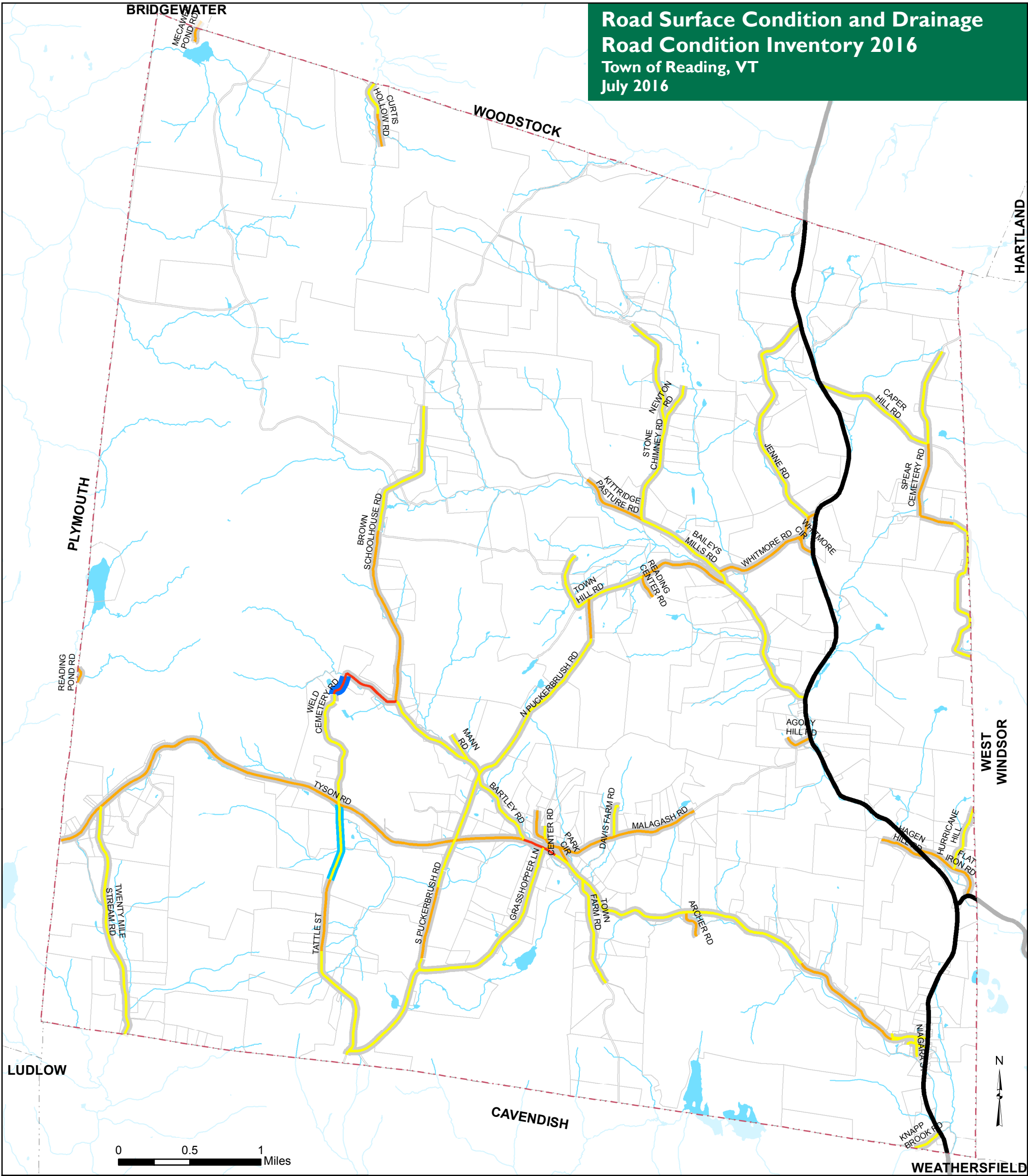


APPENDICES

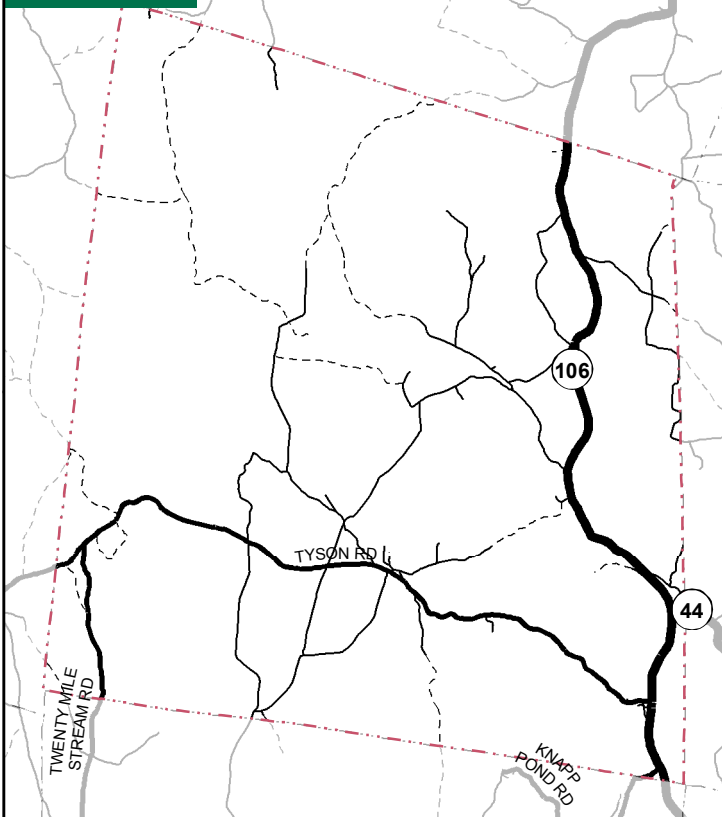
- Appendix A 2016 Reading Road Inventory Map – Summary of roads with any notable issues
- Appendix B 2016 Reading Chester Road Inventory Map – Roads with particular issues (clay, ice jams, etc)
- Appendix C 2016 Reading Bridge and Culvert Inventory Map
- Appendix D Hydrologically Connected Road Segments Map for Reading
- Appendix E Road Erosion Risk Ranking Map for Reading
- Appendix F Watershed Sizes as Guidance in Stream Alteration Regulations
- Appendix G Funding Sources Matrix

Road Surface Condition and Drainage Road Condition Inventory 2016

Town of Reading, VT
July 2016



Road Class



Surface Condition

- Good
- Fair
- Poor

Drainage issue

- Major
- Minor
- None

Road Class (small map only)

- VT State Highway (not included in inventory)
- Class 2 Town Highway
- Class 4 Town Highway
- Class 3 Town Highway

- River or Stream
- Lake or Pond
- Parcels
- Town Boundary

VT State Plane, Meters, NAD 83
Data depicted on this map are for
planning purposes only and are
based on best available information.
Some of the data do not line up.

