



**Minneapolis Urban Forest
Sustainability Report**

**Forestry Department
Minneapolis Park & Recreation Board**

2017

Visit www.minneapolisparcs.org/trees to see a nice two minute video about the data in this report.

**Philip Potyondy
Ralph Sievert**

October 20, 2017



“We Help Trees!”

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URBAN FOREST SUSTAINABILITY REPORT

FORESTRY DEPARTMENT - MINNEAPOLIS PARK & RECREATION BOARD

URBAN FOREST COMPOSITION

Minneapolis Park & Recreation Board (MPRB) - Forestry Department cares for public trees within Minneapolis and across Minneapolis Park Property. This includes parkland and woodland trees across Minneapolis Parks. The MPRB Forestry Department also cares for all of the street trees within the right-of-ways that line Minneapolis streets across the city. Street trees are in front of people's homes and businesses all across our great city.

~200,000 Street Trees along ~1100 miles of city streets

The length of tree-lined streets that MPRB Forestry Department maintains is equivalent to about the distance from Minneapolis to New York City. It would take about 20 hours (if you could travel at freeway speeds) to travel from one end to the other of this beautiful Minneapolis tree-lined streetscape. That would be a line of trees on both sides of the street the entire route to New York City.

*Data from MPRB Tree Inventory Database 2017

~55,000 Parkland Trees across ~4000 acres of Parkland spaces

*Data from MPRB Tree Inventory Database 2017

~345,000 Woodland Trees throughout ~1300 acres of land based natural areas.

*Tree count data for woodland areas is a rough estimation and includes trees in all size categories, including small seedlings.

Within the Minneapolis Public Urban Forest there is a huge amount of biological diversity of trees.

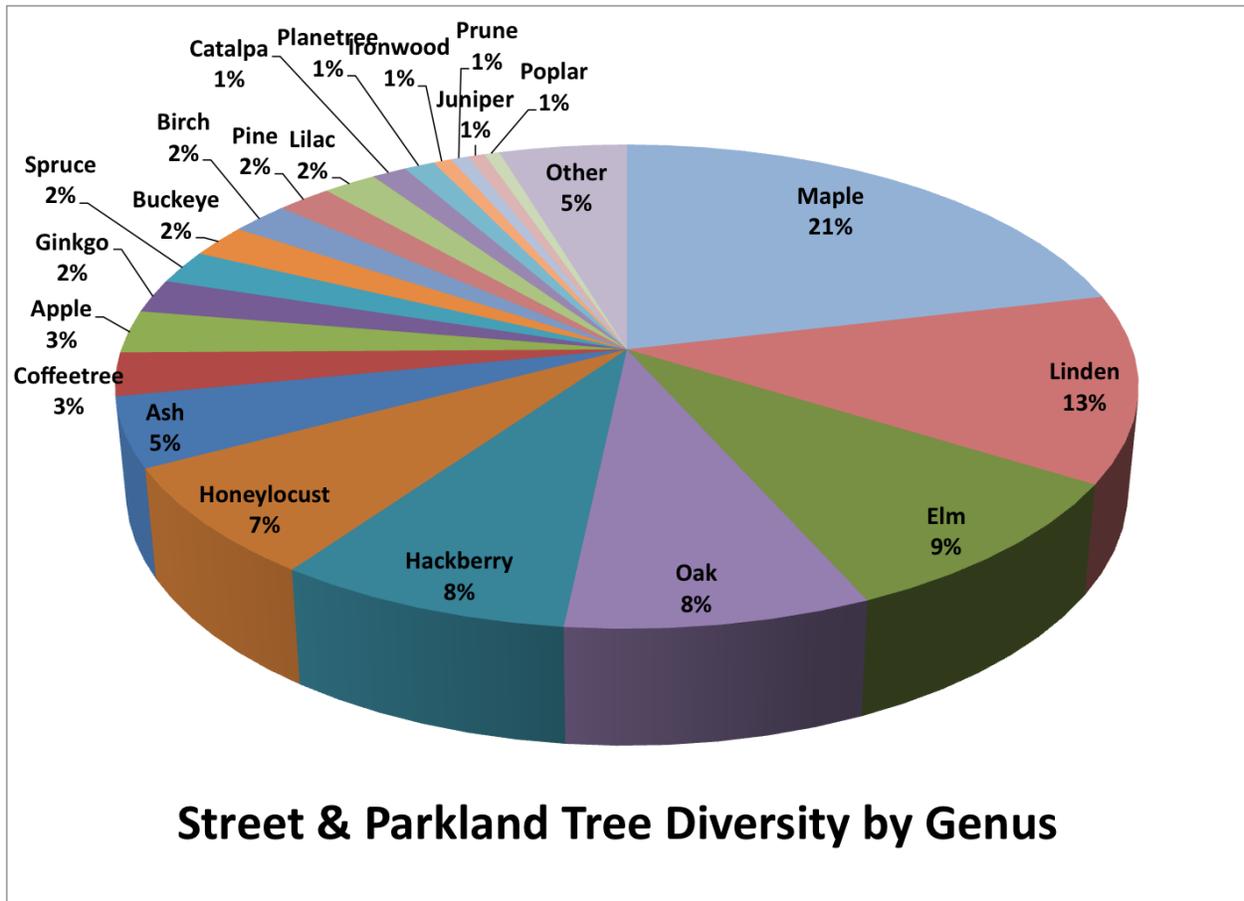
Broken down by taxonomic ranking Our Minneapolis Urban Forest contains:

29 distinct botanical Families (example: Fagaceae / Beech Family)

70 distinct botanical Genera (example: Quercus / Oak Genus)

