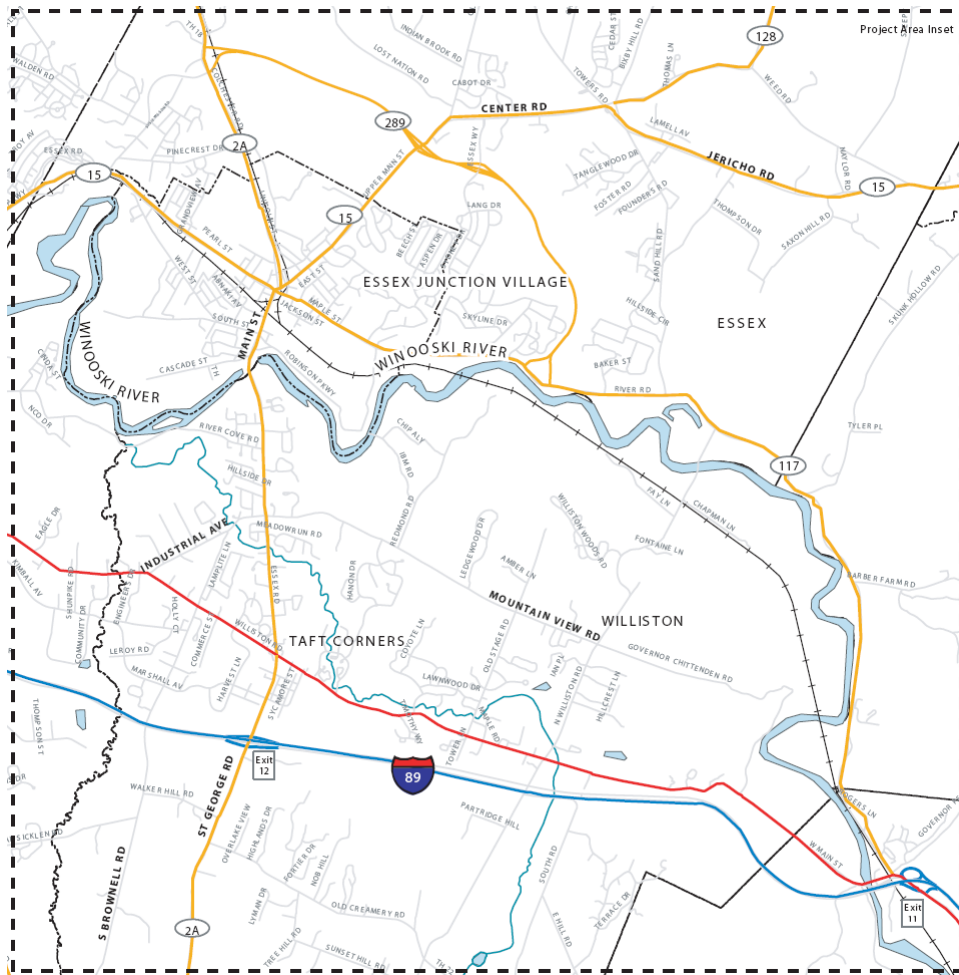


FHWA-VT-EIS-07-02-F

**Circ-Williston Transportation Project
Essex-Williston NH 033-1(24)**

**Town of Williston, Town of Essex, Village of Essex Junction
Chittenden County, Vermont**

Record of Decision



**U.S. Department of Transportation
Federal Highway Administration
Vermont Division**

TABLE OF CONTENTS

1.0	Introduction	1
1.1	Regulatory Requirements.....	1
1.2	Purpose and Need	2
1.2.1	Congestion	3
1.2.2	Safety	3
1.2.3	Movement of People and Goods	3
1.3	Project History	3
1.3.1	Previous Studies.....	3
1.3.2	Prior NEPA and Section 4(f) Litigation	4
1.3.3	New EIS Process (2004-2010)	5
2.0	Description of the Selected Alternative	7
3.0	Alternatives Considered	8
3.1	Alternatives Screening	8
3.2	Description of Alternatives Evaluated in the EIS	9
3.2.1	No Build Alternative	10
3.2.2	VT 2A Alternatives (2, 3, 22)	10
3.2.3	Circ A/B Alternatives (16a, 16b, 16c, 17)	11
3.2.4	Hybrid Alternatives (18, 19, 23)	13
4.0	Basis for Decision	13
4.1	Ability to Meet the Transportation Needs Identified for the Project	15
4.1.1	Congestion	16
4.1.2	Safety	18
4.1.3	Mobility	19
4.1.4	Conclusion.....	20
4.2	Consistency with Local and Regional Plans.....	20
4.3	Environmental Impacts	21
4.3.1	Community Impacts.....	21
4.3.2	Aquatic Resources	25
4.3.3	Wildlife Habitat.....	28
4.4	Views of Agencies and the Public	28
4.4.1	Overview of Public Involvement and Agency Coordination	28
4.4.2	Comments on the DEIS.....	31
4.4.3	Comments on the FEIS	31
4.4.4	Comments on the Revised Section 404 Permit Application	32
4.5	Environmentally Preferable Alternative	32
5.0	Identification of Impacts to Section 4(f) Resources.....	33
6.0	Measures to Minimize Harm	33
6.1	Traffic and Transportation	33
6.2	Land Use and Socioeconomics.....	34
6.3	Natural Resources.....	34
6.3.1	Water Resources.....	34
6.3.2	Floodplains	34
6.3.3	Wetlands.....	34
6.3.4	Vegetation and Rare Plants.....	35
6.3.5	Wildlife Habitat.....	36
6.4	Hazardous and Contaminated Materials	36

6.5	Visual Resources	37
6.6	Construction Impacts.....	37
7.0	Monitoring and Enforcement	40
8.0	Limitation on Claims	40
9.0	Conclusion.....	40

LIST OF TABLES

Table ROD-1	Build Alternatives	9
Table ROD -2	Advantages of Each Group of Build Alternatives.....	14
Table ROD -3	Disadvantages of Each Group of Build Alternatives	14
Table ROD -4	Summary Comparison of the Circ A/B Alternatives	15
Table ROD -5	Selected Alternative Permanent Wetland Impacts By Cover Type....	27
Table ROD -6	Selected Alternative Impacts to Streams.....	28

LIST OF APPENDICES

- Appendix A: Final Environmental Impact Statement Comments and Responses
- Appendix B: Revised Section 404 Permit Application Comments and Responses
- Appendix C: Final Environmental Impact Statement Reevaluation

1.0 Introduction

The Circ-Williston Transportation Project has been proposed by the Vermont Agency of Transportation (VTrans), in cooperation with the Federal Highway Administration (FHWA), to make improvements to the transportation system between I-89 and Williston, Essex and Essex Junction, municipalities located east of the City of Burlington in Chittenden County, Vermont. This document is FHWA's Record of Decision (ROD) for the Circ-Williston Transportation Project. This ROD provides notification of the decision FHWA has made with respect to the Circ-Williston Transportation Project, and identifies the basis for this decision. From among the alternatives evaluated in Circ-Williston Transportation Project Final Environmental Impact Statement (FEIS) dated July 2010, FHWA has identified the Preferred Alternative (Alternative 17 modified) as the Selected Alternative. As set forth in this ROD, the Selected Alternative best serves the purpose and need for this project and minimizes environmental impacts. In addition, the Selected Alternative is in the best overall public interest, in accordance with 23 U.S.C. 109(h).

1.1 Regulatory Requirements

A ROD is required under the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA) for those projects that are evaluated through an environmental impact statement (EIS) (40 CFR 1505.2). The ROD is required to:

(a) State what the decision was.

(b) Identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable. An agency may discuss preferences among alternatives based on relevant factors including economic and technical considerations and agency statutory missions. An agency shall identify and discuss all such factors including any essential considerations of national policy which were balanced by the agency in making its decision and state how those considerations entered into its decision.

(c) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation.

FHWA's NEPA regulations state: "the ROD will present the basis for the decision as specified in 40 CFR 1505.2, summarize any mitigation measures that will be incorporated in the project and document any required Section 4(f) approval in accordance with Sec. 771.135(l)" (23 CFR 771.127). FHWA's Technical Advisory 6640.8A: *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* reinforces these elements of the ROD and also recommends that the ROD include responses to substantive comments on the Final Environmental Impact Statement (FEIS).

In addition to satisfying the requirements of NEPA and Section 4(f) of the Department of Transportation Act of 1966, the FEIS upon which this ROD is based was prepared in compliance with the following Federal laws and Executive Orders:

- Public interest requirements of the Federal Aid Highway Act under 23 USC 109(h)
- Uniform Relocation Assistance and Real Property Acquisition Policies Act
- Executive Order 12898 – Environmental Justice
- Section 106 of the National Historic Preservation Act
- Executive Order 11990 – Protection of Wetlands
- Executive Order 11988 – Floodplain Management
- Clean Water Act
- Federal Farmland Protection Policy Act
- Endangered Species Act
- Clean Air Act

1.2 Purpose and Need

The purpose of the Circ-Williston Transportation Project is to improve access to, from, and within the project area and remedy existing and projected deficiencies including congestion, safety, and mobility issues (including movement of both people and goods). Transportation deficiencies in the project area and, specifically, on VT 2A and North Williston Road include: 1) traffic congestion between I-89 and Essex and Essex Junction; 2) a combination of relatively high traffic volumes and inadequate roadway design features which contribute to conflicting traffic movements and safety issues for all modes of travel, including vehicular, pedestrian and bicycle; and 3) mobility issues between business centers, which affect commerce and the efficient movement of people and goods. In the absence of transportation improvements, these deficiencies will worsen in the future as population and employment grow, and traffic volumes increase.

VT 2A is the north-south spine of the project area connecting three of the four major highways leading into Burlington and South Burlington (I-89, US 2 and VT 15). VT 2A between I-89 Exit 12 and US 2, and US 2 between VT 2A and I-89 Exit 14 are part of the National Highway System. VT 2A directly serves the growing Taft Corners area, a regional retail destination, as well as the established village center of Essex Junction. The Five Corners intersection of VT 2A, VT 117, and VT 15 in Essex Junction experiences notable peak period traffic congestion. VT 2A is a funnel for traffic crossing the Winooski River to Essex Junction and points beyond; the only other public road crossing the river in the project area connecting Williston and Essex is North Williston Road, a north-south town road traversing a rural-residential portion of the project area which is on varying terrain, and subject to flooding and closure. During the PM peak hour, through-traffic traveling on VT 2A ranges from 34 to 50 percent of total traffic, with the highest percentage north of Industrial Avenue. There is a need to address the component of through travel as it contributes to congestion and crashes in the project area. In addition, there is a need to improve travel conditions in the project area to meet the need to efficiently move people and goods between Williston and Essex and Essex Junction and to improve overall travel safety.

1.2.1 Congestion

Four of the major signalized intersections along VT 2A will have an unacceptable level of service (LOS) F in the 2030 No Build condition.

- Industrial Avenue/Mountain View Road in the AM and PM peak hours.
- South Street/River Street in the AM peak hour.
- Marshall Avenue/Maple Tree Place in the PM peak hour.
- Five Corners in the AM and PM peak hours.

In addition, several roadway segments of VT 2A will experience severe congestion. Because of these congested conditions on VT 2A, many drivers will seek other, parallel routes. The nearest alternate route to VT 2A that provides a crossing of the Winooski River in the project area is North Williston Road, a collector route through a rural/residential area of Williston. Traffic volumes and congestion are expected to increase substantially on North Williston Road, inconsistent with its functional classification and roadway design.

1.2.2 Safety

The majority of VT 2A roadway segments and intersections, including Marshall Avenue/Maple Tree Place, Industrial Avenue/Mountain View Road, and Five Corners are designated by VTrans as high crash locations because they exceed the statewide average crash rates. As traffic volumes increase on VT 2A, the number of accidents occurring in these locations is expected to continue to increase. VT 2A serves both as an arterial for north-south travel between Williston, Essex and Essex Junction, and as a collector for numerous business and residential access. The existing layout of VT 2A has many side streets and commercial and private driveways with little opportunity for access management. For example, there are approximately 60 businesses and households with direct access to VT 2A, and an additional 15 minor streets leading to residential subdivisions between I-89 and the Winooski River in Williston. Local residents have noted that it is becoming increasingly difficult to find a safe gap in the VT 2A traffic flow for vehicles coming from the side streets and driveways along the corridor.

1.2.3 Movement of People and Goods

Future growth and traffic congestion will reduce the mobility of people and goods to, from, and within in the project area. For example, the duration of the average trip from Williston to Essex will increase by 6 minutes between 2005 and 2030, from 21 minutes to 27 minutes during the PM peak hour. Increased travel times will result in increased costs for individuals and businesses, as a result of lost time and fuel consumption.

1.3 Project History

1.3.1 Previous Studies

Numerous studies and plans for improving transportation in the project area have been undertaken at various levels of government since the late 1950s. These studies resulted in plans for a limited access circumferential highway from VT 127 in Colchester through Essex, and around Essex Junction and the Five Corners intersection (VT 2A-VT 15-VT 117) to I-89 in Williston. Local municipalities began making provisions for a

circumferential highway in their comprehensive plans beginning in 1967. In 1975, the Chittenden County Regional Planning Commission (CCRPC) adopted a Regional Plan with the circumferential highway as a major objective of the Plan's transportation component. The project was called the Chittenden County Circumferential Highway Project (CCCH), and consisted of a 16-mile limited access facility located in the towns of Williston, Essex and Colchester.