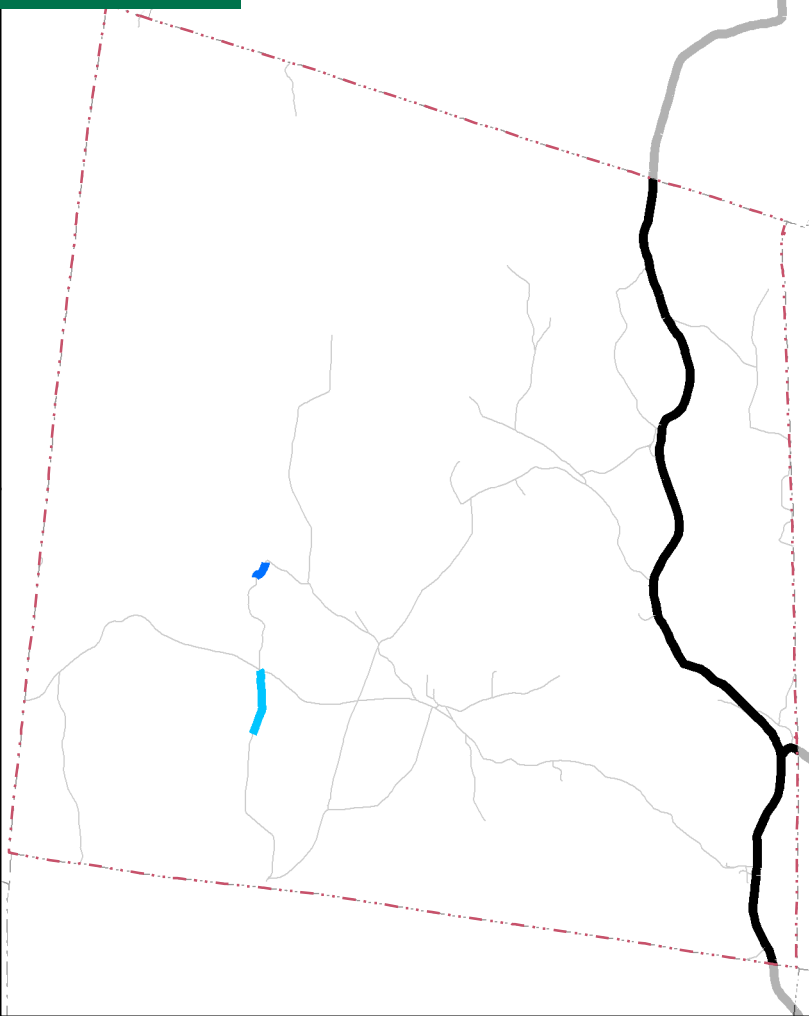


SOUTHERN WINDSOR COUNTY
REGIONAL PLANNING COMMISSION
P.O. Box 320, Ascutney, VT 05030
802-674-9201 www.swcrpc.org

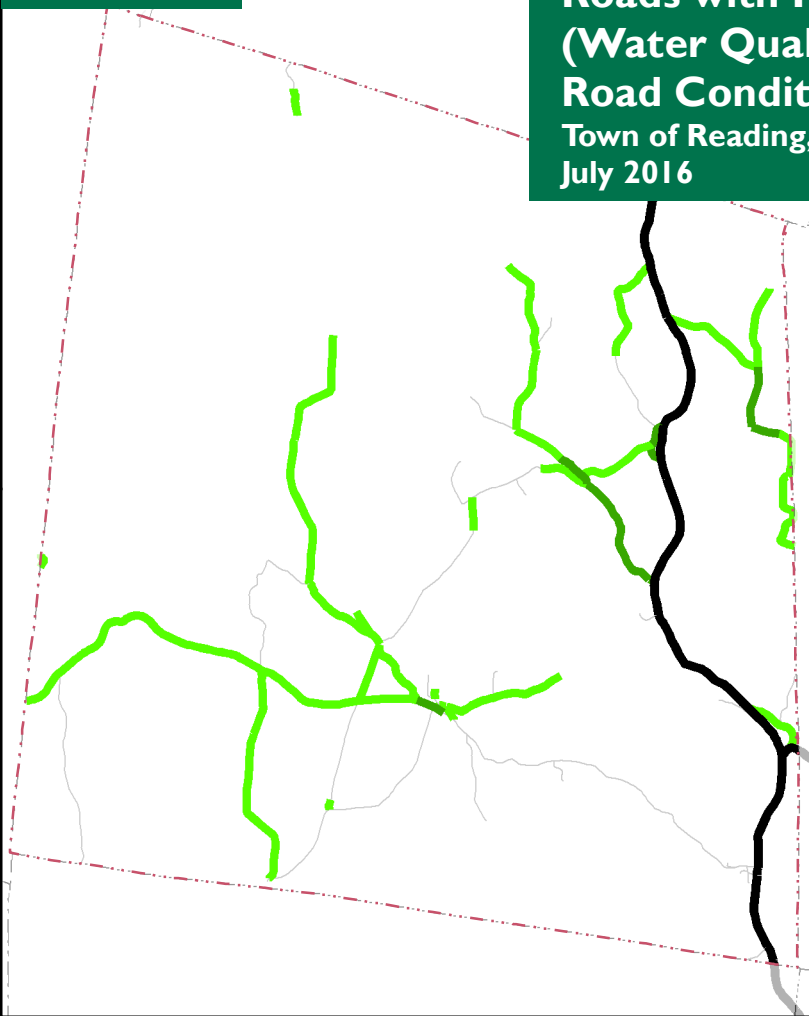
For planning purposes only
Not for regulatory interpretation
Map last revised: July 15, 2016

Data Sources: Road condition assessment (SWCRPC and Town 2016), Roads (VTrans 2016),
Waterbodies (VHD 2008), Parcels (Terramap 2016), Town Boundary (Southern Windsor County
Regional Planning Commission using Parcels 2011).

Drainage issue



Pothole issue



**Roads with Particular Issues
(Water Quality, Drainage, etc)
Road Condition Inventory 2016
Town of Reading, VT
July 2016**