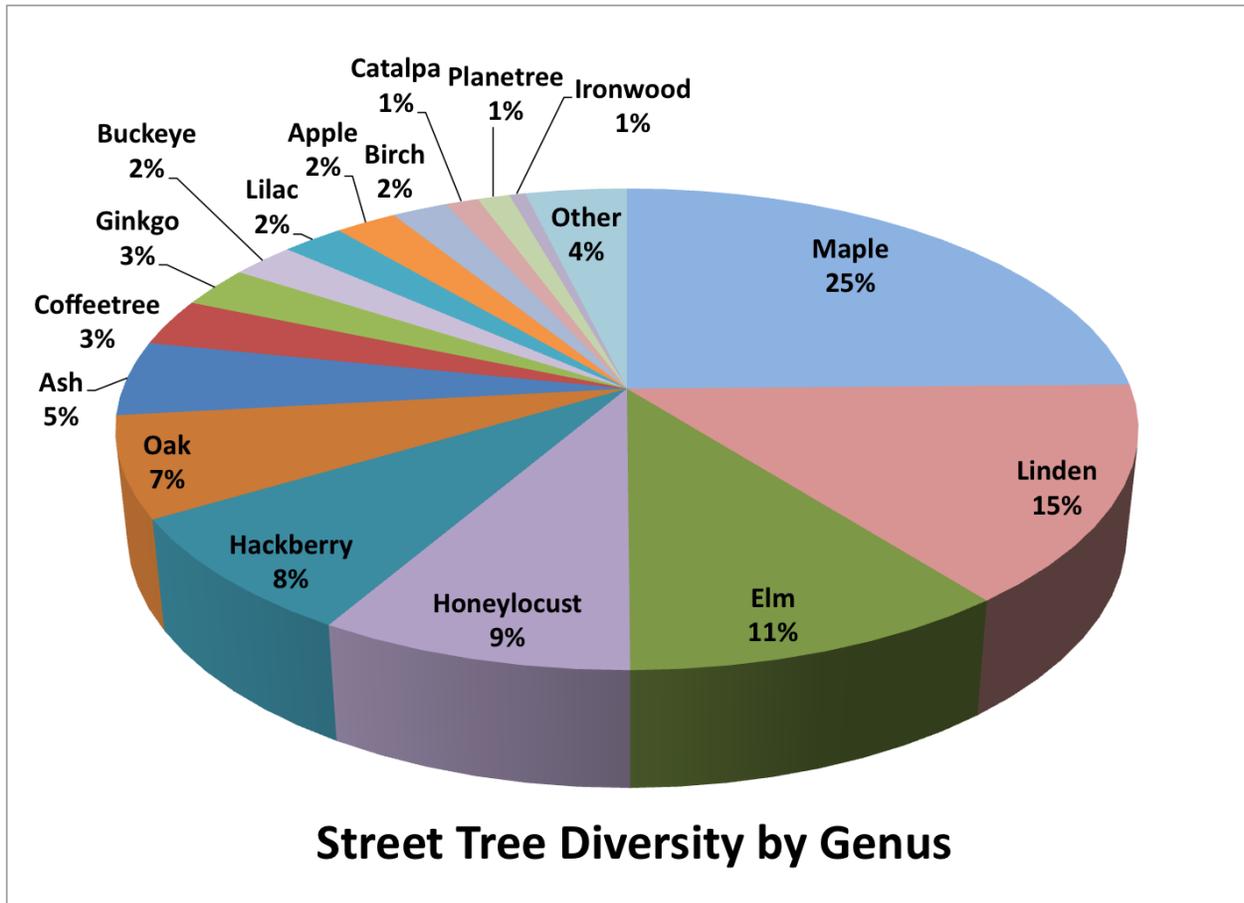
365 different types and cultivars (example: Quercus rubra / Northern Red Oak)

COMBINED STREET TREE & PARKLAND TREE DIVERSITY (BY GENUS) - does not include Woodland Trees



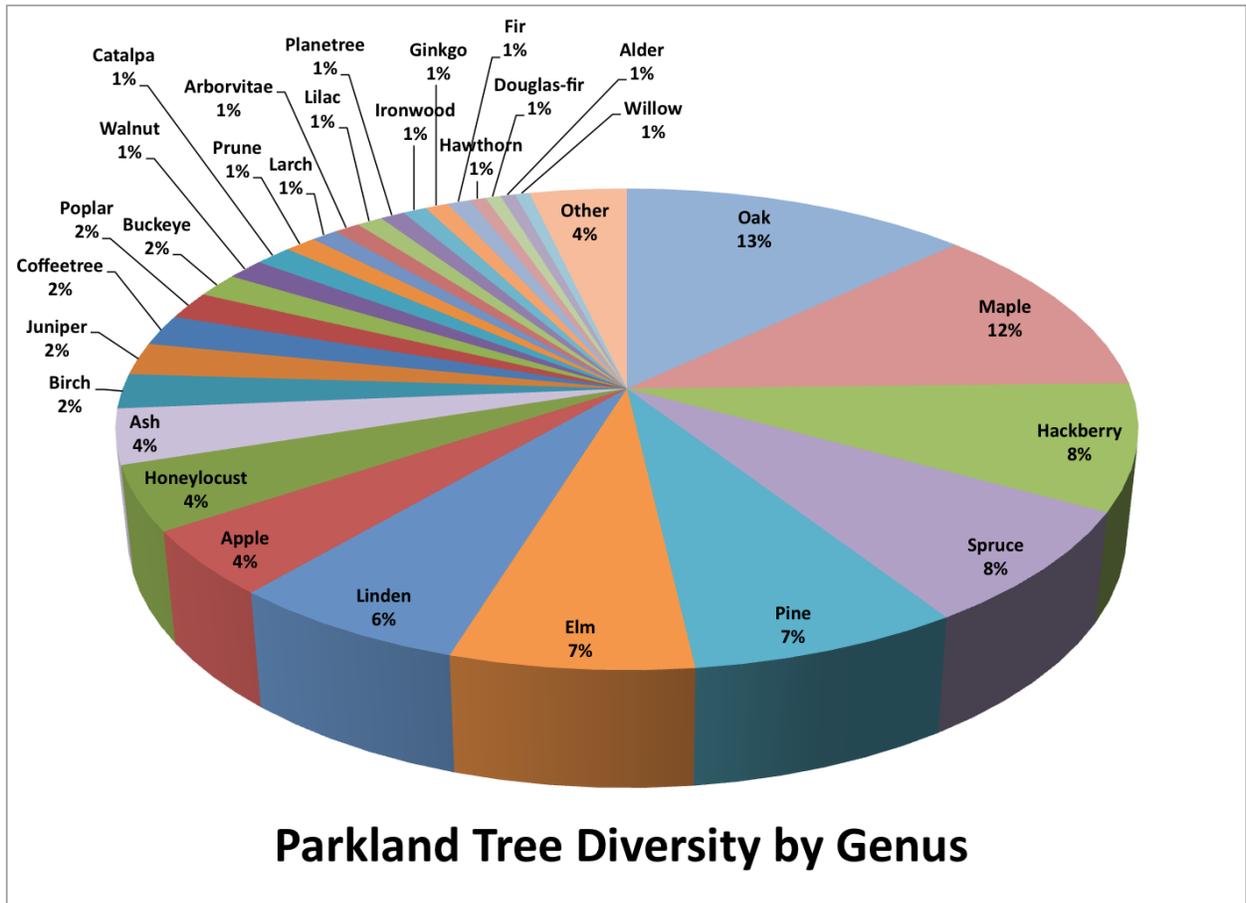
*Data from MPRB Tree Inventory Database 2017