Funding for the CCCH was secured through a Demonstration Grant from the 1982 Surface Transportation Act. VTrans completed a FEIS and ROD in 1986.¹ Subsequently, federal funds were used to construct four of the 16 miles in Essex, between VT 117 east of Essex Junction and VT 2A and Susie Wilson Road north of Essex Junction. This section of two-way roadway, known as Segments C-F, opened to traffic as VT 289 in 1993.

In 1999, VTrans completed a reevaluation of CCCH Segments A-B (I-89 in Williston to VT 117 in Essex) and determined that a supplemental environmental impact statement was not needed. In 2002, Executive Order 13274: Environmental Stewardship and Transportation Infrastructure Project Reviews named the Chittenden County Circumferential Highway as a high-priority project, requiring federal agencies to "expedite their reviews for relevant permits or other approvals" for the project to the maximum extent practicable and allowed by law. Since the Demonstration Grant project funds were insufficient to complete the CCCH, FHWA proposed using additional federal-aid highway funds to complete the project. FHWA adopted the 1986 FEIS in 2002 and decided to undertake a more comprehensive reevaluation of Segments A-F that incorporated a public involvement component. After extensive additional study, VTrans and FHWA issued an Environmental Assessment (EA)/Reevaluation of Segments A-F on August 9, 2002. Working closely with the U.S. Environmental Protection Agency (EPA), VTrans and FHWA undertook additional environmental studies, resulting in a second EA/Reevaluation in 2003. The final revised reevaluation (FREA) and Record of Decision were issued in 2003 indicating that the construction of Segments A-F would not result in any significant impacts not previously evaluated in the 1986 FEIS.

1.3.2 Prior NEPA and Section 4(f) Litigation

In 2004, the Vermont Public Interest Research Group, Friends of the Earth, Sierra Club, the Conservation Law Foundation and two individuals sued FHWA and VTrans for not fully complying with NEPA. On May 10, 2004, the U.S. District Court of Vermont granted an injunction barring the construction of Segments A-B (Case Number 2:03-cv-00279).

The District Court rejected most of the claims raised by plaintiffs, including those related to improper segmentation, air quality, water quality, threatened and endangered species, environmental justice and noise. The Court found that these issues were considered adequately by FHWA and VTrans during the preparation of the 2003 FREA and that their decisions on these issues were not arbitrary and capricious.

The Court found that FHWA improperly adopted the 1986 FEIS because of deficiencies in the evaluation of indirect effects, cumulative impacts and Section 4(f) resources in the 1986 FEIS. The Court also found the consideration of alternatives and evaluation of indirect effects and cumulative impacts in the 2003 FREA to be inconsistent with the

¹ The Demonstration Grant assigned NEPA authority to VTrans for this specific action.

requirements of NEPA. The Court found that the alternatives section in the 2003 FREA discussed minor design variations, without considering true alternatives to the CCCH as required by NEPA. The Court found that some aspects of the modeling of induced growth conducted for the 2003 FREA were reasonable, but that insufficient attention was paid to the potential for land use impacts in the outlying towns and urbanized centers of Chittenden County. The Court concluded that cumulative impacts were not discussed in the 2003 FREA. As noted in the following section, the Court's comments on these issues were taken seriously and addressed in the new EIS process.

1.3.3 New EIS Process (2004-2010)

On October 8, 2004 the Vermont Secretary of Transportation announced that VTrans was beginning a new Environmental Impact Statement on a proposal to improve the transportation system from I-89 to the Towns of Williston and Essex and the Village of Essex Junction. The Notice of Intent published in the Federal Register by FHWA on November 26, 2004 stated that the EIS would identify transportation needs and deficiencies in the project study area, including mobility, access, system continuity, and safety. The range of transportation alternatives to be evaluated in the EIS would not be restricted to the alternatives for this area considered in the 1986 FEIS and 2003 FREA, nor the conclusions reached in these documents. In addition, the EIS would specifically address the relationship between transportation and land use in and around the project study area. During the development of the Draft Environmental Impact Statement (DEIS), six public meetings/workshops were held as part of scoping, alternatives screening, and to present preliminary results from the DEIS studies. Each of the public meetings was held in two to three separate locations to facilitate public participation throughout Chittenden County. In addition, four public technical workshops were held as part of the development of the methodology for assessing indirect effects and cumulative impacts.

A Cooperative Agreement between FWHA, VTrans and 11 state and federal resource agencies was entered into in May, 2005. The purpose of this agreement was to ensure a commitment from these cooperating resource agencies to work in a cooperative manner; to affirm the roles of the resource agencies to provide meaningful input into the EIS process; to collaboratively develop information and evaluate transportation alternatives, impacts, mitigation, and enhancement; and to establish a framework for resolving disagreements among agencies. Approximately 20 interagency meetings were held to allow representatives of state and federal resource agencies to provide feedback on the scope of work and results of the environmental technical studies conducted for the DEIS.

The Notice of Availability for the Circ-Williston Transportation Project DEIS was published in the Federal Register on August 10, 2007. The DEIS was distributed to the project mailing list by CD-ROM, posted on the project website and made available at local libraries. CD-ROMs containing the DEIS were mailed on request at no charge. Public hearings on the DEIS/Section 404 Permit Application were held on October 16, 2007 in Essex Junction and Williston. In total, at least 110 individuals attended the public hearings. Over 40 individuals commented for the record during public hearings and some individuals commented multiple times. The public comment period was extended to November 21, 2007, bringing the total duration of the comment period to 110 days. Over 300 comments on the DEIS were received through postal mail, faxes, email and through the project website. The public and agency comments and corresponding

responses from VTrans and FHWA were provided in FEIS Appendix Q: *Comment Response Document*.

Several additional studies were undertaken following the publication of the DEIS, including design refinements to avoid environmental impacts, an evaluation of additional alternatives suggested in comments from other agencies, detailed analysis of secondary impacts to wetlands and wildlife habitat, a chloride monitoring study, a new compensatory wetland mitigation site search, a greenhouse gas emissions analysis, a survey of emergency response providers and additional analysis of historic resource impacts in the VT 2A corridor. A complete summary of the additional studies conducted since the DEIS was provided in Section 1.4.2 of the FEIS. Throughout the development of these additional studies, VTrans and FHWA continued a robust program of outreach and consultation with resource agencies. Between the publication of the DEIS and the FEIS, 18 interagency meetings were held (including field visits to the Selected Alternative alignment and reviews of potential wetland mitigation sites).

During the preparation of the FEIS, coordination with the Chittenden County Metropolitan Planning Organization (CCMPO) was conducted to determine if there were changes in demographic projections or transportation model specifications that would necessitate revisiting the analyses conducted for the DEIS. The outcome of these discussions was agreement that the ongoing CCMPO model update process does not necessitate revising the analyses conducted for the DEIS (See the memo dated November 12, 2009 and provided in FEIS Appendix S: *Public Involvement and Agency Coordination Addendum*).

On July 6, 2010, the U.S. Army Corps of Engineers (ACOE) identified the Selected Alternative as the Least Environmentally Damaging Practicable Alternative (LEDPA) under the Clean Water Act Section 404 (b)(1) Guidelines (40 CFR 230). A copy of the letter containing the LEDPA decision was provided in FEIS Appendix S: *Public Involvement and Agency Coordination Addendum*.

The Notice of Availability for the Circ-Williston Transportation Project FEIS was published in the Federal Register on July 23, 2010. The FEIS was distributed to the project mailing list by CD-ROM, posted on the project website and made available at local libraries, the VTrans office in South Burlington and the FHWA office in Montpelier. The review period for the FEIS lasted 35 days, ending on August 27, 2010. A public officials meeting on the FEIS was held on August 9th, 2010 at the Williston Town Hall. Two public information meetings were held—one on August 9th, 2010 at the Williston Central School and one on August 10th, 2010 at the Champlain Valley Expo in Essex Junction. The public information meetings were noticed by ads in local newspapers, the project website and mailings to the project mailing list. The objective of the public information meetings was to provide the public with information on the FEIS and the opportunity for informal discussion with the project team in an open house format. The public information meetings did not provide an opportunity for official recording of oral comments. Comment forms were made available and written comments were accepted at the public information meetings. Approximately 125 comments on the FEIS were received through a comment form on the project website. Comments were also received by mail and email from one Federal agency, environmental organizations and individuals. For more information on the comments received on the FEIS and the FHWA/VTrans responses, refer to Section 4.4.2 and Appendix A of this ROD.

2.0 Description of the Selected Alternative

The Selected Alternative is Circ A/B Alternative 17 (Circ A/B Boulevard) described in Chapter 4 of the FEIS. The Selected Alternative would be located primarily within the existing Circ A/B corridor right-of-way acquired in the early 1990's. The Selected Alternative design involves a trumpet interchange with I-89 in Williston, signalized intersections with U.S. 2 and Mountain View Road, and a connection to VT 289 and VT 117 in Essex. The Selected Alternative would feature two travel lanes in each direction, separated by an 8 to 16 foot wide raised median (See FEIS Figure 4.2-2). The speed limit on the new roadway would be 40 mph, minimizing noise and other community character impacts for adjacent residential areas in Williston. The following describes the general design characteristics of the Selected Alternative, moving from south to north.

A new trumpet interchange would be constructed between I-89 and the Circ A/B roadway. The interchange would require rock cuts and fill on the hillside south of I-89. Auxiliary lanes would be constructed on I-89 between the existing I-89 Exit 12 in Williston and the proposed new interchange. A bridge structure would be constructed to carry the Circ A/B roadway over I-89. Between I-89 and US 2, the Selected Alternative would be constructed on fill over old fields. To minimize wetland impacts for the Selected Alternative, the design speed and radius of the I-89 northbound off-ramp was reduced and a retaining wall was incorporated along the ramp. In addition, a median barrier was extended up to the intersection with US 2 instead of a grass median to minimize the area disturbed by the roadway.

The Selected Alternative would have a signalized intersection at US 2 (See FEIS Figure 4.2-1). This configuration allows for access to US 2, but with substantially fewer wetland impacts than an interchange or grade separation in this location. A 345-foot bridge span would be used to carry the roadway over Allen Brook to minimize aquatic habitat impacts as compared with a conventional box culvert. Beyond US 2, the Circ A/B roadway would pass over open land near the Allen Brook School and the South Ridge, Coyote Run and Brennan Woods subdivisions. The Selected Alternative median width was reduced from the 16 feet typically used with a boulevard design to 8 feet to minimize wetland impacts between US 2 and Mountain View Road. The narrower median width combined with the Allen Brook bridge reduces the direct permanent wetland impacts of the Selected Alternative by 1.8 acres between US 2 and Mountain View Road in comparison to the base design for Alternative 17.

The Selected Alternative would have a signalized intersection at Mountain View Road. The Selected Alternative incorporates an easterly alignment shift in the vicinity of the Circ A/B crossing of Mountain View Road (See FEIS Figure 4.2-3). The alignment shift was introduced as a means to minimize impacts to the forested wetland north of Mountain View Road, which includes a vernal pool used by wood frogs. The alignment shift would require a full acquisition of a 1.6 acre vacant parcel adjacent to Mountain View Road. The alignment shift would also require a less than one acre partial property acquisition from the Catamount Golf Course. The property acquisition is not expected to impact the layout and use of the golf course.

North of Mountain View Road, the Selected Alternative would be constructed through a forested area on Martel Hill and adjacent to the planned location for the Chittenden County Solid Waste District Regional Landfill. The Circ A/B Alternatives would pass

over the forested riparian corridor along Redmond Creek, and between the Chittenden Solid Waste District Transfer Station and the retired Williston landfill. Instead of a box culvert, a 177-foot bridge is proposed over the Redmond Creek corridor to minimize aquatic habitat impacts and to maintain wildlife passage through the riparian corridor. The Winooski River bridge would begin just before the railroad tracks, spanning over the railroad, wetlands/floodplain, river and VT 117. On the opposite side of the Winooski River, the Circ A/B roadway would be connected to the existing VT 289 and VT 117.

The transportation improvements under the Selected Alternative include minor “spot improvements” at the following locations along VT 2A: I-89 Exit 12 northbound ramps, Marshall Avenue/Maple Tree Place, Mountain View Road/Industrial Avenue and South Street/River Street. Detailed descriptions of the spot improvements (which were common to all of the Circ A/B Alternatives) are provided in Section 3.2.3 of this ROD.

3.0 Alternatives Considered

3.1 Alternatives Screening

Beginning with the scoping phase of the EIS process, numerous transportation alternatives were suggested by the public and other agencies for consideration. Alternatives screening was conducted to narrow the range of possible alternatives to those that potentially meet the project’s purpose and need, and therefore warranting a more detailed analysis of transportation benefits and environmental impacts. FEIS Figure 3.2-1 illustrates the major steps in the alternatives screening process.