**Drainage issue
(Top left)**

- Major
- Minor

**Water quality issue
(Middle left)**

- Severe
- Major
- Minor

Mud issue

- Severe
- Major
- Minor

Pothole issues

- Major
- Minor

**Ruts/
Corrugations
(unpaved only)**

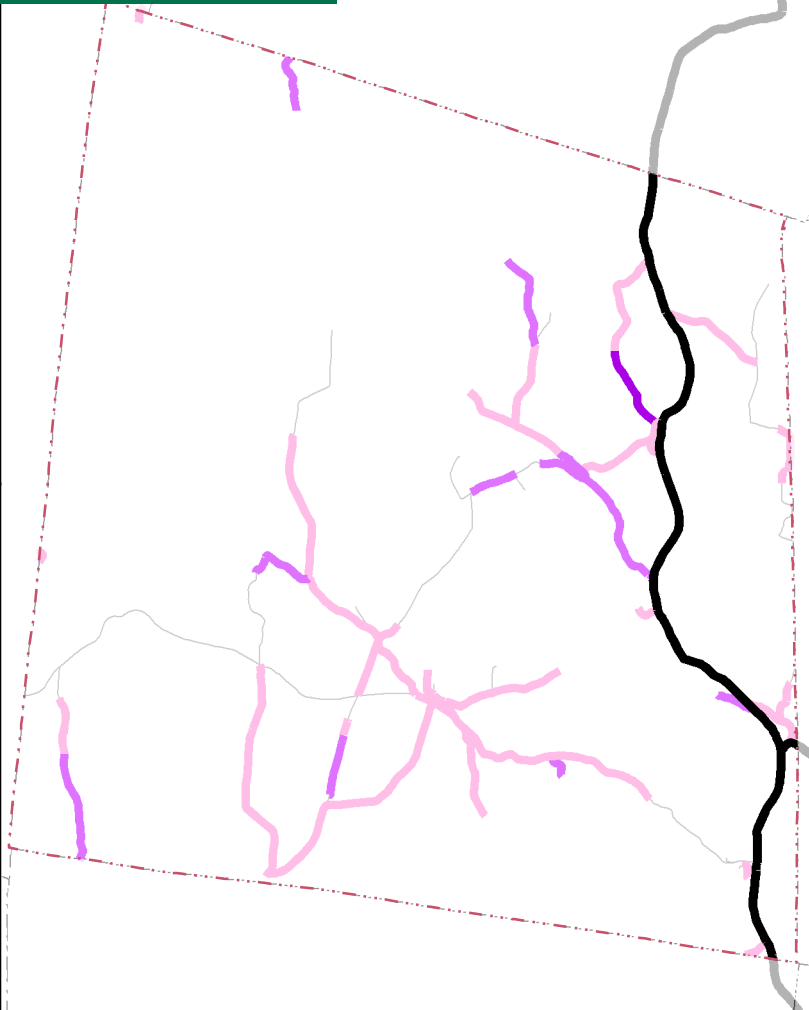
- Major
- Minor

**Surface
Cracking
(Paved only)**

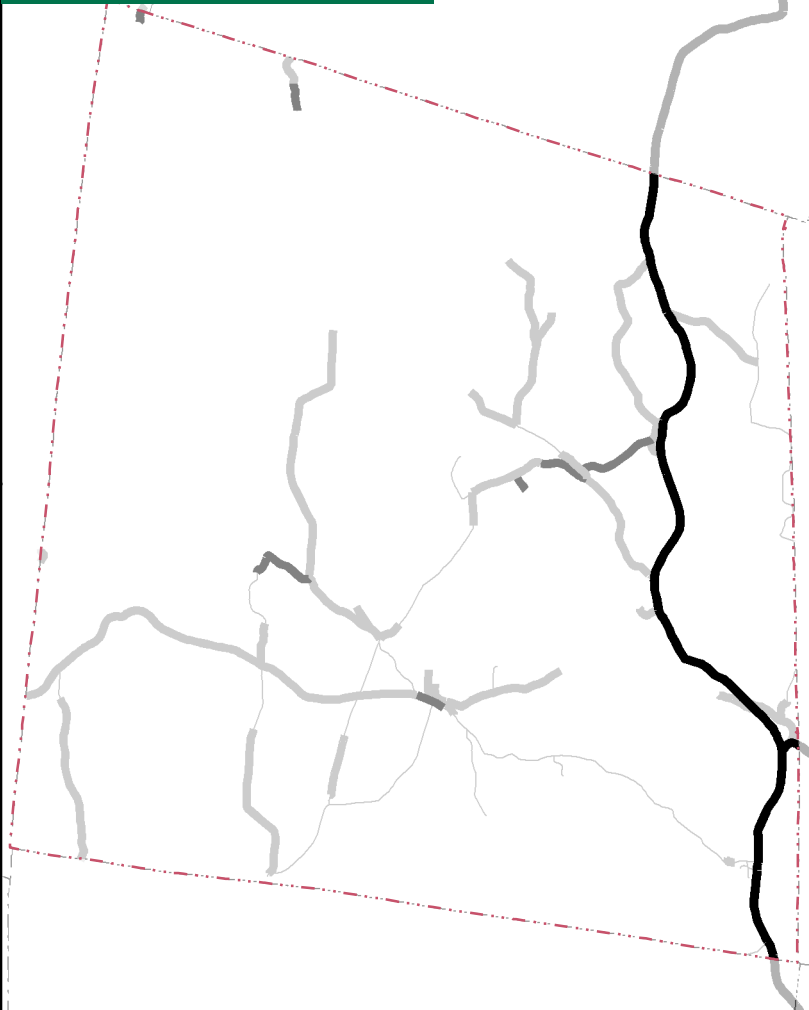
- Major
- Minor

- Road inventoried
- VT State Hwy

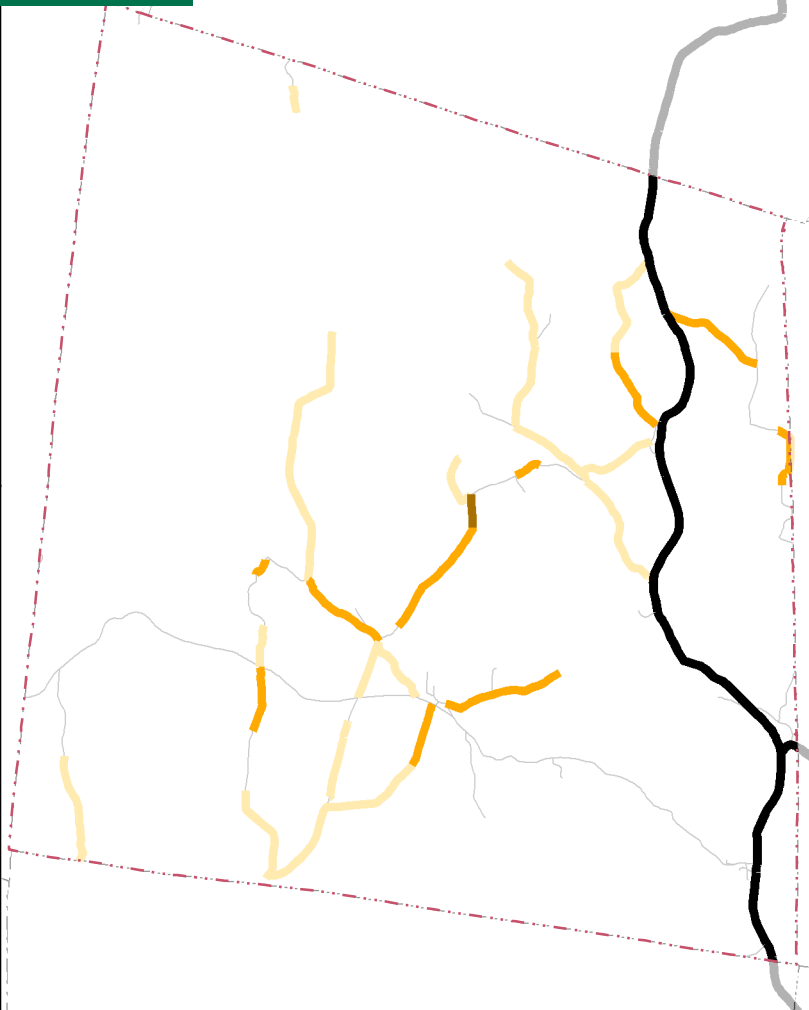
Water Quality issue



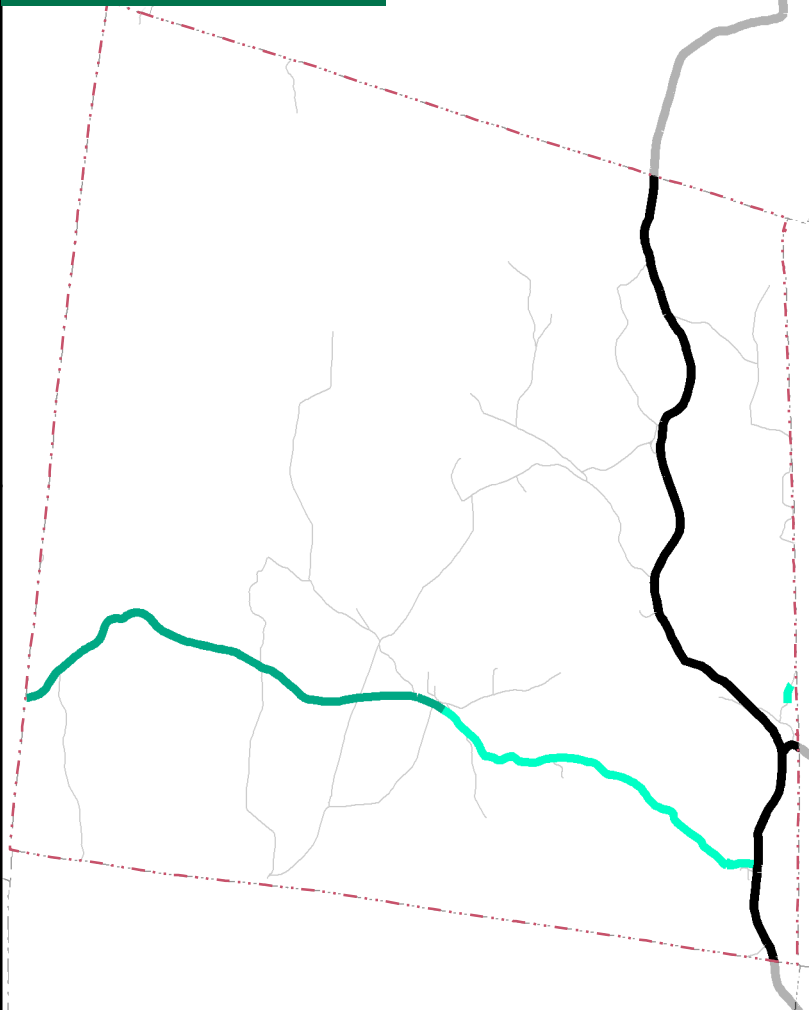
