

City of Barre

Urban Forest Strategic Action Plan



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Barre City Urban Forest Strategic Action Plan

City of Barre, Vermont

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Project Overview

About the Care of the Urban Forest Project

In 2013 Vermont's Urban and Community Forestry Program (VT UCF) received a multi-year grant from the USDA Forest Service to assist priority VT communities in advancing their public tree programs. The project, *Care of the Urban Forest*, is an effort that supports these communities in three specific ways: (1) conducting a public tree inventory to assess urban forest structure, diversity, and health; (2) developing a strategic action plan using information from the inventory; and (3) providing technical training for municipal employees and key volunteers to increase in-house capacity to properly manage public trees. Barre City's project was initiated in the spring of 2015, was coordinated with and approved by Jeff Bergeron, the City's Director of Buildings and Community Services and the active Tree Warden.

Importance of planning

Planning is key to effective management of any program. Good plans make the difference between cost-effective, pro-active management and costly, reactive crisis management. Plans establish focus and direction. They provide the framework for program implementation and a basis for consistent decision making. They are tools for determining budgets and other support needs.

Benefits provided by trees

The trees in our communities offer a wide variety of environmental, social, and economic benefits to the surrounding community, including but not limited to: stormwater mitigation, carbon dioxide (CO₂) sequestration and storage, air quality improvement, shade, wildlife habitat, and aesthetic value. For more information, visit vtcommunityforestry.org/resources/benefits-trees.

Purpose and scope of Plan

Through the creation of this Plan, VT UCF is satisfying the second Project objective for the City of Barre. Through the implementation of this Plan, Barre City seeks to maximize the benefits of its urban forest to steward and promote its ecological integrity and diversity.

Applicability and administration

This plan applies throughout the Barre City's inventoried 11 municipal managed streets, 3 cemeteries, and 6 other City-owned properties. It also applies to newly planted public trees. The City Tree Warden under the direction of the City Council and with assistance from the Department of Public Works, and the Cemetery & Parks Department are responsible for implementing this Plan and seeing that program provisions are carried out.

Status of Urban Forest

Inventory

A public tree inventory was conducted in the City of Barre with the goal of accurately locating City-owned trees within the public right-of-way (ROW) on streets in the Designated Downtown District and in select parks and public spaces so as to support tracking tree conditions, plantings, and removal.

The intent of the public tree inventory was to enable Barre City to better understand, steward, and manage its public trees more efficiently and cost effectively. The complete public tree inventory was conducted over the course of approximately 100 field hours in October of 2015. Data collected from the inventory informed the recommended management practices detailed in this Plan.

Methods

In total, the inventoried land area was approximately 1 square mile, encompassing the most central downtown and densely populated area of Barre City. To ensure that only public trees were inventoried on a street, each inventory team only inventoried trees planted in tree pits along the sidewalks in the Designated Downtown District. Data from each identified public tree was recorded into the Collector for ArcGIS application using an iPad, provided by VT UCF. The application is map-based and uses GPS and a base layer map to allow the user to input information about a tree, linking it to a particular geographic location. Data recorded for each public tree in Barre City included street or site name, overall condition, species, diameter class (using a measurement for diameter at breast height, or DBH), a recommendation for monitoring (yes/no), whether or not the tree exhibited signs of crown dieback, decay, bark splits, root damage, and woodpecker activity, whether or not the tree should be pruned, mulch, or should have stem-girdling roots removed, additional comments, and the nearest house or building address. In most cases, a picture was also taken of each tree. Collected data is linked to the publicly accessible VT Agency of Natural Resources (ANR) Atlas online mapping website, which can be accessed here: <http://anrmaps.vermont.gov/websites/anra/>. Note that ANR's Atlas works best with Internet Explorer, and not Google Chrome.

The data were compiled and subsequently checked for quality, analyzed, and summarized using Microsoft Excel and QGIS, a free and open source geographic information system. Data were also analyzed through i-Tree, a free software suite developed by the USDA Forest Service (www.itreetools.org): i-Tree Streets uses sophisticated models to determine the monetary value and ecological benefits of trees and i-Tree Canopy uses aerial imagery and random point locations to produce an estimate of land cover of a defined area (i.e., the inventory area) - including tree canopy cover - that encompasses both public and private property.

Results

VT UFC and VT Department of Forests, Parks, and Recreation staff completed an inventory of **555 trees** located within the public ROW of **11 streets**, in **3 cemeteries**, and on **6 other City-owned properties**. The 555 inventoried public trees provide an estimated **\$46,090 in benefits annually** to the residents and businesses of Barre City. In addition to the public trees inventoried, the aerial tree canopy assessment indicated an existing public and private land tree canopy cover of **26%** and an estimated long-term **stored CO₂ value of over \$761,916**. Trees could potentially cover an additional **45%** of the land surface within Barre City's 1 sq. mile inventory area.

The City of Barre's urban forest has **42 species** in **22 genera**. The most common species are crabapple (28% of the urban forest), sugar maple (18%), and Norway maple (10%), and the most common genera are maple (34%) and crabapple (28%). About 50% of Barre City's urban forest has a diameter at breast height (DBH) measurement between three and 12 inches. 86% of Barre City's urban forest is considered as in "Good" condition, 10% is considered in "Fair" condition, 3% is considered in "Poor" condition, and 1% is dead. 97 public trees were assessed as in need of monitoring during the inventory.

- For more information on inventory results, refer to the 2015 comprehensive report.

Vision of Urban Forest

Barre City has a long-term vision of a genera- and species-diverse urban forest efficiently and effectively maintained for good quality and longevity, and an increase in urban canopy cover. In order to reach this vision, the City has established the following goals:

Short-term action steps

1. Establish a systematic annual tree maintenance, removal, and planting schedule.
2. Establish a monitoring program for the 97 trees inventoried as in need of monitoring, which includes all trees that were inventoried as in poor or fair condition.
3. Remove, and replace if appropriate, the 1 dead tree inventoried.
4. Foster and promote current relationship with Amanda Garland, the Natural Resources and Sustainability staff member at Barre Career Center, who engages students in City tree care and stewardship.
5. Create a tree Pest Preparedness Plan to help the City effectively and efficiently prepare for the arrival of the emerald ash borer, which will serve as a template for any future invasive tree pest threats.