An initial “long list” of 68 alternative transportation concepts was created based on public and agency suggestions received during interviews and open houses during scoping. These 68 concepts were organized into six general categories:

- Transportation Demand Management
- Public Transportation
- Pedestrian/Bicycle
- Freight Movement
- Improvement of Existing Roadways, and
- Construction of New Roadways.

Initial transportation screening used an intuitive process to evaluate the likelihood of each concept to relieve congestion on VT 2A, improve mobility between Williston and Essex and improve safety on VT 2A. Concepts that could potentially meet the project objectives and purpose and need were refined and combined, with public input, to create 23 alternatives for quantitative comprehensive screening, taking into account transportation and environmental considerations. The 23 alternatives subjected to comprehensive screening included public transportation/transportation demand management improvements, improvements to existing roadways, and new roadways. Finally, the results of the comprehensive transportation and environmental screening were used to select the “short-list” of eight Build Alternatives subject to detailed analysis in the EIS.² The federal and state resource agencies concurred with the short-list of

² Subsequent to alternatives screening, two additional design variations on Alternative 16: Circ A/B Limited Access Highway were developed for analysis in the EIS based on public and agency feedback. As a result,

alternatives for analysis in the EIS at the ACOE Phase I Workshop held on October 18, 2005 as part of the ACOE New England District Highway Methodology for integrating the requirements of NEPA and Section 404 of the Clean Water Act.

Refer to Chapter 3 of the FEIS for detailed information regarding the alternatives screening process, including descriptions of each alternative considered, transportation and environmental screening metrics and the rationale for the elimination of specific alternatives.

3.2 Description of Alternatives Evaluated in the EIS

This section describes the No Build Alternative and the ten Build Alternatives that were developed from the alternatives screening process for detailed evaluation in the EIS. The Build Alternatives are organized into three categories: the VT 2A Alternatives (2, 3, 22); the Circ A/B Alternatives (16a, 16b, 16c and 17); and the Hybrid Alternatives (18, 19, 23). The alternative designation numbers are not sequential because they retain the number they were assigned during the initial screening of potential alternatives for the proposed project. Table ROD-1 summarizes the type, location and key elements of the VT 2A, Circ A/B and Hybrid Alternatives.

**Table ROD-1
Build Alternatives**

Name	Type of Alternatives	Location of Alternatives	Key Elements of Alternatives
VT 2A Alternatives (2, 3, 22)	Improvements to existing roadway	VT 2A, from I-89 Exit 12 to the Five Corners intersection in Essex Junction.	<ul style="list-style-type: none"> ▪ Widening to increase the number of travel lanes ▪ Roundabout intersections (Alternatives 3 and 22) ▪ Signalized intersection improvements (Alternative 2)
Circ A/B Alternatives (16a*, 16b, 16c, 17)	Construction of new roadway	The existing Circ A/B right-of-way, between I-89 in Williston and the existing terminus of VT 289 at VT 117 in Essex.	<ul style="list-style-type: none"> ▪ Construction of a four-lane limited access highway with various interchange options and a grass median (Alternatives 16a, 16b, 16c) ▪ Construction of a four-lane boulevard style roadway with at-grade intersections and a landscaped median (Alternative 17)
Hybrid Alternatives (18, 19, 23)	Combinations of improvements to the existing roadway with construction of new roadway	VT 2A, from I-89 Exit 12 to the Five Corners intersection in Essex Junction and the existing Circ Segment A right-of-way between I-89 and Mountain View Road.	<ul style="list-style-type: none"> ▪ Same improvements being considered in the VT 2A alternatives with the addition of "Circ Street" between I-89 and Mountain View Road (four lanes between I-89 and US 2 and two lanes between US 2 and Mountain View Road).

*Alternative 16a represents the original design for CCCH segments A-B

the total number of Build Alternatives analyzed increased from eight to ten (See Section 3.3 of the FEIS for more information).

3.2.1 No Build Alternative

The future condition without the proposed project is called the No Build Alternative. Analysis of the No Build Alternative is required by NEPA and is used as a baseline for the evaluation of the environmental effects of the Build Alternatives. The No Build Alternative includes expected improvements in the VT 2A and Circ A/B corridors, as well as other transportation and non-transportation projects in Chittenden County that would be completed by the analysis year of 2030.

In general, the No Build Alternative includes all the improvements committed to in CCMPO's *Transportation Improvement Program (TIP)* and the improvements with anticipated funding that are included in the *2025 Metropolitan Transportation Plan (MTP)*.

Future residential and commercial development for the No Build Alternative was projected using the Land Use Allocation Module (LUAM) of the Chittenden County Transportation Model. These estimates of future development included information on known projects gathered from local government officials, development review board minutes, town and county reports on planned and permitted development and press reports. In addition to known development proposals, development associated with projected future population and employment growth by 2030 was allocated based on accessibility and development constraints. This information was used to identify future growth patterns under the No Build Alternative in order to provide a baseline for comparing the Build Alternatives.

3.2.2 VT 2A Alternatives (2, 3, 22)

Existing Roadway Layout of VT 2A

In order to understand the VT 2A Alternatives, it is helpful to understand the current roadway layout of VT 2A. From I-89 to US 2 in Williston, VT 2A is generally four-lanes, with additional turning lanes at intersections. The remainder of VT 2A from US 2 to Five Corners in Essex Junction is generally two-lanes, with additional turning lanes at intersections. FEIS Figure 3.5-1 shows the typical cross sections for VT 2A existing conditions. All major intersections on VT 2A are signalized intersections. VT 2A crosses the Winooski River on a two-lane bridge structure north of James Brown Drive in Williston.

Common Elements with the VT 2A Alternatives

The defining characteristic of the VT 2A Alternatives is that they involve improvements to VT 2A between I-89 Exit 12 in Williston and Five Corners in Essex Junction. They all involve varying degrees of roadway widening, as well as intersection improvements.

The VT 2A Alternatives would all require full reconstruction of VT 2A, including the removal of existing pavement, the placement of gravel base materials, and new pavement for the full length of the roadway. The VT 2A Alternatives include completion of a continuous Williston Alternative Transportation Path (WATP) along VT 2A. The existing portions of the WATP that have already been constructed would be maintained or relocated. The VT 2A Alternatives would also include a commitment to improvements to bus waiting areas, such as better signing and the installation of benches or shelters

(see FEIS Figure 3.5-2 through Figure 3.5-4 for the alignments, proposed improvements and cross-sections for the VT 2A Alternatives).

All of the VT 2A Alternatives would require the replacement of the VT 2A bridge over Allen Brook.

Differences Between the VT 2A Alternatives

Alternative 2 would widen VT 2A to four travel lanes, with additional turning lanes and the installation of new traffic signal systems at intersections. Alternative 3 would also widen VT 2A to four travel lanes, but instead of turning lanes and new traffic signals, roundabouts would be installed at key intersections. Alternative 22 would involve tapered widening of VT 2A, with four travel lanes at the southern part of the corridor, three lanes (two travel lanes with a continuous two-way left turn lane) in the middle segment and two travel lanes (unchanged from the existing layout) in the northernmost part of the corridor from James Brown Drive to Five Corners in Essex Junction. Alternative 22 would also involve the installation of roundabouts at six intersections, while Alternative 3 would have roundabouts at nine intersections.

The bridges carrying I-89 over VT 2A would need to be replaced to accommodate intersection turning lanes under Alternative 2. The I-89 bridges would not need to be replaced as part of Alternatives 3 and 22, which involve roundabouts at this location. The existing VT 2A bridge over the Winooski River would be widened to four lanes under Alternatives 2 and 3. The bridge would not be modified under Alternative 22.

More detail on the design of the VT 2A Alternatives was provided in FEIS Section 3.5.3.

3.2.3 Circ A/B Alternatives (16a, 16b, 16c, 17)

Common Elements with the Circ A/B Alternatives

The defining characteristic of the Circ A/B Alternatives is the construction of a new four-lane roadway connecting I-89 in Williston to VT 289 in Essex, in the existing Circ A/B right-of-way. The Circ A/B Alternatives would require the construction of a new bridge over the Winooski River/VT 117 and interchange ramps to connect the new roadway to the existing interchange of VT 289 and VT 117 (see FEIS Figure 3.5-5 through Figure 3.5-8 for the alignments, proposed improvements and cross-sections for the Circ A/B alternatives).

The Circ A/B alternatives would also involve intersection improvements on VT 2A, but less extensive than the improvements proposed for the VT 2A alternatives. These improvements are called “spot improvements”. These minor improvements include:

- The westbound approach of the VT 2A and Northbound I-89 Ramps intersection would be restriped from a shared left/through lane and an exclusive right turn lane to a shared left/through/right lane and an exclusive right turn lane.
- At the VT 2A and Marshall Avenue/Maple Tree Place intersection, an exclusive left turn lane would be added on the northbound approach, and an exclusive right turn lane would be added on the southbound approach.

- At the VT 2A and Mountain View Road/Industrial Avenue intersection, an exclusive right turn lane would be added on the northbound approach and an exclusive left turn lane would be added on the eastbound approach. On the westbound approach of this intersection, an additional travel lane would be added and the lane striping would be changed from a shared left/through/right lane to an exclusive left turn lane and a shared through/right lane.
- At the VT 2A and South Street/River Street intersection, an additional travel lane would be added to the westbound approach and change the lane striping from a shared left/through/right lane to a shared left/through lane and an exclusive right turn lane.

The WATP near the Allen Brook School would be reconstructed to cross over the proposed Circ A/B roadway. Additional multi-use paths are proposed on the west side of Redmond Road and on the south side of Mountain View Road.

All of the Circ A/B Alternatives include the construction of bridges over I-89, Allen Brook, Redmond Creek and the Winooski River.

Differences Between the Circ A/B Alternatives

Alternative 16 is a four-lane limited access highway with grade separated interchanges, while Alternative 17 is a four-lane boulevard-type street with at-grade intersections.

There are three different combinations of interchange options being evaluated for Alternative 16, referred to as Alternatives 16a, 16b and 16c, respectively. These options were evaluated to investigate the effects of including an interchange at US 2, and a different interchange design in the area of Mountain View Road and Redmond Road designed to reduce wetland impacts.

Alternative 16a would have a trumpet interchange with I-89 and with Redmond Road, but would have no connection to US 2. Alternative 16b would have the same trumpet interchanges as 16a at I-89 and Redmond Road, but it would also have a partial cloverleaf interchange at US 2. Alternative 16c would have a trumpet interchange with I-89, no connection to US 2, and a diamond interchange with Mountain View Road.

Alternative 17 (Circ A/B Boulevard—the Selected Alternative) would have a trumpet interchange at I-89, and at-grade signalized intersections with US 2 and Mountain View Road. For more information on Alternative 17 and the design refinements made to this alternative, refer to Chapter 4 of the FEIS.

In addition to the bridge structures common to all Circ A/B Alternatives, a bridge carrying US 2 over the Circ A/B roadway would be constructed under Alternatives 16a, 16b, and 16c. These alternatives would also include a bridge to carry the Circ A/B roadway over Mountain View Road.

More detail on the design of Circ A/B Alternatives 16a, 16b and 16c was provided in FEIS Section 3.5.4.

3.2.4 Hybrid Alternatives (18, 19, 23)

Common Elements with the Hybrid Alternatives

The defining characteristic of the Hybrid Alternatives is that they combine widening and intersection improvements on VT 2A with a boulevard-type roadway in the existing Circ A right-of-way, from I-89 to Mountain View Road. This roadway is called the “Circ Street”. FEIS Figure 3.5-9 through Figure 3.5-11 depict the alignments, proposed improvements and cross sections for the Hybrid Alternatives.

The Circ Street would have a diamond interchange with roundabouts at I-89, and at-grade intersections with US 2 and Mountain View Road. These at-grade intersections could be either signalized or roundabout intersections. The Circ Street would have four lanes with a landscaped median from I-89 to US 2, and two lanes from US 2 to Mountain View Road. The Circ Street would have a multi-use path on the east side of the roadway, separated by a landscaped buffer, from US 2 to Mountain View Road. The existing WATP near the Allen Brook School would cross the Circ Street at-grade. The Circ Street would terminate at Mountain View Road and would have same design in Alternatives 18, 19 and 23.

Differences Between the Hybrid Alternatives

Alternatives 18, 19 and 23 would involve different types of widening and intersection improvements on VT 2A. The improvements on VT 2A would be identical to those described above for Alternatives 2, 3 and 22.

- Alternative 18 (Alternative 2 VT 2A Improvements plus Circ Street)
- Alternative 19 (Alternative 3 VT 2A Improvements plus Circ Street)
- Alternative 23 (Alternative 22 VT 2A Improvements plus Circ Street)

More detail on the design of the Circ Street was provided in FEIS Section 3.5.5.

