

Appendix D: Transportation Corridors Overview

US Route 4

US Route 4 is one of only three east-west routes across Vermont and carries the highest volumes of the three (the other two are VT Route 9 and US Route 2). In this region the primarily two-lane rural road parallels the Ottawaquechee River along the old railroad alignment and winds through many sensitive natural landscapes and a number of vibrant community centers. US Route 4 is on the national highway system and Vermont's tractor truck network, so mobility and safety issues are a top priority. US Route 4 is also Main Street for a number of villages and hamlets. The road is a gateway into Vermont, a Scenic Byway, and tourism destination for experiencing the region's rural landscapes. Many residents' quality of life and the vitality of commercial businesses greatly depend on preserving this unique road and surrounding landscape. US Route 4 faces difficult challenges of preserving mobility, safety, and traveling efficiency while continuing to support community life and commercial activities. There are no other parallel roads or alternative travel options available and the topographical and environmental constraints would restrict all reasonably feasible roadway expansion projects. As traffic increases and land development intensifies, US Route 4 might be forced to accommodate that growth with little or no further transportation capacity improvements.

In 2008, the Hartford US Route 4 Corridor Management Plan (Appendix C) was developed by TRORC, the Town of Hartford and the Vermont Agency of Transportation that assessed existing and projected future transportation and land use conditions. The Plan resulted in a set of transportation and land use recommendations which the region has adopted for planning guidance. In 2009, the US Route 4 West Corridor Management Plan (Appendix C) was developed as a follow up project to the 2008 Hartford Corridor Plan and did a similar assessment from Hartland to Bridgewater. This Plan built on the Hartford Corridor Plan by defining Access Management Zones and offered recommendations for access management.

US Route 5

US Route 5 is one of two north-south arterials in the region that runs adjacent to the Connecticut River. US Route 5 is a two-lane rural road that parallels the river and offers many scenic landscapes and a number of vibrant village and town centers. US Route 5 has become part of the bi-state Scenic Byway and as such is recognized for its "unique historic, cultural, environmental, agricultural and railroading traditions and resources" (Connecticut River Scenic Byway - www.ctrivertravel.net). While US Route 5 is not included on Vermont's tractor truck network, many logging and other commercial trucks utilize this road to avoid interstate-imposed weight restrictions. US Route 5 serves as a Main Street for a significant number of town centers, villages, and hamlets. The region and the greater bi-state tourist industry rely heavily on US Route 5.

Over the last 5 years, TRORC has evaluated tractor truck traffic along US Route 5 which has averaged 5-8% of the overall traffic volumes. The majority of activity is trucking wood products northbound and these vehicles traditionally carry heavier loads than other forms of trucking. Speed limits have also been monitored within the villages and town centers. In those instances, speeds are shown to average 5-15 mph above posted speed limits although more active

enforcement in Hartford, Norwich, Fairlee, Bradford, and Newbury has been shown to reduce speeds.

The Upper Connecticut River is a nationally renowned destination for bicyclists with US Route 5 and NH Route 10 providing excellent bicycling loops. US Route 5 is a combination of gently rolling hills and flat terrain that challenges but does not overtax a bicyclist. The route does not have striped bike lanes, with the exception of a short stretch in Bradford, between the Waits River and Hannaford Supermarket. No official counts have been conducted along US Route 5, but anecdotally it appears that the highest bicycling activity in the region occurs on these roads. The most popular routes are the Norwich – Thetford and Thetford – Fairlee sections of US Route 5 and NH Route 10 between Hanover, NH and Orford, NH.

US Route 302

US Route 302 is a major east-west travel corridor connecting the northern New England region from Portland, ME to Montpelier, VT. US Route 302 was originally part of the old New England interstate system that pre-dates the Eisenhower era national highway system. Of the approximately 170 mile highway there are only 8 miles that fall within the region in the towns of Newbury (5 miles) and Topsham (3 miles). US Route 302 is part of the Vermont's tractor truck network which means that this roadway receives a greater priority for transportation project investments. Within our region, US Route 302 crosses Interstate 91 at the Exit 17 interchange.

