacts Related to Property Acquisitions***

The full property acquisitions under Alternative 19 are not concentrated in one location and would not result in a substantial reduction in population or diminishment of commercial uses that integral to the functioning of the community. Given the number and uses to be affected, there are opportunities for relocation within the project area.

The extent of partial property acquisitions in the VT 2A corridor under Alternative 19, although individually small, could result in alteration of the character of the landscape in the areas to the north of Blair Park in Williston and along the Park Street corridor in Essex Junction. Acquisitions that result in the shortening of front yards and setbacks would result in alteration of the appearance of properties, the utility of the space, and the loss of shade trees.

In the Circ A/B corridor, Alternative 19 would not involve any full acquisitions that would require the relocation of residences or businesses. The limited number of partial property acquisitions in the Circ A/B corridor under Alternative 19 would not have an effect on community character.

### ***Impacts Related to Roadway Width***

The potential for increased traffic and speed, and the four-lane width of the roadway under the Alternative 19, could make crossing VT 2A by foot or bicycle more difficult, discouraging connectivity between neighborhoods and community facilities on opposite sides of the roadway. Public comments have also expressed concern that increased traffic and a four-lane profile would be incompatible with the character of these residential and village areas.

### ***Impacts Related to Physical Barriers***

The Circ Street portion of Alternative 19 would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including a signalized at-grade crossing for the Williston Alternative Transportation Path (WATP).

### ***Impacts Related to Roundabouts***

During Design Workshops, members of the public were concerned that it could become more difficult for pedestrians and bicycles to cross the roundabout intersections proposed under Alternative 19, because of the continuous nature of traffic flow at roundabout intersections (compared to the defined crossing sequence at signalized intersections) and the potential for vehicles to not yield to pedestrians waiting to cross the roundabout. The FHWA Report, *Roundabouts: An Informational Guide* provides design guidelines to maintain pedestrian mobility across roundabout intersections that have been incorporated into the design of Alternative 19 to minimize potential effects on pedestrian mobility. Pedestrian crossings at roundabout intersections for the proposed project are located before the point where the roadway approach flares to meet the roundabout. This minimizes the distance pedestrians have to cross. In addition, splitter islands provide refuge for pedestrians to cross one direction of traffic at a time.

A recent comprehensive study of roundabouts in the United States concludes that roundabouts do not pose a substantial safety problem for pedestrians and bicyclists (NCHRP, 2007). However, the study notes that if vehicle and/or pedestrian traffic increases over time, that the ability of pedestrians and bicyclists to use the roundabout may be compromised. The study also concludes that multilane roundabouts in particular may need additional measures to improve vehicle, pedestrian and bicycle behaviors, such as changes in design, operations, enforcement and education.<sup>26</sup> Another potential design issue with roundabouts relates to crossings by blind or visually impaired pedestrians. At a signalized intersection, blind pedestrians typically rely upon sound cues to determine when traffic has stopped and it is safe to cross the roadway. At a roundabout, crossing may be more difficult for blind pedestrians due to the continuous nature of traffic flow through the roundabout.

In addition to potential drawbacks related to pedestrian and bicycle movement, roundabouts also have several potential advantages that can enhance community character in residential areas. Roundabout geometry is designed to calm traffic and slow vehicle movements through intersections. Roundabouts can also provide an attractive visual focus in residential and commercial areas through various landscaping options for the roundabout center island (FHWA, 2000).

### ***Temporary Impacts***

Alternative 19 has the potential to cause temporary disruptions in local access and mobility during the construction period. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

### ***Environmental Justice***

A total of six single-family residential units and approximately 12 persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing units within the study area, none of the six affected units are located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

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<sup>26</sup> NCHRP Report 572: Roundabouts in the United States, 2007.

### 4.5.3 Alternative 23 – Tapered Widening on VT 2A with Signalized and Roundabout Intersections plus Circ Street

#### Demographics, Housing, and Economics

##### **Potential Full Property Acquisitions**

Based on a review of the preliminary design plans for Alternative 23, the acquisition of additional ROW under this alternative would require the full acquisition of eight parcels in the VT 2A corridor. The properties to be acquired would include one residential unit, five commercial establishments and two vacant properties. Table 4-24 provides further information on the location and use of properties that would be acquired in the VT 2A corridor under Alternative 23. In addition to property acquisitions in the VT 2A corridor, Alternative 23 would require the acquisition of one vacant parcel in the Circ A/B corridor to accommodate the Circ Street.

