

# Street and Park Tree Master Plan



The Most Livable  
City in America

City of Saint Paul Minnesota  
2010





# Street and Park Tree Master Plan City of Saint Paul, Minnesota

Prepared by:

Saint Paul Department of Parks and Recreation

**2010**







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**“A SOCIETY GROWS GREAT WHEN OLD MEN  
PLANT TREES WHOSE SHADE THEY KNOW  
THEY WILL NEVER SIT IN”**

**-Greek proverb**







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Dear Saint Paul Resident:

I'm pleased to present the updated Street and Park Tree Master Plan, a guide for the management and stewardship of our urban forest. The Department of Parks and Recreation has created this document as one piece of the Saint Paul Comprehensive Plan which serves as a "blue print" for future development of the city.

The Comprehensive Plan is broken into six subject-based plans, one being Parks and Recreation. Strategy 3 of the Parks and Recreation Plan, Promote a Vital Environment, calls for, among other things, increased tree reforestation implementing an updated Street and Park Tree Master Plan. This document serves as a guide and reference source for Forestry staff, policy makers, as well as residents of Saint Paul interested in planting trees on their own properties.

Trees are a vital part of our urban environment and provide a myriad of social, economic, and environmental benefits. As a part of the city's green infrastructure they clean our air, reduce stormwater runoff, and mitigate the impacts of the urban heat island effect while increasing the livability of our neighborhoods.

Information found within this master plan outlines these benefits, the guiding design principles and standards used for tree selection and planting along streets, a list of trees currently used on boulevards, challenges confronting us such as the emerald ash borer, and the planting and management tools used by Saint Paul Forestry.

Additionally, it tells of a number of new planting methods that have emerged in response to the continued need for increased species diversity and improved growth rates within the urban forest. Examples include the use of sequenced planting or the shortening of linear plantings of a single species, both to reduce monocultures that can be wiped out by future pests or diseases that target a particular species. Continued implementation of innovative solutions to forest management will increase the long term sustainability and resiliency of our urban forest.

Of course, the urban forest extends beyond boulevard and park trees and this plan provides information and links to online resources that will assist residents and businesses in selecting and caring for their own trees on private property. I hope that you find this document useful and that by working together to improve the urban forest we can continue to make Saint Paul the most livable city in America.

Sincerely,

Michael Hahm, CPRP  
Director



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## **Section 1**

### **Introduction**



## Introduction



### Mission Statement:

To assist in making Saint Paul the most livable city in America, Saint Paul Parks and Recreation will facilitate the creation of active lifestyles, vibrant places, and a vital environment.

-Saint Paul Parks and Recreation Department



### Vision Statement:

Saint Paul Parks and Recreation will make Saint Paul the most livable city in America by:

- Responding creatively to change
- Innovating with every decision
- Connecting the entire city



### Forestry's role:

Saint Paul Forestry, organizationally, is a unit of the Department of Parks and Recreation located in the Operations Division, Natural Resources Section. Forestry is responsible for over 500,000 public trees including nearly 150,000 street trees and manages this resource to promote a healthy urban forest that provides numerous environmental, social, and economic benefits. Forestry's stewardship through boulevard and park plantings, maintenance, wood recycling, insect and disease management, education, and oversight of dangerous private property trees improves the urban canopy and creates a strong environment for the residents of Saint Paul.

### Objectives

The Street and Park Tree Master Plan is a living document linked to online resources that will allow the City of Saint Paul and its residents to plan for and maintain a diverse and vital urban forest. This document outlines the goals, strategies, and criteria that will help guide planning and management decisions through the use of established best management practices and innovative approaches.

Street and park trees contribute to the urban environment in many ways and help promote a sense of identity within the community. Many of the benefits provided by trees add directly to the livability of Saint Paul by providing vibrant, high quality public spaces.

The urban forest continues to change and adapt to new conditions and an expanding body of knowledge on the benefits and management of trees within the urban environment. Developing a healthy urban forest through sound stewardship will further Saint Paul's shared vision of tree lined streets and parks that provide social, economic, and environmental benefits for all residents.

Key objectives of this document:

- Providing information on the environmental, economic, and social benefits of street and park trees
- Outlining the guiding principles, design standards, and methods that promote a healthy and diverse urban forest
- Providing a list of appropriate tree species for the urban environment with information on selecting the proper tree
- Illustrating the goals and alternative planting patterns that create a diverse urban canopy
- Guiding the establishment and maintenance of new and existing trees
- Creating a flexible and accessible document for the City and its residents

## Introduction

### Scope

The scope of the tree planting program has varied throughout the years depending on the number of trees lost from disease or storms. Funding sources have been diverse; from state and federal grants, Capital Improvement Bonds, Friends of the Parks, and private citizens. Saint Paul has also partnered with a number of organizations including the University of Minnesota, Tree Trust, Great River Greening, and Environmental Wood Supply. Millions of dollars have been spent and tens of thousands of trees have been planted, yet there is still a need and more correctly, a demand for a tree in front of most residences. Streets of each planning district or section of a planning district is planted on a rotational basis. Currently this is done on a four year cycle though in the past it has been as long as ten years depending on funding availability and attrition. Although not always possible, the goal has been to plant a boulevard tree in front of each home in Saint Paul.