Long-term goals

1. Establish a Tree Committee or Board, responsible for working with the Tree Warden in promoting and maintaining the City's tree program.
2. Increase in-house capacity to care for and maintain City trees by training Public Works staff and increasing the City's annual tree program budget.
3. Establish a Tree Stewardship Program akin to that of Tree Keeper Programs such as Branch Out Burlington!.
4. Increase genera and species diversity of urban forest by strategically choosing (preferably native) tree species for all future plantings.

Updating inventory data

As current public trees in Barre City are maintained or removed, and new public trees are planted, the City's Tree Warden is expected to update inventory data. This ensures efficient maintenance and monitoring over the long-term. The Tree Warden will update data directly in the Microsoft Excel 2015 inventory megadata file. Regular maintenance records should be maintained in house. The City will develop an efficient system for maintaining these types of data. For all **tree removals, condition changes, and new tree plantings**, the Tree Warden will send updates **annually by December 31st** to Elise Schadler of VT UCF, at elise.schadler@uvm.edu. Elise will communicate with VT ANR directly to update the data displayed in ANR's online atlas. It is recommended to share updated data files with all invested bodies involved in urban forest management (e.g., the Department of Public Works).

Public Tree Maintenance and Planting Plan

Use the timeline table in **Appendix C** to track your progress of implementing the actions steps introduced below.

Note all public tree maintenance and planting should abide by the Tree Care Industry Association (TCIA) best management practices, or the A300 Standards for Tree Care, which are available for purchase and accessible here: <http://tcia.org/business/ansi-a300-standards>.

Goals

1. Increase genera and species diversity of urban forest and overall forest canopy cover (to at least 35-40%) by establishing a systematic annual tree planting program.
2. Promote longevity of the urban forest by establishing a systematic and routine pruning and maintenance schedule.
3. Increase in-house capacity to efficiently and effectively implement the City of Barre's tree program.

Short-term action steps

1. Assess for 'vacant' locations within the public ROW potentially suitable for future tree plantings by a Certified Arborist or the City Tree Warden. Consider the appropriate size tree to plant in that location (**December 2019**).
 - a. A small tree (with a maximum height of 30' at maturity) should be planted in the presence of overhead wires. The minimum planting space for this sized tree is 4' x 4'.
 - b. A medium tree (with a maximum height of 30'-50' at maturity) should be planted in green belts over 6' wide with no overhead wires.
 - c. A large tree (with a maximum height of 50'+ at maturity) should be considered for planting in parks and open space.
2. Assess the 97 trees identified as in need of monitoring during the inventory by a Certified Arborist or the City Tree Warden (**December 2018**).
 - a. Prioritize efforts within Barre City's Downtown District, specifically on **North Main Street**.
3. Establish and implement a systematic tree maintenance schedule for the public trees planted along North Main Street in the Downtown District (**August 2018, maintenance ongoing**).
 - a. **Immediately** conduct one structural prune.
 - b. Prune each tree **every 3-5 years**.
 - c. Clean soil pits **twice a year, every year** (e.g., remove trash).
 - d. Water every newly planted tree **immediately post planting, once a day** (or every other) **for the first week, once a week for the**

- following month.** Generally, water twice per month in the winter, once per week in the spring and fall, and twice week in the summer.
- e. This tree care can be conducted on a voluntary basis through the development of a Tree Stewardship Program (page 9, Action Step 3).
 - f. Some of these trees were recently planted by the VT Agency of Transportation and have died since the 2015 inventory was conducted. **Contact VT Agency of Transportation** (Table 3) to arrange for the removal and replacement of these dead and poor-conditioned trees (contact by **August 2017**).
4. Remove – and replace if appropriate – the 1 dead tree previously inventoried (doing so would reduce the number of public trees in need of monitoring to 96) (**August 2018**).
 - a. This is a sugar maple with a 6”-12” DBH located in **Elmwood Cemetery**.
 5. Loosen or remove the wire/mesh beaver guards noted (in the comments of 2015 inventory megadata) as restricting the growth of **12 trees in Elmwood Cemetery**. This will prevent trunk girdling and will promote healthy tree maturation (**Fall 2017**).
 6. Visit the **17 trees** inventoried as having visible root issues with the Town Tree Warden or a Certified Arborist. Prioritize assessment and management in **Rotary Park (Fall 2017)**.
 - a. Remove or release the grip of stem girdling roots in the **5 trees** inventoried as having stem-girdling roots. Do this to the most damaging roots first; leave some of the potentially girdling roots not yet affecting the stem of the tree. This will avoid significant severance of the root system. This work should be done when soil moisture content and temperatures are suitable (i.e., not dry or hot). At least 1 of these trees is located in **Elmwood Cemetery** and 2 are in **Rotary Park**.
 7. Remove mulch from the **21 trees** noted (in the comments of the 2015 inventory megadata) as in need of root collar exposure. Nearly all of these trees are in **Church Street Park (Spring 2017)**.
 8. Mulch the **6 trees** inventoried as in need, 2 of which are in **Elmwood Cemetery** and 4 of which are on **North Main Street (Spring 2017)**.
 - a. To reduce costs, use the mulch removed from trees in Church Street Park (see above).
 - b. Proper mulch depth around the base of a tree is 2-4”. Mulch should be applied in a donut shape around the tree, with no mulch directly touching the trunk.
 9. Update 2015 inventory data with tree removals, condition changes, and new plantings and send to Elise and all City tree care practitioners (e.g., the Public Works Dept.) by December 31st each year (**ongoing**).
 10. Acquire/purchase set of the Tree Care Industry Association (TCIA) best management practices or the A300 Standards for Tree Care for the use of the Tree Warden and Public Works Department (**June 2017**).

11. The City of Barre will support one staff or volunteer member, likely the Tree Warden, to become an ISA Certified Arborist. (**August 2018**). For more information, visit:<http://www.isaarbor.com/certification/becomecertified/commonquestions.aspx> or http://www.isaarbor.com/certification/resources/cert_Application_CertifiedArborist.pdf.

