

# Preservation Programs and Other Planning Tools

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Preservation planning tools are essential to developing and maintaining a strong historic preservation program. They provide guidance, direction, information, and in some cases, financial support.

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## *Identification and Survey*

Identification and survey of heritage resources provide the essential basis for all preservation planning. Although it is time intensive work, it is necessary. Fluctuating land uses and the demand for accurate and comprehensive information make the need for survey an ongoing concern. In Virginia, survey has been underway statewide for more than 45 years. Over 165,000 architectural and archaeological properties have been recorded and added to the state’s inventory of historic sites. The Virginia Department of Historic Resources (DHR) maintains the state inventory, which is constantly expanding as new historic places are identified and surveyed each year.

Survey forms and reports serve as a permanent written and photographic record of all known historic buildings, structures, sites, objects, and districts in an area. A survey allows the surveyor to record such information as construction date, architectural style and/or type, architectural form and massing, building materials, character-defining architectural features and elements, property condition, function, cultural affiliation, setting, changes over time, and other important property features. Current photographs are taken, as they provide specific

information about the resource on a given date. Research notes (a site map, property chain of ownership, oral histories, historic photographs, etc.) may also be included in a survey.

The benefits of survey work are far-reaching. Survey work is used to develop preservation plans, complete historic contexts, determine project eligibility for historic tax credits, and evaluate historic significance and National Register eligibility. Survey provides essential information for making decisions about treatment options for historic resources and is used to assess effects of projects on cultural resources. For example, if a road widening project is planned using federal funds, the road project's impact on historic resources is considered, pursuant to federal law. During the project review process, the state inventory of surveyed historic properties is consulted to identify resources that have been previously documented within the project's area of effect or impact. If the area of project effect has not been surveyed, the presence of historic properties in the area would not be known, and the review agencies could not take effect on those properties into consideration.

All Fauquier County surveyed properties are recorded through the state architectural and archaeological survey processes, which are described in the *Guidelines for Conducting Historic Resources Survey in Virginia* (2011), [http://www.dhr.virginia.gov/pdf\\_files/Survey%20Manual-RevOct.2011Final.pdf](http://www.dhr.virginia.gov/pdf_files/Survey%20Manual-RevOct.2011Final.pdf). The Secretary of the Interior and the National Park Service have developed broad national performance standards and guidelines to assist agencies and individuals with the implementation of historic preservation activities in the United States. DHR's *Guidelines for Conducting Historic Resources Survey in Virginia* closely follow these federal standards, augmenting the guidance that they provide with information specifically about the expectations for conducting survey in Virginia. All documentation efforts with which DHR is involved are to be conducted in accordance with the information provided in the *Guidelines*.

All survey data collected by DHR is housed in the department's Archives and electronic computer database, V-CRIS (Virginia Cultural Resource Information System). V-CRIS provides public access to resource location information; it also allows enhanced functionality (property descriptions and evaluative information about historic significance) for a fee.

## ***Evaluation***

Evaluating properties to determine their historic importance is another tool for preservation planning. Federal and state listing or designation programs offer a set of criteria for evaluating significance and integrity.

### *National Register of Historic Places Program*

The National Register of Historic Places (NRHP) is our nation's official list of historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect historic architectural and archeological resources. National Register designation places no obligations on private property owners. There are no restrictions on the use, treatment, transfer, or disposition of private property. NRHP listing does not lead to public acquisition or require public access. National Register listing does not automatically invoke local historic district zoning or local landmark designation. However, a property must be listed in the NRHP in order to take advantage of rehabilitation tax credits.

Simply stated, the NRHP is a list, but when used to its greatest capacity, it is a preservation planning tool used to evaluate the significance of historic properties. Even if a property owner has no intension of attempting to list his or her property in the NRHP, the evaluation criteria and aspects of integrity can be applied to a property to evaluate it.

To be considered eligible for listing in the National Register of Historic Places, a property must meet the *National Register Criteria for Evaluation*. This involves evaluating a property's age, integrity, and significance.

