



REGULATORY

17. Road and Trail Policies

Overview

Access to nature is an integral part of life in Vermont, and our state is home to some of the best trail networks in the country. Many of these networks provide access to undeveloped forestland. Well-planned, sited and managed road and trail networks contribute to the conservation of forest resources by providing access for timber and wildlife management, restoring degraded areas, guiding users away from sensitive habitats, limiting impacts on wildlife, and getting people into the woods to appreciate firsthand a community's forest resources. Poorly sited roads and trails have the opposite effect. They can fragment forestland, limit wildlife movement, channel stormwater runoff, and create breaks in forest cover that serve as pathways for invasive species. New roads also open up more land for development, which further fragments forests.

Municipalities can adopt policies and regulations that guide how roads and trails are developed and managed. Road and trail policies can help lighten budget pressures by limiting the upgrading of existing roads, and the development and acquisition of new roads in previously inaccessible areas. New and upgraded roads increase road maintenance costs, and can require the extension of emergency services and school bussing routes to serve these areas.

Local road and trail policies, ordinances, and regulations can be used in a variety of ways to:

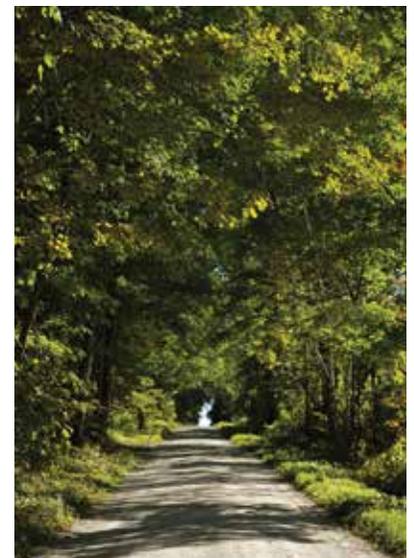
- Require that new development has frontage on or access to town roads that are currently maintained for year-round use (Class 3 or higher).
- Develop a policy that the municipality shall not extend road maintenance services to private roads and shall not reclassify private roads as town roads.

The effects of roads on forest fragmentation are recognized in state definitions of “core forest” and “contiguous forest habitat”:

Core forest includes forest cover located more than 100 meters from a building, structure, road, or driveway and more than 100 meters in from the forest edge boundary.

Contiguous forest habitat is an area of forested land with either no roads or low densities of Class 3 or 4 roads and little or no human development (buildings, parking areas, lawns, gravel pits).

- Limit the uses that can be accessed from Class 4 roads (that are maintained only for seasonal use) to those uses that do not require year-round vehicular access (e.g., forestry and wildlife management, outdoor recreation, seasonal camps).
- Restrict or prohibit the upgrade of existing Class 4 roads and legal trails to serve new development to avoid additional long-term maintenance costs, and in order to limit development and public access (especially vehicle access) in more remote areas of town that currently require no municipal services (roads, emergency services, school bussing, etc.).
- Downgrade Class 4 roads to legal trails, to eliminate road maintenance costs but retain town rights-of-way for public access and recreational use.
- Discourage extensive private road development by requiring that the costs of road construction and ongoing maintenance be borne by the developer and abutting landowners, or by prohibiting new road construction in certain districts (possibly with the exception of roads and trails for recreation or forest management).
- Guide or regulate the design, location and extent of new road and trail development, especially within conservation and resource areas, to minimize resource fragmentation and associated impacts from road or trail development and use. Road design standards should emphasize grades (prohibiting road development on steep slopes, for example), stormwater runoff that keeps water from flowing directly into streams, and adequately sized bridges and culverts to ensure that the roads serving development can be accessed by emergency



A. Blake Gardner

REGULATORY

services.

- Regulate the use of town rights-of-way by recreational vehicles (e.g., ATVs, off-road vehicles and snowmobiles).
- Preserve or provide access to forestland (including logging roads and landings) as needed for sustainable wildlife and forest resource management.
- Maintain or enhance wildlife movement by: 1) limiting vehicle speeds (e.g. by maintaining a road as gravel rather than paved), which maintains rural character while benefitting wildlife movement, 2) minimizing guardrails or steep swales 3) limiting traffic volume by maintaining low development densities on land served by specific roads, and 4) appropriately sizing culverts for aquatic organism passage as well as movement of terrestrial animals.
- Minimizing the spread of invasive species through careful mowing and maintenance policies.

downgrade certain Class 4 roads to legal trails for public recreational use. A plan policy stating that “trails will not be reclassified and upgraded to public roads,” implemented through local ordinances and land use regulations, makes surrounding lands less vulnerable to development. Similarly, to prevent forest fragmentation and maintain the economic viability of an area for forestry, it is within a municipality’s power, under subdivision or zoning bylaws, to prohibit the upgrade of old logging roads to serve new development.