Canopy cover and the species selected for planting along boulevards and within parks continues to adapt to changing conditions and emerging issues such as the emerald ash borer (EAB) which is projected to have a major impact on the city's tree canopy. Responsive and innovative management of the urban forest will be a key part of maintaining a vibrant street and park tree environment.

### Intent

It is the intention of the Street and Park Tree Master Plan to be used as a comprehensive guide by city staff, public and private developers, and property owners for the selection, placement, and proper maintenance of trees in parklands and along major transportation corridors, thoroughfares, and residential streets within the city. The information found within this document is also intended to assist homeowners with the selection of trees for their own properties.

### Overview of the Master Plan

The Street and Park Tree Master Plan serves as a guide to tree management across the city of Saint Paul. It covers a range of topics and provides links to online resources that contain the most current information available for use in the decision making process.

Elements of the Master Plan include:

- Guiding Principles and Design Standards
- Tree species list and selection criteria
- Master street tree plan maps
- Appendix with management guidelines and practices
- Reference + Resource guide

### Planning Process

This master plan was prepared in collaboration between the Forestry and Design sections of the Department of Parks and Recreation with additional recommendations from the Saint Paul Tree Advisory Panel.

A number of updates to the 1978 Street and Park Tree Master Plan have been developed by Saint Paul arborists, landscape architects, and planners based on new research and an expanded understanding of urban forestry management. These include an updated tree species list and master planting plans, sequenced planting pallets, the use of structural soils, and expanding the role of trees as green infrastructure in the urban environment.

The master plan was presented to the Saint Paul Parks and Recreation Commission on March 10, 2010 which voted to approved the document.





## **Section 2**

### **Concepts**

## Concepts

### Background

In 1978 the City of Saint Paul Parks and Recreation Department set forth the first “Street and Park Tree Master Plan” in response to devastating effects of Dutch elm disease on the urban forest. Five years prior to that, the city began using Capital Improvement Bond funds for reforestation after Dutch elm disease eliminated a large percentage of the urban forest due to the monoculture planting of elm trees. The original plan set forth a new planting scheme which included increased species diversity to reduce the potential for widespread decimation of the urban forest. That commitment to reforest the city’s boulevards and parks with a diverse pallet of tree species has continued to this day. Many of the principles found in the original plan are still sound and have served the city well.

However, with shifting environmental pressures, diverse urban soil and growing conditions, and the introduction of new pest species like the emerald ash borer, some species of trees have fared better than others. Some fruited unexpectedly; some grew larger than expected while others failed to thrive at all for various reasons. Dutch elm disease incited major changes to the urban canopy leading to the removal of the majority of the elm monoculture. The emerging threat posed by the emerald ash borer brings into sharper focus the importance of continued city efforts to further diversify the urban forest. Many of the tree species utilized to replace the elm and ash trees have higher maintenance needs, particularly in the first five to ten years.

Trees are one of the few parts of city infrastructure that increase in value over time- particularly if they are well maintained. They are an integral part of a community’s green infrastructure, and as such, warrant thoughtful planning and budgeted management. With new information emerging about the benefits and management of the urban forest and the development of innovative technologies that can improve the planting success and health of urban trees it is time for some revisions to the original Street and Park Tree Master Plan in both thought and process.

### Context

The conditions in which trees are planted in and the benefits that they provide vary across the urban landscape. Different approaches to tree selection and planting as well as the methods and levels of maintenance given each tree are required. Contextual considerations can be broadly broken down by the surrounding land uses and include:

## Concepts

### Commercial Districts

Harsh growing conditions exist in the downtown business district and along commercial corridors throughout the city. These include high percentages of impervious pavement including large parking lots, compacted and poor soils, presence of subsurface utilities, increased stormwater runoff with a lack of readily available soil moisture, increased temperatures, variations in light quality and wind patterns, presence of de-icing salts, and increased levels of air pollution. Using innovative planting methods to increase soil volumes, trees are able to mitigate these environmental issues while providing a comfortable pedestrian experience and sense of community identity to business districts.



