

HISTORICAL, CULTURAL, ARCHAEOLOGICAL AND SCENIC RESOURCES

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Covered bridge coming down and iron bridge going up over the White River, 1902 (the covered bridge was built in 1848, the iron bridge was built between 1901-1902) | Source: Royalton Historical Society

A. Introduction

Growth provides significant advantages for Vermont and the TRO Region, particularly in the creation of employment opportunities and housing. There are many examples of desirable development that have adapted very well to our historical landscapes and existing settlement patterns. The potential to create an attractive modified landscape (complementing the old with new development) exists, but change can result in landscape degradation unless cherished landscape patterns and community values are given proper consideration.

TRORC accepts the fundamental assumption that many instances of degradation are preventable or may be significantly mitigated. TRORC also acknowledges the strong desire of Vermonters to conserve the Vermont landscape while accommodating growth. This has been expressed by a long history of legislation, public policy, and local planning that addresses appropriate and legitimate standards for change. Criterion 8 of

Act 250 embodies these values.

B. Historic Resources

Advantages of Historic Preservation

The reasons for the preservation of our architectural heritage are varied. To business owners, preservation is a mechanism to maintain a community's interest in and support of the local economy. Community leaders and preservationists see historic preservation as a means to curb the decay of the traditional village center.

Preservation of historic buildings can increase the market value of property and increase tax revenues to towns, and buildings of architectural merit help shape community identity. In numerous settings throughout the Region, preservation of important landmarks such as the Strafford Meeting House, Bridgewater Woolen Mill, Bethel Town Hall, Fairlee Town Hall, Brookfield Town Hall, and Corinth Meeting House have contributed to sense of place

and community pride. Once work has begun in a community, other efforts follow, often heightening community betterment and identity. The combination of rural scenery and the attractive built environment is a key reason why thousands come to the Region and contribute millions of dollars to our economy.

“there’s no way you can understand the present unless you have a firm grounding in the past. Our past is part of us always, and, for Vermonters, the preservation of the unique Vermont heritage is especially important. You do that in a number of ways. We preserve our heritage through the written word, but we also preserve it in our physical surroundings, the buildings created by our forbearers. The buildings each community has are unique to that community. They represent a certain part of our past, and they can become an agent for revitalization and growth...”

~former Governor Hoff

This mix of tangible and intangible benefits is why historic preservation is important to the welfare of the Region. Beyond the practical and aesthetic, preservation is part of our ethic—do not throw something away if it is still useful. Instead, common sense and tradition seek to conserve, use, and improve what already exists.

And lastly, as eloquently stated by former Governor Hoff: “There’s no way you can understand the present unless you have a firm grounding in the past. Our past is part of us always, and, for Vermonters, the preservation of the unique Vermont heritage is especially important. You do that in a number of ways. We preserve our heritage through the written word, but we also preserve it in our physical surroundings, the buildings created by our forbearers. The buildings each community has are unique to that community. They represent a

certain part of our past, and they can become an agent for revitalization and growth.”

The National Register and State Survey

Beginning in the late 1960s, the Vermont Division for Historic Preservation (Division) instituted a periodically updated a Historic Sites and Structures Survey for towns.

More than 3,000 of the region’s historic structures have been inventoried by the Division; the records are on file with the Division and are available in digital format. Planning commissions, local historical societies, building owners, and others interested in the details surrounding buildings of historic and architectural merit are encouraged to contact the Division. Technical assistance and grants are available to assist in the conservation of these properties.

To aid in the preservation of the most notable historic resources, Congress in 1966 created the National Register of Historic Places (Register). The Register is a federally maintained list of culturally important districts, sites, buildings, and structures worthy of preservation. Historic districts are geographic locations that contain historically or architecturally significant buildings, properties, or sites. Such structures or sites are considered to be contributing components, but a historic district may also contain non-contributing (non-historically or architecturally significant) buildings, structures, objects, or sites.