Though it may seem to go without saying, it is important to design road policies with the public interest in mind. What does this mean? In general, development of roads in remote locations offers limited public benefit; in fact, these roads can be harmful to the public interest if acceptance of these roads increases public expense (e.g. maintenance costs) beyond the tax revenue collected from the newly served properties. When thinking about where roads should (and shouldn’t) go, communities should work to create integrated transportation policies that balance access and mobility goals with recreation, land use, and conservation policies.

Statutory Authority

Fragmentation issues related to roads and trails can be managed through a variety of policies or guidelines that are advisory in nature, as well as through locally adopted highway ordinances, zoning and subdivision regulations. Not surprisingly, there are several sections of statute that govern how communities may regulate roads and trails – found mainly under Title 19 (Highways) and Title 24 (Planning and Development). These are explained in more detail below.

Implementation

Municipal Plan

The town plan’s goals, policies, and transportation map provide the basis for local road policies. To help reduce fragmentation, municipal plans can:

- **Provide general policy support for actions related to roads.** Include municipal plan language that addresses issues of forest fragmentation caused by road and utility extensions, land subdivision and development. Related policies could call for limiting or managing road and utility extensions within core forest areas, updating road layout requirements in the subdivision regulations, or articulating how (and if) the municipality will accept private roads (if they choose, municipalities may choose not to accept any new private roads).
- **Articulate the community’s approach to Class 4 roads, legal trails, and logging roads.** Clearly articulate the community’s approach to Class 4 roads and legal trails in the municipal plan, and in related ordinances and bylaws. For example, limit the use and upgrade of Class 4 roads to access new development, and

Zoning and Subdivision Regulations

A variety of approaches can be taken in a zoning bylaw to manage roads in ways that reduce fragmentation:

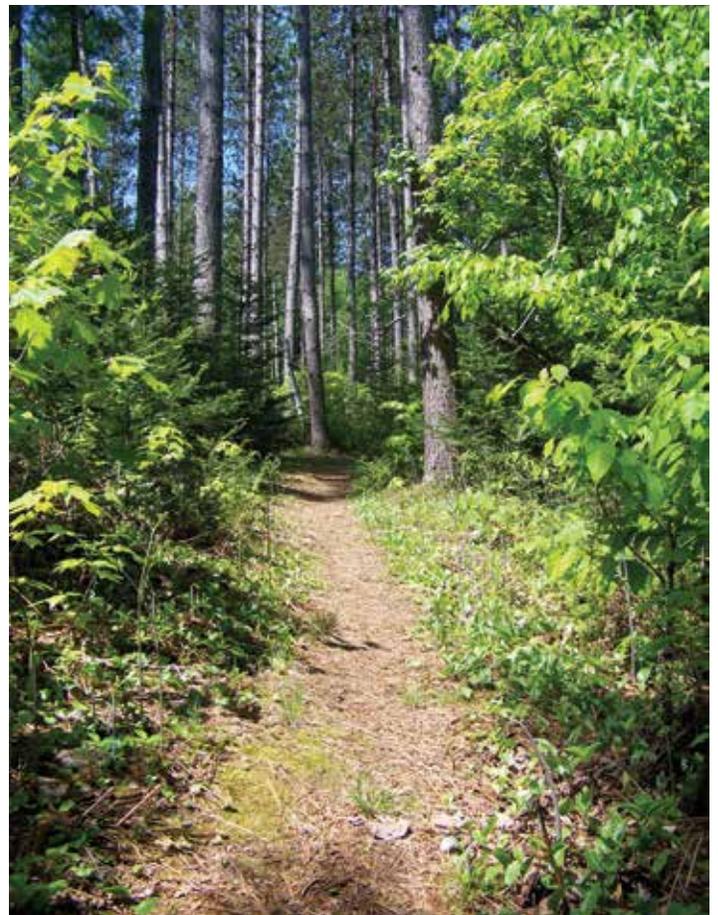
- **Regulate road access** (19 V.S.A. §1111): Statute requires the Selectboard to regulate access to and work within town road rights-of-way, including the issuance of highway access (curb cut) permits in conformance with the municipal plan and local land use regulations. Many highway policies or ordinances – and associated driveway and development road standards – are adopted, at least initially, for this purpose. The same statutory requirements also generally apply to the state, for access onto state highways. Municipalities and the state must allow for reasonable access, but are allowed to restrict the number and location of access points for new driveways and development roads. This can be used to reduce fragmentation.
- **Frontage requirements and the creation of new lots** (24 V.S.A. §4412): This provision was originally established in statute and zoning as a “grandfathering” clause to preserve access to preexisting lots with no road frontage. However, it gives the planning commission or development review board the authority to regulate access to such lots via private easements or rights-of-way under standards included in zoning or subdivision regulations. This offers some oversight over road or driveway development, while also protecting the interests of local property owners. The downside is that it can lead to the creation of long driveways