**Table 4-24**  
**Alternative 23**  
**Properties with Potential for Full Acquisition – VT 2A Corridor**

Parcel ID	Address	Acres	Property Description	No. of Residential Units	No. of Employees
03:102:059:000	1136 Essex Road, Williston	0.54	Residence	1	
08:102:008:000	2033 Essex Road, Williston	1.10	Restaurant		10
03:102:111:000	500 Essex Road, Williston	1.80	Gas Station and Deli		10
10:292:130:00	1 Maple Street, Essex Junction	0.20	Gas Station		3
10:290:470:00	1 Main Street, Essex Junction	0.19	Gas Station		3
10:292:120:00	3 Maple Street, Essex Junction	0.41	Commercial		3
03:102:057:000	Route 2A & Industrial Avenue, Williston	0.64	Vacant		
03:102:055:000	Route 2A & Industrial Avenue, Williston	0.62	Vacant		
			<b>Total</b>	<b>1</b>	<b>29</b>

Based on the average household size of residential units in the study area, the acquisition of the three residential units would result in the displacement of approximately three persons from their present dwelling unit.<sup>27</sup> The housing inventory provided by the CCRPC indicates the building at 3 Maple Street may include a five-unit residential structure. However, field visits and interviews with local planning staff indicate that the building is presently occupied by one commercial establishment.<sup>28</sup>

The four commercial establishments that would be displaced include three gas stations, one restaurant, and one retail establishment. One of the gas stations to be acquired includes a convenience store/deli on-site. The acquisition of these business establishments is expected to result in the loss of approximately 29 jobs.<sup>29</sup>

##### **Potential Partial Property Acquisitions**

##### **VT 2A Corridor**

In addition to the complete acquisition of the above listed properties, Alternative 23 is also expected to result in the partial acquisition of lots occupied by residential units, commercial establishments, community facilities and manufacturing units. Appendix A to this Technical Report presents further details on the use and location of parcels that would be partially acquired under this alternative. Nearly 43 residential parcels would have a portion of their lots

<sup>27</sup> U.S. Department of Commerce, Bureau of Census. 2000. U.S. Census of Population and Housing, SF1 and SF3 Data Tables.

<sup>28</sup> CCRPC Housing point database (housingpts04.shp)

<sup>29</sup> CCMPO Employment point database (dss\_employment\_12\_20\_2001\_matched.shp)

acquired due to the proposed action. This includes nine parcels with condominiums located on them. However, no portion of the dwelling unit would be impacted by the proposed acquisition of additional right of way. Additionally, 23 parcels with commercial establishments would lose a portion of their lot due to ROW acquisition. The acquisition of additional right-of-way is not expected to impact the present or future operations of establishments located on the affected parcels. Eight parcels with manufacturing units on them would also lose a portion of their lots due to the alternative. The acquisition of additional right-of-way would not impact manufacturing operations on-site at the present time or in the future. Two lots occupied by churches would lose portions of their parcels due to the proposed acquisition. The proposed acquisition is not expected to alter the operations of these facilities. Additionally, one vacant parcel located in a potential stormwater management area south of Marshall Avenue would lose a portion of its land area due to the proposed acquisition.

### **Circ A/B Corridor**

In the Circ A/B corridor, the Circ Street portion of Alternative 23 would require three partial property acquisitions from vacant parcels.

### **Impacts Attributable to Full Property Acquisitions**

Alternative 23 is expected to result in the displacement of one household. Although housing supply and vacancy rates in Chittenden County are substantially lower than the state, regional, and national averages, the market is capable of supporting the small number of displacements arising from this alternative, in terms of availability and cost as follows.

- *Housing Availability* – At the time of the 2000 Census there were 364 vacant housing units in Williston, Essex, and Essex Junction, with 108 vacant while actively offered for sale or rent. In 2005 there were 450 units transferred through sale accounting for four percent of the owner-occupied housing stock.
- *Housing Cost* – In the study area, most of the dwelling units were renting for \$470 to \$900 at the time of the 2000 Census. The data also indicates that the median housing values of the owner occupied units along the study area ranged from \$117,000 to \$196,000. As outlined in Chapter 3, housing costs in the study area are comparable to those of the three municipalities in the project area; in 2000, median rents for the study area were three percent higher than the median rents for the three municipalities, and median housing values were seven percent lower.