STREET TREE DIVERSITY (BY GENUS)



*Data from MPRB Tree Inventory Database 2017

PARKLAND TREE DIVERSITY (BY GENUS)



*Data from MPRB Tree Inventory Database 2017

WOODLANDS

There are a variety of different types of woodlands within natural areas that are managed by the MPRB Forestry Department. These different types of woodlands can be categorized based on the Minnesota Department of Natural Resources Native Plant Community Classification. According to this system of classification we manage more than a dozen different Native Plant Communities:

Cliff / Talus System

Southern Dry Cliff

CTs12a: Dry Sandstone Cliff (Southern)

Floodplain Forest System

Southern Terrace Forest

FFs59a: Silver Maple - Green Ash Cottonwood

or

FFs59c: Elm - Ash - Basswood Terrace Forest

Southern Floodplain Forest

FFs68a: Silver Maple - (Virginia Creeper) Floodplain Forest

Forested Rich Peatland System

Southern Rich Conifer Swamp

FPS63a: Tamarack Swamp (Southern)

Mesic Hardwood Forest System

Southern Dry-Mesic Oak Forest

MHs37a: Red Oak - White Oak Forest

MHs37b: Red Oak - White Oak - (Sugar Maple) Forest

Southern Mesic Oak-Basswood Forest

MHs38c: Red Oak - Sugar Maple - Basswood - (Bitternut Hickory) Forest

Southern Wet-Mesic Maple-Basswood Forest

MHs39a: Sugar Maple - Basswood - (Bitternut Hickory) Forest

MHs39c: Sugar Maple Forest (Big Woods)

Southern Wet-Mesic Hardwood Forest

MHs49a: Elm - Basswood - Black Ash - (Hackberry) Forest

Upland Prairie System

Southern Mesic Savanna

UPs24a: Mesic Oak Savanna (Southern)

Wet Forest System

Southern Wet Ash Swamp

WFs57a: Black Ash - (Red Maple) Seepage Swamp

URBAN FOREST BENEFITS

Trees do all sorts of great stuff for communities of people living and recreating in urban settings. We depend on trees for the myriad of benefits that their leafy canopies and woody branches provide. Below are just a few of the ways that trees are making life better.

Trees protect our rivers and streams and provide us with clean water.

Trees help reduce both heating and cooling energy consumption.

Trees provide goods and services that we depend on every day.

Trees help address a changing climate.

Trees provide shade.

Trees clean the air.

Trees reduce the urban heat island effect.

Trees lift our spirits and spark imagination.

People feel calmer when they are near trees, which significantly reduces stress, fatigue, and can even help people recover more quickly from illness or surgery.

Street trees slow traffic.

Green spaces in urban areas help reduce crime.

Trees provide clean, sustainable energy.

Trees reduce noise and glare.

Benefits from trees help to improve health outcomes for vulnerable populations (such as children, older adults, and those living in poverty).

Trees provide privacy, enhance scenic views, and accentuate architecture.

Trees provide food and shelter for people and animals.

Quality of life increases in a community when there are natural elements and wildlife.

THE FINANCIAL VALUE OF PUBLIC TREES (TANGIBLE ECOSYSTEM SERVICES)

The results reported in this section calculated in October of 2017 by Minneapolis Park & Recreation Board - Forestry Department Staff with recent Street Tree and Parkland Tree data from Minneapolis Park & Recreation Board's Tree Inventory Database. Analyses were performed using Geographic Information System software and the United States Department of Agriculture - Forest Service's iTree Suite. iTree is a state-of-the-art, peer-reviewed software suite that provides urban and rural forestry analysis and benefit assessment tools. Tree Benefit explanation text is from <http://www.treebenefits.com/>

TOTAL ECOSYSTEM SERVICE BENEFITS

Tree = \$100/year

On average, each public tree in Minneapolis provides about \$100 in ecosystem services every year (actual = \$94.46 / tree).

Data in this section only includes benefits from Street Trees and Parkland Trees. There are hundreds of thousands of benefit-providing public trees in woodlands as well. In this section, the term "Tree" or "Public Trees" is specifically referring to only Street Trees and Parkland Trees.

The Public Tree resource in Minneapolis is a valuable asset providing \$19.5 million in annual benefits.

People in Minneapolis are receiving a substantial return on investment.

\$1.80 in benefits for every \$1 spent on tree care

ENERGY

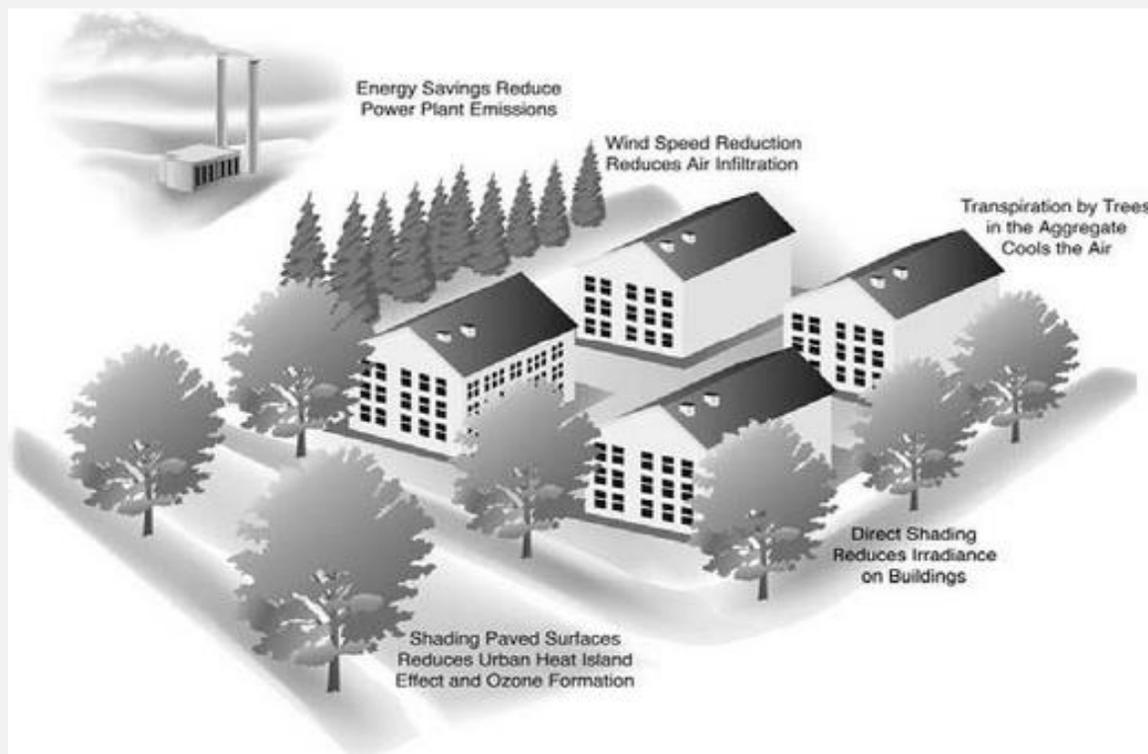
Public Trees in the Minneapolis save \$5.8 million or \$28 per tree in annual energy savings. This energy savings includes 27,391 MWh of annual summer cooling electricity savings valued at \$2.1 million, and an annual natural gas winter heating savings of 3,757,222 Therms valued at \$3.7 million.