4.0 Basis for Decision

The Build Alternatives studied in detail each vary in transportation performance, and each would impact different aspects of the environment. The ability of the alternatives to meet the purpose and need for the project was given primary consideration in the decision making process because maintaining the performance of the transportation system is part of the core statutory mission of FHWA. The environmental and community impacts of the alternatives were also considered. Overall, no single benefit or impact alone is determinative. Instead, an accumulation of factors led FHWA and VTrans to choose a Circ A/B corridor alternative over a VT 2A corridor alternative, or a Hybrid alternative. The advantages and disadvantages of each group of Build Alternatives are summarized in Tables ROD-2 and ROD-3, respectively. While Tables ROD-2 and ROD-3 address the general advantages and disadvantages of each group of alternatives, Table ROD-4 compares the Selected Alternative to the other Circ A/B Alternatives. The environmental factors included in the tables reflect those topics that are pertinent to the project area, provide distinctions between the alternatives and are within the general purview of various federal laws and regulations.

Key factors in the FHWA/VTrans decision to select Alternative 17 modified included:

- the ability of the alternatives to meet the transportation need identified for the project;
- consistency with local and regional plans;
- environmental and community impacts; and
- views of government agencies, and the public.

Each of these key factors is discussed in detail in Sections 4.1 through 4.4 of this ROD, below. Section 4.5 of this ROD concludes that the Selected Alternative is also the environmentally preferable alternative.

**Table ROD-2
Advantages of Each Group of Build Alternatives**

Circ A/B Alternatives Advantages	VT 2A Alternatives Advantages	Hybrid Alternatives Advantages
Best improves mobility as measured by travel times	Fewest wetland and wildlife habitat impacts	Less wetland and wildlife habitat impacts than Circ A/B Alternatives
Better reduces traffic volumes and congestion on other roadways (North Williston Road, VT 117 and VT 15).	Reduces congestion and improves safety on VT 2A by providing additional capacity	Reduces congestion and improves safety on VT 2A by providing additional capacity
Reduces congestion and improves safety on VT 2A by diverting traffic to new roadway	Circ A/B corridor remains available for other potential uses	Circ B corridor remains available for other potential uses
Consistent with local plans and preferred by local elected and planning officials		
No residential or business displacements		
No historic or parkland resource impacts		
Fewest noise impacts in VT 2A corridor		
Most consistent with the Chittenden County Regional Plan		

**Table ROD-3
Disadvantages of Each Group of Build Alternatives**

Circ A/B Alternatives Disadvantages	VT 2A Alternatives Disadvantages	Hybrid Alternatives Disadvantages
Impacts highest quantity and quality of wetlands	Impacts historic properties	Impacts historic properties
Impacts forested areas and related wildlife habitat, including vernal pool and potential vernal pool habitat and deer wintering habitat	Impacts Veterans Memorial Park (roundabout alternatives only)	Impacts Veterans Memorial Park (roundabout alternatives only)
Impacts the greatest stream length	Requires residential and business displacements	Requires residential and business displacements
	Requires relocation of Allen Brook	Requires relocation of Allen Brook
	Increases traffic volumes on VT 2A and routes leading in and out of Five Corners	Increases traffic volumes on VT 2A and routes leading in and out of Five Corners

Circ A/B Alternatives Disadvantages	VT 2A Alternatives Disadvantages	Hybrid Alternatives Disadvantages
	Highest number of VT 2A corridor noise impacts	Increases the number of VT 2A corridor noise impacts
	Inconsistent with local planning and opposed by local officials	Inconsistent with local planning and opposed by local officials
	Impacts community character through Williston residential area and Essex Junction Village center	Impacts community character through Williston residential area and Essex Junction Village center

**Table ROD-4
Summary Comparison of the Circ A/B Alternatives**

Topic	Alternative 16a	Alternative 16b	Alternative 16c	Selected Alternative
Adequately Meets Purpose and Need?	Yes	No (LOS F at Five Corners in PM peak)	Yes	Yes
Residential and Business Displacements	None	1 residential	None	None
Property Acquisitions	3 full 9 partial	4 full 9 partial	4 full 12 partial	4 full 11 partial
VT 2A Corridor Noise Impacts	52	39	39	52
Circ A/B Corridor Noise Impacts	34	34	33	0
Direct Permanent Wetland Impacts (acres)	37.0	46.83	30.57	20.20
Forest Cover Impacts (acres)	91.6	91.6	74.1	59.1

Note that the availability of right-of-way in the VT 2A corridor, while a consideration in practicability of the alternatives under the Section 404 permitting process, was not considered by FHWA in identifying the Selected Alternative in this ROD.

4.1 Ability to Meet the Transportation Needs Identified for the Project

One of FHWA’s core responsibilities is to ensure that Federally-funded highways will “adequately serve the existing and planned future traffic of the highway in a manner that is conducive to safety, durability, and economy of maintenance” and “to conform to the particular needs of each locality” (23 USC 109(a)). Accordingly, a key factor in the identification of the Selected Alternative to implement was the relative ability of each alternative to meet the transportation needs that were identified for the project. For the Circ-Williston Transportation Project, the three aspects of the purpose and need are congestion, safety and the movement of people and goods (mobility).

4.1.1 Congestion

Four types of indicators of congestion were examined—intersection congestion on VT 2A, roadway segment congestion on VT 2A and North Williston Road, VT 2A side street delays, and congestion on other roadways in the project area.

Intersection Congestion

One of the transportation performance measures related to congestion is level-of-service (LOS). VTrans LOS policy is to design facilities that maintain LOS C; however reduced LOS is acceptable on a case-by-case basis in densely settled areas, such as the project area (VTrans, 2007). For the transportation analysis in the EIS, LOS F was used as a performance measure indicating an unacceptable LOS condition. Alternatives 2, 22, 16b, and 18 do not correct or counteract an unacceptable LOS condition at one or more VT 2A intersections as follows:

- Under Alternative 2 the Five Corners intersection would be at LOS F in the AM and PM peak
- Under Alternative 22 the Marshall Avenue/Maple Tree Place intersection would be at LOS F in the PM peak
- Under Alternative 16b the Five Corners intersection would be at LOS F in the PM peak
- Under Alternative 18 the Five Corners intersection would be at LOS F in the AM peak

The Selected Alternative improves all of the VT 2A intersections with an unacceptable LOS in the No Build to LOS D or E.

Operational issues with the roundabouts included as part of Alternatives 3, 22, 19, and 23 result in congested conditions that would degrade access to VT 2A from the project area business centers. These issues do not occur for the other alternatives that use signalized intersections at these locations.

The capacity of each entry of a roundabout is the maximum number of vehicles that can reasonably be expected to enter the roundabout from an approach during a given time period. The commonly accepted performance measure for roundabouts is a volume to capacity ratio of 0.85 or less for the critical approach. If the critical approach becomes congested, the function of the roundabout will degrade, even though the overall or “average” level of service of the entire roundabout may appear to be acceptable. Several of the roundabouts in Alternatives 3, 22, 19, and 23 have critical approaches with volume to capacity ratios substantially greater than 0.85. This problem is particularly severe for Alternatives 3 and 19. Under Alternatives 3 and 19 in the PM peak period, volume to capacity ratios substantially exceed 0.85 at the following locations that are vital to the accessibility of project area business centers:

- **VT 2A and Marshall Avenue/Maple Tree Place-** access to regional shopping center and other commercial areas.
- **VT 2A and Industrial Avenue/Mountain View Road-** access to commercial and industrial areas west of VT 2A
- **VT 2A and South Street/River Street-** access to IBM

- **VT 2A and Five Corners-** access to Essex Junction businesses and Champlain Valley Expo

Roadway Segment Congestion

Roadway segment congestion is measured by the volume-to-capacity (v/c) ratio of individual intersection to intersection roadway segments. It has been determined that a v/c ratio of 1.32 indicates a severely congested roadway segment in Chittenden County based on data from CCMPO's travel demand model (approximates the LOS E-F threshold) and field observations. Alternatives 2, 22 and 23 do not correct or counteract one or more severely congested VT 2A roadway segments as follows:

- Under Alternative 2, the southbound VT 2A segment between Marshall Avenue/Maple Tree Place and I-89 would have a V/C ratio of 1.36 in the PM peak.
- Under Alternative 22, the southbound VT 2A segment between South Street/River Street and Industrial Avenue/Mountain View Road would have a V/C ratio of 1.51 in the AM peak and the northbound direction of this same segment would have a V/C ratio of 1.61 in the PM peak.
- Under Alternative 23, the southbound VT 2A segment between South Street/River Street and Industrial Avenue/Mountain View Road would have a V/C ratio of 1.52 in the AM peak and the northbound direction of this same segment would have a V/C ratio of 1.64 in the PM peak.

The Selected Alternative corrects or counteracts all severely congested VT 2A roadway segments in the AM and PM peak hours. The Selected Alternative is particularly effective in reducing congestion on the VT 2A segment between South Street/River Road and Industrial Avenue/Mountain View Road, the segment not improved by Alternatives 22 and 23.

Because of congestion on the primary north-south road in the project area (VT 2A) traffic seeks other routes including town roads such as North Williston Road. In the No Build Condition, North Williston Road would experience restricted flow (V/C ratio greater than 1.0), but not severely congested flow. Under Alternative 23, congestion on North Williston Road would deteriorate to severely congested conditions and, therefore, would create a deficient condition (V/C of 1.33 in the AM peak). The Selected Alternative would substantially reduce congestion on North Williston Road between VT 117 and Mountain View Road/Governor Chittenden Road as follows:

- Southbound in the AM peak—from 1.24 V/C in the No Build to 0.44.
- Northbound in the PM peak—from 1.26 V/C in the No Build to 0.40.

VT 2A Side Street Delays

The existing layout of VT 2A has many side streets, and commercial and private driveways with little opportunity for access management. For example, there are approximately 60 businesses and households with direct access to VT 2A, and an additional 15 minor streets leading to residential subdivisions between I-89 and the Winooski River in Williston. Access to VT 2A from side streets and driveways is an existing congestion problem that is very important to local residents. One of the consequences of alternatives that increase capacity and traffic volumes on VT 2A is that

it becomes much more difficult for drivers from the numerous side streets and driveways along VT 2A to find safe gaps in the traffic flow. The Circ A/B Alternatives generally reduce side street delays by reducing traffic volumes on VT 2A. Alternatives 2, 3, 22, 18, 19, and 23 cause increases in delays at two to four side streets in the AM peak and three to six side streets in the PM peak. Under Alternatives 2, 3, 18 and 19, the increases in delay are substantial in locations such as River Cove Road and James Brown Drive (some increases over 300 percent). The side street delays are greater under these alternatives because they involve the provision of four travel lanes throughout the VT 2A corridor and large increases in VT 2A traffic volumes. The extent and magnitude of problems associated with Alternatives 2, 3, 22, 18, 19, and 23 leads to the conclusion that these alternatives do not remedy the problem of VT 2A side street delays.

Other Roadways (VT 15 and VT 117)

The VT 15 corridor is a key east-west regional highway for the movement of people and goods between residential areas in Essex and Jericho and the major employment centers in the project area. The importance of the VT 15 corridor is highlighted by the Chittenden County Metropolitan Planning Organization's VT 15 Corridor Study, which identifies the segment of VT 15 immediately east of Five Corners as one of the most congested areas of the entire corridor. Alternatives 2, 3, 22, 18, 19 and 23 would worsen congestion and increase traffic volumes on portions of VT 15 in Essex Junction, while the other alternatives would reduce congestion and traffic volumes in these areas.

The VT 117 corridor is an important route for access to, from, and within the project area between I-89 Exit 11 and Five Corners, particularly for residents of Richmond, Jericho, and Essex. VT 117 runs parallel to the Winooski River, and intersects with the two crossings of the Winooski River in the project area- VT 2A and North Williston Road. Alternatives 2, 3, 22, 18, 19 and 23 would worsen congestion and increase traffic volumes on portions of VT 117 in Essex Junction, Essex, and Jericho, while the other alternatives would reduce congestion and traffic volumes in these areas.

4.1.2 Safety

Safety was measured by estimates of the number of crashes. All of the Build Alternatives reduce the projected number of crashes in the project area in comparison to the No Build Alternative. The Selected Alternative decreases project area crashes by 21 per year or 3.7 percent compared to the No Build Alternative.

The extensive VT 2A side street delays created by the VT 2A and Hybrid Alternatives discussed above contribute to a safety problem not accounted for in the quantitative crash analysis methodology. This is because increased delays are likely to result in drivers taking greater risks to turn onto VT 2A. There is no reliable quantitative method available to estimate the number of crashes attributable to increased side street delays; however the issue does need to be qualitatively considered in evaluating the safety performance of the alternatives. The potential safety risk is greatest under Alternatives 2, 3, 18 and 19 which have the highest VT 2A traffic volumes and longest side street delays. According to the 2000 Highway Capacity Manual chapter on unsignalized intersections:

“LOS F occurs when there are not enough gaps of a suitable size to allow a minor street demand to safely cross through-traffic on the major street. This is typically evident from extremely long control delays experienced by minor-street traffic and queuing on the minor approaches.....LOS F may also appear in the form of drivers on the minor street selecting smaller than usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result.” (HCM pages 17-26).

The side street delays safety issue is not a concern for the Selected Alternative itself because no direct access to the roadway would be permitted without approval from VTrans and FHWA. Side street delays are also not a major issue in other portions of the project area (such as North Williston Road), which generally have much lower traffic volumes than VT 2A.