- **Age and Significance.** Is the property old enough to be considered historic (generally, at least 50 years old)? Is the property associated with events, activities, or developments that were important in the past? Or with the lives of people who were important in the past? Or with significant architectural history, landscape history, or engineering achievements? Does it have the potential to yield information about our past through archaeological investigation? There are four criteria of significance. A property must only meet one criterion to be eligible for listing in the National Register.
- **Integrity.** Does the property still retain much of its integrity? Integrity is characterized by the National Park Service through seven property qualities or aspects: location, setting, materials, workmanship, design, feeling, and association. A property must meet some of the seven aspects before it can be considered eligible for listing.

For more information about the Criteria of Significance or Aspects of Integrity, see *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation* at <http://www.nps.gov/history/nr/publications/bulletins/nrb15>.

To nominate a property to the NRHP in Virginia, a property must go through a two-step process that begins with a preliminary evaluation, which involves the submittal of a Preliminary Information Form (PIF) to the Department of Historic Resources (DHR). If the proposed PIF receives a certain number of points during this initial review, then a formal National Register nomination form may be submitted. To learn more about submitting a PIF, refer to the step-by-step guide that can be found on the DHR website, [www.dhr.virginia.gov/register/register\\_pif.htm](http://www.dhr.virginia.gov/register/register_pif.htm). Completed nominations are reviewed by DHR staff and the State Review Board. Reviewed nominations with certifying recommendations, are submitted by the State Historic Preservation Officer to the National Park Service for final review and official listing by the Keeper of the National Register.

#### *Virginia Landmarks Register Program*

The Virginia Landmarks Register (VLR), also established in 1966 and managed by the Department of Historic Resources, is the state's official list of properties important to Virginia's history. The same criteria are used to evaluate resources for inclusion in the state register as are used for the National Register. According to the Code of Virginia, a property must be listed in the VLR in order to take advantage of the state historic tax credit.

#### *National Landmarks Program*

National Historic Landmarks (NHLs) are nationally significant historic places designated by the Secretary of the Interior because they possess exceptional value or quality in illustrating or interpreting the heritage of the United States. Only properties that contribute to national history, as opposed to local or state history, are qualified for NHL designation. Today, only about 2,500 historic places in the United States bear this rare and illustrious distinction. Working with citizens throughout the country, the National Historic Landmarks Program, a division of the National Park Service (NPS), draws upon the expertise of NPS staff who guide the nomination process for new NHLs.

At this time, Fauquier County has one National Historic Landmark—Boxwood, a historic house site associated with William “Billy” Mitchell, an important historic figure commonly known as one of the founding fathers of the United States Air Force and associated with the growth of U.S. naval aviation. The property was designated as an NHL in 1976. Boxwood Farm currently operates as a winery.

#### ***Legal Basis for Historic Preservation***

The federal regulations and regulatory procedures that now govern the protection of our cultural heritage slowly developed over the course of the twentieth century, beginning with the protection of cultural sites located on federal lands. Today, several of these laws are broadly applicable across the country, such as the Antiquities Act,

the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and Section 4(f) of the National Transportation Act, while others apply to specific lands or resource types.

The Tenth Amendment of the United States Constitution provides that, “The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.” One of those powers not held by the Federal government, but reserved to the states is known as the police power. Based on the Latin maxim *sic utere tuo ut alienum non laedas* (so use your own property as not to injure another’s), the concept is of Anglo-Saxon origin and was adopted by the American Colonies from British common law. Basically, it can be described as the power of a government to provide for the public health, safety, morals, and general welfare of its citizens. As Justice Douglas stated in defense of the police power during the Supreme Court decision of *Berman v. Parker*, 348 U.S. 26 in 1954,

*“The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled.”*

States exercise the police power by passing laws and adopting regulations affecting such matters as land use (e.g. zoning), building safety, public health, and environmental protection. Historic preservation, too, falls within the scope of the police power. Every state has enacted some form of historic preservation legislation, and the Commonwealth of Virginia is no exception.

The United States Constitution makes no mention of counties, cities, school districts, or any other form of local government. Rather, the form, number, powers, and other matters pertaining to local government structure and administration are left up to the individual states. The State of Virginia adopted early provisions that delegated powers to local governments regarding land use, including the right to adopt local preservation ordinances. In fact, the City of Alexandria was the third municipality in the nation to adopt a local preservation ordinance in 1946. Virginia State Code Section §15.2-2283 expressly authorizes a local government to create a zoning ordinance for the purpose of protecting against the destruction of or encroachment upon historic areas. For detailed information regarding this provision and other state and federal preservation laws, see Appendix IV of this chapter entitled Federal and State Historic Preservation & Cemetery Laws.

