

GROW



Credit to Paul Lee

A comprehensive city-wide tree planting and establishment plan can help to ensure a more equitable and resilient distribution of trees and the benefits they provide. Long-term planning supports thoughtful species selection, ensures adequate time for tree sourcing, and helps distribute maintenance needs over time, all while allowing for adjustments based on emerging threats and local species performance.

IMPLEMENTATION STRATEGIES: GROW

3.1 Develop a public tree planting program

3.2 Establish a young tree care program

3.3 Diversify the urban forest's tree species and age composition

3.4 Expand tree canopy through capital improvement projects

CREATE SPACE, PLANT, AND CARE FOR NEW TREES

DEVELOP A PUBLIC TREE PLANTING PROGRAM

IMPLEMENTATION STRATEGY 3.1

KEY FINDINGS

Over the past five years, public tree removals (192/year) have outpaced plantings (124/year), resulting in net canopy loss. Without a robust and well-funded planting program, Fairfax risks losing long-term canopy cover despite overall citywide gains since 2012.

THIS STRATEGY ALIGNS CLOSELY WITH STRATEGY 4.3, WHICH INCLUDES SECURING FUNDING FOR ADEQUATE MAINTENANCE.



Credit to City of Fairfax

ACTIONS

1-5 YEARS

- 3.1.a: Pursue dedicated funding and resources** for public tree planting and establishment.
- 3.1.b: Scale annual tree planting efforts** to replace annual tree removals to ensure no net canopy loss.
- 3.1.c: Prioritize sites available for planting now and within low-canopied neighborhoods** for immediate impact.
- 3.1.d: Develop planting strategies targeted for replanting sites** following non-native invasive species management.
 - i. Coordinate tree species selection and placement based on habitat value, shade provision, and long-term resilience.
 - ii. Align planting efforts with park improvement projects and the Parks Master Plan.
- 3.1.e: Integrate a variety of communication strategies** into the planting season's planning process to engage and notify nearby neighborhoods of upcoming planting projects.

5-10 YEARS

- 3.1.f: Create a planting plan to fill vacant planting spaces** over 10 years.
 - i. Utilize inventory data to map vacant planting sites and identify barriers.
 - ii. Deploy strategies to enhance restricted growth spaces (e.g. alternative sidewalk materials, engineer sidewalk designs) to create new tree planting opportunities.
 - iii. Budget and prioritize investments based on community need and suitability for long term tree survival.
- 3.1.g: Develop a Green Streets program** in collaboration with Stormwater Management.

STRATEGY 3.1 (CONT.)

Green Streets in Northern Virginia

Green Streets are urban infrastructure projects designed to manage stormwater, enhance environmental quality, and improve community aesthetics. In Northern Virginia, these projects incorporate natural systems into urban settings, transforming streets into multifunctional spaces that benefit both the environment and residents.

In Arlington, Green Streets often feature rain gardens that capture and filter stormwater runoff, reducing pollutants and supporting biodiversity. Notable projects like Gulf Branch and South Walter Reed Drive integrate native plants and underdrains for effective drainage (Arlington County Government, n.d.).

Alexandria incorporates green infrastructure such as tree box filters, bioswales, and permeable pavements to manage stormwater runoff in the public right-of-way. These projects align with the city's Green Streets and Sidewalk Stormwater Design Guidelines, providing a framework for developers to incorporate green infrastructure into new and redevelopment projects (City of Alexandria, 2020).

Community Quote: "Tree canopy along Fairfax Blvd would encourage public transit and walking."

EXISTING CAPACITY AND PARTNERS

Parks & Recreation
Public Works
Stormwater
Sustainability
Volunteers/community groups
George Mason University

RESOURCE DEMANDS

Dependent on the creation of the Urban Forestry Division
Staffing Needs:
Urban Forestry Technician (new position)
Tree, mulch, and equipment staging area

STRATEGY METRICS

Amount of dedicated funding secured annually for tree planting and care
Number of trees planted in lower canopy areas annually
Ratio of trees planted to trees removed annually
Completion and adoption of a citywide tree planting plan

ESTABLISH A YOUNG TREE CARE PROGRAM

IMPLEMENTATION STRATEGY 3.2

KEY FINDINGS

A significant proportion (25%) of small public trees under 8 inches in diameter are in fair or poor condition, indicating inadequate establishment care and maintenance practices that threaten long-term survival and return on investment for planted trees.