With the potential for comparable housing in the area to absorb the displaced household and the limited number of displacements, the proposed acquisitions are not expected to alter the demographic or socioeconomic characteristics of the population in the area.

Alternative 23 would displace five businesses employing approximately 29 persons. Should the displacements result in closing or relocation of these businesses outside the area, there is the potential for (1) laying off or relocation of employees who live within the community; (2) economic losses to a business owner who lives in the community; (3) loss of professional, commercial and retail establishments serving the local community; and (4) the loss of workers and businesses that utilize the goods and services purchased from local businesses in the primary study area that would be displaced.

Displacement of businesses is unlikely to have broader impacts on the local employment base or industry composition because the businesses account for less than one percent of employment within the study area, the overall number of displacement is limited, and the businesses are in industries (auto service, retail) that are currently well represented in the study area. Given future land use plans for the immediate area (i.e., infill, grid streets, mixed use with

auto-oriented uses at the gateway areas) it is likely that suitable locations would be available for relocation.

### **Regional Economic Impacts**

Table 4-25 summarizes the regional economic impacts of Alternative 23. Alternative 23 is estimated to directly support 367 person-years of construction-related employment over a 36-month construction period, or an annual average of 122 jobs (includes approximately five percent estimated to be provided non-locally (i.e., by laborers residing permanently outside Northwest Vermont)). Alternative 23 is also estimated to generate total industry sales for construction materials, subcontractors and other goods and services of \$18.8 million. Payroll expenses are estimated to amount to \$14.1 million. After adjusting for non-local sales and leakages for non-local labor, and factoring in wages available for respending locally, the Alternative 23 is estimated to create \$17.1 million in direct sales, \$8.8 million in employee earnings and 345 jobs within Northwest Vermont.

When the successive rounds of economic activity stimulated by the initial expenditure of funds during construction (multiplier effect) is accounted for the total one-time, construction period economic impact to Northwest Vermont is expected to amount to \$48.4 million in sales, \$17.7 million in employee earnings, and 610 person-years of employment.

**Table 4-25  
Alternative 23  
Regional Economic Impacts**

		<b>Total</b>	
<b>Total Construction Budget</b>		\$35,400,000	
- Construction Materials and Services Purchases		\$18,815,000	
- Payroll		\$14,066,000	
- Contingency, Indirect Business Taxes, Profits		\$2,519,000	
Total Construction Jobs		367	
Construction Period (months)		36	
Annual Construction Jobs		122	
		<b>Jobs (Person Years)</b>	
<b>Total Impacts - Term of Construction</b>		<b>Sales</b>	<b>Earnings</b>
Initial Change (Direct)		\$17,053,000	\$8,784,000
Multiplier Effect		\$31,337,000	\$8,877,000
<b>Total Regional Impact</b>		<b>\$48,390,000</b>	<b>\$17,661,000</b>
<b>Annual Impacts - Each Year of Construction</b>			
Initial Change (Direct)		\$5,684,000	\$2,928,000
Multiplier Effect		\$10,446,000	\$2,959,000
<b>Total Regional Annualized Impact</b>		<b>\$16,130,000</b>	<b>\$5,887,000</b>

### **Fiscal Impacts**

This alternative would require full and partial property acquisitions equal to those required for Alternative 22 combined with Alternative 17. VTrans estimates that the full market value of these acquisitions would amount to approximately \$5.4 million in the Town of Williston and \$1.5 million in the Village of Essex Junction. As outlined in Table 4-26, removal of this value from the taxable rolls would result in a loss of approximately \$8,100 in Williston municipal taxes and \$77,500 in education taxes—four-tenths of one percent of annual revenues. Impacts to Essex Junction would amount to approximately \$3,900 in Village taxes, \$5,100 in Town taxes and

\$21,800 in education taxes—approximately two-tenths of one percent of annual revenues in each jurisdiction.