Rutting/ Corrugations issue



Mud issue



Surface cracking issue



Data Sources:
Road condition assessment (SWCRPC and Town 2016),
Roads (VTrans 2016),
Waterbodies (VHD 2008),
Parcels (Terramap 2016),
Town Boundary (SWCRPC using Parcels 2011).



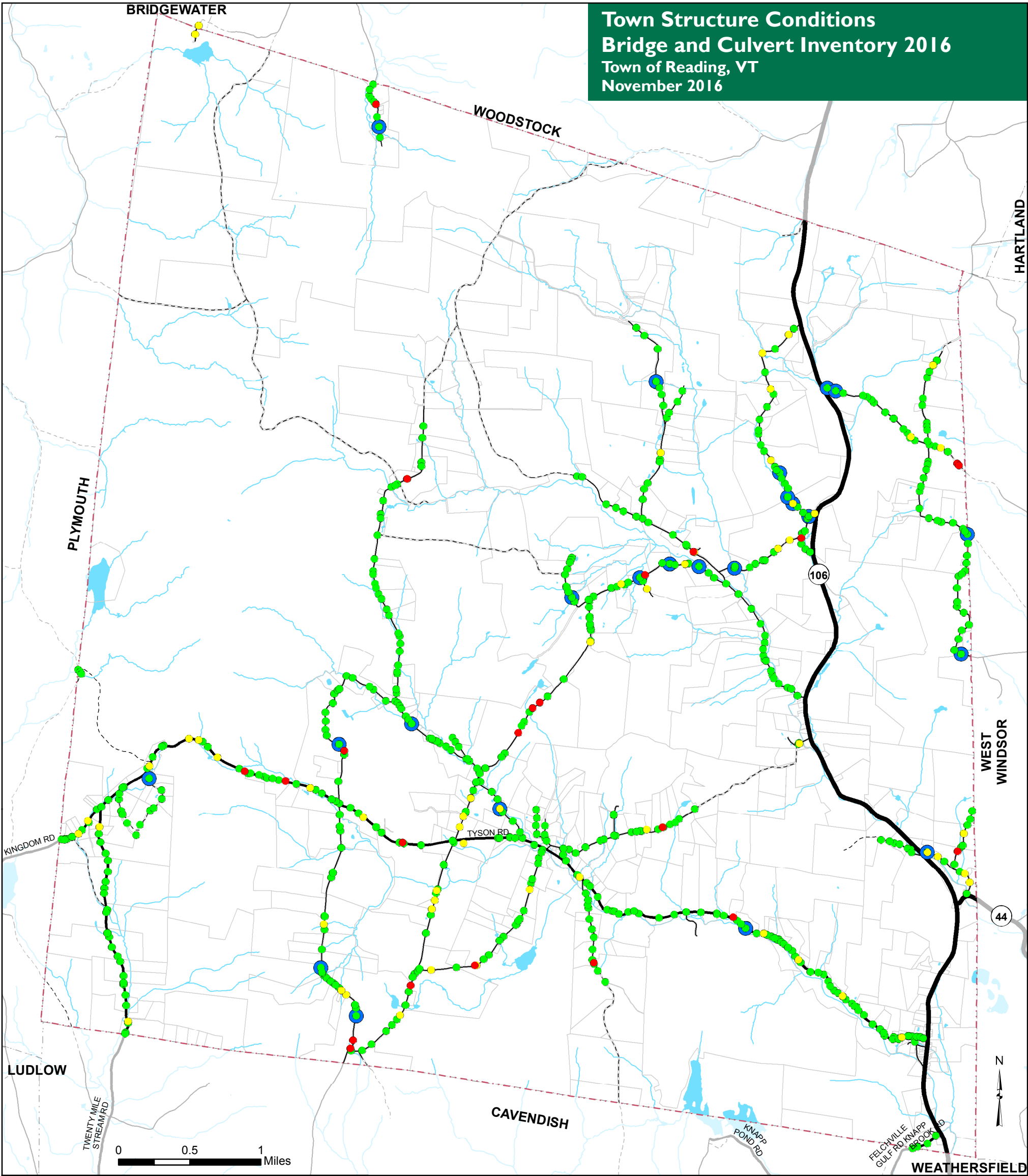
VT State Plane, Meters, NAD 83
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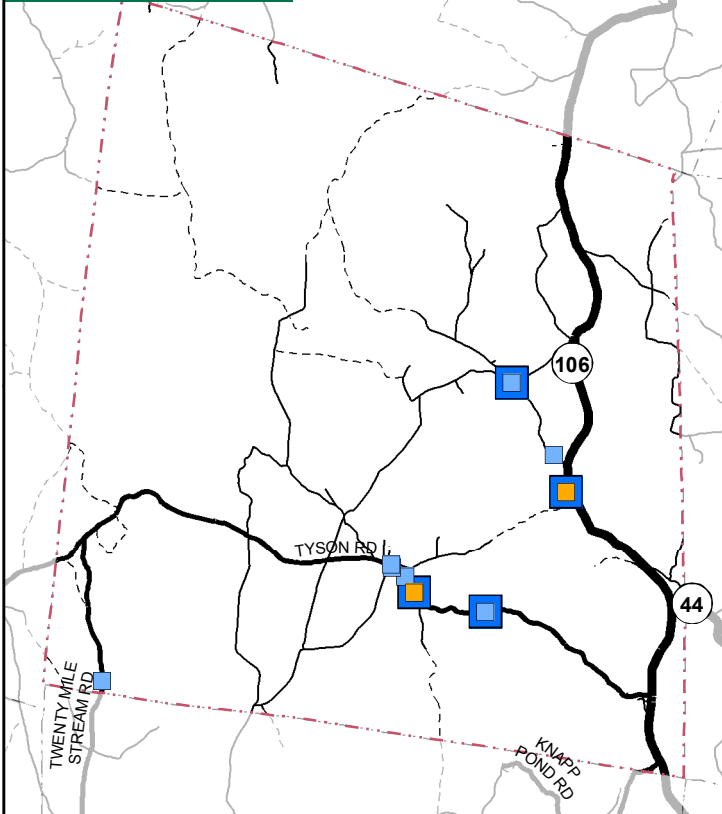
For planning purposes only
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Map last revised: July 15, 2016