REGULATORY

and, without additional limits, the creation of new subdivisions served by development roads. Consider adopting frontage standards under local regulations that require all newly subdivided lots within specified districts to have frontage on existing public roads (which prevents the creation of interior lots requiring long, fragmenting driveways). Frontage standards can also specify that Class 4 roads cannot be used to meet frontage requirements. Development requiring year-round access should be required to have frontage on or direct access to a Class 1, 2 or 3 road or state highway. State law, as interpreted by the Vermont Supreme Court, also bars the use of legal trails for road frontage. Clarifying this in the zoning bylaw is a good idea.

- **Guide road layout in subdivision regulations** (24 V.S.A. §4418): Subdivision regulations adopted by a municipality to implement its plan must include both standards for the design and layout of roads, and standards for the protection of natural resources and open space. Increasingly, subdivision regulations are being crafted to specifically address the impacts of new road development on resources and open space, including wildlife habitat and forestland. Subdivision standards can also be used to preserve access to upland forests, including logging roads and landings, for ongoing forest resource management and, if the municipality chooses, to prevent the conversion and use of old logging roads to access new subdivisions and development.
- **Customize road standards by zoning district:** In districts at risk of forest fragmentation (especially those likely to be impacted by incremental development), the town should limit the encroachment of driveways into unfragmented forest areas. For example, this could be accomplished by requiring that driveways over a certain length be subject to conditional use review, by limiting driveway length, and/or by prohibiting new development roads within these districts.
- **Choose whether and how to accept private roads** (19 V.S.A. Ch. 7; 24 V.S.A. §4463): The Selectboard is authorized by statute, but not required, to accept private roads, including “development roads” created in the process of land subdivision. Every road or highway shown on a recorded subdivision plat is deemed a private road until it has formally been accepted by the municipality as a public road, by ordinance or resolution. Private roads must be maintained by abutting landowners, which may serve as a disincentive for extensive new road development, especially in hard to reach places. The Selectboard can develop a policy outlining the conditions under which it will (and will not) accept private roads.

- **Provide for timber access** (19 V.S.A. §§ 923, 958): The Selectboard has the authority to lay out a right-of-way through the land of any person so that lumber, wood, or other materials may be removed. The Selectboard must follow certain procedures, including notification requirements (19 V.S.A. §923).
- **Road reclassification and discontinuance** (19 V.S.A. Ch. 7): This section of statute describes a Selectboard’s authority to lay out, reclassify or discontinue (“throw up”) a town road – for example to upgrade a Class 4 to a Class 3 road, to reclassify it as a legal trail, or to discontinue it all together. Section 708 links reclassification to the community’s goals and municipal plan, stating: “In considering whether to reclassify a Class 4 highway to Class 3, consideration may be given as to whether the increased traffic and development potential likely to result from the reclassification is desirable or is in accordance with the town plan.” Downgrading a Class 4 road to a legal trail maintains the right-of-way for public use – e.g., as a recreational trail – but eliminates the need to maintain it for vehicular access, which may limit use impacts on forest and wildlife resources.



Jake Brown/VNRC

REGULATORY

- **Trails** (23 V.S.A. Ch. 29): Most communities do not currently regulate public or private trail development under their land use regulations, except as may be required within mapped flood hazard areas, in riparian buffers, or if trailhead parking is proposed – but state regulations, including Act 250 review, may apply to more extensive trail development. Some communities, such as Underhill, are adopting guidelines for trail development in part to protect natural resources, including significant wildlife habitat. Federal standards apply to the development of trails on federal land, including the Green Mountain National Forest. (Note: trails built with federal funds on any ownership require adherence to some level of federal standards.) The Vermont Agency of Natural Resources is responsible for general oversight of the Vermont Trail System under an adopted state trail plan. Trail organizations, such as the Green Mountain Club and the Vermont Association of Snowmobile Travelers (VAST) also have standards for trail siting, design and maintenance.