Inclusion in the Register offers a measure of protection against federally licensed or funded construction projects because federal agencies are required to consider the impact of their projects on properties included in or eligible for inclusion in the Register. Many of the buildings and structures included in the State Survey are eligible for the National Register.

Under the provisions of Section 106 of the National Historic Preservation Act, prior to proceeding with a federally funded project

affecting a historic structure, the federal agency and the state historic preservation officer, must attempt to identify ways to avoid or minimize adverse impacts. One successful example, was the replacement of the Elm Street Bridge in Woodstock Village, which is listed on the Register. In this case, the Vermont Agency of Transportation and the Federal Highway Administration were forced to waive national bridge design standards and to downsize the project to retain many of the elements and components of the historic smaller and narrower

bridge.

Another advantage of the National Register of Historic Places is that owners of income-producing buildings are eligible for tax credits on rehabilitation work, provided such work meets with certain prescribed standards.

Table 7-1: National Historic Register Landmarks, 2018

Town	Landmarks
Plymouth	Calvin Coolidge Homestead
Strafford	Justin S. Morrill Homestead
Woodstock	George Perkins Marsh Homestead (Marsh-Billings House)

Source: Vermont Division for Historic Preservation

Table 7-2: National Historic Register Districts, 2018

Town	Districts	Town	Districts
Bethel	Bethel Village	Newbury	West Newbury Village
Bradford	Bradford Village	Norwich	Norwich Village
Brookfield	Allis State Park	Plymouth	Coolidge State Park
Brookfield	Brookfield Village	Plymouth	Plymouth Notch Historic District
Chelsea	Chelsea Village	Randolph	Depot Square
Fairlee	Aloha Camp	Randolph	Randolph Center
Fairlee	Lanakila Camp	Royalton	South Royalton Village
Hartford	Jericho Rural Historic District	Stockbridge	Stockbridge Common
Hartford	Christian Street Rural Historic District	Strafford	Strafford Village
Hartford	Hartford Village	Thetford	Camp Billings
Hartford	Quechee Village	Thetford	Thetford Center
Hartford	West Hartford Village	Thetford	Thetford Hill
Hartford	White River Junction	Thetford	Thetford Hill State Park
Hartford	White River Junction Boundary Inc.	Tunbridge	Tunbridge Village
Hartford	Wilder Village	West Fairlee	Aloha Hive Camp
Hartford	Terraces Historic District	West Fairlee	Camp Wyoda
Newbury	Bayley District	Woodstock	Slayton-Morgan Historic District
	Newbury Village	Woodstock	South Woodstock Village
Newbury	Oxbow District	Woodstock	Taftsville
	South Newbury Village	Woodstock	Woodstock Village
Newbury	Wells River Village		

Source: Vermont Division for Historic Preservation

Table 7-3: Vermont Historic Districts, 2018

Town	Districts	Towns	District
Barnard	Barnard Village	Randolph	Lincoln/Chestnut Streets Historic District
Barnard	East Barnard	Randolph	North Main Street Historic District
Bethel	Bethel Mills Historic District	Randolph	Park/Central Streets Historic District
Bethel	East Bethel Village District	Randolph	Randolph Avenue Historic District
Brookfield	East Brookfield Historic District	Randolph	School St. Neighborhood Historic District
Brookfield	West Brookfield Village	Randolph	S. Main/S. Pleasant Streets Historic District
Corinth	Cookeville	Randolph	South Randolph Village
Corinth	Corinth Center	Randolph	Weston Street Historic District
Corinth	East Corinth	Rochester	Rochester Village Green Historic District
Fairlee	Fairlee Village	Royalton	Depot Square Historic District
Granville	East Granville Village	Royalton	Foxville Historic District
Granville	Granville Village	Royalton	Royalton Common Historic District
Granville	Lower Granville Village	Royalton	Royalton Village District
Hancock	Hancock Village	Sharon	Day Farms Historic District
Hancock	Virgin Avenue Historic District	Sharon	Sharon Village
Hartland	Hartland Three Corners Historic District	Strafford	Dublin Corner Historic District
Newbury	Boltonville Historic District	Strafford	Smith Farm Historic District
Newbury	Farnham - Atkinson Historic District	Strafford	South Strafford Historic District
Pittsfield	Pittsfield Village	Topsham	East Topsham Village
Plymouth	Plymouth Union	Topsham	Waits River
Randolph	East Randolph Village	Tunbridge	South Tunbridge Village