Long-term action steps

1. Establish a systematic tree planting schedule, prioritizing plantings in previously identified and assessed vacant locations (see above) (**August 2021**). Specifically:
 - a. Plant **10 trees a year** (preferably native species) to increase the public tree population and overall canopy cover. Ensure age and species diversity by using the Tree Selection guide (Appendix D) to choose suitable species.
 - b. When selecting trees for plantings, choose species outside of the *Acer* (maple), *Malus* (crabapple), or *Fraxinus* (ash) genera.
 - c. Add each planted tree species, its location, DBH, and any other desired information to the City's urban forest data (this is an **ongoing** process).
2. Establish a systematic tree maintenance (e.g., pruning, mulching, and visual assessment) schedule (**August 2020**). Specifically:
 - a. Prioritize the structural pruning and adequate watering of newly planted trees and establish a method tracking progress of this maintenance.
 - b. Visit each public tree every **seven years** to conduct necessary maintenance.
 - c. Prioritize maintenance of the **76 trees** considered as in "fair" or "poor" condition during the inventory. Begin efforts on **North Main Street** and in **Rotary Park, Hope Cemetery, and Elmwood Cemetery**.
 - d. Prune the **201 trees** inventoried as in need. Prioritize efforts within the City's greenspaces (**Elmwood and Hope Cemeteries, Rotary and Church Street Parks**) and on **North Main Street**.
 - e. Keep a keen eye on and prioritize pro-active care of the **48 trees** exhibiting signs of decay, and the **61 trees** with crown dieback (note some of these may overlap with those inventoried as in fair or poor condition or as in need of pruning). Most of these trees are located within **Elmwood and Hope Cemeteries** and some are in **Rotary Park and Church Street Park**. Closely monitor their health, and plan for their removal, and if appropriate, their replacement.
3. Revisit the public tree inventory to reassess the condition, structural and species diversity, and maintenance needs of Barre City's urban forest and ensure data is updated (**August 2026**).

- The City may consider sourcing tree stock for plantings from Jail Branch Greenhouse in Barre. Montpelier Agway in Montpelier and East Hill Tree Farm in Plainfield are also viable options. None of these businesses conduct tree installations. See Appendix B for contact information.

Funding, Partners, and Operations

Goals

1. Identify and secure ways of supplementing or increasing the annual tree program budget.
2. Intentionally increase citizen engagement with Barre City's public trees.
3. Increase in-house capacity of the Public Works Department, Cemetery Department, and the City Tree Warden to support and manage tree City's tree program.

Action steps

1. Explore and apply for grant funding opportunities applicable to Barre City's urban forest needs (Table 1). This will be an **ongoing** and **annual** process.
2. Establish explicit funds within the tree care budget to be allocated for proactive tree maintenance and planting (as opposed to and in addition to tree removal) (**August 2019**).
3. Establish a Tree Stewardship Program comparable to that of Branch Out Burlington's (Appendix B) Tree Keeper Program (<http://branchoutburlington.org/get-involved/burlington-tree-keeper-program>) (**Spring 2022**, to be utilized and promoted **annually thereafter**).
 - a. This Program is especially suitable for tree maintenance and plantings in the City's Downtown District on **North Main Street**.
 - b. It is recommended that each business located on North Main Street voluntarily steward the public tree nearest its location throughout each year. Volunteers would be responsible for watering, basic pruning of low-hanging limbs, and ensuring pits are free of litter throughout each year. This Program can be established and implemented through the Natural Resource & Sustainability Program at Barre's Career Center, and if businesses are uninterested in participating in a Tree Stewardship Program, it can be the responsibility of the Natural Resource & Sustainability Program to 'adopt' North Main Street's trees and conduct the aforementioned tree care
4. Work with Barre's Career Center to host annual fundraising and volunteer tree planting and maintenance events (**ongoing**).
5. Establish a City Tree Committee responsible for working with the Tree Warden in ensuring this Plan is implemented and the Town tree program is supported (**August 2019**).
 - a. Recommended members: the City Tree Warden, a member from the Public Works Department, a member from the Fire Department, a member of the Cemetery and Parks Department, Amanda Garland of the Barre Career Center's Natural Resource and Sustainability Program.

6. Work with the City's Department of Public Works, the Planning and Permitting Department, the Buildings and Community Services Department, and City Council (Table 3) to establish an **assurance program** for all contracted developers and planned developments (road, sidewalk, or housing) in Barre City (Establish program by **August 2020**). Specifically:
 - a. Contracted municipal developers that landscape should be responsible for ensuring each of their planted tree's survival for 3 to 5 years post planting. This requires them to implement required maintenance (e.g., watering, pruning, etc.) according to the TCIA's best management practices. If one of these trees does not survive this time period, the developer would be responsible for its replacement.
 - b. Barre City may also require developers to consult the City Tree Warden when selecting tree species to plant and may provide specifications for planting (e.g., no root bags or wires). If these guidelines are established and a tree planted in that development does not survive beyond the 3 or 5-year assurance time period because the contracted developer or landscaper did not follow the guidelines, the developer would remain accountable for their replacement.
 - c. This should apply to trees planted in the upcoming City project, *Pedestrian Way* on Pearl Street and the redesigning of Merchant's Row between Depot Square and Prospect Street.
7. The City Tree Warden will become familiar with the Vermont Tree Warden Statutes (Appendix A), which details the responsibilities of appointed tree wardens (**December 2016**).

Commented [AU1]: Jeff, would these be the bodies responsible for establishing such a program? If not, who?

Funding

Current budget

Barre City currently has an annual budget of approximately **\$5,000** allocated for tree care, which is usually spent exclusively on tree removals, but has the potential to be allocated towards tree maintenance and plantings. This budget is not provided as a line item within any City department, but is instead a separate tree fund. It does not include labor or staff time.

Commented [AU2]: Jeff, confirm this is annual

Once Barre City's tree program becomes more systematic and proactive, we anticipate more efficient and intentional removal efforts that would be more cost effective. As this occurs, we hope to increase funds explicitly allocated towards tree maintenance, planting, and professional development.

- As recommended by the National Arbor Day Foundation, each community should allocate \$2 per capita toward the planting, care, and removal of community trees. This standard is required for consideration of Tree City USA designation. Based off 2010 census information, the City of Barre should therefore work towards a goal of establishing an annual tree program budget of at least \$18,104.

Grant or funding opportunities

The annual grant programs listed below provide excellent opportunity for the City of Barre to expand their public tree budget, and thus urban forest management capacity, without burdening the City's financial resources. It is recommended these be considered as viable methods of securing necessary funding for desired tree maintenance equipment, planting materials, and urban forest management practices.