**Table 4-26**  
**Alternative 23**  
**Municipal and Educational Tax Impacts Resulting from Right-of-Way Acquisitions**  
**Williston, Essex Junction, and Essex (Year 2007 \$)**

	Town of Williston		Village of Essex Junction		Town of Essex	
	Residential	Commercial	Residential	Commercial	Residential	Commercial
Estimated Market Value of Takings	\$1,118,262	\$4,287,000	\$0	\$1,515,000	\$0	\$1,515,000
Common Level of Appraisal Ratio	0.8538	0.8538	0.6287	0.6287	0.6287	0.6287
Estimated Assessed Value of Takings	\$954,772	\$3,660,241	\$0	\$952,481	\$0	\$952,481
Municipal Tax Rate	0.1759	0.1759	0.4159	0.4159	0.5345	0.5345
Estimated Municipal Tax Impact	\$1,679	\$6,438	\$0	\$3,961	\$0	\$5,091
Total Municipal Tax Impact		\$8,118		\$3,961		\$5,091
Grand List Revenues		\$2,111,520		\$2,566,090		\$3,297,848
% of Grand List Revenues		0.4%		0.2%		0.2%
	Residential	Commercial	Residential	Commercial	N/A	
Education Tax Rate	1.6850	1.6789	2.4535	2.285		
Estimated Education Tax Impact	\$16,088	\$61,452	\$0	\$21,764		
Total Education Tax Impact		\$77,540		\$21,764		
Grand List Revenues		\$20,186,063		\$14,647,571		
% of Grand List Revenues		0.4%		0.1%		

Source: The Louis Berger Group, 2007; Tax rates and revenues, Vermont Department of Taxes 2007 Property Valuation and Review, Estimated market value of takings, Vtrans Right-of-Way Section, 2007.  
Note: Tax Rates in dollars per \$100 of assessed value for Fiscal Year 2007. Essex Junction residents pay full Town of Essex Municipal Taxes less the highway tax.

## **Community Character and Neighborhood Cohesion**

### ***Impacts Related to Property Acquisitions***

The full property acquisitions under Alternative 23 are not concentrated in one location and would not result in a substantial reduction in population or diminishment of commercial uses that integral to the functioning of the community. Given the number and uses to be affected, there are opportunities for relocation within the project area.

The extent of partial property acquisitions in the VT 2A corridor under Alternative 23, although individually small, could result in alteration of the character of the landscape in the areas to the north of Blair Park in Williston and at the Five Corners intersection in Essex Junction. Acquisitions that result in the shortening of front yards and setbacks would result in alteration of the appearance of properties, the utility of the space, and the loss of shade trees.

In the Circ A/B corridor, Alternative 23 would not involve any full acquisitions that would require the relocation of residences or businesses. The limited number of partial property acquisitions in the Circ A/B corridor under Alternative 23 would not have an effect on community character.

### ***Impacts Related to Roadway Width***

The potential for increased traffic and speed, and the four or three-lane width of the roadway under the Alternative 23, could make crossing VT 2A by foot or bicycle more difficult, discouraging connectivity between neighborhoods and community facilities on opposite sides of the roadway. Public comments have also expressed concern that increased traffic and a four or three-lane profile would be incompatible with the character of these residential and village areas.

### ***Impacts Related to Physical Barriers***

The Circ Street portion of Alternative 23 would not divide any existing neighborhoods. Accommodations would be made for pedestrian and bicycle connectivity between neighborhoods, including a signalized at-grade crossing for the Williston Alternative Transportation Path (WATP).

### ***Impacts Related to Roundabouts***

During Design Workshops, members of the public were concerned that it could become more difficult for pedestrians and bicycles to cross the roundabout intersections proposed under Alternative 23, because of the continuous nature of traffic flow at roundabout intersections (compared to the defined crossing sequence at signalized intersections) and the potential for vehicles to not yield to pedestrians waiting to cross the roundabout. The FHWA Report, *Roundabouts: An Informational Guide* provides design guidelines to maintain pedestrian mobility across roundabout intersections that have been incorporated into the design of Alternative 23 to minimize potential effects on pedestrian mobility. Pedestrian crossings at roundabout intersections for the proposed project are located before the point where the roadway approach flares to meet the roundabout. This minimizes the distance pedestrians have to cross. In addition, splitter islands provide refuge for pedestrians to cross one direction of traffic at a time.