HOW DO TREES SAVE ENERGY?

Trees modify climate and conserve building energy use in three principal ways (see figure below):

- Shading reduces the amount of heat absorbed and stored by buildings.
- Evapotranspiration converts liquid water to water vapor and cools the air by using solar energy that would otherwise result in heating of the air.
- Tree canopies slow down winds thereby reducing the amount of heat lost from a home, especially where conductivity is high (e.g., glass windows).

Strategically placed trees can increase home energy efficiency. In summer, trees shading east and west walls and windows keep buildings cooler. In winter, allowing the sun to strike the southern side of a building, especially the windows, can warm interior spaces.



Source: www.treebenefits.com/

STORMWATER

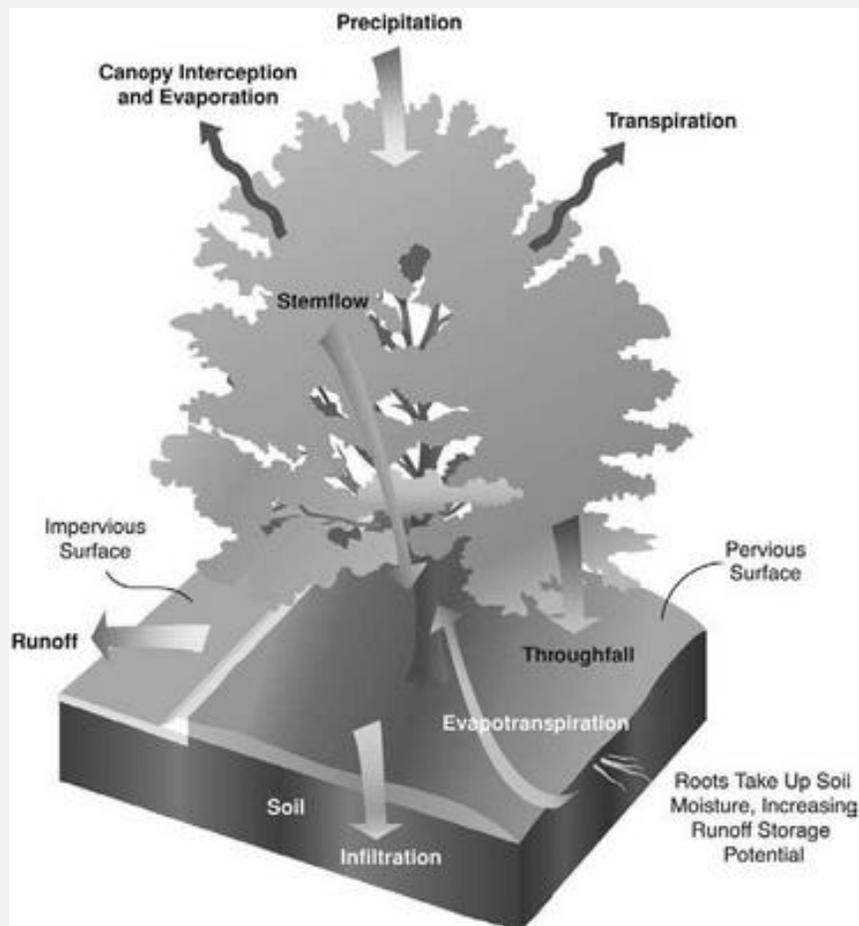
Public Trees in Minneapolis intercept 216.6 million gallons of rainfall annually, which reduces stormwater runoff. This annual mitigation is valued at \$5.9 million or \$28 per tree.

HOW DO TREES REDUCE STORMWATER RUNOFF?

Urban stormwater runoff (or "non-point source pollution") washes chemicals (oil, gasoline, salts, etc.) and litter from surfaces such as roadways and parking lots into streams, wetlands, rivers and oceans. The more impervious the surface (e.g., concrete, asphalt, rooftops), the more quickly pollutants are washed into our community waterways. This process can adversely affect drinking water, aquatic life and the health of our entire ecosystem.

Trees act as mini-reservoirs, controlling runoff at the source. Trees reduce runoff by:

- Intercepting and holding rain on leaves, branches, and bark
- Increasing infiltration and storage of rainwater through the tree's root system
- Reducing soil erosion by slowing rainfall before it strikes the soil



Source: www.treebenefits.com/

AIR QUALITY

Public Trees in Minneapolis improve air quality by collecting pollutants deposited on tree surfaces and by reducing emissions from power plants due to electricity savings. A total of 332,099 lbs of pollutants are kept out of our breathing air each year by Minneapolis Public Trees. This annual air quality improvement is valued at \$932,579 or \$4.52 per tree.

Deposition of pollutants on Minneapolis Public Tree surfaces annually removes the following to improve Minneapolis air quality:

30,338 lbs of Ozone (O₃)

5,162 lbs of Nitrogen Dioxide (NO₂)

1,471 lbs of Sulfur Dioxide (SO₂)

16,341 lbs of Particulate Matter (PM₁₀)

Annual deposition benefits are valued at \$168,008.

The following list of pollutants are annually avoided as a result of Public Trees in Minneapolis through electrical savings that reduced emissions from power plants:

30,882 lbs of Nitrogen Dioxide (NO₂)

19,053 lbs of Particulate Matter (PM₁₀)

18,164 lbs of Volatile Organic Compounds (VOCs)

124,191 lbs of Sulfur Dioxide (SO₂)

Annual avoided pollution benefits are valued at \$815,204.

Certain trees also have the potential to negatively effect air quality by producing Biogenic Volatile Organic Compound (BVOC) emissions. Minneapolis Public Trees annually produce 13,502 lbs of BVOC emissions at a calculated cost of \$50,634.