Table 1. Current funding (i.e., grant) opportunities

Certified Local Government Program

Federal grants available for resource identification and planning, National Register nominations, downtown planning, public education, archeological studies, and building feasibility studies.

Range: \$500 - \$25,000

Eligibility: Municipalities that are enrolled as Certified Local Governments^{[[SEP]]}

Deadline: Annually in January^{[[SEP]]}

Contact: Devin Colman, (802) 828-3043 devin.colman@state.vt.us^{[[SEP]]}

Website: http://accd.vermont.gov/strong_communities/preservation/planning/clgp

Community Development Block Grant Program

Accessibility Modification Grants – Federal grants to bring existing municipal buildings and non-school libraries into compliance with the Americans with Disabilities Act (ADA)^{[[SEP]]}

Implementation Grants – Federal grants for economic development, housing, public facilities, and public services that will benefit low/moderate income individuals, eliminate slums or blight, or address an urgent need.

Planning Grants – Federal grants for community development planning, downtown planning studies, and project development to benefit people with low to moderate incomes and/or eliminate “slums and blight.”

Range: \$30,000 - \$1,000,000^{[[SEP]]}

Eligibility: Municipalities and/or municipalities on behalf of organizations and private owners

Deadline: Open application with funding decisions made throughout the year

Contact: Josh Hanford, (802) 595-1385 josh.hanford@state.vt.us^{[[SEP]]}

Website: http://accd.vermont.gov/strong_communities/opportunities/funding/vcdp

Downtown Transportation Fund

State grants for municipalities to finance transportation-related capital improvements in support of economic development, within or serving a Designated Downtown, including construction or alteration of roads and highways, parking facilities, pedestrian and streetscape improvement, rail or bus facilities or equipment, and underground relocation of electric utility, cable and telecommunications lines.

Range: 50% of overall project costs up to maximum of \$100,000

Eligibility: Municipalities with a Designated Downtown

Deadline: Annually in March^{{1}{1}}_{SEP}

Contact: Gary Holloway, (802)828-3220 gary.holloway@state.vt.us^{{1}{1}}_{SEP}

Website: http://accd.vermont.gov/strong_communities/opportunities/funding/downtown_transportation_fund

Municipal Planning Grant Program

State grants for a wide range of municipal planning projects including municipal land use plans, zoning and subdivision bylaws, designated downtown and village planning (including village greens).

Range: \$2,500 - \$20,000^{{1}{1}}_{SEP}

Eligibility: Municipalities with adopted plans confirmed by their regional planning commission^{{1}{1}}_{SEP}

Deadline: Annually in September^{{1}{1}}_{SEP}

Contact: Annina Seiler, (802) 828-1948 annina.seiler@state.vt.us^{{1}{1}}_{SEP}

Website: http://accd.vermont.gov/strong_communities/opportunities/funding/overview/municipal_planning_grants

Recreational Facilities Grants Program

Matching state grants for capital costs associated with the development and creation of community recreational opportunities.

Range: \$1,000 - \$25,000^{{1}{1}}_{SEP}

Eligibility: Municipalities and non-profit organizations

Deadline: Annually in October^{{1}{1}}_{SEP}

Contact: Chrissy Gilhuly, (802) 828-3519 christine.gilhuly@state.vt.us

Website: <http://bgs.vermont.gov/home>

VTrans Transportation Alternative Program

State 80:20 matching grants for the construction, planning, and design of bike and pedestrian facilities (on or off road), sidewalks, bicycle infrastructure, lighting, and others. Details on website.

Range: \$50,000 - \$300,000. Local match of 20%.^{{1}{1}}_{SEP}

Eligibility: Municipalities, transit agencies, school district, and regional planning commissions^{{1}{1}}_{SEP}

Deadline: Annually in October

Contact: Scott Robertson, (802) 828-5779 scott.robertson@state.vt.us^{{1}{1}}_{SEP}

Website: <http://vtransengineering.vermont.gov/bureaus/mab/local-projects/transportation-alternatives>

VTrans Bicycle and Pedestrian Program

State 90:10 matching grants for the scoping, design, and construction of bike and pedestrian facilities, sidewalks, bicycle lanes, crosswalks, shared-use paths, and lighting. Details on website.

Range: No minimum or maximum range. Local match of 10%.^{{1}{1}}_{SEP}

Eligibility: Municipalities, transit agencies, school district, and regional planning commissions **Deadline:**

Annually in July^{{1}{1}}_{SEP}

Contact: Jon Kaplan, (802) 828-0059 jon.kaplan@state.vt.us

Website: <http://vtransengineering.vermont.gov/bureaus/mab/local-projects/bike-ped>

VTrans/ACCD Strong Communities, Better Connections Program

State 90:10 matching grants for planning that align land use planning and community revitalization with transportation investments. Details on website.

Range: No minimum or maximum range. Local match of 10%.

Eligibility: Municipalities, located outside of Chittenden County with a confirmed planning process.

Deadline: Pilot year, future funding to be determined.

Contact: Jackie Cassino, (802) 828-2758 jackie.cassino@state.vt.us or Richard Amore, richard.amore@state.vt.us

Website: <http://vtransplanning.vermont.gov/programs/scbc>

ANR Recreational Trails Grant Program

State 80:20 matching grants for the maintenance, restoration, design and construction of recreational trails. Details on website.

Range: Maximum of \$20,000. Local match of 20%.

Eligibility: Municipalities, located outside of Chittenden County with a confirmed planning process.

Deadline: Annually in February

Contact: Sherry Winnie, (802) 760-8450 sherry.winnie@state.vt.us

Website: <http://fpr.vermont.gov/recreation/grants/rtp>

ANR Ecosystem Restoration Grant Program

State grants for the design and construction projects that target nonpoint sources of pollution that cause or contribute to the state's surface waters. Details on website.

Range: Maximum of \$250,000. Local match varies.

Eligibility: Municipalities, regional organizations, non-profits associations, citizen groups, and state agencies.

Deadline: Two rounds annually, varies depending on funding.

