

HENNEPIN COUNTY
MINNESOTA



Community forestry progress report

2022

Hennepin County Environment and Energy

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hennepin.us/trees

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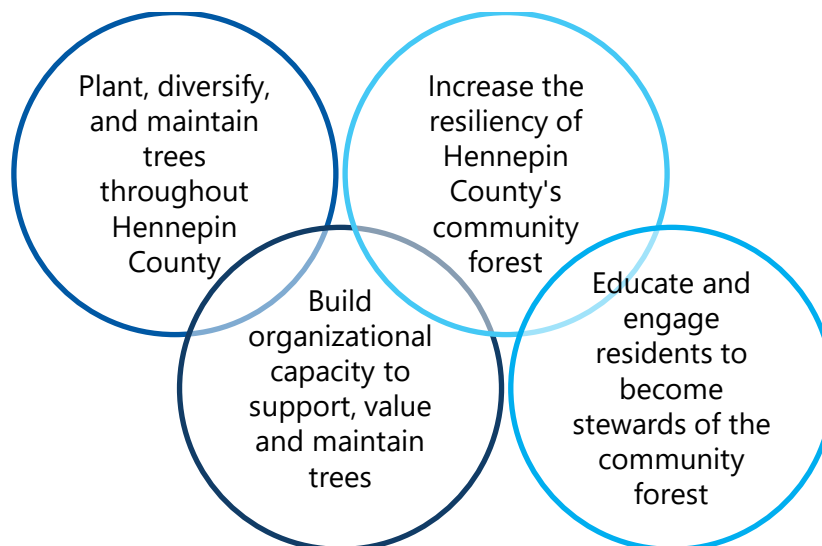
Introduction

Creating a community forestry program in the Environment and Energy Department was part of the county's expanded role in natural resource conservation. The forestry program focuses on protecting the county's tree canopy to increase the benefits that trees provide. Trees improve air quality by absorbing fine particulate matter and other pollutants and protect water by slowing down and infiltrating stormwater runoff. They also provide shade, reduce the urban heat island effect, lower stress, and increase property values.

Aspects of the county's forestry program include growing healthy trees, partnering in large-scale planting events, managing threats to the tree canopy, raising awareness about tree pests and disease, educating the public on the benefits of trees, and supporting partners through the Healthy Tree Canopy Grant program.

In 2020, Hennepin County Forestry created a Community Forestry Strategic Plan with program-specific goals and objectives in support of the Environment and Energy Department's mission and climate resiliency initiatives and the Natural Resource Strategic Plan. Additionally, Hennepin County adopted a Climate Action Plan in 2021 and set a goal to plant one million trees, as well as support existing goals to plant, diversify, and maintain trees throughout Hennepin County and increase the resiliency of the county's community forest

The following sections of this report follow the four overarching goals identified in the Community Forestry Strategic Plan, which are named below, and provide status updates for the associated objectives. Overall, many projects and efforts were successful in 2022.



Goal 1: Plant, diversify, and maintain trees throughout Hennepin County

Objective 1.1: Plant more trees on Hennepin County properties

In 2022, the Hennepin County forestry program planted 1011 gravel bed trees throughout the county. Fifty-six different species were planted to maximize tree diversity, including climactic adaptive species e.g., dawn redwood, London plane tree and Turkish hazelnut. These trees generally have a more southern range but are being planted locally as the climate is warming. Trees were planted by Hennepin County foresters, Sentencing to Service (STS) crews, and internal volunteers.

Locations	# trees planted in 2022	# trees planted since 2015
Facilities	169	1,241
Rights-of-way	407	3,363
Resident real estate services	1	27
Tax Forfeited Lots	76	76
MnDOT Rights-of-way	77	77
Regional Railroad Authority	92	113
Easements	0	452
Other	189	1012
<i>Total</i>	<i>1011</i>	<i>6,375</i>

Facilities

In 2022, Hennepin County forestry’s largest facility project was to provide 52 trees as part of the NorthPoint reconstruction. Unfortunately, construction completion was delayed until 2023. Trees will be provided upon completion. By providing these trees in-house, Hennepin County will save up to \$34,000.