Town Structure Conditions Bridge and Culvert Inventory 2016

Town of Reading, VT
November 2016



Bridge Condition



Culvert Condition (big map only)

- Good or Excellent
- Fair
- Poor
- Culvert with high or medium priority erosion issue

Bridge Condition (small map only)

- Good condition bridge
- Poor condition bridge
- Bridge with high or medium priority erosion issue

Road Class

- VT State Highway (not included in inventory)
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway

- River or Stream
- Lake or Pond
- Parcels
- Town Boundary

VT State Plane, Meters, NAD 83
Data depicted on this map are for
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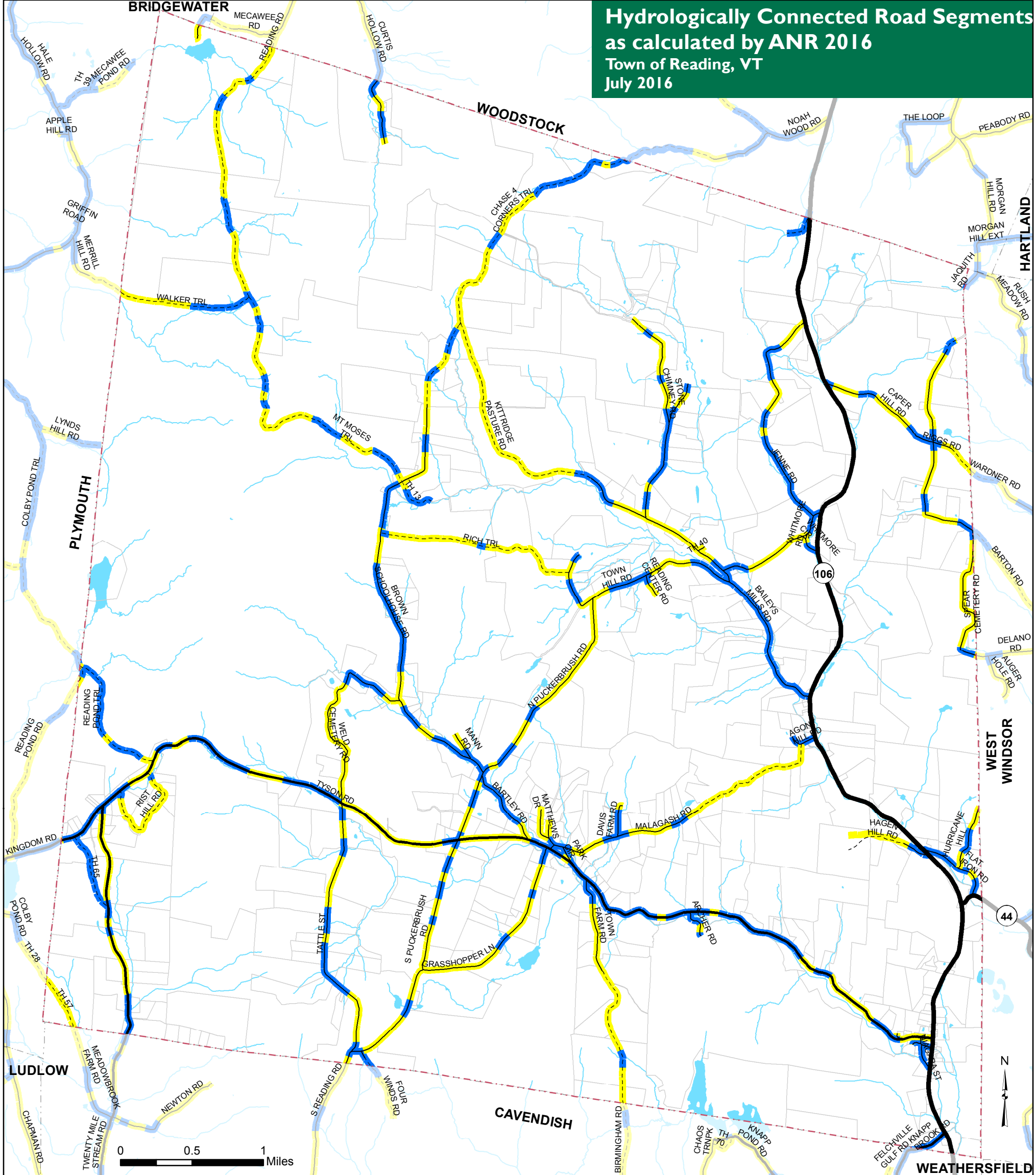
SWCRPC
SOUTHERN WINDSOR COUNTY
REGIONAL PLANNING COMMISSION
P.O. Box 320, Ascutney, VT 05030
802-674-9201 www.swcrpc.org

Data Sources: Bridge and culvert inventory (SWCRPC and Town 2016), Roads (VTrans 2016), Waterbodies (VHD 2008), Parcels (Terramap 2016), Town Boundary (Southern Windsor County Regional Planning Commission using Parcels 2011).