### Residential

A range of growing conditions exist across the large areas of residential neighborhoods in Saint Paul. While conditions are typically better than those found in the urban core, issues of soil compaction, reduced soil volumes, underground utilities, and traffic considerations along the boulevards still exist. Microclimates can vary substantially depending on residential density, percentage of impervious surface cover, and available sunlight and soil moisture. Along with architectural styles, street trees contribute to the character, feel, and safety of a neighborhood.

### Industrial

Due to the increased activity associated with industrial land use, conditions found in these areas may limit the establishment of quality street trees. Large amounts of impervious surface, compacted and potentially polluted soils, utility infrastructure, and increased air pollution can negatively impact tree growth. Transportation access for large vehicles may restrict the canopy size or coverage that can develop. Great potential exists within these areas due to large building setbacks and interstices between structures as well as parking and boulevard areas where their benefits will be greatest.

### Parks and Natural Areas

These lands are well suited for urban tree planting and the establishment of a large canopy due to the increased soil volumes, adequate moisture levels, and microclimates associated with increased natural land cover. Park lands present the opportunity to increase urban forest diversity by providing space for the planting of native tree species where appropriate. While the effects on tree growth and stormwater infiltration are less severe in parks, soil compaction can be an issue near streets, along trails, and in picnic grounds.

Commercial, residential, industrial, park, and parkway lands vary in impervious surface cover, soil compaction, moisture availability, and ambient pollutant levels which affects tree health and success.

## Concepts

### Parkways

Saint Paul has 40.7 miles of tree lined parkways planted and maintained by Forestry. Wider boulevards and central medians along many of the parkways provide improved planting conditions for street trees with larger soil volumes and increased stormwater permeability. Parkway allow for a naturalistic design approach that utilizes mass plantings of ornamental species and large trees that defines the character of these roadways. Currently there is no official master plan to provide city wide guidance on the maintenance and improvement of these transportation corridors.

### Benefits of Trees

The specific benefits that trees provide for a community are too numerous to include in this document and resources will be included in the bibliography for further reference. Generally speaking, these benefits can be grouped into four categories: Social, Community, Environmental, and Economic.

#### Social Benefits

For most of us trees make life more pleasant. They add beauty, serenity, peacefulness, restfulness and tranquility to our lives. They also represent the ideas of stature, strength, endurance and long life.

#### Community Benefits

City trees serve several functions with respect to architecture, engineering, and public space. They create privacy and emphasize selected views while screening out objectionable ones. Trees reduce glare and reflection. They provide background to and soften, complement, or enhance architecture. Street trees increase the comfort of the pedestrian environment, help direct pedestrian traffic, provide unity to our public spaces, reduce crime, and create a sense of place in our communities. When planted along streets they reduce pavement temperatures and wear lowering the maintenance costs of city infrastructure, and act as a form of traffic calming.

#### Environmental Benefits

Moderation of climate, improvement of air quality, conservation of water and the creation of wildlife habitat are a few of the environmental benefits of trees. Trees are able to modify area microclimates reducing temperatures and the “urban heat island” effect caused by the large amount of pavement and building surfaces in the city. Wind patterns, humidity, and evaporation rates are also altered.



Image courtesy of Teresa Boardman

Street trees provide a number of benefits within the urban environment and contribute to the social, environmental, and economic vitality of Saint Paul.

## Concepts

Trees reduce the amount runoff produced during storm events by capturing rainfall in their canopies and absorbing it into their roots. In combination with emerging planting methods, street trees can be a way to rethink stormwater systems and capture more rainfall on site. This reduces the amount of water piped to rivers, increases infiltration and groundwater recharge, and reduces the movement of nutrients and pollutants while improving surface water quality.

Improvement of air quality is another benefit from not only trees, but shrubs and turf as well. Dust and other particulates land on tree leaves, are washed off by rain. Ozone, carbon monoxide and sulfur dioxide are absorbed by leaves as is carbon dioxide which is used to form the carbohydrates necessary to build plant structure and function - - and most importantly, give off OXYGEN.

### Economic Benefits

The economic benefits of trees can be both direct and indirect.

Direct economic benefits are usually associated with energy costs. Shaded buildings require less air conditioning in the summer and windbreaks reduce heating costs in the winter. A well landscaped home increases in value over time when compared to one that is not.

Indirect economic benefits of trees can be even greater. An entire community or region benefits by lowered utility bills, fewer new facilities are needed to meet energy and stormwater demands, and reduced amounts of fossil fuel are required with fewer measures needed to control air pollution.

## Limitations in the Urban Environment

While trees provide many benefits in urban areas there are a number of factors in the built environment that must be addressed when considering tree placement. Selecting the right tree based on site conditions can solve many of these potential conflicts and decrease the overall maintenance costs required to correct them.