### ***The Certified Local Government Program***

Jointly administered by the National Park Service (NPS) and the State Historic Preservation Offices, the Certified Local Government (CLG) Program is a federal program created through the National Historic Preservation Act. It recognizes a local government for establishing a strong local preservation program by assuming a formal role in the identification, evaluation, and protection of its heritage resources. In Virginia, the program is administered by the Virginia Department of Historic Resources (DHR). CLG designation establishes a partnership between a local government, the federal historic preservation program, and the state historic preservation office. There are several benefits in being awarded CLG designation.

A Certified Local Government:

- Can apply for a matching grant available every year for the completion of preservation projects from a 10% share of Virginia’s annual federal appropriation;
- Has free, full access to DHR’s GIS-based Data Sharing System (DSS), now a \$725 value annually;
- Has the right to comment and give recommendations on the eligibility of resources nominated for listing in the National Register of Historic Places within its jurisdiction;
- Receives personal technical assistance from DHR and the National Park Service;
- Is a part of a network of other Virginia CLGs that allows the immediate sharing of experiences, concerns, and solutions to specific problems;
- Is eligible for stipends to selected preservation conferences and workshops.

In order to qualify for CLG status in Virginia, a local government must complete the following items:

1. Adopt a historic district ordinance that:
  - (a) defines local historic district boundaries,
  - (b) establishes a review board/preservation commission,
  - (c) identifies preservation actions that must be reviewed and standards for review, and
  - (d) in general, provides for the protection of historic resources within the locality.
2. Direct the review board/preservation commission to administer its ordinance and work as an advocate for preservation in the locality.
3. Continue to survey its local heritage resources.
4. Promote public participation in its local heritage stewardship program.
5. Annually report on the performance of its CLG responsibilities.

### ***A Local Historic Preservation Plan***

Adopting a local historic preservation plan is one of the strongest actions available for local governments when protecting valued heritage resources. Such a plan is even stronger when it is incorporated into a community comprehensive plan. Unlike the wording in a historic preservation chapter of a comprehensive plan, which provides general goals, objectives, and actions, a stand-alone preservation plan allows a community to broaden proposed preservation actions, provide more detailed descriptions of heritage resource types that are important to residents, and design proposed preservation programs and projects, which can be linked to other community planning initiatives. Some local preservation plans even define timelines for condition analysis and treatment of specific resources.

The *Fauquier County Historic Resources Preservation Plan* was finalized and adopted by the Board of Supervisors in 2001. It serves as Fauquier County's preservation plan. It is now Appendix I of this subchapter of the Comprehensive Plan. Because environmental conditions of historic resources change over time, the National Park Service and the Virginia Department of Historic Resources recommend that local preservation plans be updated periodically—generally, every ten years.

### ***Public Education***

Preservation education is perhaps the most proactive step that a community can take to enhance awareness and engender understanding of heritage resources and their protection. Fauquier County Government and various local and state agencies and organizations have offered public preservation educational opportunities in the past. However, citizen responses from the 2014 public questionnaire indicate that many other diverse learning opportunities are wanted and needed by Fauquier County citizens. The questionnaire asked citizens to choose from a variety of educational workshop topics that would most benefit them and their neighborhood. The topics noted most frequently were: rehabilitation tax credits, federal and state preservation laws, hands-on repair of historic buildings/preservation skills training, archaeological sites and archaeological site protection, and the National Register of Historic Places Program.

### ***Preservation Incentives***

#### ***Federal Historic Preservation Tax Incentives Program***

The Federal Historic Preservation Tax Incentives Program was authorized by Congress in 1976 and began operating in 1977. This incentive has been the most effective program to promote both urban and rural revitalization and encourage private investment in historic building rehabilitation. It allows property owners to invest their income taxes owed to the government in historic preservation projects as equity financing.

Administered by the National Park Service in conjunction with State Historic Preservation Offices (SHPO), the Federal Historic Preservation Tax Incentives Program offers a 20% federal tax credit for qualified rehabilitation expenses. Property owners across the country have used the tax credit to rehabilitate a wide range of historic commercial properties, including those that contribute to agricultural work, like historic barns.