HOW DO TREES IMPROVE AIR QUALITY?

Air pollution is a serious health threat that causes asthma, coughing, headaches, respiratory and heart disease, and cancer. Over 150 million people in the U.S. live in areas where ozone levels violate federal air quality standards; more than 100 million people in the U.S. are impacted when dust and other particulate levels are considered “unhealthy.” We now know that the urban forest can mitigate the health effects of pollution by:

- Absorbing pollutants like ozone, nitrogen dioxide and sulfur dioxide through leaves
- Intercepting particulate matter like dust, ash and smoke
- Releasing oxygen through photosynthesis
- Lowering air temperatures which reduces the production of ozone
- Reducing energy use and subsequent pollutant emissions from power plants

It should be noted that trees themselves emit biogenic volatile organic compounds (BVOCs) that can contribute to ground-level ozone production. This may negate the positive impact the tree has on ozone mitigation for some high emitting species (e.g. Willow, Oak, or Sweetgum). However, the sum total of the tree’s environmental benefits always outweighs this negative.

Source: www.treebenefits.com/

CARBON DIOXIDE

ANNUAL CO₂

Minneapolis Public Trees annually reduces 91.9 million pounds of Carbon Dioxide (CO₂) from the atmosphere, valued at \$688,897. or \$3.34 per tree. Of this overall reduction in CO₂, 49.3 million pounds of Carbon Dioxide, valued at \$369,550. are annually sequestered by Minneapolis Public Trees. Annually, 3.1 million pounds of Carbon Dioxide is also released by Minneapolis Public Trees when trees die and decompose. An additional 292,040 lbs of Carbon Dioxide are released through Urban Forest Maintenance. The combined cost of these releases is estimated to be \$25,240. Minneapolis Public Trees also reduce atmospheric Carbon Dioxide by avoiding 5.9 millions pounds of emissions from power plants via energy savings, valued at \$344,588.

STORED CO₂

Over the entire life of Minneapolis Public Trees 637.7 million pounds of Carbon Dioxide will be sequestered or stored in the trees, with a value of \$4.8 million or \$23.18 per tree.

HOW DO TREES REDUCE ATMOSPHERIC CARBON?

How significant is this number? Most car owners of an "average" car (mid-sized sedan) drive 12,000 miles generating about 11,000 pounds of CO₂ every year. A flight from New York to Los Angeles adds 1,400 pounds of CO₂ per passenger. Trees can have an impact by reducing atmospheric carbon in two primary ways:

- They sequester ("lock up") CO₂ in their roots, trunks, stems and leaves while they grow, and in wood products after they are harvested.
- Trees near buildings can reduce heating and air conditioning demands, thereby reducing emissions associated with power production.

Combating climate change will take a worldwide, multifaceted approach, but by planting a tree in a strategic location, driving fewer miles, or replacing business trips with conference calls, it's easy to see how we can each reduce our individual carbon "footprints."

Source: www.treebenefits.com/

PROPERTY VALUE

Minneapolis Public Trees increase annual property values by \$6.2 million citywide or \$30.22 per tree.

HOW DO TREES INCREASE PROPERTY VALUE?

Trees in front of single-family homes have a greater property value benefit than those in front of multi-family homes, parks or commercial properties. Real estate agents have long known that trees can increase the "curb appeal" of properties thereby increasing sale prices. Research has verified this by showing that homebuyers are willing to pay more for properties with ample versus few or no trees.

This model uses a tree's Leaf Surface Area (LSA) to determine increases in property values. That's a researcher's way of saying that a home with more trees (and more LSA) tends to have a higher value than one with fewer trees (and lower LSA). The values shown are annual and accumulate incrementally over time because each tree typically adds more leaf surface area each growing season. The amount of that increase depends on the type of tree – some add more, some less.