Mature tree size both above and below ground level must be considered when planting in areas where there are overhead utilities, buildings within close proximity to the planting area, or where other infrastructure such as sidewalks and curbs are located close to the trunk and roots of the tree. Conflicts with



## Concepts



Limiting factors to tree planting and growth exist in many forms in the urban environment

utility lines and the need for severe trimming can be minimized with proper tree placement. Potential damage to buildings or obstructions to views and services can be avoided through proper tree selection.

Considerations of safety and clear sight lines are especially important with street trees located along transportation routes. Making sure that vehicles, bicyclists, and pedestrians have unobstructed views by selecting trees that will not block sight lines with low foliage is crucial to the safety of all users. This includes maintaining open sight lines for street signage and lighting elements. Potential damage to sidewalks and other transportation infrastructure caused by root growth needs to be considered.

Concerns about property damage and maintenance issues like excessive leaf or fruit drop also influence the success of urban trees. When trees begin to impinge upon infrastructure, sidewalks, and sewer lines, requests for removal can impact the development of the urban canopy and influence which tree species are used in the future.

The built environment impacts the growing conditions for trees through increased levels of impervious surface and pollution. This results in reduced rainwater infiltration to rooting zones, increased stormwater runoff, soil compaction, increased salt levels from winter deicing, higher temperatures, and increased incidence of accidental damage to tree trunks.

## **Section 3**

### **Guiding Principles + Design Standards**

## Guiding Principles + Design Standards

### Guiding Principles

Trees provide a number of human and environmental benefits over the course of their lives when properly planned for, selected, and planted within urban conditions. Choosing the right tree for the right location is critical to the establishment of a healthy urban forest and a variety of approaches and planting layouts should be considered. Increased tree diversity and a reduction of monocultures along street corridors guided by proper tree selection and current design practices will help create a resilient urban forest that contributes to a strong quality of life for residents and expands the sense of identity of Saint Paul.

### Diversity, Composition, and Design Implications

Diverse tree populations are better equipped to withstand environmental pressures so that urban canopy losses, as a percentage of total canopy cover, are minimized across the city. Like Dutch elm disease, the emerging emerald ash borer threat has shown that increasing species diversity is an important aspect of urban forestry management that the city will continue to promote in its forestry practices. When completed, the street tree inventory being developed by Forestry will provide tools to measure and track tree species diversity while informing the planning and design of street corridors.

- To accomplish the goal of increasing tree diversity and reducing the likelihood of large tree losses across the city a number of steps should be taken based on work done by the City of Saint Paul, recommendations made by the Tree Advisory Panel, and current best management practices.
- Species diversity will be considered on the city scale and coordinated between planting districts based on site conditions and selecting the right tree for the location. Establishing a goal limiting any single species to 10%-20% of the total tree inventory reinforces diversity planning and minimizes potential large scale losses of urban trees due to insect damage or disease.



## Guiding Principles + Design Standards

- The 30-20-10 model (Santamour) provides a useful guide and suggests that the total tree inventory contains no more than 30% of a single family, 20% of a single genus, and 10% of a single species. Forestry recognizes this goal though urban site conditions and the number of species available for the Minnesota climate may limit the full implementation of this model.
- The maximum linear distance that a single species of trees is planted along a street corridor should be set at 1-3 blocks. Where visual continuity is required, lengths of 4-6 blocks of a single species will be considered.
- The development and use of sequencing, planting multiple tree species on the same block, provides a model to increase diversity on a block by block basis. Pairing species for aesthetic and maintenance concerns will vary based on need and can be changed to tailor the planting scheme to meet conditions present on the site.
- In park areas where growing conditions are appropriate the use of native trees should be considered. This will provide genetic variation within the urban canopy as well as habitat for birds and other wildlife.
- Maintaining urban trees is most efficient and cost effective when trees with similar growth rates and characteristics are planted together. This reduces travel and setup time and allows city crews to work with minimal interruptions to the maintenance process. Refer to the appendix for more information on city tree maintenance.
- Planning for ecological, functional, and structural diversity will increase the overall benefits the urban forest provides to residents and the urban environment.