A recent comprehensive study of roundabouts in the United States concludes that roundabouts do not pose a substantial safety problem for pedestrians and bicyclists (NCHRP, 2007). However, the study notes that if vehicle and/or pedestrian traffic increases over time, that the ability of pedestrians and bicyclists to use the roundabout may be compromised. The study also concludes that multilane roundabouts in particular may need additional measures to improve vehicle, pedestrian and bicycle behaviors, such as changes in design, operations, enforcement and education.<sup>30</sup> Another potential design issue with roundabouts relates to crossings by blind or visually impaired pedestrians. At a signalized intersection, blind pedestrians typically rely upon sound cues to determine when traffic has stopped and it is safe to cross the roadway. At a roundabout, crossing may be more difficult for blind pedestrians due to the continuous nature of traffic flow through the roundabout.

In addition to potential drawbacks related to pedestrian and bicycle movement, roundabouts also have several potential advantages that can enhance community character in residential areas. Roundabout geometry is designed to calm traffic and slow vehicle movements through intersections. Roundabouts can also provide an attractive visual focus in residential and commercial areas through various landscaping options for the roundabout center island (FHWA, 2000).

### ***Temporary Impacts***

Alternative 23 has the potential to cause temporary disruptions in local access and mobility during the construction period. In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan (MTP) would be prepared prior to the commencement of construction activities. The plan would serve the dual purpose of advising the public of road closures and alternate routes and maintain traffic flow on key emergency routes.

### ***Environmental Justice***

A total of one single-family residential unit and approximately three persons would be displaced under this alternative. Based on the 2000 U.S. Census data and the location of the housing unit within the study area, the affected unit is not located within communities of concern for environmental justice purposes. The percentage of minority persons in the affected census blocks are reported to be lower than the County threshold for such persons. No low-income populations are present in the area as poverty levels in these areas are reported to be lower than the County threshold for this particular indicator.

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<sup>30</sup> NCHRP Report 572: Roundabouts in the United States, 2007.

## 4.6 Summary of Impacts and Mitigation

### 4.6.1 VT 2A Alternatives

#### **Alternative 2 – Four-Lane VT 2A with Signalized Intersection Improvements**

This alternative would result in the full acquisition of property with three households, four businesses, and one currently vacant parcel. The alternative would also require the acquisition of small portions of 155 other properties that are not expected to encroach upon structures or substantially alter the use of the property.

To minimize the affect on property owners and tenants, VTrans and the State of Vermont would acquire property for enlargements of the right-of-way in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Specific mitigation measures are proposed to minimize the adverse impacts of relocation for households and businesses that may experience an economic hardship due to relocation, and these households with special needs:

- Minimize residential takings to the extent possible through project design.
- Reimburse, at fair market value, any owner whose property is acquired as a result of implementing the proposed project.
- Compensate for any direct loss of real property.
- Provide for relocation assistance as authorized under the Uniform Relocation Assistance and Real Property Acquisition Policy Act.
- Reimburse moving expenses for households and business displaced by the proposed project.
- Compensate businesses for reasonable expenses associated with search for new facilities and provide a payment in lieu of moving expenses for businesses that decide not to relocate.
- Provide supplemental replacement housing payments for eligible homeowners and renters.
- Provide Last Resort Housing payments and/or construction of replacement dwellings. A commitment to last resort housing would be considered for those displaced households when sufficient comparable decent, safe and sanitary replacement housing is not available.
- Provide advisory services to aid households and businesses in applying for relocation assistance, and provide relocation counseling as appropriate.

The limited number of displacements is not expected to result in broader effects to community demographic and socioeconomic conditions or community cohesion and character. The acquisitions would not occur in a concentrated area and would not result in a substantial diminishment of the household or employment base of the community.

The extent of partial property acquisitions has been noted as a concern in public involvement for its potential to change the character of residential areas north of Blair Park in Williston, and the Park Street Corridor and Village Center in Essex Junction. Avoidance of these impacts to community character would involve modification of the four-lane design in these areas. Mitigation for impacts of a four-lane design would involve streetscape improvements such as plantings and trees, and design standards for walkways and street furniture to compensate for the diminishment of front setbacks, shade trees, and change in land use character.

The displacement impacts do not occur in low income or minority communities of concern for environmental justice and would not have a disproportionately adverse impact on low income or minority populations.

**Alternative 3 – Four-Lane VT 2A with Roundabouts**

This alternative would result in the full acquisition of property with six households, four businesses, and two currently vacant parcels. The alternative would also require the acquisition of small portions of 157 other properties that are not expected to encroach upon structures or substantially alter the use of the property.