The Hennepin County forestry program also was tasked with removing and replacing trees at the Medical Examiners facility. This facility contains large Pine plantations that are degraded and in need of replacement. Utilizing our in-house STS and Productive Day crews, we removed 1000’s of buckthorn trees and planted 120 trees and seedlings to fill in bare areas. Planting the forested areas will begin in 2023.

There were also 29 additional scattered replacements or plantings at the Adult Correction Facility, Plymouth Library, Rogers Library and Government Center.

When compared to an average per tree cost of \$750 charged by an outside landscaping firm, utilizing our STS crews and planting trees from the county’s gravel bed nursery saved the county’s Facility Services Department \$43,250

Rights-of-way

A total of 407 trees from the county's gravel bed nursery were planted on various sites along county roads in 2022. This includes corridor tree plantings in Brooklyn Center, New Hope, Plymouth. Many trees planted in 2022 were in high priority planting locations (see map below). The image depicts the 2022 projects on a color-coded base map of priority planting areas. This base map was developed through a [geographic-information-system \(GIS\) analysis](#) of existing tree canopy and a weighted prioritization of areas for tree planting initiatives based on environmental, population, income, employment, education, housing, and health factors.

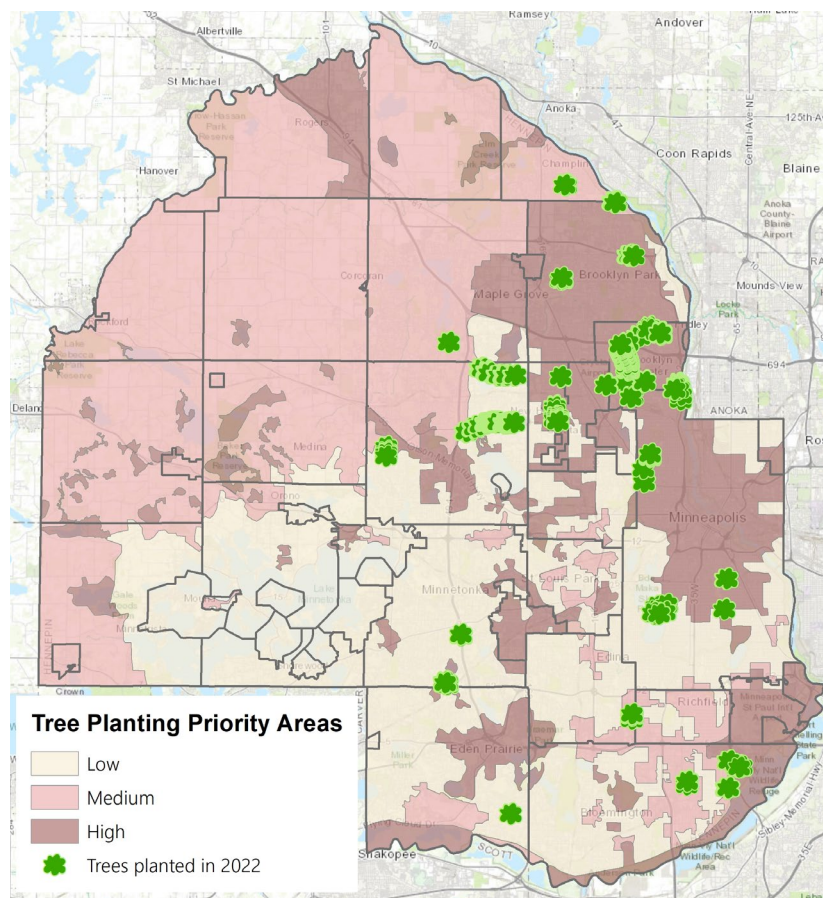


Figure 1 - Sites planted by Hennepin County foresters in 2022, 407 of which were in rights-of-way

One of these sites in Brooklyn Center was a planned road reconstruction with landscape improvements that included planting 138 trees. Using the gravel bed trees resulted in large cost savings compared to purchasing and installing trees with a contractor. When compared to an average per tree cost of \$750 charged by an outside landscaping firm, planting trees from the county's gravel bed nursery saved the county's Transportation division \$89,700.

For the first time in 2022, foresters worked to receive permission to plant on underutilized Minnesota Department of Transportation (MnDOT) rights-of-way in high priority planting areas. Seventy-seven trees were planted on these sites in 2022. Planting on MnDOT rights-of-way seems to be a very promising area to expand the county's ability to increase diverse canopy in high-priority areas where we lack our own planting sites.