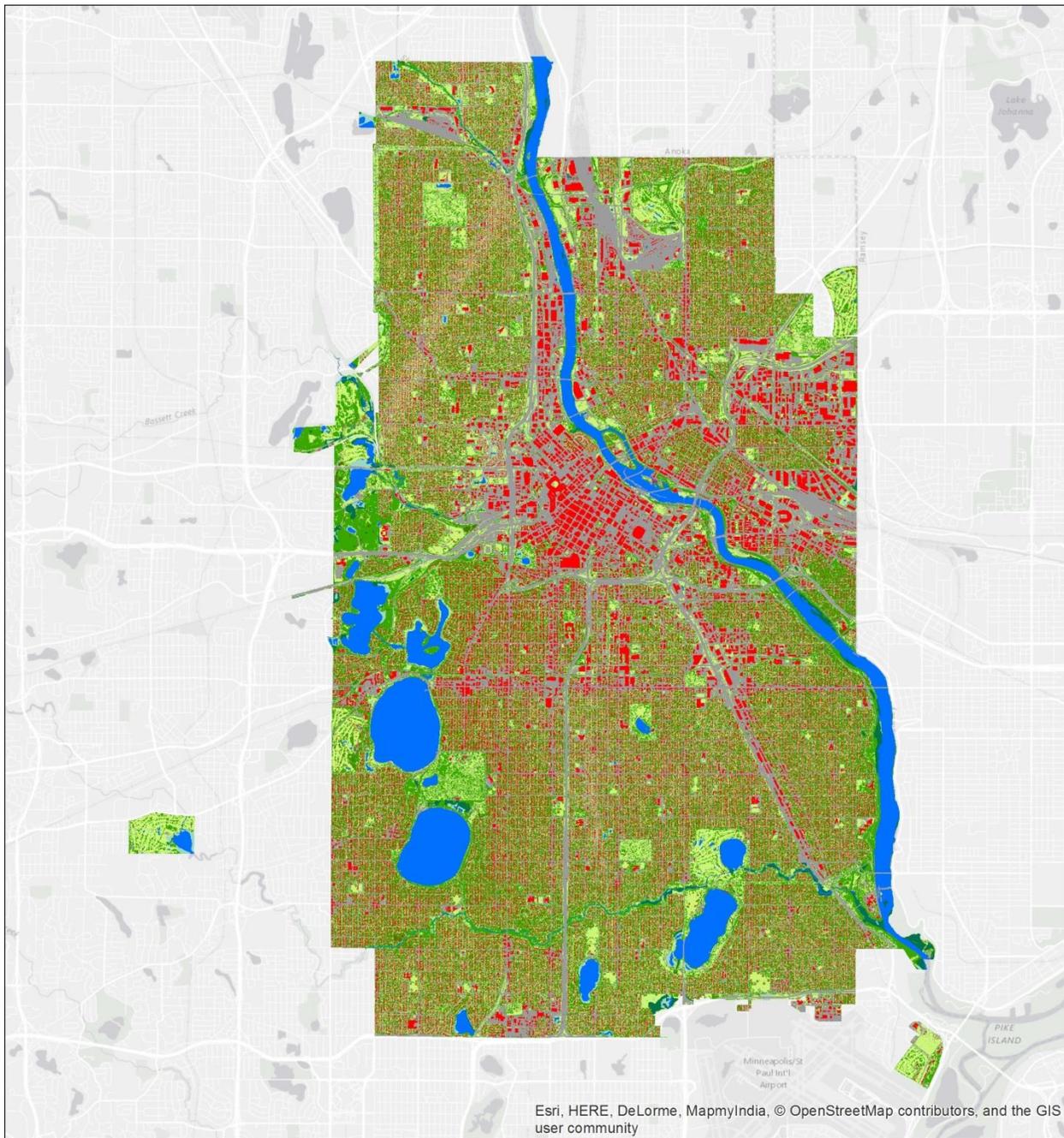
Source: www.treebenefits.com/

URBAN TREE CANOPY

The Urban Tree Canopy (UTC) within the municipal boundary of Minneapolis was 29.8% as of 2015. This is a measure of the aggregated area of tree canopy divided by the total area of the city. There is potential to add 21.0% to this canopy if all other vegetated space was converted to tree canopy.

This data is from the 2015 Twin Cities Metropolitan Area Urban Tree Canopy Assessment, which was completed in 2017. <http://hdl.handle.net/11299/183470>

This analysis covers all trees within the municipal boundary of Minneapolis, which includes trees on private property in addition to public street trees, parkland trees, and woodland trees. Minneapolis Park & Recreation Board manages land outside of the municipal boundary of Minneapolis and does not manage trees on private property. Additional analysis would need to be conducted to determine the amount of Urban Tree Canopy that is managed by the MPRB Forestry Department. Even with well-defined property boundaries and a very fine grained analysis this is a nearly impossible task to accomplish, since trees often reach over property boundaries.



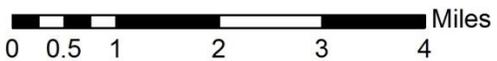
Legend

- | | |
|--|--|
|  Deciduous Tree Canopy |  Lakes/Ponds |
|  Coniferous Tree Canopy |  River |
|  Forested/Shrub Wetland |  Roads/Paved Surfaces |
|  Grass/Shrub |  Bare Soil |
|  Emergent Wetland |  Buildings |

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TREE PLANTING

The two main guiding principles that guide MPRB Forestry Department's tree selection planting decisions are Canopy and Diversity. Our arborists and foresters reference Tree Planting Guidelines that prescriptively ensures we are achieving our goals of maximizing Canopy and increasing Diversity.

STANDARD SPECIFICATIONS

These principles are so important to the long-term sustainability of the Urban Forest that we have instituted them into the City of Minneapolis Standard Specifications (<http://www.ci.minneapolis.mn.us/publicworks/plates/index.htm>). This ensures that whether our staff, other municipal staff, or developers are making the decisions in the public realm that we are all following the same model for success.

CANOPY

Urban Tree Canopy is the measure of tree coverage above our community. The more canopy that there is, the more urban forest benefits are provided. Trees that grow to be larger at maturity and longer lived provide exponentially more urban forest benefits than smaller short-lived trees.

We choose the largest growing trees for the available amount of above and below ground growing space. Trees are planted with clearance to other public infrastructure to avoid future green versus grey conflicts. We also consider mature crown spread when placing trees in the landscape to achieve canopy closure and maximum canopy coverage.

DIVERSITY

Planting a diverse mix of trees now is how we make sure there is a healthy forest for future generations to enjoy. Prescriptively choosing trees from multiple species, genera, and families is our path to achieving urban forest resilience.

Typical urban forest pests impact a group of related trees. By having multiple different types of trees, the forest is less susceptible to a single pest. We are bound to lose trees to future forest pests, but our goal is to reduce the overall losses and disperse those losses over a greater area, so that the impact is less dramatic and reasonable to manage.

NEIGHBORHOOD

We review our tree inventory data to determine the current diversity of each neighborhood. If any genus makes up more than 10% of the overall public tree population we do not plant any more trees of that type.

BLOCK

Considering the street trees on a block segment, we strive for 3-5 different genera to be represented, with no more than 5 individual trees from any one genus. We also make sure there are no more than 10 individual trees that are the preferred host of Asian Longhorned Beetle. These block scale guidelines ensure a diverse mix of trees on every street in the city and greatly reduce the chances of losing all of one street segment to the same pest.

TREE PLANTING TYPOLOGIES

To help guide development in the public realm to ensure the best possible growing conditions for trees, we have developed and prioritized Tree Planting Typologies. These are applicable whether improvements are being made in typical residential areas or dense highly built areas. The following three images from the City of Minneapolis Downtown Public Realm Framework Plan illustrate the three Tree Planting Typologies and the preferred prioritization.