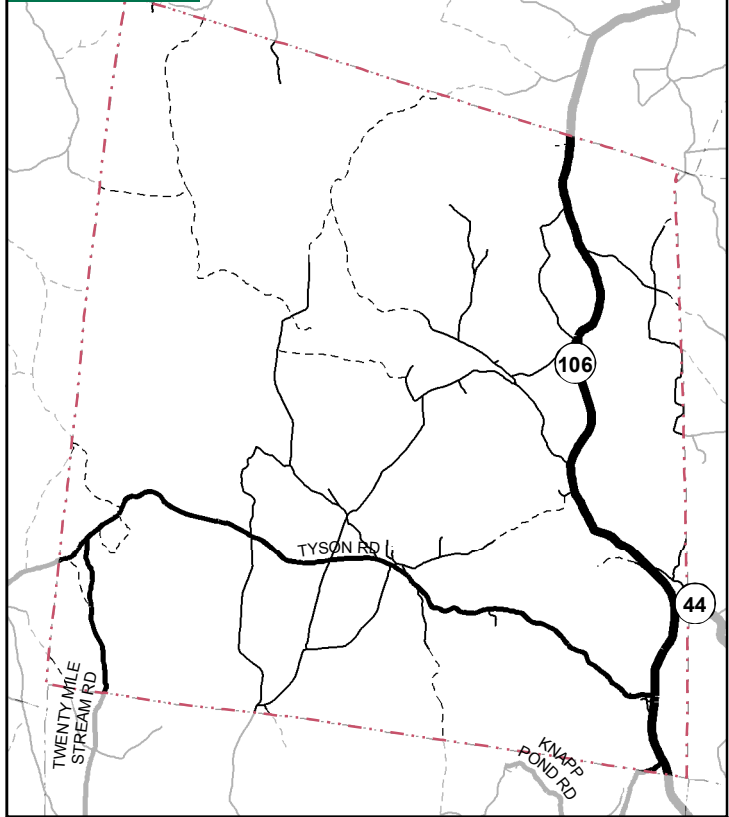
For planning purposes only
Not for regulatory interpretation
Map last revised: November 15, 2016

Hydrologically Connected Road Segments as calculated by ANR 2016

Town of Reading, VT
July 2016



Road Class



- Potentially hydrologically connected road segment
- Potentially non-hydrologically connected road segment
- VT State Highway (not included in risk assessment)
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway
- River or Stream
- Lake or Pond
- Parcels
- Town Boundary

This map shows whether each 100 meter road segment is potentially hydrologically connected or not, as defined in the July 8, 2016 interim guidance. The July guidance includes the following: Act 64, the Vermont Clean Water Act, requires the Vermont Department of Environmental Conservation (DEC) (part of the Agency of Natural Resources) to develop a draft Municipal Roads General Permit (MRGP) to address road-related runoff impacting waterways. Towns will begin applying for coverage under the permit in summer of 2018 (proposed). As part of the development of the MRGP, new municipal road practice standards will be developed.

For more information about the Municipal Roads General Permit see <http://dec.vermont.gov/watershed/stormwater/permit-information-applications-fees/municipal-roads-program>

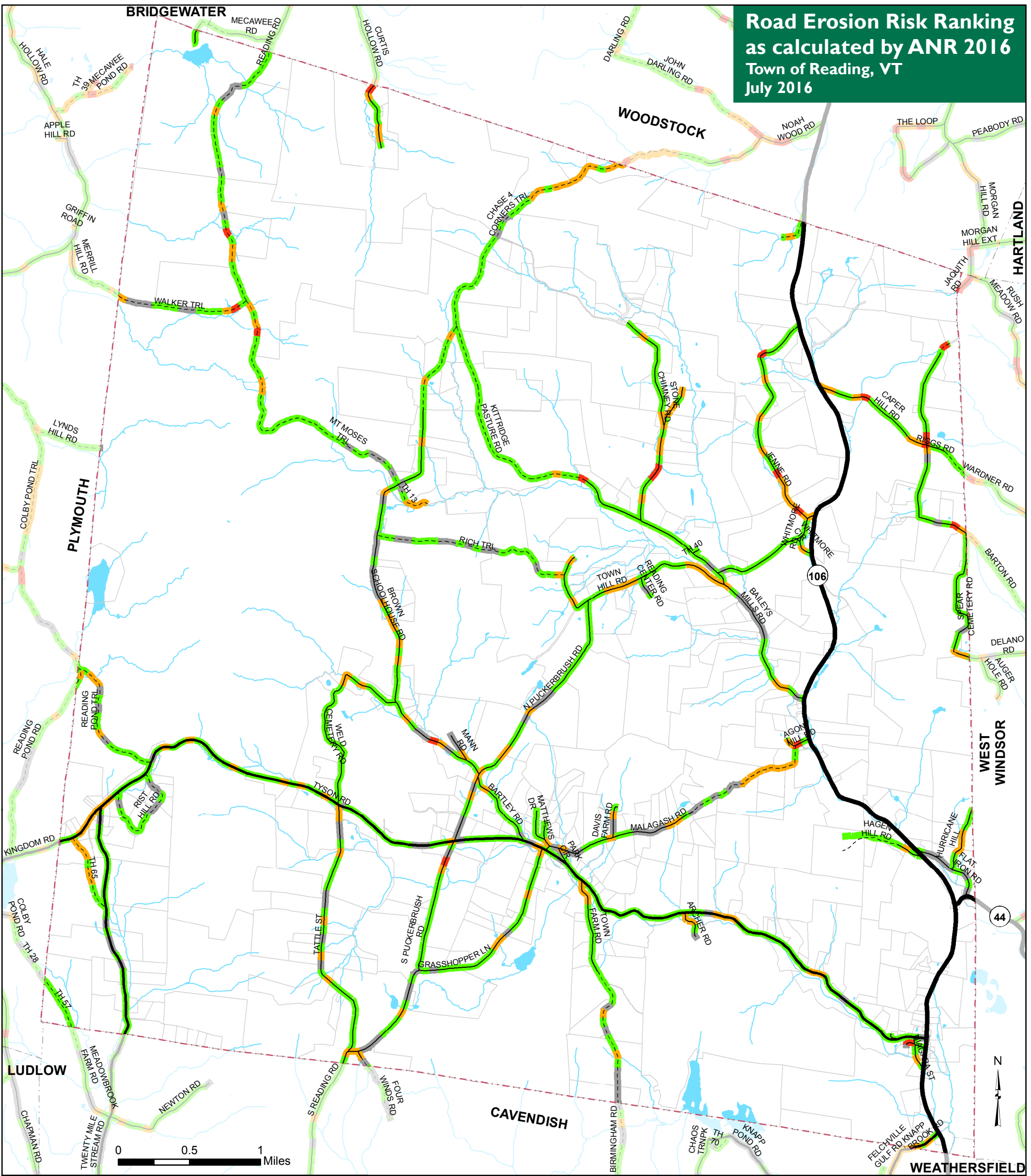
Data Sources: Hydrologically connected road segments (ANR July 2016), Roads (VTrans 2015), Waterbodies (VHD 2008), Parcels (Terramap 2016), Town Boundary (Southern Windsor County Regional Planning Commission using Parcels 2011).