THIS STRATEGY CLOSELY ALIGNS WITH STRATEGY 4.3

ACTIONS

1-5 YEARS

- 3.2.a: Develop young tree establishment work plans** that include watering, mulching, stake removal, and training pruning for the first five years after planting.
- 3.2.b: Build a local tree workforce** in partnership with workforce development programs, schools, and volunteers to offset staff capacity and to provide accessible opportunities for learning young tree maintenance.
- 3.2.c: Incorporate non-native invasive species removal** to improve long-term success and utilize deer exclusions when necessary.
- 3.2.d: Utilize a variety of public educational strategies** to engage residents on best practices for young tree care, such as “right-tree, right-place” and proper mulching.

5-10 YEARS

- 3.2.e: Monitor and project additional capacity needs** based on new tree planting program in strategy 3.1.

City Jobs Program – Partnering to Improve Our Community

In 2025, the City of Fairfax's Stewardship Coordinator and Park staff partnered with **The Lamb Center** through the City Jobs Program to provide hands-on experience in urban forestry. Participants have assisted with essential tree care activities, including planting, young tree maintenance, and invasive plant removal.

This collaboration not only supports the health of Fairfax's urban forest but also creates opportunities for community members to gain valuable job skills in environmental stewardship.

Partners: The Lamb Center, City of Fairfax.

STRATEGY 3.2 (CONT.)

Expanding Local Plant Partnerships

Through the **SPROUT Initiative** in 2024, the City of Fairfax expanded its network of plant sourcing partners to include **Earth Sangha** and **Casey Trees**, ensuring more locally and regionally grown plants for city projects.

Earth Sangha grows plants from locally collected seed, provides discounted rates for public land projects, and offers community education programs. In 2025, the city utilized Earth Sangha plants for forestation projects in Van Dyck Park and Lion Run Park.

Casey Trees operates a local tree farm that sustainably grows native species for use by partners in the D.C. region. In 2024, the city purchased 150 trees from Casey Trees to supply street and park plantings, increasing the sustainable sourcing of native trees.

These partnerships strengthen the city's capacity to plant resilient, regionally adapted species while supporting local growers and conservation education.

Partners: Earth Sangha, Casey Trees, City of Fairfax SPROUT Program.

EXISTING CAPACITY AND PARTNERS

Parks & Recreation
Community Development and Planning
Sustainability
Public Works
Volunteers
City Jobs Program
Fairfax County Public Schools
Get2Green

RESOURCE DEMANDS

Dependent on creation of Urban Forestry Division
Staffing Needs:
Urban Forester I (new position)
Training materials and workshops for staff, contractors, volunteers, and the public
Young tree care equipment (watering, mulch, stakes, pruning equipment, moisture meters)
Non-native invasive species removal tools (hand tools, herbicide application tools)

STRATEGY METRICS

Number of young tree establishment work plans created and implemented
Survival rate of newly planted trees at one, two, and three years post-planting
Number of outreach materials distributed (e.g. door hangers, postcards, social media posts)
Number of reforestation tree plantings conducted following non-native invasive species removal
Estimated annual cost savings attributed to ecosystem services of newly planted trees

DIVERSIFY THE URBAN FOREST'S TREE SPECIES AND AGE COMPOSITION

IMPLEMENTATION STRATEGY 3.3

KEY FINDINGS

The top ten public tree species account for 57% of the total population, with a heavy reliance on red maple. This lack of diversity increases susceptibility to pests, diseases, and climate stressors, compromising long-term resilience.



Credit to City of Fairfax

ACTIONS

1-5 YEARS

- 3.3.a: Incorporate new species that are recommended for future climate conditions**, making considerations for drought and flood tolerance, warmer and more extreme temperatures, and pest/disease tolerance.
 - i. Regularly review current literature and regional climate modeling to inform updates to species selection and approved species list.
 - ii. Utilize data from forest assessment (1.1) to inform planting decisions.
- 3.3.b: Build species-level biodiversity of the public tree inventory** and track the use of cultivars and varieties.
- 3.3.c: Update tree species lists and guidance documents** for land development every 3-5 years with updated recommendations including information on non-native invasive species alternatives.
- 3.3.d: Coordinate urban forest diversification efforts** with MWCOC's regional tree action plan for a regional resiliency effort.