## Guiding Principles + Design Standards

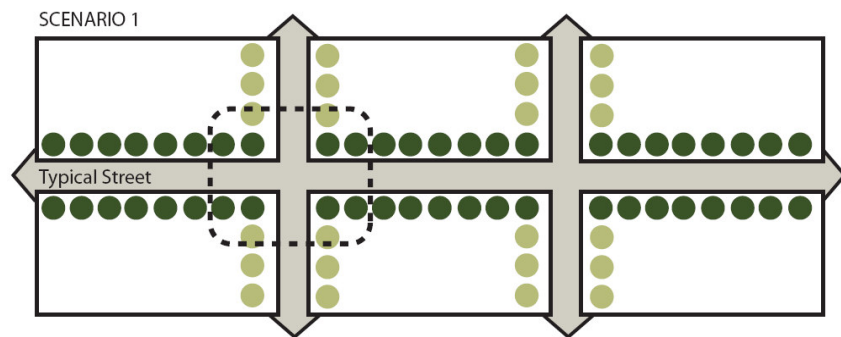
### Sequencing

The development and use of sequencing provides a model to increase species diversity at the city block level by planting two or more tree species in a designed pattern along street corridors and adjacent cross streets. This planting pattern reduces the risks associated with monocultures while maintaining visual cohesion and unity within the streetscape.

Pairing species for aesthetic, horticultural, and maintenance concerns will vary according to design goals and site conditions and can be arranged to tailor the planting scheme to meet planning priorities. Species selection should be based on design principles and the compatibility of tree characteristics including size, form, texture, color, and seasonal interest. Primary species selection should favor trees that are well suited to the growing conditions found on site with secondary trees selected for aesthetic, site, and functional compatibility. Consideration of repetition, balance, and scale will strengthen visual unity and can be used to guide the attention of pedestrians and motorists or highlight significant landmarks or roadways.

Sequenced planting patterns, species selection, and tree location on planting boulevards shall be determined by Forestry with additional consultation from Design when parks, parkways, or historic districts are being planted.

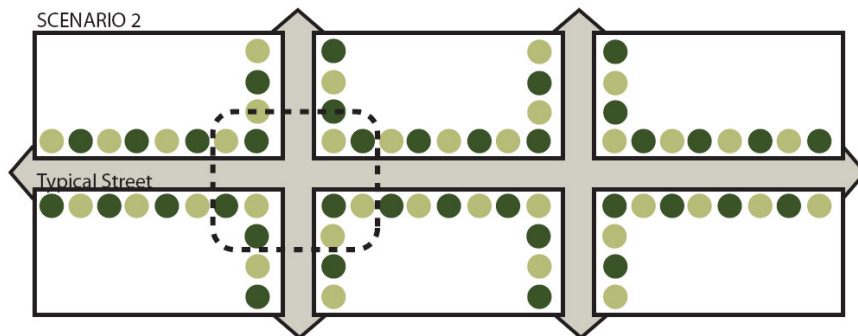
The following examples provide options that can be expanded upon when using sequencing in boulevard planting. Site conditions and existing infrastructure may require the alteration or adjustment of these patterns to meet planting goals.



**Figure 3.1:**

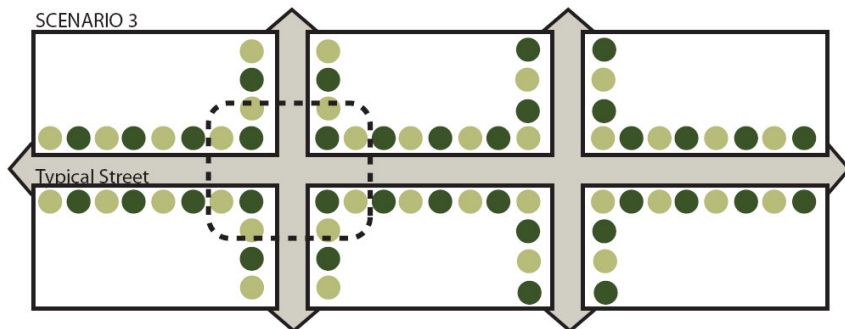
A typical single tree species monoculture planting promotes visual uniformity and continuity but reduces canopy diversity. This type of planting pattern should be limited to no more than 1-3 sequential blocks, 4-6 blocks in special circumstances, and coordinated across districts to provide city-wide diversity.

## Guiding Principles + Design Standards



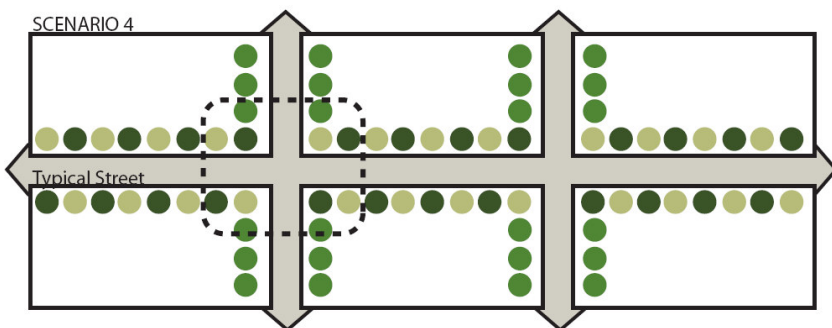
**Figure 3.2:**

Simple sequence planting creates a pattern of alternating tree species by combining two different tree types that are aesthetically and horticulturally compatible. This planting pattern increases species diversity at the block level reducing the potential impacts of disease or insect damage.