Contact: David Pasco, (802) 490-6112 david.pasco@state.vt.us

Website: <http://www.watershedmanagement.vt.gov/grants.htm>

ANR Caring for Canopy Grant Program

State 50:50 grants to help communities care for tree canopy by taking the necessary actions to developing and sustaining a community-wide tree program, including tree plantings, inventories, maintenance, and planning.

Details on website.

Range: \$500 - \$5,000. Local match of 50%.

Eligibility: Municipalities and non-profits associations.

Deadline: Annually in April

Contact: Danielle Fitzko, (802) 598-9992 danielle.fitzco@state.vt.us

Website: http://fpr.vermont.gov/forest/community_forests/community_canopy_grants

TD Bank Green Streets Grants Program

Range: up to \$20,000

Eligibility: Municipalities recognized as a Tree City USA with low- to moderate income neighborhoods

Deadline: Annually in December

Contact: Arbor Day Foundation, 1-888-448-7337 tdgreenstreets@arborday.org

Website: <https://www.arborday.org/programs/tdgreenstreets/>

Potential opportunities:

Individual street trees have been recognized as an effective method of municipal stormwater management by the State of Vermont. With new Lake Champlain Total Maximum Daily Loads and VT municipal water quality standards, both funding and collaborative opportunities are likely to arise.

- Sign up for TREEmail to receive regular updates and visit <http://dec.vermont.gov/watershed/stormwater> for more information.

Operations and partners

Training opportunities

Participating in the following trainings will ensure key stakeholders (Table 3) will follow best management practices in stewarding Barre City’s urban forest. Specifically, the City Tree Warden and the Public Works Department, which are responsible for most tree care practices in the City, should be regularly trained to increase their capacity and efficiency.

Table 2. Professional and volunteer training opportunities pertinent to Barre City’s tree program

Organization	Training/Workshop	Logistical information	Contact
VT UCF	Annual Tree Stewards Conference	http://vtcommunityforestry.org/get-involved/workshops-webinars	Gwen Kozlowski Email: gwen.kozlowski@uvm.edu Phone: 802-656-6646
	Forest Pest First Detector	http://www.vtinvasives.org	
	SOUL Tree Stewards	http://vtcommunityforestry.org/get-involved/tree-stewards	
Greenworks	Subject to change	http://greenworksvt.org	Contacts vary based on

Nursery and Landscape Association	annually, but typically include: Tree Pruning Basics, Alien Invaders, Smart Landscape Solutions, etc.	ermont.org/vermont-flower-show/workshops/	workshop, visit provided website for information
TREEage	Subject to change annually, but typically include pruning, tree care, and planting workshops	http://www.treeage.org/Home/about-us	Marie Ambusk Email: marie.ambusk@gmail.com Phone: 802-999-1126
VT Trans: VT Local Roads	Subject to change annually, but typically offer: Game of Logging, Rivers and Roads, Microsoft Excel Tips & Tricks, OSHA Road Safety and a Road Scholar Program	http://localroads.vermont.gov/workshops	Contacts vary based on workshop, visit website for information, or call 802-828-3537
Hivernant Arborists, LLC	Annual tree care and maintenance trainings	http://www.hivernantarborists.com/Training.html	802-343-6905
Northeast Woodland Training	Game of Logging, tree felling and chainsaw safety	http://www.gameoflogging.com/training_organizations.php	John Adler, Dave Birdsall, Al Sands, Mark Saulsgiver Email: info@woodlandtraining.com Phone: 802-681-8249

Community Outreach, Education, and Stewardship

Goals

1. Promote citizen engagement, awareness, fundraising, and stewardship through active and informed community outreach and education.
2. Promote in-house awareness and support of the City's public tree program.

Action Steps

1. Collaborate with the City's future Tree Committee or Barre's Career Center's Natural Resource & Sustainability Program to host an annual Arbor Day celebration. Arbor Day is the first Friday of May (**May 2020** and **annually thereafter**).
 2. Make residents aware of Vermont's local tree sales such as those conducted by Branch Out Burlington!, the Harford Tree Board, and the Winooski Natural Resources Conservation District (Appendix B) (**Spring 2017**).
 3. Attend and use the City's annual Heritage Festival to promote the City's Tree Stewardship Program, and recruit tree care volunteers (**July 2022** and **annually thereafter**).
 4. The City Tree Warden should visit at least one City school classroom each year to promote Arbor Day Celebrations and/or the City's urban forest (**April 2018**).
 5. Inform residents of the signs and symptoms of the emerald ash borer and Asian longhorned beetle and encourage them to monitor for these invasive tree pests in their urban forest through training in the Forest Pest First Detector Program (Table 2) (**ongoing**).
 6. Host one public community meeting or workshop annually, led by the City Tree Warden or the Public Works Department to communicate the benefits of Barre City's public trees (**December 2018**).
 7. Inform key stakeholders (Table 3) of this Plan's creation and their respective responsibilities if applicable (**December 2016**).
- Contact Gwen Kozlowski, VT UCF's Forest Outreach Specialist for support and ideas: gwen.kozlowski@uvm.edu.

Informing key stakeholders

Relevant stakeholders should be informed of this Plan's creation and implementation. Reference the table below to contact the key stakeholders in the City of Barre. Keep track of your communication by checking off stakeholders as they are informed.

Table 3. Contact stakeholders regarding the creation of this Plan

Stakeholder	Main contact and title	Contact info	Informed?
Department of Public Works	Steve Micheli, Director (interim)	Email: smichelo@barrecity.org Phone: 802-476-0250	
City Tree Warden	Jeff Bergeron Director of Buildings & Community Services	Email: jbergeron@barrecity.org Phone: 802-476-0256	<input type="checkbox"/>
Cemetery and Parks Department	Jeff Bergeron Director of Buildings & Community Services	Email: cemeteries@barrecity.org Phone: 802-476-0256	<input type="checkbox"/>
City Clerk		Email: Phone: 802-476-0242	
City Manager	Steven Mackenzie	Email: manager@barrecity.org Phone: 802-476-0240	
City Council	Thom Lauzon, City Mayor	Email: tlauzon@chartner.net Phone: 802-479-2043	
City Council	Jeffery Tuper-Giles, Ward 1	Email: ward1jtg@gmail.com Phone: 802-369-6122	
City Council	Michael Boutin, Ward 2	Email: barrecityward2@gmail.com Phone: 802-272-2858	
City Council	Anita Chadderton, Ward 3	Email: anitalchadderton@gmail.com Phone: 802-479-2708	
Planning and Permitting Department	Janet E. Shatney, Planning Director	Email: Phone: 802-477-1465	
Planning and Permitting Department	Heather Grandfield, Permit Administrator	Email: Phone: 802-477-1466	
Planning Commission	Jackie Calder, Chair	Email: Phone:	
Public Safety Department	Timothy Bombardier, Director	Email: tim.bombardier@vermont.gov Phone: 802-476-0248	
Fire	Joseph	Email:	

Commented [AU3]: Jeff, Can you please fill in any missing contact information, including Amanda's email address? Thank you!