VT Route 14

Within the TRO Region, VT Route 14 passes through a variety of landscapes, ranging from more developed growth centers in Randolph (a town center) and White River Junction (a regional center) to more rural and agricultural areas, as seen in Royalton and Sharon (village settlements). There has been a great deal of growth throughout the VT Route 14 corridor over the past forty years, in large part due to the proximity of the interstate highways (both I-89 and I-91). The route's corridor has been—and remains—a prime location for residential housing settlements due to highway access that easily links the area with designated centers. Additionally, the towns of Sharon and Royalton have seen an increase in housing due to demand near Vermont Law School in South Royalton. These drivers of growth are projected to continue, and there is also interest in business growth along the corridor. Current and anticipated growth places strain on the entirety of VT Route 14 and its supporting infrastructure. During Tropical Storm Irene, much of the roadway was washed out and portions were destroyed by the White River and its Second Branch breaching their banks.

In 2017, the annual average daily traffic county for the portion of VT Route 14 that lies within the TRO Region was 2,253.¹ The highway is paved throughout, and there are portions of the road equipped with shoulders and pull-off areas. The posted speed limits on the road ranges from 35 to 45 miles per hour, and varies depending on whether the road is passing through town and village centers or areas that are less developed.

VT Route 66

VT Route 66 is a short 7.6 mile state roadway entirely within the Town of Randolph. It is a two-lane rural road accessing Interstate 89 and is the primary gateway to East Randolph, Randolph

Center, Randolph Village, and adjacent towns. VT Route 66 is the geographic center of the State of Vermont and connects the Vermont Technical College to the interstate.

The average annual daily traffic volume in 2017 was 4,656,ⁱⁱ but these numbers can double under full build out scenarios described in the Randolph Exit 4 studies completed in the 1990s. In 2014, VT66 was fully reconstructed and has been evaluated by transportation engineers as being in good condition; in 2017, it had an average Composite Pavement Condition Index of 90.6.ⁱⁱⁱ Most of VT Route 66 is posted at 50 mph despite having numerous geometric and sight distance deficiencies. As a rural low traffic volume road, the alignment challenges do not create any real safety or mobility concerns. With the increased development, however, those balances can be negatively altered. As seen in other regions, it is possible that development can impair traffic operations and/or restrict the full build-out potential of a roadway. The challenge is to preserve mobility and safety while continuing to support and encourage a land use development pattern that is supported by this Regional Plan and the Randolph Town Plan. The additional challenge will be to implement transportation enhancements that protect the ‘scenic vistas’ that are also well supported in the Regional Plan and Randolph Town Plan.

VT Route 100

VT Route 100 is a Scenic Byway and Vermont’s primary north-south highway with a 41.3 mile segment traversing the TRO Region. VT Route 100 is a two lane rural road that connects Plymouth and Bridgewater, exits the region, and then continues through, and is the primary access for, the Quintown region of Stockbridge, Pittsfield, Rochester, Hancock, and Granville. VT Route 100 supports a number of transportation users as a major ski highway, travel route for tourism destinations north and south, local access, and—because of its scenic panoramas of rural farming and pasture lands and uninterrupted views of rivers, meadows, and mountains—as its own destination for traveling visitors.

There are relatively low traffic volumes throughout the corridor and rarely any observed traffic congestion. Road conditions vary along the corridor; in 2017, about 79% of the route’s road miles within the region were rated as “fair” or “good” by transportation engineers. The average Composite Pavement Condition Index for VT Route 100 road miles within the region was 73.2 (“fair”).^{iv} In 2017, the portion of the route within the region had an average annual daily traffic volume of 1,891, which is below the road’s total traffic carrying capacity.^v Tractor truck traffic volumes along VT Route 100 fluctuate from 5-11% of the overall traffic volumes. There is a great diversity of truck traffic volumes and activities. Trucks carrying lumber and a multitude of consumer products can be seen going north and south. Posted travel speeds varied from 25-35 mph within settlement areas to 40-50 mph along the peripheries of town. Speed limit data have not been collected along any section of VT Route 100.