5-10 YEARS

- 3.3.e: Partner with local non-profits, universities, and volunteers to trial climate-resilient and pest-tolerant tree species**, collect local seed for forest conservation areas, and monitor native trees that show resistance to pest and disease outbreaks identified in Strategy 1.3.
- 3.3.f: Actively monitor the age composition** and integrate a tree succession strategy to avoid overreliance on mature or aging cohorts.
- 3.3.g: Categorize tree species by their functional benefits**—such as shade provision, stormwater interception, or air quality improvement—as well as risk factors (allergens, VOC's) and use these categories to guide species selection based on planting location and intended cost-saving outcomes.

10-20 YEARS

- 3.3.h: Expand use of locally sourced and grown plants.**

STRATEGY 3.3 (CONT.)

Urban Forests: Biodiversity Lifelines in Fairfax

Fairfax's urban forests serve as essential habitat for a wide range of species, including migratory birds, pollinators, amphibians, and small mammals. Located along the Atlantic Flyway, the city provides critical stopover habitat for birds that depend on native vegetation, habitat diversity, and connected green corridors to survive their journeys.

Urban forests support higher biodiversity than built-up areas, particularly during migration. In southeastern Virginia, forest fragments hosted significantly greater bird abundance and richness than residential yards, due to their native canopy, vertical structure, and reduced disturbance (Burton et al., 2022; Chalker-Scott, 2015). Landscape connectivity further strengthens habitat value—research shows that forest edge density and connected corridors predict higher urban bird diversity (Soifer et al., 2021).

Native plantings are vital. While some non-native species support insect biomass, many birds, such as warblers and vireos, rely on caterpillars that feed only on native plants (Vanderhoff & Rentsch, 2022; Renfro, 2015). Tools like least-cost path modeling can help cities like Fairfax identify where canopy restoration will most effectively improve wildlife movement and habitat quality (MacKinnon et al., 2023). Biodiverse urban forests enhance the city's ecological resilience while also supporting education, recreation, and residents' connection to the natural environment.

EXISTING CAPACITY AND PARTNERS

Community Development and Planning
Public Works
Parks & Recreation
Volunteers
MWCOG
Local non-profits and universities
Fairfax County Forest Health Branch
Virginia Department of Forestry
Earth Sangha
Casey Trees

RESOURCE DEMANDS

Grant funds to purchase trees and planting materials
Volunteer assistance with planting and maintaining new trees
Staffing Needs:
Urban Forester I (new position)

STRATEGY METRICS

Number of tree species planted throughout the city annually
Percent increase in species-level biodiversity in the public tree inventory
Number of tree removals tracked by species and age composition
Number of educational materials distributed related to species selection and planting guidance
Completion of annual update to the city master tree list
% of population in each age class and track changes over time

WHY SPECIES AND AGE DIVERSITY MATTER

Species diversity is the variety and number of different tree species in an urban forest. A diverse tree population maximizes ecological and community benefits, while also making the urban forest more resilient to pests, diseases, invasive plants, and extreme weather events. Fairfax's inventory recorded **160 unique tree species grouped into 50 different genera**—a rich palette that strengthens the urban forest's adaptability.

However, the top five most abundant species make up **32% of the public tree population**, with red maple alone comprising **14%**—exceeding the recommended guideline of no more than 10% for any one species (Figure 8). By contrast, maples as a genus