4.1.3 Mobility

The movement of people and goods within the project area is measured by estimates of travel times and speeds between the project area communities. The movement of people and goods is negatively affected by roadway congestion. As noted in the FHWA publication *Trends and Advanced Strategies for Congestion Mitigation* (2005), “One of the key principles that the FHWA has promoted is that the measures used to track congestion should be based on the travel time experienced by users of the highway system. While the transportation profession has used many other types of measures to track congestion (such as “level of service”), travel time is a more direct measure of how congestion affects users.”

Between 2005 and 2030, travel times between the project area municipalities are expected to substantially increase as a result of traffic congestion. For example, the average travel time per vehicle going from Williston to Essex in the PM peak hour is expected to increase by nearly six minutes or 27 percent. Alternatives 22 and 23 do not counteract the deterioration in the movement of people and goods. These alternatives result in changes in travel times of less than 2.5 percent compared to the No Build condition. The remaining Build Alternatives do measurably improve travel times in the project area. The Circ A/B Alternatives, including the Selected Alternative, perform substantially better than the VT 2A Alternatives in improving travel times, particularly between Williston and Essex. For example, the Selected Alternative would reduce the average Essex to Williston travel time by four minutes (16.6 percent) in the AM peak hour, compared to a two minute (8.5 percent) reduction with the best performing VT 2A Alternative.

It is important to note that the mobility analysis is based on the weighted average travel times for all trips with origins or destinations in Essex, Essex Junction, or Williston. While a savings of two to four minutes may not sound large, when this savings is multiplied by thousands of trips over many years, the time and vehicle operating cost savings are substantial. For example, on a countywide basis, the Selected Alternative would reduce vehicle hours traveled by a total of 435 hours per day from the travel time savings during the AM and PM peak hours. Assuming approximately 260 weekdays in a year, the total travel time savings over one year would be 113,100 vehicle operating hours. This estimate does not include any off-peak travel time savings or travel time savings on weekends and holidays. In evaluating the mobility analysis results, it is also important to consider the distance of the weighted average trip. For the Essex to Williston AM peak hour, the weighted average trip distance is 6.6 to 7 miles, depending

on the alternative. The relatively short distance of the typical trip further supports the conclusion that a savings of 2 to 4 minutes is a substantial change.

4.1.4 Conclusion

Based on the above summary, the following alternatives fail to remedy one or more existing and projected deficiencies because they do not correct or counteract an unacceptable condition: No Build, 2, 3, 22, 16b, 18, 19, and 23. Because these alternatives do not remedy the deficiencies, they do not meet the purpose and need for the project.

The remaining alternatives (Alternatives 16a, 16c and the Selected Alternative) do correct or counteract all of the identified deficiencies and improve access to, from and within the project area.

4.2 Consistency with Local and Regional Plans

The VT 2A and Hybrid Alternatives would be inconsistent with the comprehensive plans of Williston, Essex and Essex Junction since the plans of each of these municipalities include the completion of the CCCH (including Segments A/B). The VT 2A and Hybrid Alternatives would be inconsistent with local planning that has anticipated construction of the CCCH, including the Chittenden Solid Waste District Regional Landfill which was accepted by Williston “with the understanding that the truck traffic serving this facility would be able to use the highway once constructed”.³

Under the VT 2A Alternatives and Hybrid Alternatives that would provide four-lanes through the corridor (Alternatives 2, 3, 18 and 19), traffic volumes through residential areas along VT 2A in Williston and Essex Junction would substantially increase, inconsistent with local planning objectives. For example, under Alternative 2, traffic volumes between South Street/River Street and Five Corners would increase by over 900 vehicles or 53 percent in the PM peak hour in comparison to the No Build condition (See FEIS Table 5-12).

In contrast, the Selected Alternative is generally consistent with the comprehensive plans of Williston, Essex, and Essex Junction. Comments from Essex, Essex Junction and Williston officials indicate strong support for a Circ A/B Alternative as consistent with local planning objectives, including objectives for reducing non-destination traffic through residential areas along VT 2A. For example, under the Selected Alternative, traffic volumes between South Street/River Street and Five Corners would be reduced by 240 vehicles or 14 percent in the PM peak hour in comparison to the No Build condition (See FEIS Table 5-12).

The Selected Alternative would be inconsistent with the portion of the 2006 Williston Comprehensive Plan which states that there should be no interchange between the CCCH and US 2. However, the Williston Selectboard has stated their intention to revise the town plan to provide a connection between US 2 and the Circ A/B boulevard. The Selected Alternative would be consistent with the preference of the Williston Selectboard for a roadway with a boulevard profile and a reduced speed limit. The Selected

³ See the October 18, 2005 letter from the Williston Selectboard, provided in DEIS Appendix D: *Public Involvement and Agency Coordination*.

Alternative would have a signalized intersection at US 2, which substantially reduces wetland and stream crossing impacts to the Allen Brook riparian corridor in comparison to the option of constructing an interchange at this location (as under Alternative 16b). The Selected Alternative also includes a bridge over Allen Brook to minimize wetlands and wildlife crossing impacts.

The Selected Alternative includes a signalized intersection at Mountain View Road, which is not consistent with Williston's preference for an interchange with Redmond Road. However, an intersection with Mountain View Road has substantially fewer forested wetland habitat impacts than an interchange with Redmond Road (as under Alternatives 16a, and 16b) and avoids direct impacts to a vernal pool. In order to minimize natural resource impacts, VTrans and FHWA decided an intersection at Mountain View Road was more appropriate than either an interchange with Redmond Road or an interchange with Mountain View Road.

As stated in the FEIS, the Chittenden County Regional Planning Commission (CCRPC) has concluded that "only Alternatives 16a, 16c, and 17 are in conformance with all of the 2006 Chittenden County Regional Plan policies that can be determined at this time." CCRPC further indicated that the VT 2A and Hybrid Alternatives are inconsistent with the 2006 Chittenden County Regional Plan because they are inconsistent with the adopted plans of the municipalities in the project area.

In conclusion, the Selected Alternative is generally consistent with local and regional plans. The alternatives that involve widening VT 2A are inconsistent with local and regional plans.

4.3 Environmental Impacts

This section does not describe all the environmental impacts associated with the Selected Alternative, but describes the environmental impacts that were key discriminators between the Build Alternatives and were influential in the decision to approve the Selected Alternative. A summary of all identified environmental impacts to all resources for the alternatives evaluated in the EIS was provided in FEIS Section ES-7.

4.3.1 Community Impacts

The VT 2A and Hybrid Alternatives would have substantially greater impacts on communities than the Circ A/B Alternatives. The VT 2A and Hybrid Alternatives do not remedy the underlying transportation and related community livability problems in the project area; they adversely affect the communities' character from increased noise impacts, business and residential displacement, and adverse impacts on historic properties and a park; and they conflict with investments made by the affected communities to improve livability. As described in Section 4.2, the VT 2A and Hybrid Alternatives are inconsistent with local and regional plans and opposed by the local officials in the affected communities.

Traffic Impacts on Livability

The transportation problems on VT 2A in Williston and Essex Junction are inextricably intertwined with community character and livability, and individuals' quality of life. As

expressed in several previous studies and during the scoping of the EIS, accessing VT 2A from residential neighborhood side streets and driveways is unreliable and unsafe (e.g., as indicated in Williston's 2003 *Vermont 2A Corridor Study* and CCMPO's 2009 *VT 2A – James Brown Drive Scoping Study*). These conditions are due to the high volume of traffic on VT 2A, up to half of which is through traffic, which allows few gaps in the traffic flow for entering and left-turning vehicles (Vermont 2A Corridor Study). Issues associated with VT 2A are not confined to just the immediate environs of that roadway. Substantial traffic diverts from VT 2A to other roadways seeking less congested routes (e.g., a contributor to issues identified in the *US2/North Williston Road/Oak Hill Road Scoping Study* in the Williston Center historic district).

Widening VT 2A to four-lanes would increase traffic volumes by up to 45% or 950 vehicles per hour as the increased capacity of the roadway would attract more through vehicle trips to the roadway, which is contrary to the municipal desire to reduce traffic on VT 2A. The VT 2A and Hybrid Alternatives would also increase traffic volumes on VT 117 and VT 15, exacerbating the existing traffic impacts on the Village of Essex Junction. Consequently, delays from side streets and driveways would substantially increase making travel for residents and access to local businesses less reliable. While the VT 2A and Hybrid Alternatives would make some safety improvements as a result of physical improvements to intersections, they would also exacerbate the safety problem resulting from excessive delays for traffic attempting to turn onto VT 2A from side streets and driveways. Although not possible to analyze quantitatively, given the current relationship between high crash locations, traffic volumes, and the density of unsignalized side streets, it can be inferred that the VT 2A alternatives would make travel conditions even less safe as gaps for entering and left-turning vehicles, and crossing pedestrians and bicyclists, would be fewer.

As a result of the increase in traffic volumes and speeds, the number of residences along VT 2A exceeding FHWA's noise abatement criterion would increase by up to 83% to 84 residences under the VT 2A and Hybrid Alternatives. The increase in traffic volumes and noise would reduce quality of life for the residential areas along VT 2A in Williston and Essex Junction. No mitigation is feasible for the VT 2A corridor noise impacts because of the numerous side-streets and driveways along the corridor. By utilizing a boulevard design with a 40 mph speed limit, the Selected Alternative would not result in any noise impacts in the Circ A/B corridor.

Consistent with community goals, the Selected Alternative would reduce traffic volumes on VT 2A and other roads by diverting it to the Circ A/B roadway. The Circ A/B Alternatives, including the Selected Alternative, also would be more effective than the VT 2A and Hybrid Alternatives in reducing truck traffic on local roads (See FEIS Appendix V: *Transportation Technical Report Addendum*).

Community Character and Neighborhood Cohesion

The VT 2A and Hybrid Alternatives would involve one to six residential displacements and four to five business displacements. In addition, a widened VT 2A would require 77 to 160 partial property acquisitions resulting in the loss of front yards for homes and the removal of street trees along the corridor, adversely impacting community character in residential areas in Williston and in the Village of Essex Junction. The widened roadway profile under Alternatives 2, 3, 18 and 19 in particular would be incompatible with the character of the Park Street corridor in Essex Junction, and would constitute an adverse

visual effect. Occupants of the residential structures that front VT 2A would be highly sensitive to visual changes that would reduce setbacks and remove existing trees. In comparison, the Selected Alternative would not require any residential or business displacements.

The municipalities traversed by VT 2A have worked to make the roadway environs more livable in keeping with the character of the communities. In the Williston portion of this segment, the Town has constructed multi-use paths along portions of VT 2A using Federal and State funds to improve neighborhood connectivity and facilitate walking and bicycling. In the Essex Junction portion, the Village has used Federal funds to construct streetscape improvements along VT 2A (Park Street) and other streets as part of a business district redevelopment plan in the State-designated village center to recapture the unique characteristics of the Village and attract more customers and tourists to its business district. A wider roadway combined with increased traffic volumes under the VT 2A and Hybrid Alternatives is contrary to community goals and investments in creating a safe and pedestrian-friendly environment along VT 2A and would discourage connectivity between neighborhoods.

The Selected Alternative would change the visual character of the landscape for residential areas near the corridor, but by being a boulevard facility, it is not out of character with this suburban residential area. By utilizing a corridor long planned for transportation use, the Selected Alternative would be consistent with the suburban character of the developments surrounding the corridor, many of which have appropriate setback distances, berms and vegetative screening designed in anticipation of a new roadway through the corridor. The Selected Alternative would not create a barrier within an existing neighborhood and incorporates design features (e.g. WATP overpass near the Allen Brook School) to maintain connections between neighborhoods. By reducing traffic volumes along VT 2A relative to the No Build condition, the Selected Alternative would preserve community character and quality of life in residential areas along VT 2A in Williston and Essex Junction.

As noted previously in the discussion of traffic impacts on livability, the VT 2A Alternatives result in numerous noise impacts exceeding VTrans and FHWA criteria. Noise levels would increase in the Circ A/B corridor under the Selected Alternative, but would not exceed the criteria established under 23 CFR 772.7 and the VTrans noise policy.

Historic Resources

The Selected Alternative does not have any adverse effects on historic structures or districts. All of the VT 2A and Hybrid Alternatives impact multiple historic resources. The impacts range from the loss of setbacks and street trees resulting in a change in the setting of the historic resource, to the complete removal of a historic house. Due to numerous roundabouts, Alternatives 3 and 19 would have an adverse effect on 15 historic properties eligible or listed on the National Register of Historic Places, compared to four adverse effects for Alternatives 22 and 23. Alternatives 2 and 18 would have an adverse effect on 13 historic properties. Adverse effects to historic properties would alter the visual character of the corridor and would alter the community character of the historic residential neighborhood along VT 2A in Essex Junction. While some of these impacts could be minimized or mitigated, there is no way to replace the impacted historic resources.