VT Route 107

A master plan for the Exit 3 interchange was completed in 2000 and its results are reported in the land use section of this Regional Plan. There are a number of transportation and land use factors that strongly support additional development. VT Route 107 has already seen considerable development in recent years and these favorable attributes promise an additional intensifying of land uses. Ensuring that development is not permitted until the infrastructure is in place is

essential. A particularly unique asset in Royalton and Bethel, the road runs parallel to the NECR line and with the interstate connections can readily support rail-based development. The greatest regional challenge will be preserving traffic capacities while allowing development opportunities consistent with the land use policies of Town and Regional Plans.

In Tropical Storm Irene, sections of VT Route 107 between Stockbridge and Bethel were completely destroyed. It was the last State road repaired and was reopened by the end of December 2011.

The average annual daily traffic volume in 2017 was 4,982.^{vi} In 2017, transportation engineers evaluated most of the corridor as being in “good” condition; overall, this is one of the better constructed state highways in the region. There were, however, 2 segments in Royalton that were rated “very poor”. The average Composite Pavement Condition Index for the full corridor was 76.5 (“fair”).^{vii} Unlike most state highways, a significant portion of VT Route 107 has smooth traveling surfaces, adequate road shoulders, and sufficient sight distances. Posted travel speeds along VT Route 107 are 50 mph throughout the corridor with the exception of a 25-mph posting in the Bethel Village and a 35 mph for Stockbridge Central School. In the few instances where travel speeds were recorded, motorists typically exceeded the posting by 5-10 mph. This is a particular concern within the villages and in areas where intersecting local roads have minimal sight distances. Tractor truck traffic represents 5-10% percent of the overall traffic volumes. VT Route 107 was not identified on the state’s primary truck network, although the high truck traffic volumes absent the local destinations suggest truckers continue to use the road as an alternative east-west facility. The challenge will be to better monitor trucking activity and to be more vigorous in enforcing trucking weights and safety laws. Finally, transportation professionals utilize the VT Route 107 / VT Route 100 corridors to accommodate truck traffic rerouting plans for US Route 4 construction projects.

Other Priorities and Project Needs

A full listing of regional priority projects and identified potential project needs are found in Appendix E. Projects 1 to 25 are the prioritized projects in the region and are programmed under the Vermont Agency of Transportation capital plan. Projects 26 to 40 are projects that are under the Vermont Agency of Transportation but have not been prioritized regionally as these project scopes have not been defined. Projects 41 to 66 are identified regional transportation project needs but are currently not under the Vermont Agency of Transportation program.

Endnotes

ⁱ Vermont Agency of Transportation Traffic Research Unit, “Annual Average Daily Traffic 2017,” published January 11, 2019,

<https://maps.vtrans.vermont.gov/arcgis/rest/services/Master/General/FeatureServer/56>

ⁱⁱ Ibid.

ⁱⁱⁱ Vermont Agency of Transportation Asset Management and Performance Bureau, “Pavement Condition One Mile,” last updated June 6, 2017,

<https://maps.vtrans.vermont.gov/arcgis/rest/services/Master/AMP/FeatureServer/12>

^{iv} Ibid.; Vermont Agency of Transportation, “Glossary of Terms for the Pavement Condition Summary,” <http://apps.vtrans.vermont.gov/VTransparency/frmpavecondetailglossary.aspx>

^v Vermont Agency of Transportation Traffic Research Unit, “Annual Average Daily Traffic 2017,” published January 11, 2019,

<https://maps.vtrans.vermont.gov/arcgis/rest/services/Master/General/FeatureServer/56>

^{vi} Ibid.

^{vii} Vermont Agency of Transportation Asset Management and Performance Bureau, “Pavement Condition One Mile,” last updated June 6, 2017, <https://maps.vtrans.vermont.gov/arcgis/rest/services/Master/AMP/FeatureServer/12>; Vermont Agency of Transportation, “Glossary of Terms for the Pavement Condition Summary,” <http://apps.vtrans.vermont.gov/VTransparency/frmPaveCondDetailGlossary.aspx>