Credit to Farzana Natasha

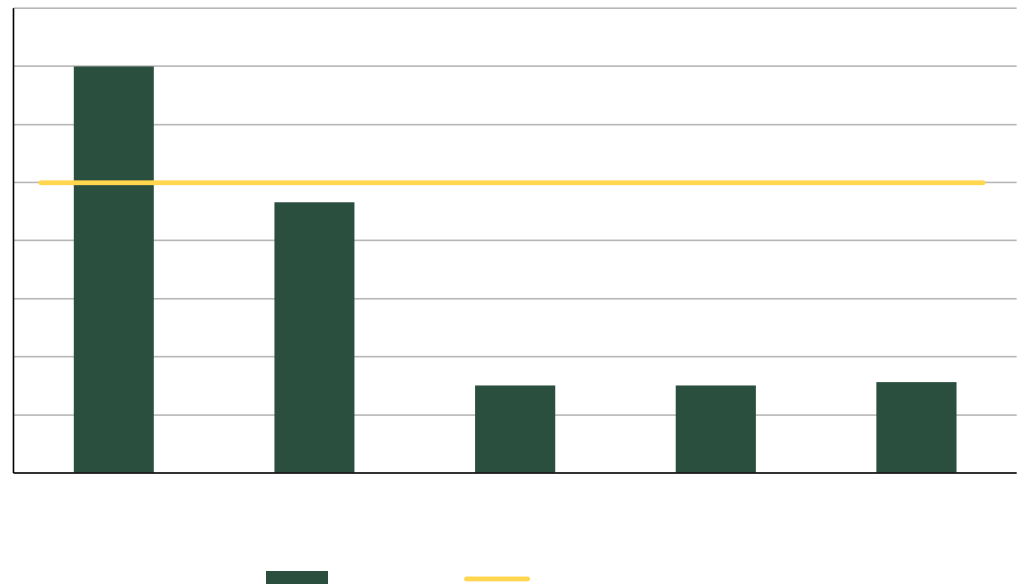
account for **18%**, which remains below the 20% guideline. Maintaining species and genus diversity at both the citywide and neighborhood scale is critical. When too much of a street or neighborhood canopy is dominated by a single species, communities risk abrupt and dramatic canopy loss if that species is threatened by pests, disease, or climate impacts. Such losses not only reduce environmental benefits but can also alter neighborhood character.

Equally important is maintaining a diversity of **tree ages**. Fairfax's inventoried trees show a higher proportion of young trees and fewer in older age classes compared to industry recommendations. While

this creates future potential for canopy growth, it also underscores the need for **early investment in structural pruning and watering programs**. Such care ensures young trees survive and thrive, reduces long-term maintenance costs, and helps them mature into canopy-defining assets.

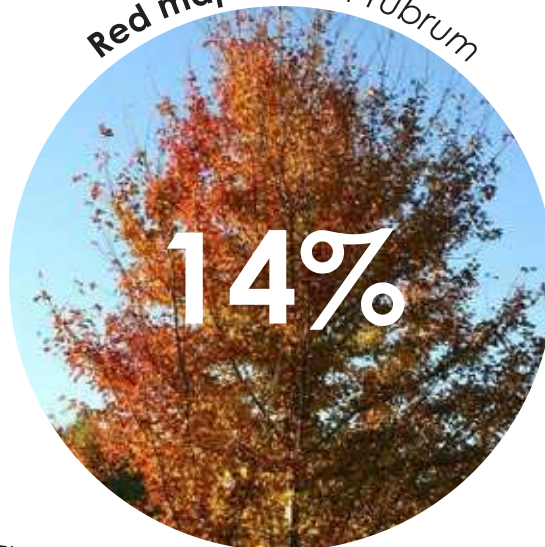
To avoid risks and strengthen resilience, new tree planting in Fairfax should prioritize **underrepresented and climate-suitable species**, with a preference for **native trees where appropriate**, while management programs should continue to support a balanced **mixture of ages and species** across all neighborhoods.

Figure 8: Top five inventoried tree species



FAIRFAX'S TREE INVENTORY

Red maple *Acer rubrum*



Tuliptree *Liriodendron tulipifera*



Arborvitae *Thuja* spp.