To minimize the affect on property owners and tenants, VTrans and the State of Vermont would acquire property for enlargements of the right-of-way in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Specific mitigation measures are proposed to minimize the adverse impacts of relocation for households and businesses that may experience an economic hardship due to relocation, and these households with special needs:

- Minimize residential takings to the extent possible through project design.
- Reimburse, at fair market value, any owner whose property is acquired as a result of implementing the proposed project.
- Compensate for any direct loss of real property.
- Provide for relocation assistance as authorized under the Uniform Relocation Assistance and Real Property Acquisition Policy Act.
- Reimburse moving expenses for households and business displaced by the proposed project.
- Compensate businesses for reasonable expenses associated with search for new facilities and provide a payment in lieu of moving expenses for businesses that decide not to relocate.
- Provide supplemental replacement housing payments for eligible homeowners and renters.
- Provide Last Resort Housing payments and/or construction of replacement dwellings. A commitment to last resort housing would be considered for those displaced households when sufficient comparable decent, safe and sanitary replacement housing is not available.
- Provide advisory services to aid households and businesses in applying for relocation assistance, and provide relocation counseling as appropriate.

The limited number of displacements is not expected to result in broader effects to community demographic and socioeconomic conditions or community cohesion and character. The acquisitions would not occur in a concentrated area and would not result in a substantial diminishment of the household or employment base of the community.

The extent of partial property acquisitions has been noted as a concern, in public involvement for its potential to change the character of residential areas north of Blair Park in Williston, and the Park Street Corridor and Village Center in Essex Junction. Avoidance of these community character impacts would involve modification of the four-lane and roundabout designs in these areas. Mitigation for impacts of a four-lane design with roundabouts would involve streetscape improvements, such as plantings and trees, and design standards for walkways and street furniture to compensate for the diminishment of front setbacks, shade trees, and change in land use character. Modification of the design to accommodate traffic calming measures between

roundabouts and safe pedestrian crossings at and between roundabouts may be required for residential areas.

The displacement impacts do not occur in low income or minority communities of concern for environmental justice and would not have a disproportionately adverse impact on low income or minority populations.

**Alternative 22 – Tapered Widening on VT 2A with Signalized and Roundabout Intersections**

This alternative would result in the full acquisition of property with one household, five businesses, and two currently vacant parcels. The alternative would also require the acquisition of small portions of 77 other properties that are not expected to encroach upon structures or substantially alter the use of the property.

To minimize the affect on property owners and tenants, VTrans and the State of Vermont would acquire property for enlargements of the right-of-way in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Specific mitigation measures are proposed to minimize the adverse impacts of relocation for households and businesses that may experience an economic hardship due to relocation, and these households with special needs:

- Minimize residential takings to the extent possible through project design.
- Reimburse, at fair market value, any owner whose property is acquired as a result of implementing the proposed project.
- Compensate for any direct loss of real property.
- Provide for relocation assistance as authorized under the Uniform Relocation Assistance and Real Property Acquisition Policy Act.
- Reimburse moving expenses for households and business displaced by the proposed project.
- Compensate businesses for reasonable expenses associated with search for new facilities and provide a payment in lieu of moving expenses for businesses that decide not to relocate.
- Provide supplemental replacement housing payments for eligible homeowners and renters.
- Provide Last Resort Housing payments and/or construction of replacement dwellings. A commitment to last resort housing would be considered for those displaced households when sufficient comparable decent, safe and sanitary replacement housing is not available.
- Provide advisory services to aid households and businesses in applying for relocation assistance, and provide relocation counseling as appropriate.

The limited number of displacements is not expected to result in broader effects to community demographic and socioeconomic conditions or community cohesion and character. The acquisitions would not occur in a concentrated area and would not result in a substantial diminishment of the household or employment base of the community.

The extent of partial property acquisitions has been noted as a concern in public involvement for its potential to change the character of residential areas north of Blair Park in Williston, and Village Center in Essex Junction. An increase in traffic flows and speeds along these sections is also inconsistent with local comprehensive plans. Avoidance of these community character

impacts would involve modification of the four-lane and roundabout designs in these areas. Mitigation for impacts of a four-lane design with roundabouts would involve streetscape improvements such as plantings and trees, and design standards for walkways and street furniture to compensate for the diminishment of front setbacks, shade trees, and change in land use character. Modification of the design to accommodate traffic calming measures between roundabouts and safe pedestrian crossings at and between roundabouts may be required for residential areas.