CONTINUOUS OPEN BOULEVARD - HIGHEST PRIORITY FOR MINNEAPOLIS STREETSAPES



OPEN PLANTING SPACES - SECOND PRIORITY FOR MINNEAPOLIS STREETSCAPES

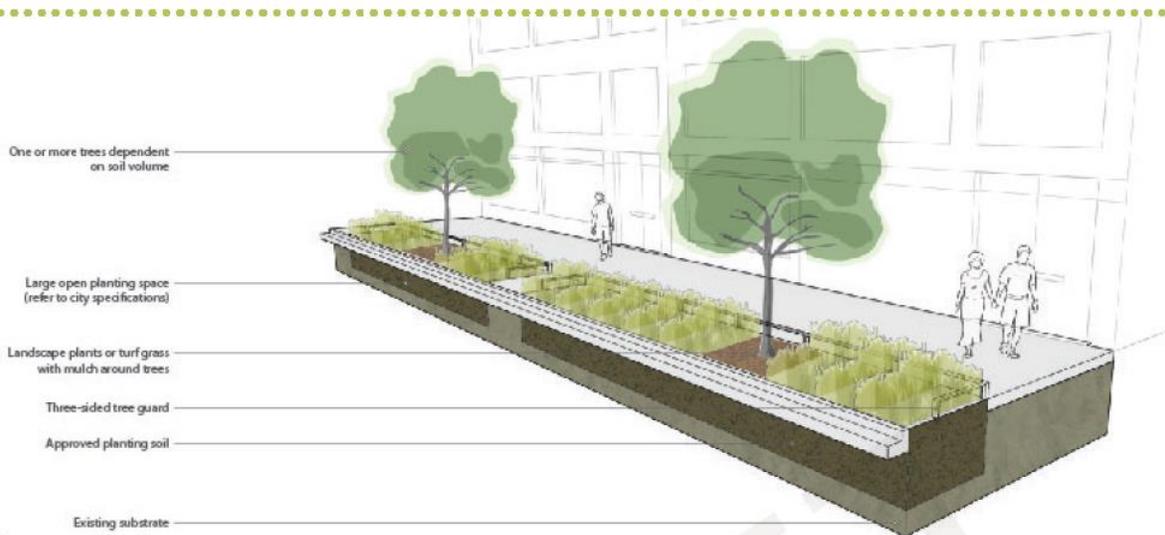


Figure 1.144 Siting diagram
SITING CONSIDERATIONS

- » Open planting spaces should be designed with a minimum opening of 125 square feet per tree at a width not less than 5 feet.
- » The surface treatment of open planting spaces would ideally surround trees with landscape mulch.
- » The open planting spaces may also be designed with landscape plants.
- » Turf grass is the least desirable surface treatment.

ENGINEERED ROOT SPACE - THIRD PRIORITY FOR MINNEAPOLIS STREETSCAPES

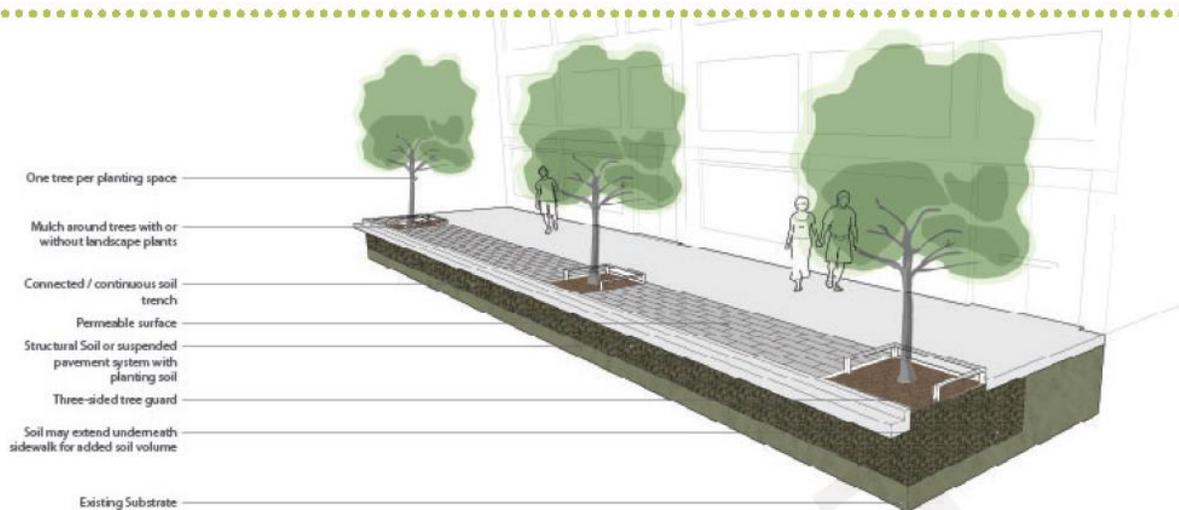


Figure 1.150 Siting diagram

SITING CONSIDERATIONS

- » 500 cubic feet of planting soil per tree shall be required
- » A minimum serviceable opening of 5 feet by 5 feet
- » Engineered root space profile must have a minimum width of 5 feet, minimum depth of 3 feet, and maximum depth of 4 feet
- » Designs that enhance stormwater infiltration to the root zone are preferred

TREE PLANTING EQUITY

From 2010-2016, the MPRB Forestry Department invested \$45.56/capita on tree planting within neighborhoods that include concentrated areas of poverty or that include areas where over half of residences are people of color. That investment is 50% more than other neighborhoods, where \$30.38/capita had been invested in the same time period.

We also have a combined Equity - Tree Canopy focused planting approach that prioritizes planting available public tree locations in neighborhoods that include Racially Concentrated Areas of Poverty starting with neighborhoods with the least amount of Tree Canopy first.

TREE PRESERVATION

The quickest way to garner urban forest benefits from trees is to protect existing trees, so that they can continue to grow larger. Our Forestry Preservation Coordinator works tirelessly to keep public trees from being damaged during construction projects both within our parks and along city streets and sidewalks.

URBAN FOREST PEST MANAGEMENT

To ensure that the public urban forest stay as healthy as possible, we have a team of trained Tree Inspectors that look for urban forest pests on both public and private property. They annually inspect about 1 million trees across 60 square miles of land.

MAINTAINING THE URBAN FOREST

Taking care of trees is an important part of making sure the Urban Forest is Sustainable. Pruning is the main form of maintenance that our skilled highly trained Arborists perform. Pruning helps to guide trees to grow with sturdy structure to weather high winds, heavy snow, and storms. Focused pruning also helps to make space for urban structures and for all the different activities that take place beneath the canopies of trees. When branches are damaged or dead, pruning removes these hazards to keep people and property safe and the trees healthy.

URBAN WOOD UTILIZATION

All wood waste from the Urban Forest is put to a good green use.

A natural part of the Urban Forest life cycle includes removing trees. Trees are commonly removed when they are dead, dying, infested with a pest, or otherwise damaged or hazardous. Wood waste is also generated when we prune trees.

Some of the wood waste is reused for internal Minneapolis Park & Recreation Board projects. A great example of an internal project includes building a boardwalk at Eloise Butler Wildflower Garden and Bird Sanctuary. We have also used wood from removed urban trees to build temporary nature play structures and beer garden furnishings, including a giant cribbage board at our annual Arbor Day Celebration. Permanent nature play structures have also been built in our parks from urban wood.

Coordination with urban wood utilization groups ensures other usable logs are milled into lumber and wood products like cribbage boards, picture frames, growth charts, cutting boards, center pieces, and other products.

The remainder of wood waste from our forestry operations is processed into mulch for aiding in new plant establishment, other landscaping purposes, or processed into biofuel as a green energy source.

COMMUNITY FORESTRY OUTREACH

A very important part of the Urban Forest is the community that the trees are serving. After all, it wouldn't be an Urban Forest without the people that live, work, and play beneath its canopy. Building a strong connection between communities and trees is an essential aspect of fostering a Sustainable Urban Forest.