Department	Aldsworth, Deputy Fire Chief	joseph.aldsworth@vermont.gov Phone: 802-476-6613	
Barre Career Center	Amanda Garland	Email: Phone: 802-476-6237 ext. 2124	
VT Agency of Transportation	District 7, office located in St. Johnsbury	Phone: 802-748-6671	
County Forester	Dan Singleton	Email: dan.singleton@vermont.gov Phone: 802-476-0172	
District Forester	Dave Wilcox	Email: david.wilcox@state.vt.us Phone: 802-476-0179	
Town of Barre Public Works	Richard Tetreault, Superintendent	Email: rtetreault@barretown.org Phone: 802-476-3522	

Appendices

A. Vermont Tree Warden Statutes

TITLE 24: Municipal and County Government

CHAPTER 033: MUNICIPAL OFFICERS GENERALLY

§ 871. Organization of selectmen; appointments

Forthwith after their election and qualification, the selectmen shall organize and elect a chairman and, if so voted, a clerk from among their number, and file a certificate of such election for record in the office of the town clerk. Such selectmen shall thereupon appoint from among the legally qualified voters the following officers who shall serve until their successors are appointed and qualified, and shall certify such appointments to the town clerk who shall record the same:

1. Three fence viewers;
2. A poundkeeper, for each pound; voting residence in the town need not be a qualification for this office provided appointee gives his consent to the appointment;
3. One or more inspectors of lumber, shingles and wood;
4. One or more weighers of coal; and
5. A tree warden. (Amended 1963, No. 74, § 2.)

TITLE 24: Municipal and County Government

CHAPTER 067: PARKS AND SHADE TREES

§ 2502. Tree wardens and preservation of shade trees

Shade and ornamental trees within the limits of public ways and places shall be under the control of the tree warden. The tree warden may plan and implement a town or community shade tree preservation program for the purpose of shading and beautifying public ways and places by planting new trees and shrubs; by maintaining the health, appearance and safety of existing trees through feeding, pruning and protecting them from noxious insect and disease pests and by removing diseased, dying or dead trees which create a hazard to public safety or threaten the effectiveness of disease or insect control programs. (Amended 1969, No. 238 (Adj. Sess.), § 1.)

§ 2503. Appropriations

A municipality may appropriate a sum of money to be expended by the tree warden, or if one is not appointed, by the mayor, aldermen, selectmen or trustees for the purpose of carrying out this chapter. (Amended 1969, No. 238 (Adj. Sess.), § 2.)

§ 2504. Removal of trees, exception

The tree warden may remove or cause to be removed from the public ways or places all trees and other plants upon which noxious insects or tree diseases naturally breed. However, where an owner or lessee of abutting real estate shall annually, to the satisfaction of such warden, control all insect pests or tree diseases upon the trees and other plants within the limits of a highway or place abutting such real estate, such trees and plants shall not be removed. (Amended 1969, No. 238 (Adj. Sess.), § 3.)

§ 2505. Deputy tree wardens

A tree warden may appoint deputy tree wardens and dismiss them at pleasure.

§ 2506. Regulations for protection of trees

A tree warden shall enforce all laws relating to public shade trees and may prescribe such rules and regulations for the planting, protection, care or removal of public shade trees as he deems expedient. Such regulations shall become effective pursuant to the provisions of chapter 59 of this title. (Amended 1969, No. 238 (Adj. Sess.), § 4.)

§ 2507. Cooperation

The tree warden may enter into financial or other agreements with the owners of land adjoining or facing public ways and places for the purpose of encouraging and effecting a community wide shade tree planting and preservation program. He may cooperate with federal, state, county or other municipal governments, agencies or other public or private organizations or individuals and may accept such funds, equipment, supplies or services from organizations and individuals, or others, as deemed appropriate for use in carrying out the purposes of this chapter. (Amended 1969, No. 238 Adj. Sess.), § 5.)

§ 2508. Cutting shade trees; regulations

Unless otherwise provided, a public shade tree shall not be cut or removed, in whole or in part, except by a tree warden or his deputy or by a person having the written permission of a tree warden.

§ 2509. – Hearing

A public shade tree within the residential part of a municipality shall not be felled without a public hearing by the tree warden, except that when it is infested with or infected by a recognized tree pest, or when it constitutes a hazard to public safety, no hearing shall be required. In all cases the decision of the tree warden shall be final except that when the tree warden is an interested party or when a party in interest so requests in writing, such final decision shall be made by the legislative body of the municipality. (Amended 1969, No. 238 (Adj. Sess.), § 6.)

§ 2510. – Penalty

Whoever shall, willfully, mar or deface a public shade tree without the written permission of a tree warden or legislative body of the municipality shall be fined not more than \$50.00 for the use of the municipality. Any person who, willfully, critically injures or cuts down a public shade tree without written permission of the tree warden, or the legislative body of the municipality shall be fined not more than \$500.00 for each tree so injured or cut, for the use of the municipality. (Amended 1969, No. 238 (Adj. Sess.), § 7.)

§ 2511. Control of infestations

When an insect or disease pest infestation upon or in public or private shade trees threatens other public or private trees, is considered detrimental to a community shade tree preservation program or threatens the public safety, the tree warden may request surveys and recommendations for control action from the commissioner of agriculture, food and markets. On recommendation of the commissioner of agriculture, food and markets, the tree warden may designate areas threatened or affected in which control measures are to be applied and shall publish notice of the proposal in one or more newspapers having a general circulation in the area in which control measures are to be undertaken. On recommendation of the commissioner, the tree warden may apply measures of infestation control on public and private land to any trees, shrubs or plants thereon harboring or which may harbor the threatening insect or disease pest. He may enter into agreements with owners of such lands covering the control work on their lands, but the failure of the tree warden to negotiate with any owner shall not impair his right to enter on the lands of said owner to conduct recommended control measures, the cost of which shall be paid by the municipality. (Amended 1969, No. 238 (Adj. Sess.), § 8.)