Source: Vermont Division for Historic Preservation

Programs for Historic Preservation

Several state organizations and agencies have been actively involved in historic preservation and community development. The Preservation Trust of Vermont (Trust) is a nonprofit corporation to assist in the continuing statewide effort to protect special architectural resources. The Trust works with local governments, individuals, and groups to secure and protect properties. The Division for Historic Preservation has matching grant programs for historic preservation projects for which communities and property owners are eligible. The Vermont Agency of Transportation is also engaged in historic preservation related projects.

To enhance downtown revitalization efforts in 1994, the Agency of Commerce and Community Development, the Preservation Trust of Vermont,

and the National Main Street Center formed the Vermont Downtown Program (Program). The Program provides technical support to communities interested in using historic preservation as an economic development tool.

Yet another innovative program is the Vermont Barn Preservation Grant Program, which awards matching grants on a competitive basis to individuals, municipalities, and nonprofit organizations who wish to maintain historic agricultural buildings. This program is sponsored by the Division for Historic Preservation, the National Trust for Historic Preservation, and the Vermont Agency of Agriculture, Food, and Markets.

Lastly, the Vermont Community Development Program, administered by the Department of Housing and Community Affairs, provides grant

funds to communities to improve housing, create and retain employment opportunities, and improve public facilities in support of housing and economic development activities.

Local Historic Preservation Methods

Under the provisions of the Vermont Municipal Planning and Development Act (24 VSA §4414), municipalities are enabled to protect areas of historic and architectural significance by designating historic districts or areas as part of local zoning bylaws. Within such areas, prior to exterior modifications to a structure or the erection of a new one, the local planning commission must first grant approval. In determining whether to grant approval, the commission must first evaluate the nature of the proposal against specific design criteria to ensure that the proposed changes would not impair the special character or significance of the surrounding area.

Under the provisions of Act 250, Criterion 8 protects historic sites along with other rare and irreplaceable natural resources. Before granting a permit, the District Commission or Environmental Court needs to find that a subdivision or development will not have an undue adverse effect on historic sites. Historic sites are defined as those included in the National Register of Historic Places, the State Register, or other properties deemed historically significant by the Division for Historic Preservation (10 VSA §6001(4)). In approaching such a determination, the Act 250 review process can evaluate local and regional plans to determine whether or not the proposed project violates a community standard intended to preserve the historic qualities of the site.

Non-regulatory approaches to historic preservation are of equal importance. The adaptive reuse of old buildings that no longer serve their original function is often preferable to the destruction and replacement of those buildings. Public acquisition and use of particularly important historic buildings may

be appropriate when new or expanded public facilities are needed.

Challenges of Historic Preservation

Various aspects of historic preservation have substantial benefits as well as costs, including economic and social impacts. There is a perception that the amount of restrictions put on residents to keep all projects and maintenance within the guidelines of the historic preservation plans is too limiting or costly. While many may argue that the benefits to society, both financial and otherwise, outweigh the costs, the relationship between preservation and the economy as well as overall societal benefit remains imperfectly understood and only partially documented¹.



Bradford Academy | © John Knox

Goals, Policies and Recommendations: **Historic Resources**

Goals

1. The unique characteristics of historic sites or areas, where the public interest is clearly benefited thereby, are enhanced and preserved.
2. The renovation of existing or construction of new structures, when they are found to be consistent and compatible with the historic character of the site or area, is enabled and supported.
3. Sensitive economic development is promoted in areas of historic value such as in town centers, villages, and hamlets.
4. Improvements to historical transportation facilities, instead of replacement, are promoted.