Under the federal program,

- The amount of credit equals 20% of the qualifying costs of your rehabilitation.
- A project must be “substantial,” meaning your qualifying rehabilitation expenses must exceed the greater of \$5,000 or the adjusted basis of the building. The adjusted basis is usually defined as the purchase price, minus the value of the land, minus any depreciation already claimed, plus the value of any earlier capital improvements.
- A building needs to be certified as a historic structure by the National Park Service (which usually means listed individually or as a contributing property of a district listed in the National Register of Historic Places).
- Rehabilitation work must meet the *Secretary of the Interior’s Standards for Rehabilitation* as determined by the state historic preservation office and the National Park Service.

### *Virginia Historic Preservation Tax Credit Program*

Virginia established the Historic Rehabilitation Tax Credit Program in 1997. Since its inception, this program has made a profound impact on private investment in Virginia. It has stimulated approximately \$3.97 billion dollars in 2,375 historic rehabilitation projects.<sup>1</sup>

Managed by the Department of Historic Resources, Virginia’s Historic Rehabilitation Tax Credit Program allows property owners to receive a state tax credit of 25% of eligible expenses for approved rehabilitation work on certified historic structures. The work must meet the *Secretary of Interior’s Standards for Rehabilitation*. The credits may be earned for the rehabilitation of both owner-occupied (residential) and income-producing (commercial) properties. Rehabilitation expenses must be at least 25% of the assessed value of the building for the year before the rehabilitation work began for owner-occupied structures, or at least 50% of the assessed value of the building for the year before the rehabilitation work began for all other eligible structures.

The infusion of equity to finance up to 45% of a rehabilitation project (using both state and federal tax credits) makes it possible to find debt capital that might otherwise be unavailable. Many tax exempt organizations have taken advantage of the tax credits by taking on taxpayers under a limited partnership arrangement and maintaining a minority ownership interest as a general partner.

### *Conservation Easements*

Many property owners wish to ensure the proper stewardship of their properties beyond their tenure. For property owners wishing to permanently protect historic properties, one of the most effective legal tools available is a conservation easement—a voluntary legal agreement in which a landowner conveys property interest to a qualified nonprofit organization or governmental entity for the principal purpose of protecting a property’s conservation and preservation values. An easement is a relatively flexible tool. It can be crafted to meet the specific characteristics of the property and the property owner’s interest in having a property that will continue to provide a viable productive use. Property owners who donate easements to qualified easement-holding organizations may be eligible for a charitable contribution deduction from their federal and/or state income taxes. In 1997, the

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<sup>1</sup> In January 2014, Preservation Virginia produced a study report that documented the significant economic returns of the tax credit programs in Virginia. The research and report were completed by the VCU Center for Urban and Regional Development. The report is available at [http://preservationvirginia.org/docs/VCU\\_Historic\\_Tax\\_Credit\\_Report\\_FINAL\\_21-1-2014smallpdf.com.pdf](http://preservationvirginia.org/docs/VCU_Historic_Tax_Credit_Report_FINAL_21-1-2014smallpdf.com.pdf).

Virginia General Assembly created the Open Space Lands Preservation Trust Fund to offer grants that cover a portion of the expenses landowner's incur in making the donation of an easement, as well as grants that purchase a portion of the value of the easement.

#### Virginia Historic Preservation Easement Program

Sections §10.1-2202.1 and 10.1-2202.2 of the Code of Virginia enable the state, through the Virginia Department of Historic Resources (DHR), to accept donations of easements on properties that have architectural, archaeological, or historic value. The property must be listed on the Virginia Landmarks Register, either individually or a contributing property to a historic district. For the owner to be eligible for a charitable donation tax deduction, the property must also be listed in the National Register of Historic Places, again either individually or as contributing property in a historic district. Easements are negotiated on a case-by-case basis between the landowner and DHR, but generally, for historic buildings, the easement requires the surrender of the right to modify the exterior of the building(s) or to develop the surrounding land in such a way that it would compromise the integrity of the property. For archaeological sites, the easement typically requires that no excavation takes place without coordination with DHR. Battlefield land may qualify for an easement through DHR without the requirement of listing.