There are also state statutes in effect under Title 19 (Highways) and Title 23 (Motor Vehicles) that govern the operation of snowmobiles and ATVs on public highways and private land, and give municipalities the authority to adopt ordinances that regulate the use of motor vehicles on town highways and the time, manner, and place of snowmobile and ATV operation. For example, snowmobiles cannot be operated on a public highway unless the highway has been open to snowmobiles and posted as such by the Selectboard.

Things to Consider

Involve the Selectboard and other key town officials early in the process. It's critical that the Selectboard, which has jurisdiction over local roads, is involved early in any discussion over road policies and standards, and that related standards under zoning and subdivision regulations are consistent with those adopted by the Selectboard under local road policies and ordinances. It's also important to include emergency service providers — such as the local fire chief, emergency management director, or emergency coordinator — when any road is being developed or upgraded to provide access to development; this helps evaluate whether emergency access is possible.

Determine how land use policies affect road needs. It's important to look at land use patterns allowed under current zoning and subdivision regulations. For instance,

ask: Do large minimum lot sizes with large setbacks – often intended to preserve an area's "rural feel" – instead fragment the landscape, by requiring multiple, lengthy driveways? Clustering development on small lots while preserving larger tracts of undeveloped forestland — e.g., through Planned Unit Development (see *Chapter 16, Clustering and Planned Unit Development*) and Subdivision Design (see *Chapter 15, Subdivision Regulations*) — can reduce the amount of road infrastructure needed to serve development and thereby limit resource fragmentation.

Don't forget about driveway design. In addition to traditional driveway construction standards, consider standards under local zoning and subdivision regulations that also govern driveway location, to minimize resource fragmentation and adverse impacts to core forest and contiguous habitat areas, steep slopes, headwaters, wetlands and other conserved open space areas.

Consider long-term maintenance costs. Tight municipal budgets mean it is often a struggle to maintain existing local roads. If a town allows Class 4 roads to be used to access year-round development, it is likely that the Selectboard will eventually be asked to upgrade and maintain the road, as a public highway, for year-round use. Long-term maintenance costs should also be considered in accepting development roads as public highways.

Integrate wildlife considerations, as well as emergency management, into culvert sizing and other road design decisions. Culvert sizing is an important consideration for town planning. Culvert sizing has implications for flooding (and associated costs of repairing undersized infrastructure) as well as for aquatic organism passage and movement of terrestrial animals. With appropriate sized infrastructure, all of these goals can be accomplished at once.



Courtesy Vermont Fish & Wildlife Department

REGULATORY

More Information

Wildlife and Road Design

- **Land Use Planning and Implementation Manual, Topic Paper 25, Roads & Highways.** <http://www.vpic.info/Publications/Reports/Implementation/Roads.pdf>
- **Staying Connected: Transportation and Wildlife.** As part of the Staying Connected project, an international collaboration working to promote landscape connectivity across the Northern Appalachian and Acadian region, a website was developed to promote best practices and case studies for wildlife connectivity: (<http://stayingconnectedinitiative.org/our-work/transportation-and-wildlife/>). In addition to the information on this webpage, two documents discuss best practices for how roads can be designed to promote habitat connectivity.
 - **Vermont Transportation and Habitat Connectivity Guidance Document.** VTrans.
 - **Road Maintenance and Planning for Terrestrial Connectivity – Best Practices.** The Nature Conservancy.

Case Study

Road and Trail Policies: Enosburgh, VT and Underhill, VT

In districts at risk of forest fragmentation – especially those likely to be impacted by incremental development – road and trail policies can play an important role in limiting the encroachment of driveways into unfragmented forest. Below are examples of towns that have addressed this through their bylaws and ordinances.

Town of Enosburgh – Road Length Policies

The Town of Enosburgh recognized that roads over a certain length could fragment blocks of intact forest in their town, but wanted to avoid a blanket prohibition on long roads. Instead, the town decided to regulate roads over 800 feet only for those districts most likely to be affected by encroachment. They then developed different standards to fit each district's purpose:

- **Rural Residential District:** Roads over 800 feet are allowed but require conditional use review (Enosburgh Development Bylaw, p. 11).
- **Natural Resources Overlay District:** Roads over 800 feet are prohibited unless the development review board determines there is no other way to provide access to the property, or that a longer driveway actually helps avoid impacts on natural resources (p. 13).
- **Conservation District:** Roads over 800 feet are generally prohibited, and allowed only by variance (p. 12).