VT State Plane, Meters, NAD 83
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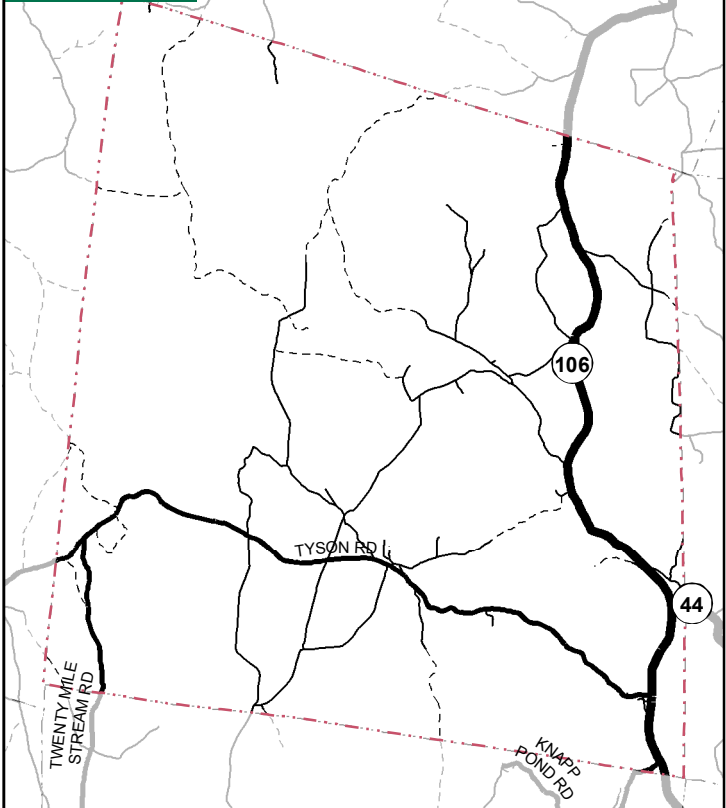


For planning purposes only
Not for regulatory interpretation
Map last revised: July 11, 2016

Road Erosion Risk Ranking as calculated by ANR 2016 Town of Reading, VT July 2016



Road Class



Road Erosion Risk Rank

- High Risk
- Moderate Risk
- Low Risk
- No Measured Risk
- VT State Highway (not included in risk assessment)
- Class 2 Town Highway
- Class 3 Town Highway
- Class 4 Town Highway

- River or Stream
- Lake or Pond
- Parcels (Reading only)
- Town Boundary

This map shows predicted erosion risk of 100 meter segments using the protocol developed by Stone Environmental in 2014 for ANR. In 2016 ANR slightly revised this ranking to include paved roads and remove private roads. Locations were identified based on a variety of site factors including but not limited to slope, water features, and soils. Site factors were linked to constraint values and totaled to determine priority ranking from low to high.

For more information see http://anrmaps.vermont.gov/websites/vgisdata/layers_anr/metadata/TransRoad_EROSIONRISK.txt and http://gis.vtanr.opendata.arcgis.com/datasets/ca438cfa73ef47b7b044b9b22045fc9b_164

Data Sources: Road Erosion Risk Ranking (ANR July 2016), Roads (VTrans 2015), Waterbodies (VHD 2008), Parcels (Terramap 2016), Town Boundary (Southern Windsor County Regional Planning Commission using Parcels 2011).

VT State Plane, Meters, NAD 83
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For planning purposes only
Not for regulatory interpretation
Map last revised: July 11, 2016

Watershed Sizes Used as Guidance in Stream Alteration Regulations

READING



Map Disclaimer

This map represents guidance on watershed sizes using data and methods that have a certain amount of error associated with them. The accuracy of watershed sizing maps using the Vermont Hydrography Data Set and produced with computer automated methods may be exceeded by other methods using more accurate data. The regulated public may request River Management Program (RMP) approval, or the RMP may decide, to use watershed sizes based on more accurate methods and data.

Map Description

This map product indicates the reaches of stream and river in a given town that would be at or below the 0.5, 1.0, and 10.0 square mile watershed thresholds used for jurisdictional determinations under the Vermont ANR Stream Alteration Regulatory Program.

RMP contacts and information about the Stream Alteration GP may be obtained at: http://www.anr.state.vt.us/dec/waterq/rivers/htm/rv_management.htm

Map Created by Erik Engstrom, ANR GIS, April 1st, 2011.

LEGEND

- | | | | | | |
|--|----------------------|--|---------------------|--|--------------------|
| | Drainage Area | | >10 Square Miles | | VT Town Boundaries |
| | | | 1 - 10 Square Miles | | VT County Boundary |
| | | | 0.5 - 1 Square Mile | | |
| | | | <0.5 Square Mile | | Lake/Pond |
| | | | | | |



Quick Guide to Funding Sources for Transportation Projects

Southern Windsor County, Vermont

Last Updated May 2016



Program	Website/ More info	Agency	Contact	Type	Local Match	Use and Eligibility	Notes
HIGHWAY, BRIDGES OR CULVERTS (including water quality related fixes nearby)							
Town Highway Grants	Orange Book	VTrans	VTrans District	Annual allocation (mileage based)	None	TH & bridge maintenance for Class 1, 2 & 3 TH	
TH Class 2 Roadway Program	Orange Book	VTrans	VTrans District	Grant from DTA	30% or less	Resurfacing and reconstruction for Class 2 TH	Up to \$150k per project
TH Bridge Program	Orange Book	VTrans	Mike Hedges, Katharine Otto	Managed by VTrans	10% or less	Major rehabilitation or reconstruction of any structure over 6ft on Class 1, 2 & 3 TH	Pre-Candidate regional ranking in Jan/Feb each year. Project choice is initiated by VTrans
TH Structures Program	Orange Book	VTrans	VTrans District	Grant from DTA	20% or less	Bridge maintenace, preservation or repair of any structure over 6ft on Class 1, 2 & 3 TH	Up to \$175k per project
Transportation Alternatives Grant Program (TAP)	http://vtransengineering.vermont.gov/bureaus/mab/local-projects/transportation-alternatives	VTrans	Scott Robertson	Competitive grant	Depends	Bicycle and Pedestrian facilites, Safe Routes to School infrastructure, and some other projects. New emphasis in 2015 for stormwater related projects - eg structures, slopes	Formerly "Transportation Enhancements". Up to \$300k per project. All projects evaluated against federal criteria. Applications due Sept/ Oct
Adaptive Use Bridge Program	http://historicbridges.vermont.gov/program-documents	VTrans	Sue Scribner	Unknown	20%	Rehabilitation of historic metal trus bridge for adaptive re-use (Bike-ped)	
Better Roads Program (Category B)	http://vtransengineering.vermont.gov/bureaus/mab/better-back-roads	VTrans	Alan May	Competitive Grant	20%	Correction of a road related erosion problem and/or stormwater mitigation/ retrofit	Up to \$25k per project. Water quality and erosion focus. Applications due Spring.
Better Roads Program (Category C)	http://vtransengineering.vermont.gov/bureaus/mab/better-back-roads	VTrans	Alan May	Competitive Grant	20%	Correction of a stream bank or sloped related problem	Up to \$50k per project. Water quality and erosion focus. Applications due Spring.
Better Roads Program (Category D)	http://vtransengineering.vermont.gov/bureaus/mab/better-back-roads	VTrans	Alan May	Competitive Grant	20%	Structure/ culvert upgrades	Up to \$50k per project. Water quality and erosion focus. Applications due Spring.
Ecosystem Restoration Program (formerly "Clean and Clear")	http://www.watershedmanagemnt.vt.gov/grants.htm	ANR	David Pasco	Competitive Grant	Depends	Includes a project category for "Road-related runoff or erosion mitigation"	2 rounds of applications per year - Spring and Fall. Project needs a connection to River/ Basin Plan.
Hazard Mitigation Grant Program (HMGP)	http://vem.vermont.gov/mitigation	FEMA	Ray Doherty	Competitive Grant	25%	Any project that prevents future loss due to natural disaster	Deadlines happen at a variety of times depending on the "round" of funding.
Flood Mitigation Assistance program (FMA)	www.fema.gov/flood-mitigation-assistance-program	FEMA	Ray Doherty	Competitive Grant	Depends	Reduce or eliminate risk of flood damaged to buildings under National Flood Insurance Program (NFIP)	
Pre Disaster Mitigation Program	www.fema.gov/pre-disaster-mitigation-grant-program	FEMA	Ray Doherty	Competitive Grant	Depends	Reduce risk to people and structures	