#### Virginia Outdoors Foundation Open Space Easement Program

For various reasons, a property owner may choose to protect a historic property through a conservation easement held by a different agency or organization. The Virginia Outdoors Foundation (VOF) was created in 1966 by the General Assembly. This agency is the largest holder of conservation easements in Virginia, protecting more than 725,000 acres in 106 counties and independent cities across the state. Over the last decade, VOF has preserved open space in Virginia at a rate of about 5 acres every hour, primarily through the use of open-space conservation easements. VOF holds easements in perpetuity that protect a wide variety of natural and cultural resources, including watershed areas, the settings for historic homes, scenic views, lands adjacent to public parks and game preserves, community lands, and more. VOF also accepts donations of land, which it either protects with an easement and transfers to another landowner, or owns and manages for public benefit.

#### Fauquier County Purchase of Development Rights Program

Agriculture is a leading industry in Fauquier County. Because farmland is critical for sustaining this economic engine, the Board of Supervisors established the Fauquier County Purchase of Development Rights Program in 2002. The PDR Program is a voluntary program administered by the Agricultural Development Department in which landowners sell development rights to the County while the land stays in agricultural production, ensuring that future generations will be able to farm the land. The farmer retains land ownership and continues to farm the land, while receiving a cash payment based on the total number of development rights extinguished on the property. This transaction requires that the owner place an easement on the property. A parcel must be in excess of 50 acres to qualify; however, a combination of multiple, contiguous parcels that together are in excess of 50 acres may also qualify.

The purpose of the PDR Program is to protect farmland and retain the agricultural industry's critical mass, in particular, farm parcels that are economically viable operations. Long-range environmental benefits for the community include the preservation of wildlife habitats, clean air and water, flood control, and groundwater recharge and carbon sequestration. While funding for the PDR Program is largely tax based, a significant percentage, roughly 32%, is usually provided by non-County sources in the form of grants and other contributions.

#### *Tax Abatement Programs for Rehabilitation Work*

Section §58.1-3220 of the Virginia State Code permits any Virginia county, city, or town to create an ordinance that provides for the partial exemption from taxation of real estate on which a structure has undergone substantial

rehabilitation for residential use. Several localities in Virginia have taken advantage of this provision and adopted tax abatement ordinances to encourage rehabilitation of historic buildings. For example, Chesterfield County offers a tax abatement program for those properties within the county that are 50 years or older and either designated county historical landmarks or located in areas designated as county historic districts. The amount of the tax exemption is based on the amount of increase in assessed value that is attributable to the rehabilitation work, and the tax abatement transfers with the real estate for a 10-year period. The City of Manassas and other Virginia municipalities have similar programs.

### ***Heritage Tourism***

The National Trust for Historic Preservation defines heritage tourism as “traveling to experience the places, artifacts and activities that authentically represent the stories and people of the past.” Cultural/heritage tourism helps make historic preservation economically viable by using historic properties and landscapes to attract and serve travelers. It can be an attractive economic revitalization strategy, especially as studies have consistently shown that heritage travelers stay longer and spend more money than other types of travelers.

The National Trust has developed five guiding principles for successful and sustainable heritage tourism development as well as four steps for getting started. These principles and steps have been successfully adopted broadly across the United States and internationally. For more information, see <http://www.preservationnation.org/information-center/economics-of-revitalization/heritage-tourism>.

#### *The Five Guiding Principles of Heritage Tourism*

1. Collaborate – The success of heritage tourism depends on the active participation of political leaders, business leaders, operators of tourist sites, artists and craftspeople, hotel/motel operators, and many other people and groups.
2. Find the Fit – Balancing the needs of residents and visitors is important to ensure that cultural heritage tourism benefits everyone. It is important to understand the type and amount of tourism that your community can handle. Successful heritage tourism programs have widespread local acceptance and meet recognized local needs. They are also realistic, based on the talents of area residents, as well as on specific attractions, accommodations, and public support and enthusiasm.
3. Make Sites and Programs Come Alive – Competition for time is fierce. To attract visitors, you must be sure that the destination is worth the drive. The human drama of history is what visitors want to discover, not just names and dates. Interpreting sites is important, and so is making the message creative and exciting. It’s important to discover ways to engage as many of a visitor’s five senses as you can. The more a visitor is involved, the more he or she will retain.  
On average, visitors will remember:  
10% of what they HEAR;  
30% of what they READ;  
50% of what they SEE; and  
90% of what they DO.
4. Focus on Quality and Authenticity – The true story of your area is the one worth telling. The story of the authentic contributions previous generations have made to the history and culture of where you live is the one that will interest visitors. This is what distinguishes your area from every other place on earth. It is authenticity that adds real value and appeal.
5. Preserve and Protect – A community’s cultural, historic, and natural resources are valuable and irreplaceable assets. When your historic and cultural assets are at the heart of your plans to develop