Policies

1. Land development or subdivision within or immediately adjacent to areas or sites of historic significance should be permitted provided that efforts are taken to ensure that the design of the project fits the context of the dominant character of the immediate area or environment.
2. Restoration or rehabilitation of historic structures, buildings, neighborhoods, or sites should be encouraged where the design does not destroy or significantly alter its distinguishing qualities, integrity, or character and immediate environment.
3. Destruction or removal of historic structures, buildings, or sites is discouraged.
4. When new buildings or structures within historic areas are proposed, they should have a design that is compatible with and sensitive to the character of the neighborhood.
5. Public improvements or structures such as bridge rehabilitation or replacement, street widening, roadway reconstruction, signage, utility distribution systems, and lighting must be designed to avoid unnecessary degradation of recognized historic sites or areas.
6. Public investments of regional or statewide significance must be planned in consultation with local and state officials, as well as the Division for Historic Preservation, to encourage compatibility and consistency with their planning objectives.
7. Local historical societies should continue the research, documentation, education, and advocacy efforts that they have pursued in their communities.
8. Developers must be encouraged to incorporate historic structures and important architectural details into their project planning.

Recommendations

1. TRORC should continue to support efforts to designate National Historic Register Districts and Sites. In so doing, TRORC should coordinate with the State and affected municipalities. In accordance with Section 106 of the National Historic Preservation Act, TRORC must review all federally funded projects in the Region that affect Register properties or places to ensure that such publicly assisted projects are planned with due consideration to the resource.
1. TRORC, as part of its Transportation Planning Program, should continue its work with the Agency of Transportation, town officials, its Transportation Advisory Committee, and other groups and organizations to ensure that design standards and plans for proposed transportation projects are reasonably compatible with historic resource needs and values. (See Transportation chapter.)
1. Towns are encouraged to clearly outline in their plans those resources deemed worthy of protection. Town officials can participate in the Act 250 process, thus influencing decisions affecting historic sites in their community.

C. Archeological Resources

Background

Archeological evidence found throughout the state depicts a history of human occupation that dates back 12,000 years. Most Native American populations in the Northeast lived in small groups that subsisted by following a seasonal cycle of resource availability. Rivers provided an important transportation network, water supply, and fishing grounds.

The archeological record provides the only physical remnants of pre-European human occupation. In addition, the record can provide information about past environments, climate, and landscape changes. Although only a few archeological sites in the Region have been designated on the Vermont Archeological Inventory, there are many areas whose topography and proximity to natural resources indicate a likelihood of pre-European habitation. Areas in proximity to certain prominent natural resources should be recognized as areas of archeological sensitivity, such as:

Current or relic water supplies: This includes streams, rivers, lakes, ponds, and springs. Topographic clues to relic water supplies include kettle holes and dry ravines. Long-term occupation or campsites were always located near a water supply.

Chert or quartz outcrops: These sites were often used repeatedly on a short-term basis for extraction of materials for tool making. The terrain of such sites is often rugged; short-term

camps may be located nearby.

Rock-shelters: These transient sites, often used for generations, tend to be located in limestone outcroppings.

Most prehistoric sites are located within 300 to 500 feet of an existing or relic water source, on slopes of eight percent or less, and often have a southern exposure. Criterion 8 of the Act 250 permitting process requires that a development “will not have an undue adverse effect” on historic sites and sites of archaeological importance. However, Act 250 only covers larger developments, and many archeological sites may be located on private land. For areas of potential archeological significance, private landowners need to know how best to preserve important resources on their land. Since many archeological resources are located in areas such as river corridors and prime agricultural land, preservation and conscientious management of such land will serve multiple purposes. As with any land conservation project, purchase of land and acquisition of development rights are important methods for preserving archeological sites.