The remaining county right-of-way sites were chosen to address specific corridor needs, including replacing ash trees that were removed proactively because of the threat of Emerald ash borer. Since these plantings were proactive and not part of a planned reconstruction, there is no immediate budget savings. But doing this now eliminates the need for future plantings and the associated expenses.

Objective 1.2: Enhance gravel bed nursery operations

The gravel bed performed as expected in 2022. The root systems were vigorous, and the trees thrived. We had no issues with installation nor removal of the trees. We recommend a gravel bed expansion in 2023.



Objective 1.3: Expand programing to increase tree canopy cover

Tree Sale

After a successful pilot revival of its pilot in 2021, county staff expanded the annual tree sale program in the spring of 2022. As part of its role as a Soil & Water Conservation District (SWCD), the county sold nearly 3,000 seedlings to residents. Those who purchased the seedlings indicated that they were interested in planting the trees for the purposes of visual screening, creating or enhancing wildlife habitat, and reforestation. Due to the popularity of this program, Hennepin County is increasing the scope of the tree sale in 2023.

Goal 2: Increase the resiliency of Hennepin County's community forest

Objective 2.1: Provide more robust data and information to help with tree management efforts, planning, and prioritization

Community tree inventories

In 2018, Hennepin County created a free tree inventory application that allows any entity within the county to collect and store tree inventory data. This resource can help smaller cities and organizations better understand their tree resources and maintenance needs to help prioritize work and reduce the overall costs. Tree inventories are the first step for organizations to understand their current canopy and develop canopy management strategies. It is important for communities to understand ash tree locations to help prioritize emerald ash borer management strategies and to diversify their canopy.

In 2021, St. Anthony utilized the tree inventory application to collect tree inventory data. The city of St. Anthony partnered with Tree Trust's Youth Build crews to collect data points on 832 trees. An i-Tree report was completed and determined that the structural value of the trees inventoried is \$941,000. The structural value is the value of the trees based on the physical resource itself or the cost of replacing a tree with a similar tree. The tree inventory application continues to be of interest to Healthy Tree Canopy Grantees and a resource that can help cities improve their forestry data. St. Anthony continued updating and adding to this dataset in 2022.

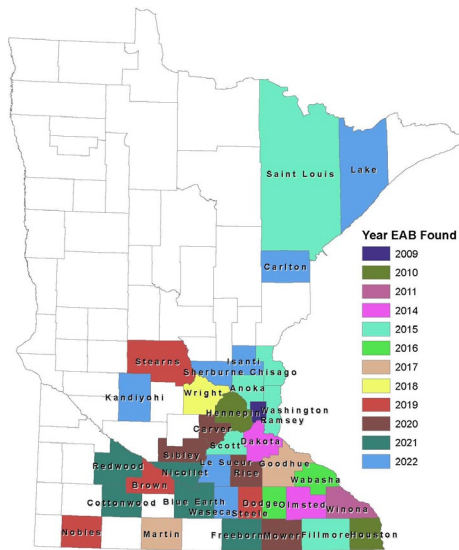


St. Anthony Village tree inventory

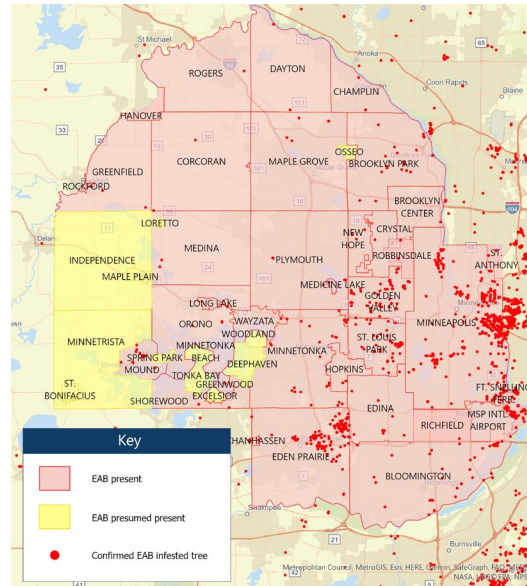
Objective 2.2: Implement emerald ash borer preparedness actions

Emerald ash borer (EAB), an invasive tree pest from Asia that attacks and kills ash trees, has continued to spread in 2022. In Minnesota, infestations have been confirmed in 38 counties. All confirmed counties are under quarantine, which prohibits ash tree waste from being transported outside of quarantined areas.