Program	Website/ More info	Agency	Contact	Type	Local Match	Use and Eligibility	Notes
Emergency Watershed Protection Program	http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/programs/planning/ewpp/	NRCS	Jennifer Varin	Unknown	25% or more	Undertake emergency measures to safeguard lives and property from flood and erosion after a watershed is suddenly changed by natural disaster	
Community Development Block Grant	http://accd.vermont.gov/strong_communities/opportunities/funding/cdbgdr	ACCD	Cindy Blondin	Unknown	Unknown	Funds have been used for a variety of purposes - including large culvert/ box culvert upgrade	
Town Highway Disaster Assistance	Orange Book	VTrans/ FEMA/ FHWA	VTrans District	Grant dependent on level of damage	Depends	If replacing a bridge or culvert after a disaster event. Contact your VTrans District to see whether you are eligible for FEMA, FHWA or District Disaster funds	
PARK AND RIDE LOTS							
Municipal Park and Ride Program	http://vtransengineering.vermont.gov/bureaus/mab/local-projects/parkandride	VTrans	Wayne Davis	Competitive grant	None	Small municipally owned and maintained P&R facilities near state highway	Applications due July/ August
BICYCLE AND PEDESTRIAN FACILITIES							
Transportation Alternatives Grant Program (TAP)	http://vtransengineering.vermont.gov/bureaus/mab/local-projects/transportation-alternatives	VTrans	Scott Robertson	Competitive grant	Depends	Bicycle and Pedestrian facilities, Safe Routes to School infrastructure, and some other projects. New emphasis in 2015 for stormwater related projects eg structures, slopes	Formerly "Transportation Enhancements". Up to \$300k per project. All projects evaluated against federal criteria. Applications due Sept/ Oct
Vermont Bicycle and Pedestrian Program	http://vtransengineering.vermont.gov/bureaus/mab/local-projects/bike-ped	VTrans	Jon Kaplan	Competitive grant	Depends	Bicycle and Pedestrian facilities, scoping, design and construction	Applications due June/ July
Recreation Trails Grant Program	http://fpr.vermont.gov/recreation/grants/rtp	DFPR	Sherry Winnie	Competitive grant	20% min.	Maintenance, restoration and construction of recreational trails	Applications due Jan/ Feb
EQUIPMENT							
Ecosystem Restoration Program (formerly "Clean and Clear")	http://www.watershedmanagement.vt.gov/grants.htm	ANR	David Pasco	Competitive Grant	20%	Assistance to buy shared municipal equipment (eg hydroseeders, compactors, etc).	2 rounds of applications per year - Spring and Fall. Project needs a connection to River/ Basin Plan.
OTHER PURPOSES							
State Infrastructure Bank	http://www.veda.org/financing-options/other-financing-option/state-infrastructure-bank-program/	VTrans & VEDA	Karen Songhurst	Loan	N/A	Any transportation project that is eligible for federal funds	Can apply for funds at any time
Better Roads Program (Category A)	http://vtransengineering.vermont.gov/bureaus/mab/better-back-roads	VTrans	Alan May	Competitive Grant	20%	Transportation inventories and capital budgets	GRANT CHANGE DEC 2015. Up to \$10k per project. Water quality and erosion focus. Applications due Spring.
Downtown Transportation Fund Grant	http://accd.vermont.gov/strong_communities/opportunities/funding/downtown_transportation_fund	DHCD	Gary Holloway	Competitive Grant	50%	Transportation improvements in Designated Downtown	Up to \$100k per town per year. Applications due March

Program	Website/ More info	Agency	Contact	Type	Local Match	Use and Eligibility	Notes
Strong Communities, Better Connections (SCBC) Program	http://vtransplanning.vermont.gov/programs/scbc	VTrans/DHCD	Jackie Cassino, Rich Amore	Competitive Grant	Unknown	Focus on transportation, land use and Livability	Pilot launched in 2014
Transportation Planning Initiative	http://swcrpc.org/transportation/	SWCRPC	Katharine Otto	Discretionary	Depends	Inventories, capital budgets, counts, any transportation planning project	Depends on needs and available funds/ staff
Vermont Local Roads (VLR) (LTAP)	http://vermontlocalroads.org/	VTrans	Kevin Gadapee	Local Technical Assistance	None	Information, training and technical assistance	
Community Development Block Grant	http://accd.vermont.gov/strong_communities/opportunities/funding/cdbgdr	ACCD	Cindy Blondin				
Municipal Planning Grant (MPG)	http://accd.vermont.gov/strong_communities/opportunities/funding/overview/municipal_planning_grants	ACCD	Annina Seiler	Competitive Grant		Can be used for capital budget planning and downtown master plans - both of which have transportation components	Applications due end of September each year

VTrans Orange Book - A Handbook for Local Officials <http://vtransoperations.vermont.gov/>

Abbreviations

ANR	Vermont Agency of Natural Resources
DEMHS	Dept of Emergency Management and Homeland Security
DFPR	VT Dept of Forests, Parks and Recreation
DHCD	VT Dept of Housing and Community Development
DTA	VTrans District Transportation Administrator
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
HMGP	Hazard Mitigation Grant Program
Hwy	Highway
LTAP	Local Technical Assistance Program
MAB	VTrans Municipal Assistance Bureau
NRCS	US Dept of Agriculture Natural Resources Conservation Service
SCBC	Strong Communities, Better Connections Program
SWCRPC	Southern Windsor County Regional Planning Commission
TAP	Transportation Alternatives Program
TH	Town Highway
VEDA	VT Economic Development Authority
VLR	Vermont Local Roads
VTrans	Vermont Agency of Transportation

Contact Info

Name	Email
Wayne Davis (VTrans MAB)	wayne.davis@vermont.gov
Ray Doherty (DEMHS)	ray.doherty@vermont.gov
Alan May (VTrans MAB)	alan.may@vermont.gov
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Sue Scribner (VTrans MAB)	sue.scribner@vermont.gov
Katharine Otto (SWCRPC)	kotto@swcrpc.org
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Scott Robertson (VTrans MAB)	scott.robertson@vermont.gov
Marc Pickering (VTrans District 2)	marc.pickering@vermont.gov
Chris Bump (VTrans District 4)	chris.bump@vermont.gov
Brian Sanderson (VTrans District 3)	brian.sanderson@vermont.gov
Karen Songhurst	karen.songhurst@vermont.gov
Gary Holloway	gary.holloway@vermont.gov
Jennifer Varin (NRCS Windsor County)	802-775-8969 x 14
David Pasco (ANR)	david.pasco@vermont.gov
Cindy Blondin (ACCD)	cindy.blondin@vermont.gov
Annina Seiler	annina.seiler@vermont.gov

VTrans Districts

District 2	Andover, Baltimore, Cavendish, Chester, Springfield, Weathersfield
District 3	Ludlow
District 4	Reading, West Windsor, Windsor