Public awareness, appreciation, and understanding of the Region’s archeological resources is limited. This is due partly to incomplete documentation of the resources, and partly to a narrow perception of what constitutes archeological resources. Lack of recognition and appreciation can result in missed opportunities for stewardship. These resources are not easily identified and are often subject to accidental

Table 8-4: Predictive Factors for Locating Pre-Historic Archaeological Sites

• Near to Existing or Relic Rivers, Streams, Lakes, and Ponds
• Adjacent to Wetlands in Excess of One Acre
• Near the Confluence of Rivers and Brooks
• Adjacent to Falls, Rapids, and Isolated Springs
• Near to Knolls, Ridges, Crests, Terraces, Outcrops or other Topographic Outbreaks
• Near Major Floodplains or Alluvial Terraces
• Adjacent to Caves or Rock-shelters

Source: Vermont Division for Historic Preservation, Environment Predictive Model, April 1995

destruction. Additionally, there is a perception by landowners that the protection of archeological resources invariably means more restriction on the use of their property without much benefit.

Goals, Policies and Recommendations: **Archaeological Resources**

Goals

1. Archeological resources within the Region are preserved, and an appreciation of their value as a vital aspect of the Region's historic and cultural past is promoted.
2. Comprehensive planning and land use development are better integrated with archeological resource protection at the federal, state, regional, and local levels.

Policies

1. Known and potential archeological resources must be protected where the public interest is clearly benefited. No land development should be permitted when it results in unnecessary loss of an archeological resource of state or federal significance.
2. Within archeologically sensitive areas, planning should consider the impacts a project may have on the resource. If warranted, a site inventory should be conducted as part of project planning. Projects that have undue adverse impacts on these resources should be discouraged or redesigned so as to mitigate the impact. Project planners are encouraged to contact the state archeologist for further information.
3. To preserve significant archeological sites, purchase of land or development rights is encouraged when such actions are compatible with local plans and this Plan. Because these sites are often farmland, floodplains, wetland margins, and other similar low-lying land, priority should be given to projects that serve multiple conservation purposes.

Recommendations

1. To increase public awareness of archeological resources, TRORC encourages archeologists, local and regional groups, towns, and landowners to organize educational programs focused on Vermont's ancient history. Such a program could be made a part of an overall cultural heritage program through public schools.
2. Local planning commissions, conservation commissions, historical societies, and other interest groups are encouraged to develop an archeological plan for their community as part of the overall master planning program. Such a plan could contribute to an important step in planning for future development in identified areas or areas most likely to contain sites. Assistance and guidance are available from the state archeologist within the Division for Historic Preservation.

D. Scenic Resources

Background

The landscape of the Region is an economic asset. It represents some of the finest examples of townscapes and rural scenic character in the world. It has tangible economic value. Tourists spend money in the Region because they are attracted to the scenery, values, and quality of rural life. Tourism is a significant industry in Vermont's economy.

In Vermont, the economic value of scenic resources to tourism cannot be lightly brushed aside. The public's commitment to conservation of our visual resources can be traced to the late 1960s with the passage of Vermont's anti-billboard legislation. A past Governor's Commission on the Economic Future of Vermont summarized: "We consider Vermont's environment to be the goose that lays golden eggs." All municipal plans prepared and adopted by member towns in the Region consistently stress the goal of coordinating economic development with maintenance of rural character. TRORC believes it is appropriate public policy to recommend standards that, if reasonably followed, will minimize or mitigate any undue adverse effects of development on recognized scenic resources.

Patterns for Development: A Community Standard

The inherent beauty of the Region is tied to the visual relationship between buildings, the

working landscape, and mountains and river valleys. Over the past thirty years, development patterns have emerged that propagate highway strip development. Certain areas immediately adjacent to major highways are examples of development sprawl. In some instances, these areas adversely affect the value of scenic resources for travelers. Such a land use pattern will serve, amongst other factors, to destroy the transition between town village centers and the countryside. It is not in the public interest to promote or endorse such a sprawling pattern of development in this Region.