The Minnesota Department of Agriculture considers all of Hennepin County to be within the “generally infested area” of the state. There are 33 cities that have confirmed cases of emerald ash borer, and the spread within these cities continues to intensify.



Confirmed EAB by Minnesota county



Confirmed EAB by city in Hennepin County

Hennepin County foresters continue to update the inventory of ash trees on county property. As of December 2022, there are 1,483 existing ash trees within the right-of-way along county roads. Transportation Operations assisted with removal of infected trees during the 2021 to 2022 winter. Proactive removal of infected trees before they become hazardous is necessary to reduce the overall removal costs and eliminate threats along county roadways.

Objective 2.3: Continue the Healthy Tree Canopy Grant Program

In September 2022, the Hennepin County Board approved twenty Healthy Tree Canopy Grant projects. The Healthy Tree Canopy Grant program promotes a more diverse, resilient, and equitable tree canopy, mitigates the effects of tree pests and pathogens on the community forest, and facilitates tree canopy improvements at affordable housing developments and in other areas of need. Grants are available to cities, affordable housing providers, schools, and nonprofit organizations and the tree planting prioritization map is used as a tool to help select grantees.

The 2022 approved grants include seven cities, four affordable housing providers, and nine schools and nonprofits. Fourteen of the twenty recommended grants are located entirely within moderate and high priority planting areas or contain canopy deficient areas.

Additionally, eighteen projects from previous grant rounds were completed in 2022. Many grantees were creative with making pandemic-appropriate changes, and forestry staff were flexible with granting extensions or assisting with these adaptations.

Objective 2.4: Protect and increase trees on Hennepin County property

Hennepin County Forestry is taking a proactive approach to protect the existing canopy on Hennepin County property. As we know, protecting the canopy that already exists and produces benefits is the preferred practice to removing with or without replacement in construction projects.

In 2021, Hennepin County Forestry created a contract to have Davey Resource Group produce a tree preservation plan that could be used as an ordinance to protect trees on county property. There are multiple facets to the ordinance and how trees will be protected. These include construction practices that eliminate compaction on adjacent trees, limiting trees that can be removed, replacement requirements and outlining best practices for all Hennepin County trees. The ordinance is expected to be completed in 2023.



Tree protection at new Medical Examiners facility during construction

Goal 3: Build organizational capacity to support, value, and maintain trees

Objective 3.1: Foster partnerships across Hennepin County lines of business

Brooklyn Blvd Phase 2 planting

In fall of 2022, 138 trees were planted along a section of Brooklyn Blvd in Brooklyn Center as a part of a county led tree planting project. These trees were planted by Environment and Energy staff with the help of Sentence to Serve (STS) crews. The forestry team was instrumental in the design process and will be responsible for watering and maintenance for the next two years. Those trees, if planted by an outside contractor, would cost \$103,500. These same trees planted by internal staff and utilizing the County's community gravel bed cost only \$13,800, resulting in a cost savings of \$89,700 on this project alone.

Young tree pruning

Planting trees comes with the necessary maintenance of those trees. The cost of maintaining large trees with defects can be quite expensive. Young tree pruning is one of the easiest, and most neglected, practices in tree maintenance. Pruning trees for form when they are young allows for improved structure while the branches are small and leaves smaller pruning wounds. Hennepin County Forestry offers this service and keeps detailed files on the recently planted trees along roadways and facilities. Working with facility or road managers, after the first year or two of growing in the landscape, foresters will then go out and do the young tree pruning on the Hennepin County owned properties. This continued practice will enable these trees to be free of some common defects that lead to tree issues and high costs when older. This will also result in lower tree mortality from branch tear-outs and lower pruning costs.

Objective 3.2: Protect mature trees

Facility large tree pruning

The facility tree pruning initiative was created in 2019 to initially prune all trees at county facilities and establish a schedule for regular ongoing pruning. A pruning schedule will help spread future pruning costs over a four to five-year period.

With the trees pruned, there will be fewer instances of limb breakage. This strategic pruning promotes tree health and public safety while reducing the risk of catastrophic tree loss and debris on the grounds.