For more information, see the Enosburgh Development Bylaw.¹

Town of Underhill – Trail Handbook

The Town of Underhill has adopted the *Underhill Trails Handbook*, prepared by the town's trail committee, to guide trail development on both public and private land. The guide is not regulatory. It instead provides a compilation of best management practices for trail development and maintenance. The handbook emphasizes “sustainable trail design” that minimizes the impacts of trail siting and use on the natural environment – “from the soils and tree roots underfoot to the fragile vegetation and special habitats that exist along the trail route to the wildlife that lives there.” Some of the guide's recommendations include:

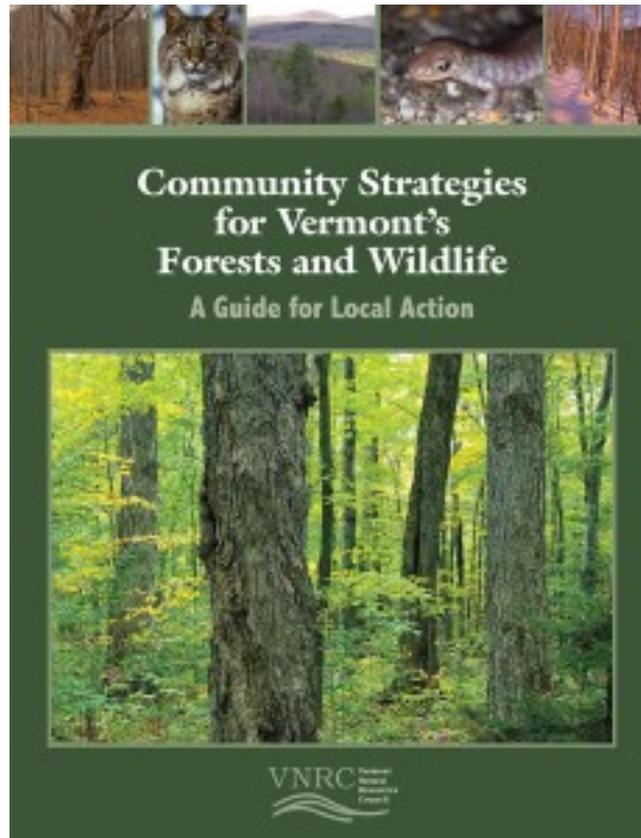
- Consulting with the state wildlife biologist and the town's conservation commission regarding trail routing, construction and use, to minimize impacts on plants and wildlife.
- Establishing buffers of sufficient width between trails and key wildlife habitat areas, including wetland and riparian areas, to protect wildlife and aquatic habitat and to allow for wildlife movement.
- Including sharp turns and sight distances of 75 to 100 feet in areas that are prone to wildlife interaction, to provide trail users and animals some reaction time in case of an encounter.
- Erecting small signs that ask trail users to stay on the designated trail in the vicinity of protected natural areas.

The guide also provides more specific information on trail design, permitting and development, working with landowners and landowner liability. A 2011 update of the handbook is available from the town.²



This chapter is part of a larger publication called ***Community Strategies for Vermont's Forests and Wildlife: A Guide for Local Action***. You can download the entire publication or individual chapters (including the endnotes, resources, and credits page) for FREE at:

www.vnrc.org/programs/forests-wildlife/guide/



This guide was written primarily by: Jamey Fidel and Kate McCarthy of the Vermont Natural Resources Council (VNRC) and Sharon Murray of Front Porch Community Planning and Design, with assistance from Elizabeth McDonald, Véronique Meyer, Brian Shupe, and Emma Zavez. Technical illustrations by Jeannie Sargent.

Funding or general support for this publication was provided by: Jessie B. Cox Charitable Trust; Northeastern States Research Cooperative (NSRC), a partnership of Northern Forest states (New Hampshire, Vermont, Maine, and New York), in coordination with the USDA Forest Service; The Nature Conservancy – Vermont Chapter; U.S. Forest Service, Northeastern Area State and Private Forestry; U.S. Forest Service, Green Mountain National Forest; Vermont Agency of Natural Resources.

Design: Tim Newcomb, Newcomb Studios Printing; Stillwater Graphics, Williamstown, VT

Prepared by the Vermont Natural Resources Council

September 2013 © Vermont Natural Resources Council | This institution is an equal opportunity employer