The Region's landscape is also changing due to a gradual reforestation and loss of fields and meadows due to a reduction in agriculture. The resultant land use pattern is a product of economic forces that can permanently alter or pressure that landscape.

Determining scenic significance of resources and evaluating the probable impacts of land development or subdivision on the resource and the recommended measures that may be desirable to mitigate visual impacts is a complex matter.

Prominent Scenic Landscapes

The following areas are likely to be affected by projects and should be reviewed. Such areas are generally accepted as areas of scenic significance:

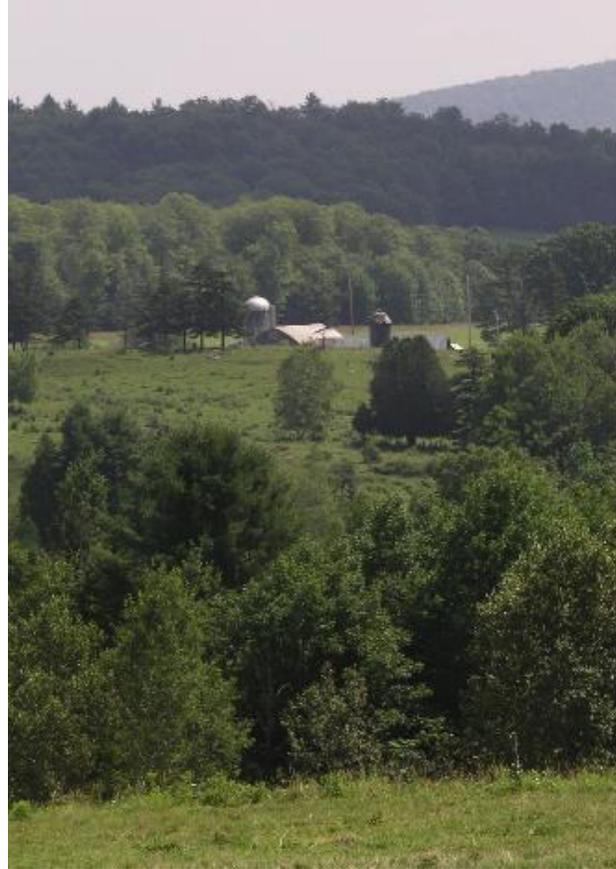
1. Shorelands immediate to public lakes, rivers, or ponds;
2. Areas immediately adjacent to scenic



Red Barn, Quechee: An illustration of "rural scenic character." | Source: ©Jericho Hills Photography

corridors;

3. Prominent ridgelines, mountaintops, or excessively steep slopes that can be readily viewed from public corridors;
4. Exceptional agricultural and historic areas;
5. Areas within or immediately adjacent to natural areas (i.e., wetlands) designated by the State; and
6. Areas of high scenic quality that are publicly recognized as exceptionally unique or are noted examples of the dominant characteristics of an area in the Region. Examples of prominent scenic areas within the TRO Region include designated byways.
 - Connecticut River Byway (a National Scenic Byway): Route 5, Hartland to Newbury
 - Crossroads of Vermont Byway: Route 4, Bridgewater to Hartford
 - Scenic Route 100 Byway: Plymouth to Granville



View from the Beidler Family Farm in Randolph Center: An illustration of diversity, harmony, focal dominance, and intactness.

| Source: ©J. Colby, 2006

Policies: Scenic Resources

Policies

1. Where development is proposed in areas of scenic value (including prominent ridgelines or mountaintops, highly scenic areas with distant views, scenic agricultural land, scenic areas highly visible from a public corridor, built environments with scenic value, and industrial or commercial development in areas of scenic value), because they possess scenic views, contain land with historic or scenic significance, or are highly visible within a scenic context, design plans must:
 - b. Maintain the prominent natural feature of the developed area;
 - c. Work toward enhancing or retaining views;
 - d. Minimize adverse impact on views and areas of historic significance;
 - e. Minimize contrasts with areas of historic significance; and
 - f. Reflect traditional settlement patterns.