The initial pruning was completed in 2022 and the pruning cycle will begin again in November 2023.

Diseased tree inventory

Every August, Hennepin County foresters inventory diseased trees within the rights-of-way along county roads for Transportation Operations. A full survey was conducted in 2022, which identified 47 high priority disease and hazard trees for removal. Among these trees were 11 Dutch elm disease infested trees, 34 emerald ash borer infested trees, and two trees marked as otherwise hazardous. Of the 47 trees, four were referred to contractors for removal, 41 were referred to operations for removal, and two were referred to STS for removal.

In fall of 2022, efforts began to clean up the diseased tree inventory to reflect current conditions. This consists of field truthing the presence of select trees to verify removal status. This process will be ongoing but has helped to improve the accuracy of the data contained in our tree inventory.

Goal 4: Educate and engage residents to become stewards of the community forest

Objective 4.1: Educate and engage volunteers

Volunteer tree planting

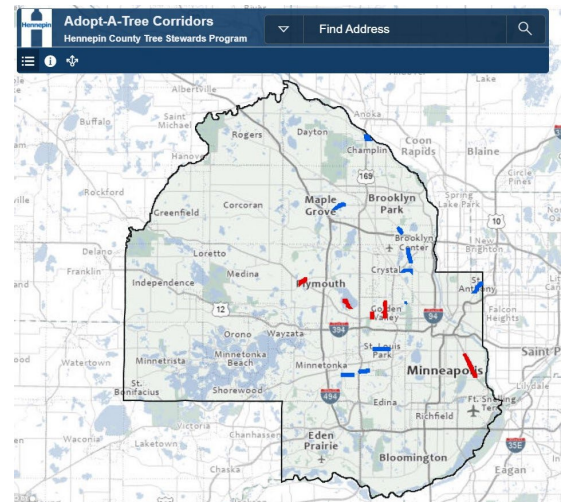
Due to county-led activities being restricted due to COVID-19 variants, Hennepin County's forestry program used its resources to signal boost, contribute to, and assist with planning partners' volunteer tree planting events. The Four Sisters Farm planting was held in the spring in Minneapolis along the Midtown Greenway in collaboration with the Hennepin County Railroad Authority, and the Native American Community Development Institute.



Volunteers at Four Sisters Farm planting

Adopt-a-Tree program

Hennepin County Tree Stewards were able to contribute to their communities and earn volunteer hours by participating in the Adopt-a-Tree program. Volunteers sign up to adopt a corridor with a recent tree planting (similar to the county's Adopt-a-Highway program), and walk the corridor monthly, using the application to alert forestry staff of any trees needing attention. The program's purpose is threefold: engaging Hennepin County Tree Stewards in a way that is safe and socially distant, easing the burden on county staff to monitor trees across the county, and to strengthen relationships with partnering communities.



Objective 4.2: Educate and engage youth

Through the Healthy Tree Canopy Grant, forestry staff partnered with schools to educate youth throughout the county. Grant partners utilized staff as a resource for technical knowledge as well as guidance on designing educational programs. Several schools will work with county staff to develop Tree Trek programs to create long-lasting, passive education and engagement opportunities in 2023.



Example of Tree Trek educational signage

Objective 4.3: Educate and engage residents

Hennepin County foresters worked with the Minneapolis Downtown Council to participate in the EPIC Family Fun Day at Target Field Station, guiding participants in a photographic leaf printing activity and teaching residents about tree physiology. In addition, forestry staff provided over 185 education hours at community volunteer events hosted by Four Sisters Farm, City of New Hope, and Project Sweetie Pie.

Objective 4.4: Foster effective partnerships

Partnerships are an important part of the Hennepin County Forestry program. These partnerships allow for relationship building across government entities and the community at large.

Currently, the Foresters are working with the Minnesota Pollution Control Agency to act as either the program lead or mentors for this year's Minnesota GreenCorps cohort. In doing this, the foresters build relationships with the service members and their host sites.

Forestry also continues to hold board seats on the Minnesota Shade Tree Advisory Committee and the Minnesota Shade Tree Short Course. Both allow for the Hennepin County Forestry's voice to be heard in the future path for Minnesota's urban forestry and educational opportunities.

Contact information

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