The displacement impacts do not occur in low income or minority communities of concern for environmental justice and would not have a disproportionately adverse impact on low income or minority populations.

#### 4.6.2 Circ A/B Alternatives

##### **Alternative 16a – Circ A/B Limited Access Highway (No Connection to US 2 and Trumpet Interchange at Redmond Road) with VT 2A Spot Improvements**

No residential or business displacements would occur under Alternative 16a. The alternative would require the acquisition of small portions of 7 properties that are not expected to encroach upon structures or substantially alter the use of the property.

##### **Alternative 16b – Circ A/B Limited Access Highway (Partial Cloverleaf Interchange at US 2 and Trumpet Interchange at Redmond Road) with VT 2A Spot Improvements**

Alternative 16b would result in the displacement of one residence. The alternative would require the acquisition of small portions of 12 properties that are not expected to encroach upon structures or substantially alter the use of the property.

To minimize the affect on property owners or tenants, VTrans and the State of Vermont would acquire property for enlargements of the right-of-way in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended. Specific mitigation measures are proposed to minimize the adverse impacts of relocation for households and businesses that may experience an economic hardship due to relocation, and these households with special needs:

- Minimize residential takings to the extent possible through project design.
- Reimburse, at fair market value, any owner whose property is acquired as a result of implementing the proposed project.
- Compensate for any direct loss of real property.
- Provide for relocation assistance as authorized under the Uniform Relocation Assistance and Real Property Acquisition Policy Act.
- Reimburse moving expenses for households and business displaced by the proposed project.
- Compensate businesses for reasonable expenses associated with search for new facilities and provide a payment in lieu of moving expenses for businesses that decide not to relocate.
- Provide supplemental replacement housing payments for eligible homeowners and renters.
- Provide Last Resort Housing payments and/or construction of replacement dwellings. A commitment to last resort housing would be considered for those displaced households when sufficient comparable decent, safe and sanitary replacement housing is not available.

- Provide advisory services to aid households and businesses in applying for relocation assistance, and provide relocation counseling as appropriate.

The single residential displacement is not expected to result in broader effects to community demographic and socioeconomic conditions or community cohesion and character.

The displacement would not occur in a low income or minority community of concern for environmental justice and would not have a disproportionately adverse impact on low income or minority populations.

**Alternative 16c – Circ A/B Limited Access Highway (No Connection to US 2 and Diamond Interchange at Mountain View Road) with VT 2A Spot Improvements**

No residential or business displacements would occur under Alternative 16c. The alternative would require the acquisition of small portions of 11 properties that are not expected to encroach upon structures or substantially alter the use of the property.

**Alternative 17 – Circ A/B Boulevard with VT 2A Spot Improvements**

No residential or business displacements would occur under Alternative 17. The alternative would require the acquisition of small portions of 10 properties that are not expected to encroach upon structures or substantially alter the use of the property.

#### **4.6.3 Hybrid Alternatives (VT 2A Improvements plus Circ Street)**

**Alternative 18 – Four-Lane VT 2A with Signalized Intersection Improvements Plus Circ Street**

In the VT 2A corridor, Alternative 18 would have the same effect on socioeconomic conditions as described above for Alternative 2. The Circ Street portion of Alternative 18 would require the acquisition of small portions of three properties that are not expected to encroach upon structures or substantially alter the use of the property.

**Alternative 19 – Four-Lane VT 2A with Roundabouts Plus Circ Street**

In the VT 2A corridor, Alternative 19 would have the same effect on socioeconomic conditions as described above for Alternative 3. The Circ Street portion of Alternative 19 would require the acquisition of small portions of three properties that are not expected to encroach upon structures or substantially alter the use of the property.

**Alternative 23 – Tapered Lanes on VT 2A with Signalized and Roundabout Intersections Plus Circ Street**

In the VT 2A corridor, Alternative 23 would have the same effect on socioeconomic conditions as described above for Alternative 22. The Circ Street portion of Alternative 23 would require the acquisition of small portions of three properties that are not expected to encroach upon structures or substantially alter the use of the property.