Parkland

The Circ A/B Alternatives (including the Selected Alternative) and Alternatives 2 and 18 do not have any effect on parkland resources. Alternatives 3, 19, 22 and 23 would impact Veterans Memorial Park, located at the Five Corners intersection in Essex Junction. The park has existed since the 1950s as the location of a memorial to Essex Junction residents who gave their lives in the U.S. Armed Services since the time of the Civil War. It was given its current name by the Village Trustees in 1995. Veterans Memorial Park is owned by the Village of Essex Junction. Planning for the reconstruction of the park began in 1996 and the reconstruction was completed in 2006 at a cost of \$570,000. The intended function of the park is for passive use and as a ceremonial/memorial site. Ceremonies are conducted at the park on Memorial Day. According to architect Steven Schenker, who designed the park, the fountain is also intended as an informal gathering place.

Alternatives 3, 19, 22 and 23 would replace the signalized intersection with a new roundabout design and require the reconfiguration of the external areas of the park. Specifically, the alternatives would encroach into the southerly portion of the park area (taking 922 square feet), requiring the relocation of the main entry to the park and encroaching on the Vietnam War Monument. Based on discussions with Village officials, the activities, features and attributes of the park would be adversely affected by relocating the main entry point even if the monuments themselves were avoided as the orientation of the entry point to the war monuments is important for veterans' ceremonies.⁴ The northerly end of the park would also need to be reconfigured, thus affecting 145 square feet of the park.

Construction Impacts

Due to heavy traffic volumes, a narrow roadway width, limited right-of-way and the proximity of existing buildings, construction along the VT 2A corridor as part of the VT 2A or Hybrid alternatives would require substantial coordination with town officials to minimize impacts to traffic mobility and access. The need to maintain safe work areas for construction personnel and equipment while also providing traffic flow for through-traffic and local access for businesses and residences would require staged construction operations that would lengthen the required construction period and increase the cost of the reconstruction.

Since the Circ A/B Alternatives (including the Selected Alternative) and the Circ Street portion of the Hybrid alternatives are proposed to be constructed on a new alignment, the need for staged construction and the disruption to existing traffic flow would be substantially less than for the VT 2A Alternatives and the VT 2A portion of the Hybrid Alternatives. The main segments of any new roadway in the Circ A/B corridor would be constructed without substantial interference with the existing traffic flow across the corridor along I-89, US 2, Mountain View Road and VT 117.

Construction air quality and noise impacts would be minimized through the construction best management practices summarized in Section 6.7 of this ROD. However, despite

⁴ Refer to the correspondence with the Village of Essex Junction provided in FEIS Appendix S: *Public Involvement and Agency Coordination Addendum*.

these mitigation measures, the proximity of numerous residential areas adjacent to the VT 2A corridor would increase the potential for temporary air quality and noise impacts during construction in comparison to the Circ A/B corridor.

4.3.2 Aquatic Resources

The Circ A/B Alternatives would impact a substantially greater area of wetlands than the VT 2A Alternatives. The VT 2A Alternatives would result in 0.93 to 1.39 acres of direct permanent wetland impacts along an existing developed highway corridor. The majority of the wetlands impacted by the VT 2A Alternatives are of relatively low value and are degraded by existing development. The Selected Alternative would result in 20.20 acres of direct permanent impacts and 27.53 acres of secondary impacts that would alter the function of wetland areas outside the direct impact limits. The majority of the Selected Alternative wetland impacts (73 percent of direct impacts, 63 percent of secondary impacts) would affect relatively low value emergent wetlands formed on farmland abandoned when the right-of-way for the Circ A/B corridor was acquired in the early 1990's.⁵ Particularly for the portion of the corridor south of Mountain View Road, the impacted wetlands are located in a developed landscape setting. The land use surrounding the Circ A/B corridor in this area includes residential subdivisions, a school and a golf course.

Relatively higher quality wetlands with a greater array of functions and services are located in the portion of the corridor just north of Mountain View Road (Wetland G). The forested wetland complex in this area is 56 acres in size, contains a vernal pool used by wood frogs, and provides habitat for the woodcock. The Selected Alternative would bisect the eastern portion of Wetland G and result in 2.54 acres of direct impacts and 5.50 acres of secondary impacts. Numerous design measures were taken to avoid and minimize impacts in this area, including an easterly alignment shift and the use of a signalized intersection instead of an interchange with Mountain View Road/Redmond Road.

The aquatic resource impacts of the Selected Alternative will be addressed through compensatory mitigation (See Section 6.4 of this ROD).

Post-FEIS Refinements to Wetland and Stream Impacts

The wetland impact totals presented in FEIS Table 11-20 have changed as a result of further avoidance and minimization measures. Specifically, a stormwater treatment area adjacent to Redmond Road within Wetland G was relocated to an upland area at the Redmond Road/Mountain View Road intersection. In addition, the footprint of the proposed improvements to Redmond Road itself were reduced to be commensurate with the lower traffic volumes on Redmond Road with a boulevard alternative compared to the limited access highway alternatives that would have provided an interchange connection to Redmond Road. The updated wetland impacts of the Selected Alternative by cover type are provided in Table ROD-5. Overall, total direct permanent impacts have been reduced from 21.81 acres at the time of the FEIS to 20.20, a reduction of 7.4 percent.

⁵ Wetland functions and values were assessed in accordance with the U.S. Army Corps of Engineer's *Highway Methodology Workbook Supplement: Wetland Functions and Values, A Descriptive Approach*. 1995.

The secondary impacts summarized in Table ROD-5 (27.53 acres) differ from the calculation of secondary impacts by ACOE as part of the Section 404 permitting process. For purposes of determining the required compensatory mitigation for the project, ACOE estimates the total secondary wetland impacts of the Selected Alternative to be approximately 100 acres. The ACOE methodology for assessing secondary impacts to wetlands differs from the FEIS methodology in that it includes all the delineated wetlands within 200-meters of the corridor outside the direct impact limits. A 200-meter edge effect zone was used in the FEIS as part of the evaluation of potential impacts to the habitat requirements of sensitive forest interior bird species, but was not used as an indicator of effects on overall wetland wildlife habitat functions and services. Secondary impacts attenuate with increasing distance from the roadway, therefore it was appropriate for the FEIS wetland secondary impact analysis to focus on those areas closest to the alignment where there is the potential for functions and services to be substantially affected (e.g. hydrology cut, changes in vegetation structure etc.). As discussed in the introduction to the secondary impacts report, there is no standardized method or accepted best practice for assessing secondary impacts from roadways on wetlands (FEIS Appendix T: *Biological Resources Technical Report Addendum*). The FEIS approach to secondary impacts was developed through extensive agency coordination, including resource agency review and of the draft methodology and results. During the April 30, 2009 interagency meeting, the resource agencies agreed that the secondary impact analysis issue had been substantially addressed (FEIS Appendix S: *Public Involvement and Agency Coordination Addendum*).

In addition, ACOE estimated impacts to wetland and upland vernal pool buffer zone habitat of 44 acres. Vernal pool buffer area impacts within 750 feet of each pool were addressed in Section 11.8.4 of the FEIS in accordance with a methodology agreed on with the resource agencies. The FEIS methodology did not distinguish between wetland and upland buffer area impacts, and thus overlaps with many of the wetlands included in ACOE's calculation of secondary wetland impacts. Indirect effects to vernal pool buffers were reported as 42.9, 8.9, 16.9, and 14.9 acres for Vernal Pools 1, 3, 4, and 4A (the Vernal Pool 4 and 4A indirect buffer areas overlap). Indirect buffer impacts were not reported for Vernal Pool 5 because this pool would be directly impacted by the Selected Alternative and it was concluded that this pool would no longer provide amphibian habitat. As a result of these methodological differences, the ACOE estimate of vernal pool impacts for Section 404 compensatory mitigation purposes is not directly comparable to the broader way vernal pool impacts were addressed in the FEIS for the purposes of NEPA.

Despite the higher acreage of secondary impacts under the ACOE methodology relative to the VTrans/FHWA methodology presented in the FEIS, ACOE concludes that the proposed mitigation package of wetland enhancement and upland and wetland wildlife habitat preservation has the potential to adequately compensate for the aquatic resource impacts of the project (including vernal pool buffer impacts) in accordance with the mitigation ratios recommended under the 2010 *New England District Compensatory Mitigation Guidance*. For more information on the wetland and wildlife habitat mitigation commitments, refer to ROD Sections 6.3.3 through 6.3.5.

**Table ROD-5
Selected Alternative Permanent Wetland Impacts By Cover Type**

Wetland	Cover Type	Permanent Impact (acres)	
		Direct	Secondary
A	PSS	0.16	0.00
B	PEM	0.02	0.00
C	PSS	0.04	0.48
D	PEM	4.34	4.65
E1	PEM	0.59	0.85
E2	PSS	0.58	1.56
E3	PEM	5.75	7.50
E4	PEM	3.67	3.54
F	PFO	1.22	1.53
G	PFO	2.54	5.50
H	PFO	0.00	0.06
I	PEM	0.29	0.35
J	PFO	0.86	1.13
O	PEM	0.09	0.20
P	PEM	0.02	0.00
R	PSS	0.04	<0.01
S	PEM	<0.01	0.00
T	PEM	<0.01	0.00
U	PEM	0.01	0.04
V	PEM	0.01	0.13
W	PEM	0.00	0.02
Total		20.20	27.53
Total by Cover Type	PEM	14.77	17.28
	PSS	0.81	2.03
	PFO	4.62	8.22

Notes:

- PEM- palustrine emergent wetland
- PSS- palustrine scrub-shrub wetland
- PFO- palustrine forested wetland

For wetland locations, refer to FEIS Figure 11.5-2

The stream impacts described on pages 11-107 and 11-108 of the FEIS have also changed. Refined mapping of the intermittent tributaries to Redmond Creek for the Revised Section 404 Permit Application resulted in an increased estimate of secondary impacts to intermittent streams. In addition, impacts to the Unnamed Tributary to the Winooski (1) were inadvertently not accounted for in the FEIS and permit application. This stream would not be impacted by the mainline of the Selected Alternative, but would be impacted as a result of the replacement of an existing culvert and widening of Redmond Road. The updated stream impact information taking into account these changes is provided in Table ROD-6.

**Table ROD-6
Selected Alternative Impacts to Streams**

Stream	Permanent Impact (linear feet)	
	Direct	Secondary
Intermittent Streams South of I-89	3,931	5,694
Permanent Streams South of I-89	842	1,370
Allen Brook	0	307
Unnamed Trib to Winooski (1) at Redmond Road Crossing	123	0
Intermittent Stream in Wetland I	147	160
Redmond Creek	0	386
Intermittent Tributaries to Redmond Creek	1,478	338

4.3.3 Wildlife Habitat

As with aquatic resources impacts, the Circ A/B Alternatives would impact a substantially greater area of wildlife habitat than the VT 2A Alternatives. The direct permanent impacts of the Selected Alternative on forest cover total 59 acres, while the secondary impacts (edge effects) within 200 meters of the roadway total 401 acres. However, the majority of the secondary impacts (83 percent) are additive effects in areas already degraded by existing development. The Selected Alternative impacts the habitat of four confirmed vernal pools. However, direct impacts to the highest quality vernal pool have been avoided through an alignment shift and the pool will be able to continue supporting an amphibian population. The minimum distance between the vernal pool and Selected Alternative is 360 feet. Mitigation for upland wildlife habitat impacts will occur through the preservation of a 237-acre forested parcel in Jericho and in conjunction with the extensive compensatory mitigation being conducted for wetlands. For example, restored or enhanced wetland areas, as well as preserved upland buffer areas associated with the wetland mitigation sites will all provide wildlife habitat. The creation of vernal pool habitat will be accomplished at the wetland mitigation sites.

4.4 Views of Agencies and the Public

FHWA and VTrans received comments both in favor and against the Build Alternatives. Public and agency comments were carefully considered by FHWA in the decision to approve the Selected Alternative. Public and agency comments were considered throughout the EIS process, including scoping, alternatives screening, the DEIS and FEIS.

4.4.1 Overview of Public Involvement and Agency Coordination

This section summarizes the public involvement and agency coordination activities undertaken as part of the EIS process. For additional detailed information, refer to Chapter 22 of the FEIS and supporting appendices.

Public Involvement

Several public meetings and workshops were conducted during each phase of the evaluation of alternatives and development of the EIS. Most of the public meetings and workshops were held at three locations to encourage attendance: one meeting in the

core area comprising the cities of Burlington, South Burlington, and Winooski; one meeting in the Circ-Williston project area; and one meeting in an outer-tier community such as Hinesburg, Richmond, or Jericho/Underhill. For the Design Workshops, three sessions were held in Essex Junction and Williston because the subject matter consisted of design issues of interest to abutters and neighbors. Each Indirect Effects and Cumulative Impacts Technical Workshop was held in a central location such as University of Vermont or the Champlain Valley Expo to promote attendance. The DEIS/Section 404 Permit Application public hearings and FEIS public information meetings were held in Essex Junction and Williston. Meetings and workshops were appropriately noticed in local newspapers. All meetings were held in ADA compliant venues, and interpreters for the deaf were provided for all events.