tourism, it's essential to protect them for the long term. Also important, is the protection of the loss of traditions—a way of crafting wood or farming, of celebrating holidays or feasting on “old world” cuisine. The preservation and perpetuation of traditions is important to telling the stories of the people and the land.

## ***Technology***

The increasing role of technology in the lives of Americans cannot be overstated, and that role continues to grow and reshape the way people work, learn, and play. Technology is now seen as a tool to increase effectiveness and efficiency of everyday activities and regularly communicate and connect with others. In preservation, it can be used to more effectively conduct research, facilitate planning, educate, reach new audiences to gain a higher profile for preservation, and tell the stories of successful preservation programs and projects.

### *Geographic Information Systems (GIS)*

Today, one vital use of technology for community planning purposes is the implementation of a Geographic Information System (GIS). A GIS is basically any system that captures, stores, evaluates, manages, and displays geographic information. In simplest terms, a GIS is merging cartography and database technology. It is a tool that allows users to create interactive searches, analyze spatial information, and edit mapping data. Consumer users may be more familiar with applications that involve obtaining location information and driving directions, like using Global Positioning System (GPS) devices.

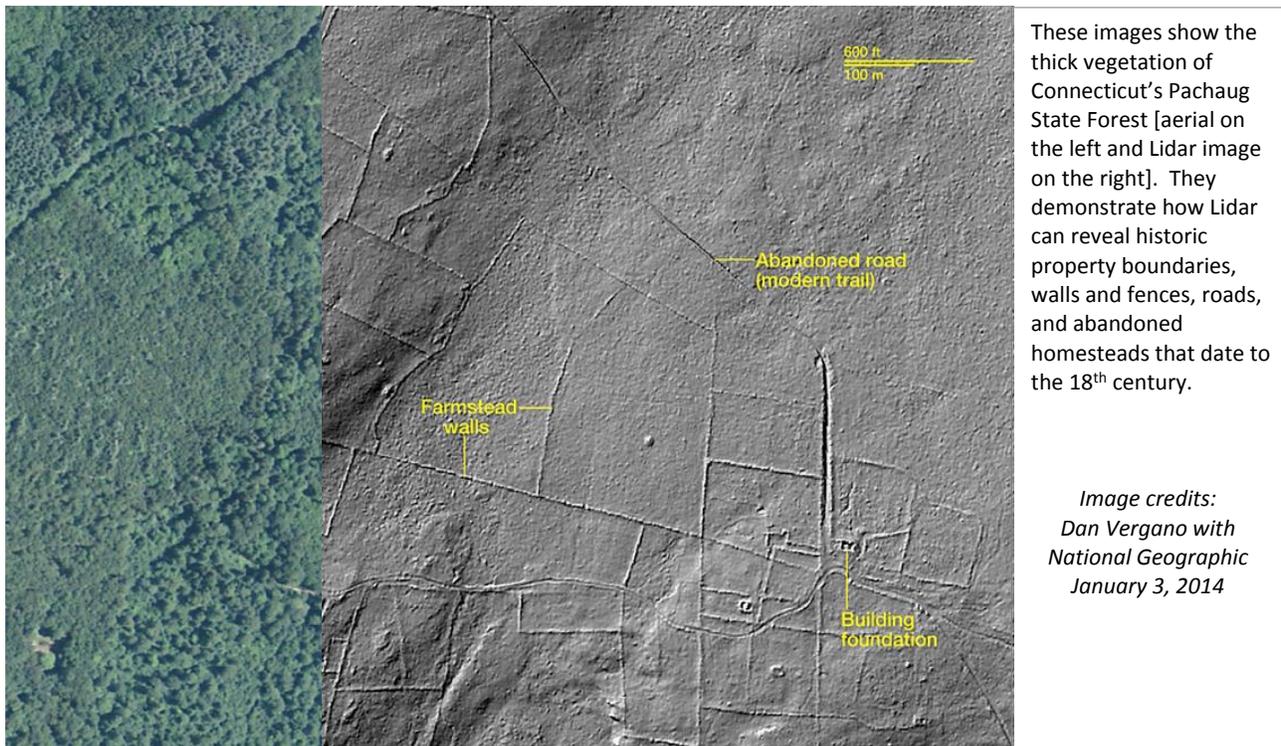
The Fauquier County Community Development Department uses the County's GIS for community planning, assessing zoning issues, creating land use maps, and other daily actions. In preservation, GIS technology is currently used for heritage resource management, environmental impact assessment, preservation planning, archaeological investigations and historic architectural survey. The Fauquier County Heritage Resource Database is represented in the County's GIS, but the GIS can be used in the future for so much more than storing site information. For example, it can be used as a tool to determine the best land use for the areas surrounding significant heritage resources, for viewshed analysis, or to identify previously undocumented heritage resources through “georeferencing” historic maps over current road and parcel maps.