**Figure 3.3:**

Visual continuity and neighborhood identity can be increased by planting the same tree species at street intersections or other important landmarks.

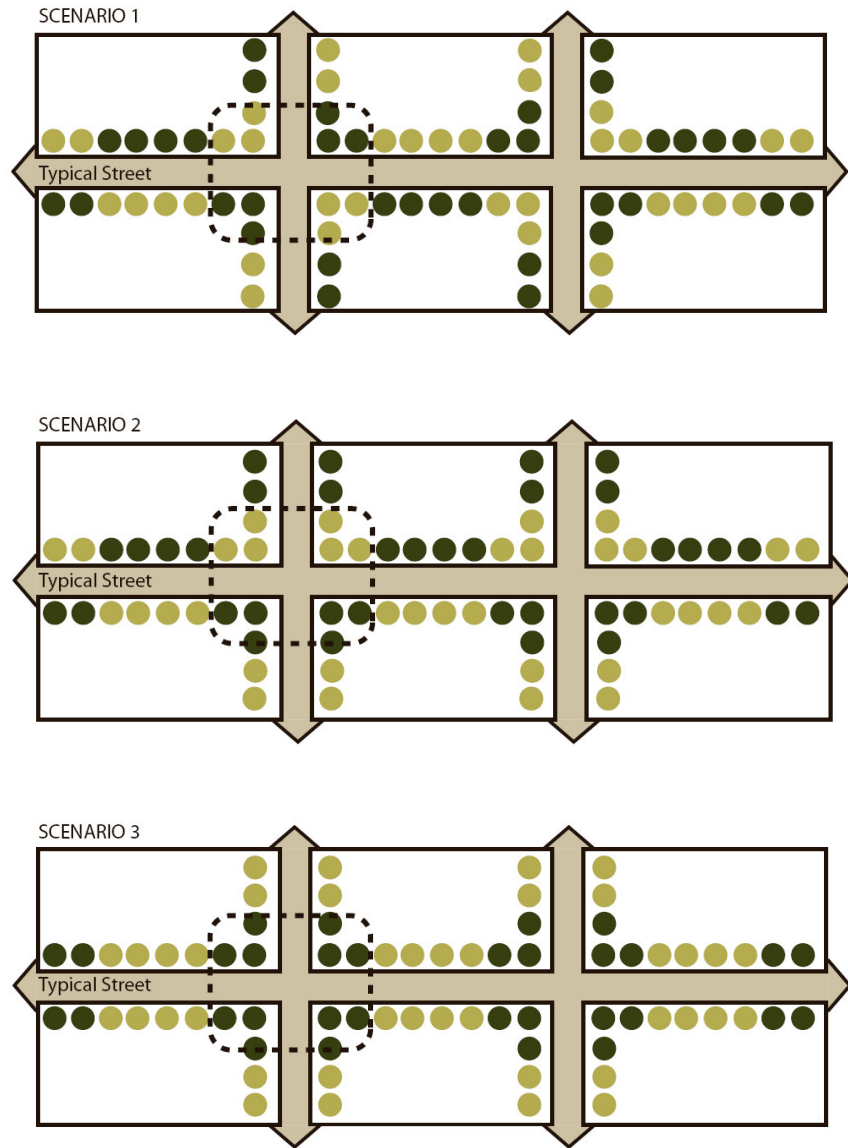


**Figure 3.4:**

Planting a third tree species on intersecting cross streets increases overall diversity. Tree selection based on size, form, and seasonal interest can influence the character and identity of different streets types.

## Guiding Principles + Design Standards

### Grouped Sequencing:



**Figure 3.5, 3.6, and 3.7:**

Three examples of grouped sequencing: Grouping tree species together increases the visual continuity and species diversity at the individual block level. The number and type of trees planted in each group influences the general aesthetic and experiential quality of the street corridor and may calm vehicular traffic. Alternating tree patterns can be designed to emphasize important intersections (figure 7) or landmarks.

## Functional + Ecological Principles

Urban forests provide important ecosystem services which reduce the economic costs of mitigating the environmental impacts of urban landscapes. Identifying and implementing current best management practices (BMP) in street corridor planning can maximize the benefits provided by urban trees.