- **Scoping open house meetings (173 attendees).** The scoping open house meetings served to identify important environmental and transportation issues for further study, as well as design alternatives that would need to be considered in the DEIS. Public input on project related transportation issues was used in developing the purpose and need statement for the proposed project.
- **Three rounds of workshops and public information meetings during alternatives screening (268 attendees).** The alternatives screening workshops provided an opportunity for public input into the development alternatives to address the purpose and need for the project. The outcome of the screening process was the “short-list” of alternatives identified for detailed analysis in the EIS.
- **Two rounds of design workshops and public information meetings during alternatives analysis (over 120 attendees).** The purpose of these workshops was to review and discuss the design features of the short-listed alternatives. During each workshop, discussion topics included the location of the multi-use paths and sidewalks, pedestrian safety, interchange options for connecting the Circ A/B Alternatives to U.S. 2 and right-of-way impacts.
- **Four technical workshops on indirect effects and cumulative impacts during the screening and analysis phases. (119 attendees).** The technical workshops provided the study team with input on the analysis approaches and methodologies that would be the most appropriate for evaluating future land use trends in Northwest Vermont, socioeconomic inputs to the travel demand modeling for the project and review of the preliminary land use forecasting results. Feedback received through the workshops helped inform the selection of study area boundaries, analysis methodologies and key issues for analysis.
- **Public information meetings prior to the release of the DEIS (200 attendees).** The purpose of the DEIS public information meetings was to share the results that would be presented and discussed in the DEIS, identify the approximate schedule for the DEIS publication and comment period, and to describe the process for public review and comment on the DEIS. To facilitate public understanding, an open house was held prior to the presentation that allowed the public to review various display boards and exhibits, talk one-on-one with the project technical staff and receive detailed answers to their questions about the exhibits.

- **Two public hearings were held on the DEIS/Section 404 Permit Application (over 110 attendees).** Two joint public hearings were held on the DEIS/Section 404 Permit Application to formally receive and record public comments. All comments were recorded by a stenographer (the public hearing transcripts are provided in FEIS Appendix Q: *Comment Response Document*).
- **Public Information Meetings on the FEIS (40 attendees).** Two public information meetings were held following the release of the FEIS to provide the public with information on the FEIS and the opportunity for informal discussion with the project team in an open house format.

Coordination with Local Officials

VTrans and FHWA collaborated with the Selectboards of Colchester, Essex, and Williston, the Board of Village Trustees in Essex Junction, and the Burlington Planning Commission during the EIS process. In addition, many local officials, town managers, city and town planners and public works directors have been interviewed and consulted with as part of the data gathering effort and analysis of the short-listed alternatives. Briefings and meetings with local officials and their staffs were held prior to several public meetings and workshops to allow early review of the materials to be presented, the overall format of the meetings and the issues to be discussed.

Coordination with Resource Agencies

Coordination with state and federal resource agencies for the new EIS process began with a Pre-Scoping meeting in Essex on August 19, 2004. An Agency Scoping Meeting was held on February 10, 2005 and included discussion on the issues to be addressed in the EIS process and key sources of data. In May, 2005, ACOE, EPA and USFWS signed a Cooperative Agreement with VTrans, FHWA and eight other resource agencies (See DEIS Appendix D: *Public Involvement and Agency Coordination*). The purpose of this agreement was to ensure a commitment from these cooperating resource agencies to work in a cooperative manner; to affirm the roles of the resource agencies to provide meaningful input into the EIS process; to collaboratively develop information and evaluate transportation alternatives, impacts, mitigation, and enhancement; and to establish a framework for resolving disagreements among agencies.

The resource agencies were provided an opportunity to comment on the purpose and need statement and EPA's comments at this stage were incorporated into the final purpose and need statement and the Section 404 basic project purpose adopted by ACOE. During the alternatives screening portion of the EIS process, the resource agencies participated in five interagency meetings that concluded with an agreement on the alternatives for detailed analysis in the EIS on October 18, 2005 (ACOE Highway Methodology Phase I Workshop).

Following alternatives screening, 13 interagency meetings were held during the preparation of the environmental technical studies, including the studies of wetlands, wildlife habitat and water quality. The resource agencies had the opportunity to review and comment on the proposed scope of work for these studies before they were conducted, as well as review and comment on the preliminary results. The

environmental technical studies were revised based on these comments prior to their inclusion in the DEIS.

Following the publication of the DEIS in August 2007, six meetings were held with the resource agencies on the approach and resolution of comments submitted on the DEIS. An additional 12 meetings were held to develop an approach to compensatory mitigation for the project, Section 404 permitting issues and to address requests by the agencies for additional analyses. Key outcomes of this coordination included agreement on the methodology for the analysis of secondary impacts and the identification of the sites comprising the compensatory wetland mitigation package. The resource agencies were involved throughout the development of the mitigation package, including the development of the mitigation site search methodology, field review of potential sites and identification of the detailed technical studies required for each site.

4.4.2 Comments on the DEIS

In response to the DEIS, over 300 comment documents were submitted. In addition, over 40 individuals commented for the record during public hearings held on October 16, 2007 in Essex Junction and Williston.

Comments supportive of a Circ A/B Alternative and opposed to any VT 2A Alternative were received from the Williston Planning Commission, Town of Williston Selectboard, Village of Essex Junction Board of Trustees, Town of Essex Selectboard, the Chittenden County Regional Planning Commission, the director of the Chittenden County Metropolitan Planning Organization, local businesses, and many local residents. The public provided several reasons for their support for a Circ A/B Alternative. The overwhelming reason expressed was frustration with traffic congestion in the project area. Many commented that the Circ A/B Alternatives impacts on communities would be less disruptive than the VT 2A Alternatives. Comments indicated strong local opposition to the community impacts of widening VT 2A and constructing roundabouts.

Public comments were also received from individuals and organizations strongly opposed to a Circ A/B Alternative on environmental and/or cost considerations. Out of all the comments received, a few advocated a VT 2A Alternative, but those opposed to a Circ A/B roadway more often advocated alternative transportation or maintenance of existing transportation infrastructure only (No Build).

Agency concerns regarding the Circ A/B Alternatives focused on natural resources and traffic performance. EPA and USFWS indicated a preference for the VT 2A Alternatives in their comments on the DEIS. Following the DEIS, substantial design modifications were made to minimize the impacts of the Selected Alternative. VTrans and FHWA continued to coordinate with EPA, ACOE and USFWS in developing a compensatory mitigation plan for the Selected Alternative following the DEIS.

The VTrans/FHWA responses to all comments received on the DEIS were provided in FEIS Appendix Q: *Comment Response Document*, Volume II.

4.4.3 Comments on the FEIS

A total of 166 comment documents were submitted during the FEIS comment period by mail, email and through the project website. Many of the comments on the FEIS were

similar to the comments received on the DEIS and those comments were addressed explicitly in the FEIS. Project area municipalities commenting on the FEIS were supportive of the Selected Alternative as an effective balance between transportation needs and environmental protection, while EPA and environmental organizations expressed the view that the aquatic resource and wildlife habitat impacts of the Selected Alternative are too great to be permitted. Comments were received from individuals both supportive and opposed to the Selected Alternative. Several commenters requested the pedestrian and bicycle accommodations be incorporated in the project. Others were concerned about the cost of the project diverting funding from other important needs.

Copies of each comment document and FHWA's responses to all substantive comments are provided in Appendix A of this ROD.

4.4.4 Comments on the Revised Section 404 Permit Application

In accordance with the ACOE New England District Highway Methodology for integrating the requirements of NEPA and Section 404 of the Clean Water Act, a Section 404 permit application was submitted to ACOE following the release of the DEIS in 2007. On July 6, 2010, ACOE identified the Selected Alternative as the Least Environmentally Damaging Practicable Alternative (LEDPA) under the Clean Water Act Section 404 (b)(1) Guidelines (40 CFR 230). VTrans submitted Revised Section 404 Permit Application to ACOE on July 22, 2010 taking into account the identification of the LEDPA, design changes, additional development of the mitigation package and the results of studies conducted between the DEIS and FEIS in response to comments.

ACOE issued a public notice on the Revised Section 404 Permit Application and the public notice comment period was ultimately extended to November 15, 2010. The FEIS comment period ended on August 27, 2010. In comments on the FEIS, EPA requested that the ROD be delayed until the end of the public notice comment period to allow for detailed comments EPA was developing on aquatic resource issues to be considered. FHWA granted EPA's request and the detailed responses to EPA's comments on the Revised Section 404 Permit Application public notice are provided in ROD Appendix B. ROD Appendix B also provides responses to comments from USFWS on the Revised Section 404 Permit Application public notice. The EPA and USFWS comments recommend ACOE deny the Section 404 permit based on the extent and severity of impacts to aquatic resources and the adequacy of the mitigation plan. VTrans and FHWA have concluded that the additional EPA and USFWS comments do not raise new substantive issues that have not been previously addressed in the FEIS and Revised Section 404 Permit Application for the proposed project.

4.5 Environmentally Preferable Alternative

The CEQ NEPA regulations require that the ROD identify all alternatives that were considered, "...specifying the alternative or alternatives which were considered to be environmentally preferable" (40 CFR 1505.2). The Selected Alternative is the environmentally preferable alternative because it best balances transportation needs, community and natural resource impacts. While other alternatives have fewer aquatic resource impacts and wildlife habitat impacts than the Selected Alternative, the Selected Alternative has the least overall impacts out of the alternatives that meet the purpose and need for the project. The aquatic habitat impacts of the Selected Alternative can be adequately mitigated and commitments to ensure this mitigation occurs are incorporated

in this ROD. In addition, the Selected Alternative avoids the historic and community character impacts that would result from major improvements to the VT 2A corridor, and incorporates numerous design measures to minimize the footprint of the project (See Section 6.1 of this ROD).

5.0 Identification of Impacts to Section 4(f) Resources

The Section 4(f) resources assessment presented in Chapter 21 of the FEIS concluded that the Selected Alternative would have *de minimis* impacts on Section 4(f) resources at two locations: the temporary Williston Alternative Transportation Path (WATP) crossing of the Circ A/B corridor and the WATP relocation at the VT 2A intersection with Mountain View Road/Industrial Avenue for a spot improvement. After reconsideration of the project circumstances in light of our Section 4(f) regulations and policy, FHWA has determined that the Selected Alternative will not require the use of any Section 4(f) resources. The reevaluation concludes that there is no Section 4(f) use instead of the two *de minimis* (i.e. minimally important) impacts that were identified in the FEIS. For detailed information on the basis for this conclusion, refer to ROD Appendix C: FEIS Reevaluation.

6.0 Measures to Minimize Harm

This section of the ROD lists the mitigation and commitments associated with the Selected Alternative. Mitigation was developed through coordination with the resource agencies as documented in FEIS Appendix S: *Public Involvement and Agency Coordination Addendum*.

6.1 Traffic and Transportation

1. **Mountain View Road and Redmond Road Multi-Use Paths.** New multi-use paths will be constructed parallel to Mountain View Road and Redmond Road. A path will be constructed along the south side of Mountain View Road, from just east of the crossing of the Selected Alternative alignment to the intersection with Redmond Road. A path will be constructed on the west side of Redmond Road from the intersection with Mountain View Road to the IBM access road.
2. **Williston Alternative Transportation Path Overpass.** The existing WATP crossing of the Selected Alternative alignment will be maintained through the construction of an overpass over the new roadway. The overpass design will conform closely to the design which has been discussed with the Town of Williston since the late 1990s. Temporary disruption of the WATP will be minimized by staging construction to keep the existing path in operation until it can be shifted to the new location. VTrans and FHWA will continue to coordinate with the Town of Williston on the final design for the overpass and throughout the construction process.
3. **Public Transportation/Alternative Transportation Enhancements.** VTrans and FHWA will consider incorporating practicable alternative transportation enhancements during the final design of the Selected Alternative and coordinate the design of the Selected Alternative with the CCMPO's ongoing countywide alternative transportation initiatives. Potential enhancement opportunities could include

modifying existing bus routes, improving bus waiting areas and providing convenient park and ride facilities.

6.2 Land Use and Socioeconomics

Compensation for Property Acquisitions. Land owners will receive compensation for property acquisitions under the Selected Alternative. Property acquisitions will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and Vermont law for property acquisition for highway projects.

6.3 Natural Resources

6.3.1 Water Resources

1. **Stormwater Treatment.** The Selected Alternative will include stormwater treatment measures to meet the requirements of the 2002 Vermont Stormwater Management Manual for water quality, channel protection, groundwater recharge, overbank flood protection and extreme flood protection.
2. **Maintenance of Existing Surface Water Drainage Patterns.** To the maximum extent possible, existing surface water drainage patterns will be maintained through the use of pipes and culverts.
3. **Phosphorus Offset Project.** A negligible increase (38 pounds per year) in total phosphorus loadings to the Lake Champlain Basin will be mitigated with an offset project. The offset will be achieved through the project stream mitigation program in the Allen Brook watershed (which involves replacing three culverts with erosion issues with bridges) and through the restoration of former agricultural land at the compensatory wetland mitigation sites.

6.3.2 Floodplains

1. **Floodplains Coordination.** During final design, detailed hydraulic studies and coordination with Federal Emergency Management Agency (FEMA) and the Vermont Department of Environmental Conservation (DEC) will be conducted to further minimize potential impacts and ensure compliance with the applicable floodplain management requirements. If necessary, compensatory flood storage areas will be constructed and/or FEMA procedures for floodplain map revisions followed.