Policies continued on next page

Policies: **Scenic Resources**

Policies (continued)

2. Project planners must minimize the adverse effects of strip development on existing visual resources by consideration of the following design principles:
 - Integrate landscaping into parking areas;
 - Encourage compact and densely developed projects that utilize land efficiently;
 - Place street trees as buffers between traffic arteries and internal drives;
 - Use unobtrusive;
 - Vary the pattern, number, size, and location of structures within the site;
 - Employ screening plans for visually objectionable features on the site; and
 - Minimize access roads or curb cuts onto public highways and use of common access drives.
3. Given their unique visual experience, roads exhibiting exceptionally high scenic and cultural values, and determined to be of local or state significance, must be constructed or improved with due concern for the special scenic qualities inherent to the roadway and roadway fringe. Substantial modifications or off-alignment options that unnecessarily destroy the special characteristics of such roadways are not consistent with this Plan.
4. It is appropriate that municipalities, TRORC, and other entities employ a process for evaluating impacts and recommend design characteristics to be considered by those involved in the review and preparation of development proposals.

E. Outdoor Lighting Design and Management

Issues and Opportunities

Increased development in the Region in recent decades has brought about a corresponding increase in the use of outdoor lighting. While increased lighting can be seen as an inevitable result of growth, there is a concern that excessive and unplanned lighting results in unwise and uneconomic energy use, contributes to “light pollution,” and affects our ability to view the night landscape, as well as creating an adverse impact on the character of our historic villages.

In May 1996, the Chittenden County Regional Planning Commission published Outdoor Lighting Manual for Vermont Municipalities. The suggestions and recommendations contained in the Manual form the basis of many of the design principles and issues are reflected in this section of the Plan.

Choosing appropriate light sources and intensity makes good economic and environmental sense. By selecting a lighting design that enhances

nighttime comfort, our town centers and other areas planned for concentrated mixed use will be better served. This results in a more efficient and compact land use pattern and a sound transportation strategy for the Region.

Using a large quantity of light does not guarantee good visibility. Overlighting can cause problems that hinder good vision. Lighting problems also arise when competing properties are illuminated at very different levels. For example, a brightly lit auto sales parking lot situated next to an adequately lit restaurant can make the restaurant look dark by comparison. Studies have shown that this leads to “competitive” lighting—more light being added to reduce the risk of not being seen. This results in more lighting equipment, higher electric bills for businesses, and loss of character in an area.

Using the minimal amount of light necessary to allow adequate visibility for a site decreases sky glow and avoids escalation of light levels. Glare is another lighting issue facing growing communities in the Region. Glare is caused by misdirected fixtures or unshielded lamps. Light

that is not directed toward the ground or toward the intended surface can shine into the viewers' eyes, impairing vision and causing potential safety problems.

Sky glow, or reflected light from surfaces, is visible in the night sky over towns or large commercial or industrial complexes. Sky glow is a form of "light pollution." Sky glow contributes to a loss of our ability to see stars and other celestial elements of our galaxy. Techniques to reduce the amount of illumination shining directly into the sky can reduce sky glow and the overall level of lighting needed.

Since the early 1970s energy crisis, large-volume users of electrical lighting have sought alternatives to conventional lighting. Several towns and many businesses in the Region have retrofitted street lighting and parking areas to high pressure sodium (HPS) fixtures. Light emitting diode (LED) technology is rapidly

becoming a favorable option for outdoor lighting. LED lighting provides an alternative to HPS lighting that is more energy efficient, provides higher quality lighting, and may have a significantly longer life.

Security lighting is another popular use of outdoor lighting designed to protect people and property. Interestingly, studies by lighting professionals and those in the field of security show that light itself does little to prevent crime². Other factors such as gates, locks, alarm systems, and guards are far more effective means to deter crime. However, lighting can act as a psychological deterrent to crime by increasing the chance in an offender's mind that he or she will be seen. Therefore, good security lighting should be designed to produce good visibility. This should be accomplished with even light that is not too bright, which could produce glare or create shadows.