§ 2512. Repealed. 1969, No. 238 (Adj. Sess.), § 9.

TITLE 32: Taxation and Finance

CHAPTER 017: FEES AND COSTS

§ 1680. Tree warden

When a town or incorporated village fails to fix the compensation of a tree warden or his deputies, they shall receive such compensation as the selectmen or trustees determine.

Other Statutes Related to Trees

TITLE 30: Public Service

CHAPTER 071: TELEGRAPH, TELEPHONE AND ELECTRIC WIRES

§ 2506. Trees not to be injured; exception; penalty
A tree within a street or highway shall not be cut or injured in constructing, maintaining or repairing a line of wires, without the written consent of the adjoining owner or occupant, unless the transportation board or the selectmen of the town in which the tree is situated, after due notice to the parties and upon hearing, shall decide that such cutting or injury is necessary. A person or corporation cutting or injuring such trees shall pay the damages, if any, awarded on such hearing, before cutting or injuring the trees. A person or corporation that violates a provision of this section shall be fined not more than \$50.00 nor less than \$5.00 for each tree so cut or injured. (Amended 1989, No. 246 (Adj. Sess.), § 31.)

TITLE 13: Crimes and Criminal Procedure

CHAPTER 077: TREES AND PLANTS

§ 3606. Treble damages for conversion of trees or defacing marks on logs
If a person cuts down, destroys or carries away any tree or trees placed or growing for any use or purpose whatsoever, or timber, wood, or underwood standing, lying or growing belonging to another person, without leave from the owner of such trees, timber, wood, or underwood, or cuts out, alters or defaces the mark of a log or other valuable timber, in a river or other place, the party injured may recover of such person treble damages in an action on this statute. However, if it appears on trial that the defendant acted through mistake, or had good reason to believe that the trees, timber, wood, or underwood belonged to him, or that he had a legal right to perform the acts complained of, the plaintiff shall recover single damages only, with costs. (Amended 1959, No. 61, eff. March 26, 1959.)

TITLE 19: Highways

CHAPTER 009: REPAIRS, MAINTENANCE AND IMPROVEMENTS

§ 901. Removal of roadside growth

A person, other than the abutting landowner, shall not cut, trim, remove or otherwise damage any grasses, shrubs, vines, or trees growing within the limits of a state or town highway, without first having obtained the consent of the agency for state highways or the board of selectmen for town highways. (Added 1985, No. 269 (Adj. Sess.), § 1.)

§ 902. Penalty for removal

A person who willfully or maliciously cuts, trims, removes or otherwise damages grasses, shrubs, vines or trees within highway limits in violation of section 901 of this title shall be fined not more than \$100.00 nor less than \$10.00, for each offense. (Added 1985, No. 269 (Adj. Sess.), § 1.)

§ 903. Agreements for planting

The agency or the board of selectmen may enter into agreements with individuals or organizations who wish to plant grasses, shrubs, vines, trees or flowers within highway limits. (Added 1985, No. 269 (Adj. Sess.), § 1.)

§ 904. Brush removal

The selectmen of a town, if necessary, shall cause to be cut and burned, or removed from within the limits of the highways under their care, trees and bushes which obstruct the view of the highway ahead or that cause damage to the highway or that are objectionable from a material or scenic standpoint. Shade and fruit trees that have been set out or marked by the abutting landowners shall be preserved if the usefulness or safety of the highway is not impaired. Young trees standing at a proper distance from the roadbed and from each other, and banks and hedges of bushes that serve as a protection to the highway or add beauty to the roadside, shall be preserved. On state highways, the secretary shall have the same authority as the selectmen. (Added 1985, No. 269 (Adj. Sess.), § 1.)

B. List of relevant contacts

Commented [AU4]: Please fill in any missing information

Representing Role/Responsibility	Name	Contact
City Manager	Steven Mackenzie	manager@barrecity.org 802-476-0240
City Tree Warden, Buildings & Community Services Director	Jeff Bergeron	jbergeron@barrecity.org 802-476-0256
Cemetery and Parks Department Director	Jeff Bergeron	cemeteries@barrecity.org 802-476-0256
City Clerk		802-476-0242
City Mayor	Thom Lauzon	tlauzon@charter.net 802-476-0240
City Council, Ward 1	Jeffery Tuper-Giles	Ward1jtg@gmail.com 802-369-6122
City Council, Ward 2	Michael Boutin	Barrecityward2@gmail.com 802-272-2858
City Council, Ward 3	Anita Chadderton	anitalchadderton@gmail.com 802-479-2708
Planning & Permitting Dept. Planning Director	Janet Shatney	802-477-1465
Planning & Permitting Dept. Permit Administrator	Heather Grandfield	802-477-1466
Public Safety Dept. Director	Timothy Bombardier	Tim.bombardier@vermont.gov 802-476-0248
Fire Dept. Deputy Chief	Joseph Aldsworth	Joseph.aldsworth@vermont.gov 802-476-0248
Barre Career Center Natural Resource & Sustainability Program Staff	Amanda Garland	802-476-6237 ext. 2124
Local ISA Certified Arborists	Bill de Vos, Montpelier	Treeworks: info@treeworks.com 802-223-2617
	Peter Amber, Chelsea	Amber Tree Service: AmberTreeService@gmail.com 802-685-4501
	Lincoln Earle-Centers, Marshfield	Sylvan Tree Care: SylvanTreeCareVT@gmail.com 802-279-7818
	Ira Moser, Montpelier	Ira.moser@state.vt.us 802-828-3312