### *LIDAR*

LIDAR (Light Detection and Ranging) is an optical remote sensing technology that detects and measures properties of scattered light to find range and/or other information of a distant target. Ultraviolet, visible, or near infrared laser light pulses are bounced off the ground to generate and map precise pictures of surface features at very high resolution. LIDAR was developed in the early 1960s and originally used for atmospheric research and meteorology. The general public became aware of the usefulness of LIDAR systems during the 1971 Apollo 15 mission, when astronauts used a laser altimeter to map the surface of the moon.

Today, LIDAR is widely used as a technology to make high-resolution maps with a wide variety of applications in agriculture, geography, geology, soil science, forestry, environmental conservation, biology, the military, physics and astronomy, transportation, surveying, and most recently, archaeology.

Lidar technology can provide archaeologists with the ability to quickly and efficiently create high resolution digital elevation models (DEMs) of archaeological sites to reveal micro-topography otherwise hidden by vegetation. The ability of Lidar to penetrate forest canopy has led to the discovery of archaeological features that could not be accessed for field survey or studied through traditional geo-spatial archaeological methods. In the example below, Lidar images are paired with current aerial maps of the Pachaug State Forest in Connecticut to discover cultural landscape features that were not visible through using aerial photography alone.



Recently, the Chesapeake Conservancy created a LIDAR-based Digital Surface Model, showing land elevation, including trees and buildings, of Charles and Prince George's Counties, Maryland. Using this dataset, the Conservancy conducted a viewshed analysis of the Mount Vernon estate across the Potomac River. This analysis formed the basis for the creation of an interactive web tool, which strives to assist property owners, developers, conservationists, and historians in understanding the impact of development across the river from Mount Vernon. The model allows a user to suggest a proposed building height and then draw the building footprint on the location of construction or trace the outline of a parcel. The calculator returns a layer depicting where on the map a structure of that height would be visible from this important historic property. The analysis also shows which wooded areas currently screen the view of a proposed building, helping to prioritize certain natural landscapes that help maintain the integrity of the Mount Vernon viewshed. To view and use this model, see <http://chesapeakeconservancy.org/mount-vernon>.

LIDAR could be utilized in Fauquier County to learn more about battlefield earthworks, Civil War encampments, the location of forgotten cemeteries, lost 18th century homesteads & mill sites, and even prehistoric sites. At this time, the cost of Lidar is prohibitive, but this technology is becoming more affordable, as it is used more frequently in other fields. The United States Geological Survey (USGS) has completed LIDAR images of many areas of the Country, which can be obtained for a fee.

### ***Sustainable Building Practices and Energy Efficiency***

Climate change is real, and efforts to reduce our energy consumption on national and local scales are crucial. According to the U.S. Energy Information Administration, buildings are the largest consumers of energy in the nation. Today, there is a rising popular trend towards energy conservation and environmental sustainability through green building practices. This trend could help promote historic rehabilitation projects, as recycling building materials and energy conservation become more and more valued by the general public. There is also currently a national trend that fosters rehabilitation projects to demonstrate and document the energy performance

of existing buildings and encourages flexibility in applying building and development codes in rehabilitation projects.