- Reducing stormwater runoff
- Mitigating the urban heat island effect
- Reducing heating and cooling costs
- Reducing the wear on pavements
- Filtering air pollution
- Sequestering carbon
- Providing habitat and connectivity
- Providing sound breaks and buffers

## Urban Design Principles

The design principles of balance, repetition, sequence, and scale should be followed when planning tree layouts. This is especially true when increasing diversity of the urban tree canopy in order to maintain the unified experiential qualities of the street corridor. Planting multiple species in a sequence requires the selection of similar or complimentary species based on a tree's size, form, texture, color, and seasonal interest. Selected groups of species can be planted in an alternating pattern to increase diversity, preserve and enhance connectivity, and provide visual unity to the urban canopy.

Trees need to be well proportioned to their site and should consider the architectural styles and sizes of adjacent buildings. Potential damage to buildings and the surrounding infrastructure can be minimized through proper tree selection and observations of the site conditions. Proper consideration of the site conditions where street trees are planted can improve their long term sustainability and increase the environmental and economic benefits they provide.

The following street sections highlight some of the considerations that should be made when planting trees on city boulevards. Variations in street and boulevard width as well as site conditions will all influence tree selection.

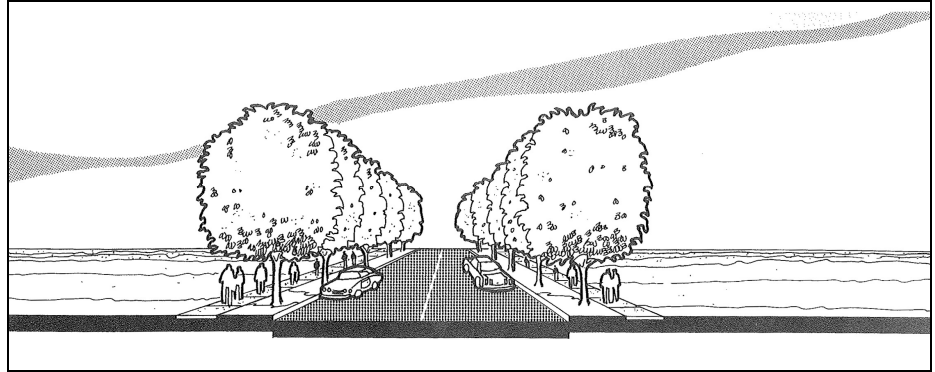
## Guiding Principles + Design Standards



Image courtesy of Teresa Boardman

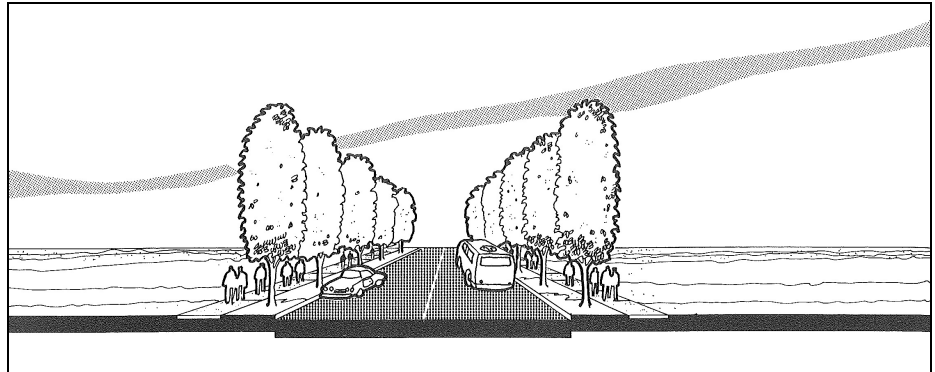


## Street Sections



**Figure 3.8: Streetscape**

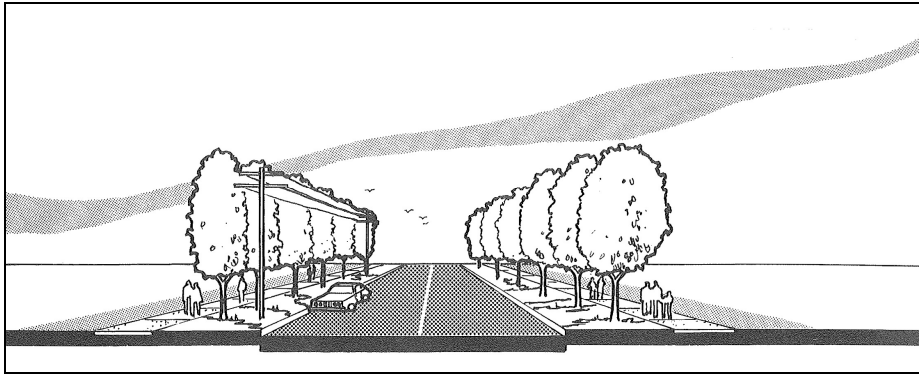
Standard street section of the public right of way showing the relationship between the planting boulevards, road way, sidewalks and adjacent private property.