Crapemyrtle *Lagerstroemia indica*



Littleleaf linden *Tilia cordata*

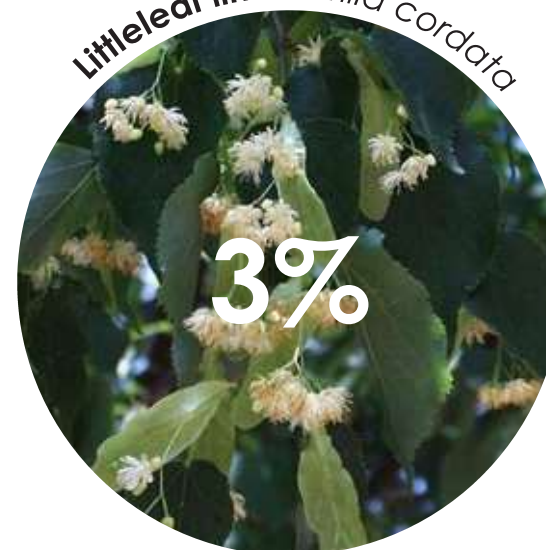


Photo credits, top: Missouri Botanical Garden

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EXPAND TREE CANOPY THROUGH CAPITAL IMPROVEMENT PROJECTS

IMPLEMENTATION STRATEGY 3.4

HIGH PRIORITY

KEY FINDINGS

Capital improvement projects in Fairfax often do not prioritize the inclusion of new trees or green infrastructure to help expand canopy cover. As a result, these projects may inadvertently contribute to the loss of existing canopy and of potential canopy growth, particularly in areas undergoing development or redevelopment. Without a strong focus on tree planting and canopy expansion in these projects, Fairfax risks missing opportunities to enhance its urban forest and meet long-term canopy goals.

THIS STRATEGY ALIGNS CLOSELY WITH STRATEGIES IN OBJECTIVE 2, WHICH IDENTIFIES POLICIES RELATING TO CAPITAL PROJECTS.



Credit to City of Fairfax

ACTIONS

1-5 YEARS

- 3.4.a: Identify key urban forestry review steps throughout capital projects** to ensure design and engineering remain compatible with street trees.
- 3.4.b: Establish tree replacement and mitigation guidelines** for capital improvement projects to ensure net canopy gain.
- 3.4.c: Collaborate with Transportation, Stormwater, and Capital Projects teams** to incorporate trees into street and infrastructure design from concept through construction.
 - i. Develop coordinated design standards for street trees in all projects including but not limited to multimodal and Complete Streets projects, including guidance for spacing, species selection, and visibility/sight-line considerations.
 - ii. Integrate tree-based green infrastructure best management practices (BMPs) tailored to various project and site types, with clearly defined performance goals and maintenance requirements.
 - iii. Ensure tree-related design is included early in planning for projects in the city's Two-Year Transportation Program and similar capital plans.
 - iv. Establish interdepartmental workflows to coordinate design, permitting, and post-construction maintenance of tree-based streetscape and green infrastructure elements.
 - v. Identify and pursue local, state, and federal funding opportunities to support tree integration in capital and green infrastructure projects.
 - vi. Ensure long-term maintenance responsibilities and costs are clearly assigned and incorporated into department work plans and operating budgets.
 - vii. Deliver targeted training for project managers, contractors, and maintenance staff on tree care, BMP implementation, and inspection in capital project and green infrastructure contexts.

STRATEGY 3.4 (CONT.)

Creating Plantable Spaces for Fairfax's Future Canopy

Expanding Fairfax's canopy requires not only planting more trees but also creating spaces where trees can thrive. Many neighborhood streets currently lack adequate planting strips—most are less than 4 feet wide, too narrow to support healthy canopy growth. This is especially true in areas with the lowest canopy cover and limited planting opportunities, such as Census Block Group 4002.

Possible Planting Areas (PPAs), identified in a previous canopy study, represent land that could potentially support trees. PPAs were derived from the vegetation and shrubs layer, with unsuitable areas (e.g., recreation fields, utility corridors, golf course fairways, airports) excluded. Within these, suitable planting areas are those where conditions—such as soil volume, spacing, and infrastructure—can realistically support long-term tree survival.

To meet canopy goals, Fairfax must not only plant trees where possible but also design streets and neighborhoods with wider planting strips and other plantable spaces. These improvements will increase tree longevity, reduce conflicts with infrastructure, and ensure equitable canopy growth across the city.

EXISTING CAPACITY AND PARTNERS

Transportation
Sustainability
Stormwater
Community Development and Planning

RESOURCE DEMANDS

Staffing Demands:
Staff time for interdepartmental coordination

Staffing Needs:
Urban Forester I (new position)
Capital budget needs for urban forest considerations

STRATEGY METRICS

Number of capital projects incorporating tree-based green infrastructure elements

Number of best management practices (BMPs) developed and adopted for tree-based stormwater management and capital projects

Number of staff trained in green infrastructure and tree care protocols

Number of trees planted through capital projects annually