Since so many of the trees we manage are in front of people's homes and businesses, we communicate with people often to let them know what is going on with the trees around them especially when a change is coming. We have multiple door hangers that explain our work and provide information about how people can help public trees in their neighborhood. In some cases, we send out information or notices by mail. We also have a team of Forestry Customer Service staff that take phone calls from the public and respond to email inquiries about trees in Minneapolis.

We also have a Mascot on our team, Elmer the Elm Tree. Elmer loves visiting community events, park celebrations, schools, and other educational programs to help spread the word about how kids of all ages can help trees. Elmer especially loves Arbor Day Celebration! He even keeps up to date connecting with his fans via social media.

We also host an Annual Arbor Day Celebration each spring in a Minneapolis Park. We have planted tens of thousands of trees with community volunteers over the years at these events. Arbor Day gatherings have become a really fun festival style gathering with tree planting, bucket truck rides, rope-and-saddle tree climbing, tree-sized lawn games, tree-themed obstacle course and nature play, Heritage Tree bike rides, Arbor Day Fun Runs, food trucks, beer garden, music, and more!

To continue to grow the connections between people and trees, we would love to expand our Urban Forestry Outreach even further. We have piloted a few projects that have been very successful. With the help of the University of Minnesota, we have launched a Citizen Pruner Program where people beautify neighborhoods and parks by doing a little bit of pruning work on public trees. We have also worked with engaged community groups to plant and foster fruit trees in our parks. We would love to be able to expand these successful community-building programs.

COMMUNITY FORESTRY PARTNERSHIPS

Collaborating with other organizations is one of the ways we strengthen and extend our urban forestry outreach potential. Besides working with the University of Minnesota on the Citizen Pruner Program, we work in partnership with multiple groups within the Minneapolis Urban Forest. Here are a few of the partnerships we foster:

Brewing a Better Forest – brew incentivized tree watering outreach / awareness

People for Parks – annual Arbor Day support and involvement

Metro Blooms – North Minneapolis blooming boulevards for clean water and pollinators

Multiple Neighborhood Organization – all sorts of great community focused projects

Tree Trust – various tree donation projects

City of Minneapolis – City Trees Program (residential and commercial initiatives)

URBAN FORESTRY RESEARCH

We are always striving to improve the Urban Forest and our management practices. We often look to industry standards, best management practices, and scientific literature to make decisions about the best ways to care for the Urban Forest. Investing in research initiatives helps us measure our successes and also helps grow the knowledge base across the field of Urban Forestry.

We have a formal research agreement with the University of Minnesota to help improve our operations, trial various species, test new methods, and to provide expert scientific insight to various inquiries. We also lead our own research initiatives to quality control how our efforts and the Urban Forest are performing. In addition, we often partner with university students from near and far as they dig into various projects related to urban trees. Other common research collaborators include: United States Department of Agriculture – Forest Service, United States Department of Agriculture - Animal and Plant Health Inspection Service, Minnesota Department of Agriculture, Minnesota Department of Natural Resources, Tree Care Companies, and Arboretums.

PRESCRIPTIVE ANALYTICS & PLANNING

The Urban Forest is a complex system to manage and has a long-term lifecycle. We depend on multiple levels of data and analytics to make informed management decisions in the Forest so that we can ensure our work will serve people today as well as future generations. We take special care to track good information in our tree inventory database. Beside information about individual trees, we are recording site characteristics, pest spread information, a history of the site, and research related information. This data, in combination with other data sources, helps us prescriptively guide and prioritize our resource management at multiple scales. A few examples of this include our tree planting guidelines/selection, pest infestation intensity informed tree replacement assignments, and tree planting prioritization based on community metrics and tree canopy data.

CERTIFICATION, LICENSING, EDUCATION, TRAINING, EXPERIENCE

Education and Training is a cornerstone of fostering Sustainability in our Forestry Department. We hire educated and experienced staff to help care for public trees in Minneapolis. By maintaining Certifications and Licenses our Foresters and Arborists demonstrate their proficiency of Industry Standards and Best Practices.

Here are some of the Certifications, Qualifications, Licenses, Degrees, and Trainings that are maintained by our diverse well-qualified team:

International Society of Arboriculture - Certified Tree Worker Climber Specialist

International Society of Arboriculture - Certified Tree Worker Aerial Lift Specialist

International Society of Arboriculture - Certified Arborist

International Society of Arboriculture - Certified Arborist Municipal Specialist

International Society of Arboriculture - Board Certified Master Arborist

International Society of Arboriculture - Tree Risk Assessment Qualification

Minnesota Department of Natural Resources - Certified Tree Inspector

Minnesota Department of Agriculture - Pesticide Applicator License

Tree Care Industry Association - Certified Treecare Safety Professional

Tree Care Industry Association - Tree Care Academy

ACRT - Line Clearance Arborist Certification Training

American Red Cross - First Aid / Cardiopulmonary Resuscitation (CPR) / Automated External Defibrillator (AED)

Associate of Arts

Associate of Science

Bachelor of Arts

Bachelor of Science

Master of Science

ACCREDITATIONS, AWARDS, RECOGNITION

Accreditations, Awards, and Recognitions from leading organizations in Urban Forestry demonstrate that we are a leader in our field and are always striving to improve and grow our efforts in Sustainable Urban Forestry Management.

Arbor Day Foundation - Tree City USA - 1979-2016

Arbor Day Foundation - Tree City USA Growth Award - 1994-2016

Arbor Day Foundation - Arbor Day Awards - 1981, 2000, 2009, 2013

American Forests - 10 Best Cities for Urban Forestry - 2013

Minnesota Community Forestry Awards

Minnesota Society of Arboriculture & Minnesota Shade Tree Advisory Committee

1993, 1994, 1995, 1996, 1997, 1998, 2000, 2001, 2002,
2003, 2005, 2006, 2007, 2008, 2013, 2014, 2016

Award of Merit, Certificate of Recognition, Innovation Award,

Outstanding Arbor Day / Arbor Month Celebration Award,

Outstanding Community Forestry Award,

Outstanding Community Forestry Maintenance Award,

Outstanding Partnership Project Award, Outstanding Project Award.

Outstanding Youth Project Award, Practitioners Award of Excellence,

Treescaping Award, Volunteer Service Award

National Roadside Vegetation Management Association - Award for Excellence - 2005

City of Minneapolis Planning Department & the Committee on Urban Environment

Award for Signification Achievement in Design and Aesthetic Excellence - 2001

Minneapolis Pride Neighborhood Environment Award - 1992

State of Minnesota / Governor's Office -

Partnership Minnesota Cooperative Public Service Award – 1994

State of Minnesota Arbor Month Site - 1999 & 2015