6.3.3 Wetlands

1. **Avoidance and Minimization.** Consideration of opportunities for further minimization and avoidance of permanent wetland impacts will continue through the final design of the Selected Alternative. Stormwater management areas will be located to avoid wetland areas when practicable.
2. **Wetland Enhancement Sites.** Three candidate sites for wetlands enhancement have been identified. Both direct impacts (including secondary impacts under

Section 404) and indirect impacts of the Selected Alternative will be compensated for in the final wetlands mitigation package. Agency coordination will continue throughout the development of the mitigation design plans, which will include performance measures by which the success of the sites can be measured. The three candidate sites are described below.

- Site 13 is located in the Town of Essex and is bounded to the west by Old Stage Road and to the east by Towers Road (see FEIS Figure 11.5-5). The site is estimated to provide 97.9 acres of wetland enhancement.⁶ The site is adjacent to an existing forested wetland to the south, which suggests that portions of the site may be suitable for forested wetland mitigation. Other advantages of the site include widespread groundwater discharge, several streams/ditches and mapped floodplains along one of the streams (0.2 percent annual chance flood hazard area).
- Site 14 is located in the Town of Essex, on the opposite side of Towers Road from Site 13 (see FEIS Figure 11.5-6). The site is estimated to provide 49.3 acres of wetland enhancement. Alder Brook and a tributary to Alder Brook run through a portion of the site, which includes extensive areas of mapped 100-year floodplain. The site is adjacent to a large forested habitat block to the north and a wetland along Alder Brook to the south.
- Site 27 is located in the Town of Williston, to the east of North Williston Road, north of Governor Chittenden Road (see FEIS Figure 11.5-7). The site is estimated to provide 38.3 acres of wetland enhancement. The site is located in the headwaters of the Allen Brook watershed and is adjacent to a large forested habitat area that includes deer wintering habitat. There is also a pond surrounded by a shrub swamp to the east of the site. The site is actively farmed and was treated with glyphosate in 2009, resulting in there currently being virtually no reed canary grass present.

3. **Wetland Preservation Sites.** VTrans will preserve 37 acres of Wetland G and 9 acres of upland located on the west side of the Selected Alternative at the intersection with Mountain View Road. The features of this preservation area include excellent habitat for American Woodcock and a vernal pool used for Wood Frog breeding habitat (Vernal Pool 1). The existing 99-acre Lemire wetland mitigation site will also continue to be preserved.⁷

6.3.4 Vegetation and Rare Plants

1. **Forest Cover Mitigation.** Permanent upland forest cover impacts will be compensated for through preservation and enhancement of upland buffer areas surrounding wetland mitigation sites and also through mitigation being provided for wildlife habitat impacts, as described in Section 6.3.5.

⁶ Note that the acreage of wetland enhancement at each site has been updated from the numbers presented in the FEIS as a result of further survey and design work at the wetland mitigation sites.

⁷ As part of previous permits issued by ACOE for the CCCH project, VTrans restored and created 54.6 acres of wetlands on the Lemire site, located adjacent to the Browns River in the Town of Essex. The site was monitored and accepted by ACOE, but the wetlands for which it was intended to compensate along the Segments A-B and G-J alignments were never impacted.

2. **Rough Avens Mitigation.** VTrans will coordinate mitigation for the rare plant rough avens (located along the banks of Allen Brook) with the Vermont Agency of Natural Resources prior to construction. Mitigation options for Rough Avens that could be affected by construction could include, but are not limited to, transplanting to a similar habitat along Allen Brook.

6.3.5 Wildlife Habitat

1. **Upland Wildlife Habitat Preservation.** VTrans and FHWA are proposing to compensate for upland wildlife habitat impacts through the preservation of a 237-acre forested parcel in Jericho. The site is located within the Winooski River watershed portion of the Champlain Valley biophysical region and is in close proximity to the project area (approximately three miles east of the existing VT 117/VT 289 interchange). The site is adjacent to conserved land (the University of Vermont's Jericho Research Forest). The site provides high quality wildlife habitat, including deer wintering habitat, and streams (Mill Brook and unnamed tributaries to the Winooski River).
2. **Wildlife Habitat Restoration/Enhancement at Wetland Mitigation Sites.** In addition to the habitat provided by the wetlands themselves, the mitigation sites will likely include preserved upland and buffer areas that will also serve a wildlife habitat function. Proximity to existing wildlife habitats was a key indicator in the wetland mitigation site search and several of the candidate sites are adjacent to large forested habitat blocks.
3. **Vernal Pool Habitat Mitigation.** The creation of vernal pool habitat will be accomplished at the wetland mitigation sites. Vernal pool creation will be conducted in accordance with the ACOE New England District Compensatory Mitigation Guidance. In addition, the feasibility of amphibian crossing passages under the roadway in the forested area north of Mountain View Road/Wetland G will be evaluated. Fencing designed to discourage amphibians from entering the roadway could also be considered.
4. **Stream Habitat Mitigation.** The proposed compensatory stream mitigation package consists of replacing three culverts with bridges along Allen Brook, two on Talcott Road and one on Old Stage Road. In addition to addressing direct and secondary stream impacts, the stream mitigation package will also serve as phosphorus loading offset for the project by eliminating stream geomorphic conditions contributing to excessive erosion.

6.4 Hazardous and Contaminated Materials

Further investigation and sampling/testing will be conducted prior to construction in potentially affected known contaminated areas to obtain sufficient information to characterize the type and extent of contamination. If contamination in these areas is confirmed, contamination management measures will be incorporated into the project's construction practices and will prevent contamination from affecting the health of workers, the public and the surrounding environment.

6.5 Visual Resources

Mitigation for visual impacts will be considered during the final design of the Selected Alternative. The specific mitigation measures that will be considered are listed below, in order from south to north along the corridor.

- Landscaping the northern side of the I-89 interchange with plantings to blend with the existing forest.
- Strategic plantings to screen residential areas between US 2 and Mountain View Road from the roadway.
- Landscaping to create/enhance a vegetative buffer between the Circ A/B roadway and the recreational fields at the Allen Brook School, as well as the approaches of the WATP.
- North of Mountain View Road, existing trees will be preserved whenever possible to screen views from the west, and landscaping could be used to screen views of the roadway from the proposed primitive trail.
- The colors and materials for the Winooski River bridge will be selected to minimize the contrast of the bridge with the Winooski River.

6.6 Construction Impacts

1. **Construction Maintenance of Traffic Plan.** In coordination with the police, fire, EMS and other essential services, a Maintenance of Traffic Plan will be prepared prior to the commencement of construction activities.
2. **Air Quality.** VTrans will determine specific construction air quality mitigation commitments in the final design process and incorporate the commitments into construction contracts for the proposed project based on regulatory/permitting requirements and in coordination with the resource agencies. These construction management practices may include:
 - Use of low sulfur diesel fuel in construction equipment.
 - Use of diesel retrofit technologies on construction equipment verified by EPA and/or the California Air Resources Board.
 - Limit unnecessary idling times on diesel powered engines to 5~10 minutes.
 - Direct diesel powered exhaust away from local residential or building fresh air intakes.
 - Use low operating speeds with on-site equipment in order to reduce dust and particulate matter pollutants from tires and brakes.

- Use water or appropriate liquids for dust control during demolition, land clearing, grading; and on materials stockpile or surface; and other activities.
 - Cover open-body trucks for transporting materials on public roadways.
3. **Noise.** VTrans will determine specific construction noise mitigation commitments in the final design process and incorporate the commitments into construction contracts for the proposed project based on regulatory/permitting requirements and in coordination with the resource agencies and the Town of Williston. These construction management practices may include:
- Ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding, etc.).
 - Implement a construction noise management program to limit the impacts. The need for construction noise monitoring will be evaluated during final design.
 - Plan noisier operations during times least sensitive to receptors. Keep noise levels relatively uniform and avoid impulsive noises.
 - Maintain good public relations with the community to minimize objections to the unavoidable construction impacts. Provide frequent activity updates of all construction activities.
4. **Water Resources.** As part of National Pollutant Discharge Elimination System (NPDES) permitting, VTrans will prepare an Erosion Prevention and Sediment Control Plan (EPSC) prior to the construction of the Selected Alternative. The EPSC plan will contain sufficient detail for the contractor to implement the appropriate erosion prevention strategies. The plan must include three parts; 1) a pre-construction plan of activities that should occur before construction begins (i.e. install silt fence), 2) a construction plan for erosion control during construction, such as phasing and temporary soil stabilization, and 3) a stabilization plan for permanent stabilization, such as the planting of vegetation. The EPSC will be approved by the Vermont Department of Environmental Conservation (DEC).
5. **Wetlands.** VTrans, in coordination with ACOE and VT DEC, will determine specific mitigation commitments to avoid and minimize temporary wetland impacts during construction in the final design process and incorporated into construction contracts for the proposed project. Potential construction management practices specific to wetlands are listed below. Additional construction management practices for all types of vegetative cover impacts (including wetlands) are provided under #6, below.

- Track or balloon tire vehicles will be used whenever possible to perform construction in a wetland outside of the permanent impact areas.
 - Excavation and filling activities will be conducted in a manner to minimize turbidity and sedimentation into wetlands. Placement of embankments (filling) will be conducted in such a manner as to contain sediment at the fill areas. All construction activities will be performed in accordance with an approved Erosion Prevention and Sediment Control Plan.
 - Temporary roads or soil stockpiles will not be permitted in wetland areas that are not needed for actual facility construction.
6. **Vegetative Cover and Wildlife Habitat.** Specific construction mitigation commitments will be determined in the final design process and incorporated into construction contracts for the proposed project. These construction management practices/commitments may include:
- The limits of disturbance will be indicated on the final design plans and will be the maximum necessary for construction. The limit of encroachment will be delineated to prevent intrusion by construction vehicles.
 - Areas temporarily disturbed during construction will be restored. Planting of disturbed areas will occur as soon as possible to minimize the possibility of erosion. Restoration will include grading and leveling to remove surface disturbance followed by seeding and planting of the temporarily disturbed areas with a native seed mix to establish an herbaceous layer that will also serve to ensure soil stabilization and erosion control. Native woody species will be planted in the restored areas that were formerly covered by forested or scrub-shrub vegetation. Native woody species will include species such as those observed on-site including oaks, ash, maples and spruce.
 - Snags (i.e., dead standing trees) will be maintained adjacent to the mowed sections of the right-of-way to provide perch sites and resting cavities.
 - The area used for access to the construction location shall be minimized to the maximum extent practicable. The disturbed areas will be revegetated with appropriate native species.
 - Disturbance/removal of trees for access to the construction site shall be minimized to the maximum extent practicable. Whenever trees must be removed, selective removal of trees less than four inches in diameter is preferred in lieu of removal of larger trees. Tree stumps will not be removed, encouraging the revegetation of the tree via root sprouts.
7. **Infrastructure and Utilities.** Coordination with the towns and affected utilities (e.g. gas lines, overhead electric telephone and communication cables) will occur prior to construction in order to minimize potential construction impacts.

7.0 Monitoring and Enforcement

FHWA and VTrans have committed to monitor final design development and construction of this project to ensure that all mitigation commitments made in this ROD are implemented. VTrans will create and maintain a ROD/permit condition tracking database for this project.

As appropriate, periodic briefings will be offered for the natural resource agencies and local officials to provide input in the final design process, which will include further refinement of avoidance and minimization measures. The natural resource agencies will also be engaged in the design process for the compensatory stream and wetland mitigation sites.

FHWA and VTrans will utilize contract specifications and administrative measures to help ensure construction impacts are minimized. Construction activities will be continuously monitored and conducted in accordance with regulatory permit conditions and best management practices. Monitoring will also be implemented in accordance with the anticipated Section 404 permit with respect to aquatic resources (e.g. wetlands, vernal pools, streams, and rivers). The Section 404 permit will contain detailed monitoring and adaptive management requirements to ensure that compensatory mitigation sites successfully develop.

All necessary federal and state permits will be obtained prior to construction. Coordination with the appropriate federal and state agencies during final design will ensure that commitments to develop and implement mitigation will be carried out.

8.0 Limitation on Claims

Following the issuance of this ROD, FHWA intends to publish a SAFETEA-LU statute of limitations notice in the Federal Register. A Federal agency may publish a notice in the Federal Register, pursuant to 23 USC §139(l), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 180 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

9.0 Conclusion

FHWA has determined that the Selected Alternative (Alternative 17 modified) best meets the transportation needs of the project area, minimizes environmental impacts and is in the best overall public interest. This decision is based on the July 2010 FEIS and the entire project record.

FHWA has considered all the issues raised in the record and has consulted with other federal and state agencies, as well as local jurisdictions in the project area, in developing

this project. Public input has been considered through extensive outreach efforts that began with the scoping process and continued through alternatives screening, the DEIS and FEIS. Mitigation for unavoidable resource impacts has been incorporated into the project design, will be employed during construction, or will be implemented off site.

Date: 5/19/11 Acting By Jamary Dyer
Division Administrator
Federal Highway Administration- Vermont Division
Montpelier, Vermont