Goals, Policies and Recommendations: Outdoor Lighting Design and Management

Goals

1. The nighttime ambiance and aesthetic qualities of village centers and other places are preserved by illuminating them for safety and convenience in ways that enhance the best qualities of streets, architecture, and public spaces.
2. Outdoor lighting systems designed to conserve energy and minimize life cycle costs are used.
3. Lighting design that is creative and functional, consistent with these lighting goals and policies, is encouraged.
4. Technical guidance and support are provided to municipalities and others on lighting trends, needs, and opportunities.

Policies

1. In developing lighting plans, design light levels and distribution should be appropriate for the proposed use of the site and compatible with the character of the neighborhood. New lighting installations should be designed to minimize glare, to not directly light beyond the boundaries of the area to be illuminated or onto adjacent properties, and to not result in excessive lighting levels.
2. For larger projects, lighting professionals should follow lighting design guidelines and other technical information established by the Illuminating Engineering Society of North America (IESNA). Additionally, project planners should give due consideration to the guidelines set forth in the *Outdoor Lighting Manual for Vermont Municipalities*.

Goals, policies and recommendations continued on next page

Goals, Policies and Recommendations: Outdoor Lighting Design and Management

Policies

3. Project designers are encouraged to utilize fixtures to reduce glare. Where a light source is particularly bright compared to its background, use of cut-off or shielded fixtures to direct light downward or a reduction in the amount of light being generated is encouraged.
4. Excessively high lighting levels for uses in rural or very low residential areas are inappropriate.
5. Lighting levels for gas stations and convenience stores and similar uses should only be sufficient to facilitate the activities taking place in such locations. Lighting schemes that serve as advertising or to attract attention to these uses should be discouraged. Signs or other forms of advertising should be used for these purposes. Excessive pole height and brightness of lighting fixtures should be prohibited.
6. Illuminated signs that are excessively bright, causing glare and illuminating surrounding areas, are inappropriate. Large illuminated signs can be disruptive to rural areas or historic villages and should be carefully evaluated and discouraged.
7. Lighting designs should address the negative effects of sky glow. Project designers should advocate for lighting plans that minimize light pollution without unduly compromising safety, security, or utility. Methods to be considered for minimizing sky glow are:
 - a. Directing luminaries downward, toward the ground;
 - b. Using LED lights;
 - c. Turning lights off after hours;
 - d. Reducing illumination levels; and
 - e. Prohibiting rays of light from being emitted above 90 degrees from luminaries.
8. Outdoor lighting schemes should employ generally available mitigating steps to improve their harmony with their surroundings, taking into consideration, among other things, the type and density of land use presently in existence, the type of topography, and whether the area has scenic value.

Recommendations

1. TRORC should assist local and state policymakers in evaluating lighting options. TRORC will consider sponsorship of educational workshops for planning commissions, design professionals, and others to acquaint them with the principles of good lighting design.
2. Towns interested in planning for outdoor lighting in their communities should consider using their municipal plans to establish goals and objectives for lighting. Additionally, consideration should be given to incorporating a lighting section into a town's zoning ordinance to cover lighting installations in all or parts of the town.
3. TRORC staff should continue to work with Vermont's public utilities and design professionals to evaluate lighting technologies and efficiencies.

Historical, Cultural, Archaeological and Scenic Resources Endnotes

1. PlaceEconomics. “Measuring Economic Impacts of Historic Preservation.” *Advisory Council on Historical Preservation*. 2013. <https://www.achp.gov/sites/default/files/guidance/2018-06/Economic%20Impacts%20v5-FINAL.pdf>.
2. Chittenden County Regional Planning Commission. “Outdoor Lighting Manual for Vermont Municipalities.” May 1996, pp. 19-20. http://www.darkskysociety.org/handouts/vermont_muni_lighting_manual.pdf.