According to the Environmental Protection Agency, sustainable or “green” construction is an outcome of a design philosophy that focuses on increasing the efficiency of resource use (energy, water, and materials) while reducing impacts on human health and the environment during a building’s lifecycle through better siting, design, construction, operation, maintenance, and removal [of building materials]. Sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” The collective view of sustainable development is that buildings should reduce the overall impact on health and the environment by: (1) efficiently using energy, water, and other resources; (2) protecting occupant health and improving employee productivity; and (3) reducing waste, pollution, and environmental degradation. Preserving historic buildings is inherently sustainable development because it emphasizes the efficient reutilization of materials and energy, the reduction of the extraction and use of raw materials, and the elimination of adverse impacts to the environment.

New “green buildings” have their advantages. They are designed to be more energy efficient, encourage the use of recycled materials, and integrate other green technologies, like solar energy collection and reuse. But far less attention is given to the fundamental role that existing buildings have in helping to conserve energy and natural resources. Original construction and design features work well to make historic buildings comfortable and energy efficient in any season. Many historic properties were built before the invention of mechanical heating and cooling systems. Generally, buildings constructed before the 1920s included energy-conserving features in the original design. For example, the most obvious inherent energy-saving feature in a historic house is the use of operable windows to provide natural ventilation and light. To learn more about the connection between historic buildings and energy efficiency, see the National Park Service’s Technical Preservation Services website at <http://www.nps.gov/tps/sustainability/energy-efficiency.htm>.

Weatherizing or otherwise improving the energy efficiency of historic buildings should be undertaken carefully. Energy retrofitting products are continuously evolving. Hasty changes or upgrades with new products, such as some vinyl “energy efficient” replacement windows that have not been time-tested, have been known to cause serious damage

## SIX THINGS YOU MAY NOT KNOW ABOUT ENERGY EFFICIENCY & HISTORIC BUILDINGS

1. Reusing a 5,000 sq. foot building saves the carbon consumed by 85 homes in one year. Reusing a 100,000 sq. foot building saves the equivalent of the carbon emitted by 1,600 homes in one year.
2. According to the Building and Social Housing Foundation and Empty Homes Agency of England, it takes about 50 to 65 years for a new, energy efficient building to save the amount of embodied energy lost in demolishing an existing building.
3. The U.S. Energy Information Administration found that buildings constructed during the early 1900s were more energy efficient than those built from 1950-2000. Why? Many of these older homes were built with non-mechanical, energy-saving features, like deep eaves for shading, cross-ventilating hallways, and operable windows.
4. Air infiltration occurs in buildings through many conduits—attics, chimneys, vents, doors, even electrical outlets, **but more heat is lost through the roof than any other part of a house.** By adding about 3 ½ inches of insulation in your attic, you save more energy than replacing your windows, and the insulation will cost a lot less.
5. By simply installing weatherstripping to an existing window, you can increase a window’s energy efficiency by as much as 50%.
6. Most vinyl replacement windows only function about 10-15 years. However, they will last forever in a landfill. Replacement windows that contain vinyl or PVC are also toxic to produce and create toxic by-products.

*Sources: National Park Service, National Trust for Historic Preservation, Don Rypkema, U.S. Energy Information Administration*

to historic buildings over time. It is important to select products and treatments that are reversible and do not require major structural or material changes. Before using new products, consumers should try to understand them with regards to any lasting and irrevocable negative effects.



*Saving Windows, Saving Money: Evaluating the Energy Performance of Window Retrofit and Replacement*, a study report commissioned by the National Trust's Preservation Green Lab, offers welcome insight for homeowners weighing the financial and energy tradeoffs between repairing or replacing older windows. This study analyzed decades of research about the performance of double hung sash windows, comparing relative energy, carbon, and cost savings across a variety of climate zones. View the report at <http://www.preservationnation.org/information-center/sustainable-communities/green-lab/saving-windows-saving-money>.

In Fauquier County, there is a need to raise awareness of the role that rehabilitation and adaptive use of historic buildings play in addressing environmental issues and providing sustainable development. There are many opportunities to form partnerships with the environmental community to provide educational programming that supports green building practices and protection of cultural and natural resources.