ISA Arborist Certification information	N/A	1-888-427-8733 isa@isa-arbor.com
Tree City USA Designation information	Arbor Day Foundation	1-888-448-7337 https://www.arborday.org/programs/treecityusa/index-become.cfm
ISA Certified Arborist Preparatory Course	Heather Leff, New England Chapter	978-844-0441 heather@newenglandisa.org
VT UCF Technical Assistance Coordinator	Elise Schadler	802-656-2657 elise.schadler@uvm.edu
VT UCF Outreach Specialist	Gwen Kozlowski	Gwen.kozlowski@uvm.edu
District Urban Forester, VT FPR	Dave Wilcox	David.wilcox@state.vt.us 802-476-0179
County Forester, VT FPR	Dan Singleton	Dan.singleton@vermont.gov 802-476-0172
Montpelier Agway, Montpelier, VT	Nursery Dept.	802-229-9187 http://montpelieragway.com
Jail Branch Greenhouse, Barre, VT	N/A	802-479-1445 Visit at 483 East Barre Road
East Hill Tree Farm, Plainfield, VT	Nicko	802-454-7874 http://easthilltreefarm.com narubin@gmail.com
Branch Out Burlington	Margaret Skinner	802-656-5440 http://branchoutburlington.org
Hartford Tree Board, Chair	Deborah Milne	802-272-9020 ythartfordtreeboard@gmail.com
Winooski Natural Resources Conservation District	N/A	802-778-3178 http://winooskinrcd.org/trees-and-trout-sale-2016/ info@winooskinrcd.org
TREEage	Marie Ambusk	802-999-1126 http://www.treeage.org/Home marie.ambusk@gmail.com
The Intervale Center Conservation Nursery	Mike Ingalls	802-660-0440 ext. 114 http://www.intervale.org/what-we-do/intervale-conservation-nursery/ mikei@intervale.org

C. Checklist of action steps and estimated associated costs

Action Step	Targeted date of completion	Estimated associated costs	Date completed	Funds spent (\$)	Notes
PUBLIC TREE MAINTENANCE AND PLANTING PLAN					
1. Asses for 'vacant' planting locations	December 2019	Staff time			
2. Assess 97 trees in need of monitoring	December 2018	Staff time			
3. Establish tree maintenance schedule for public trees in DTD's North Main Street	August 2018, maintenance ongoing	Staff/volunteer time			
3f. Contact VT Agency of Transportation, schedule the removal and replacement of the dead or poor conditioned trees they planted	Contact by August 2017	Staff time			
4. Remove 1 dead tree	August 2018	\$600-\$1,000			
5. Loosen or remove beaver guards in Elmwood Cemetery	Fall 2017	Staff/volunteer time			
6. Visit and assess the 17 trees with root issues	Fall 2017	Staff time			
6a. Remove stem girdling roots of 1+ tree in Elmwood Cemetery and 2 trees in Rotary Park	Fall 2017	Staff/volunteer time			
7. Remove mulch from 21 trees in Church Street Park	Spring 2017	Staff/volunteer time			
8. Add mulch to 6 trees inventoried as in need	Spring 2017	Staff/volunteer time			
9. Update & send appropriate tree data	December 31 st annually	Staff time			
10. Acquire TCIA BMPs or A300 Standards	June 2017	\$200.00			
11. ISA arborist certification of 1 City staff member	August 2030	Exam fees: \$150-\$375 Prep course: \$175-\$210 Study guide: \$85-\$125			
12. Establish systematic tree planting schedule, planting 10 trees a year	August 2021, planting	Planting: \$250-\$1,000/year** Labor:			

	ongoing	Staff/volunteer time			
13. Establish systematic tree maintenance schedule, visiting each tree every 7 years	August 2020, maintenance ongoing	Depends/TBD			
13d. Prune 201 trees inventoried as in need	By August 2020	Staff/volunteer time			
14. Reassess condition, structural and species diversity, and maintenance needs of public trees, update inventory data	August 2026	Recommended to apply and use grants, if not, costs are staff time			
FUNDING, PARTNERS, and OPERATIONS					
1. Apply for grant funding	Annually	Staff time			
2. Establish funds within the tree care budget for explicit use towards tree maintenance and plantings	August 2019	Staff time			
3. Establish a Tree Stewardship Program	Spring 2022	Staff/volunteer time			
4. Work with Career Center to host annual fundraising and volunteer tree planting events	Ongoing	Staff/volunteer time			
5. Establish a Tree Committee	August 2019	Staff/volunteer time			
6. Establish a tree assurance program for contracted developers	August 2020	Staff/volunteer time			
7. Tree Warden familiarizes with VT Tree Warden Statutes	December 2016	Staff time			
COMMUNITY OUTREACH, EDUCATION, and STEWARDSHIP					
1. Host annual Arbor Day Celebration	May 2020 and annually	Staff/volunteer time, \$100-\$500/year optional for event supplies			
2. Increase residential awareness of VT local tree sales	Spring 2017 and annually	Staff/volunteer time			
3. Promote City's Tree Stewardship Program at Heritage Festival	July 2922 and annually	Staff/volunteer time, \$100-\$500/year optional for event supplies			

4. Visit 1 school classroom a year	Prior to May 2018, and annually	Staff time			
5. Increase residential awareness of and monitoring capacity for EAB and ALB	Ongoing	Staff/volunteer time			
6. Host 1 community meeting or workshop a year	December 2018 and annually	Staff time, \$100-\$500/year optional			
7. Inform key stakeholders of this Plan and their involvement (if applicable)	December 2016	Staff time			

*Based on an estimated average cost of \$600-\$1,000 per dead tree removal, as provided by the City's Public Works Department. This cost will vary based on the condition and size of each dead tree and the entity removing the trees.

**Excludes costs of additional planting materials such as stakes. Based on an estimated average cost range of \$25 to \$100 per 1-2" caliper tree. Quotes were supplied from Jail Branch Greenhouse in Barre and are subject to change. Montpelier Agway quoted similarly sized trees at about \$100-\$200 each, making approximate tree costs for planting closer to \$1,000-\$2,000/year. This does not include the cost of installation labor or additional planting materials.

If all action steps are implemented, the **total associated estimated costs** of Barre City's urban forest management is **\$1,760- \$4,410**. This range is derived from summing the lowest and highest estimated costs in the "estimated associated costs" column. It **does not** include City staff time, annual tree planting labor costs, or Certified Arborist consultations. Factoring these costs into the budget would significantly increase the associated costs of Barre City's urban forest management.

Commented [AU5]: need to confirm this cost.

D. Tree selection guide

Commented [AU6]: Note this section will be added into the final draft. It is a separate PDF document with many pages. Elise needs to attach it.