**Figure 3.9: Heavy traffic with narrow boulevards**

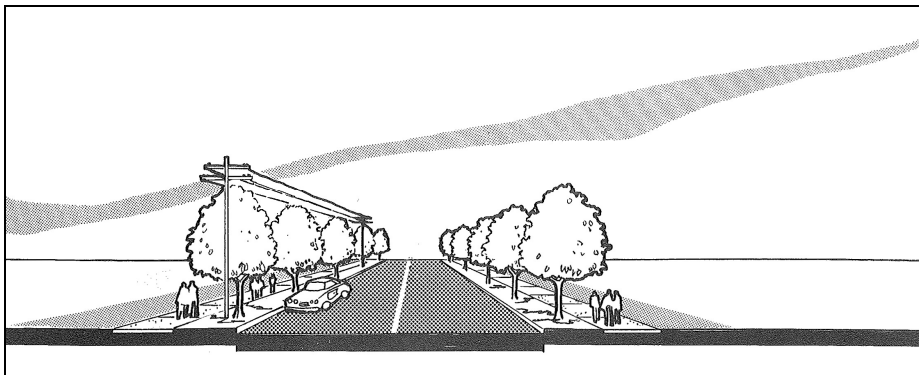
Street trees shall have a form and site tolerance compatible with the environmental conditions, pollution levels, and increased traffic loads associated with these roadways. Growth shall not block signals or street lights and shall not interfere with pedestrian and traffic movement. Planting street trees along these routes can calm traffic and form an important part of the city's green infrastructure.





**Figure 3.10: Utility lines in wide boulevards**

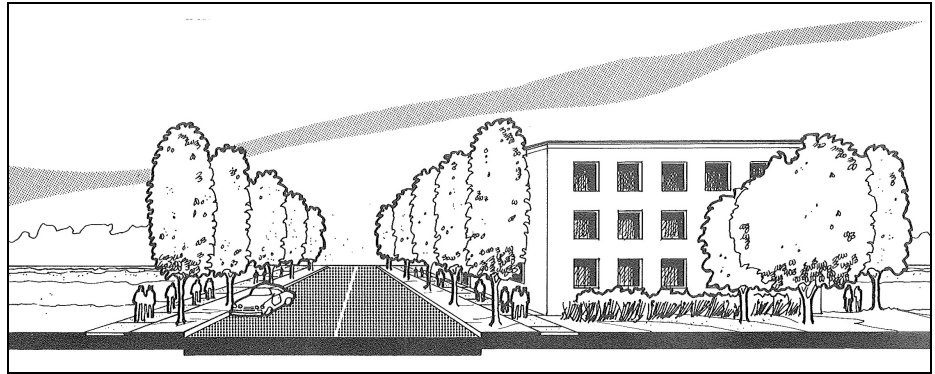
Trees located near utility lines shall be selected to minimize potential conflicts by planting shorter species or offsetting the tree from the utility lines where boulevard widths allow. Columnar or upright trees provide an additional option in this situation and maximize the environmental benefits of street trees through increased canopy size.



**Figure 3.11: Utility lines in narrow boulevards**

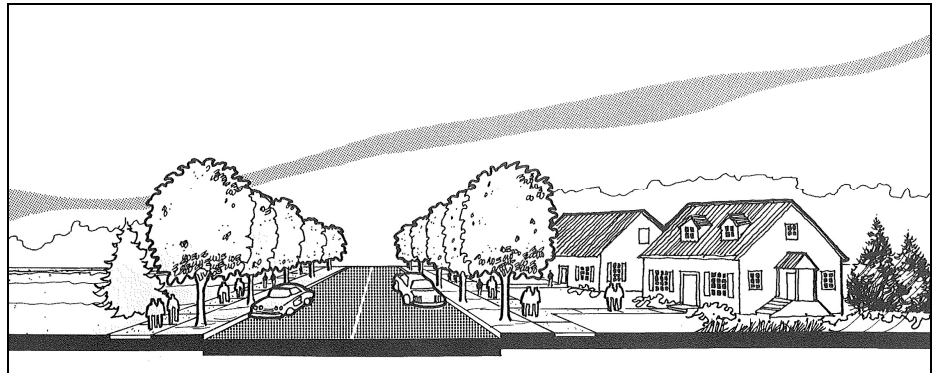
Trees located on narrow boulevards with utility lines shall be selected to minimize potential conflicts. Planting shorter species will reduce utility interference and maintenance requirements while increasing visual interest and city-wide species diversity. Boulevards opposite the utility lines can be planted with similar trees or larger species can be selected to provide increased environmental benefits.

## Guiding Principles + Design Standards



**Figure 3.12: Restricted building setback**

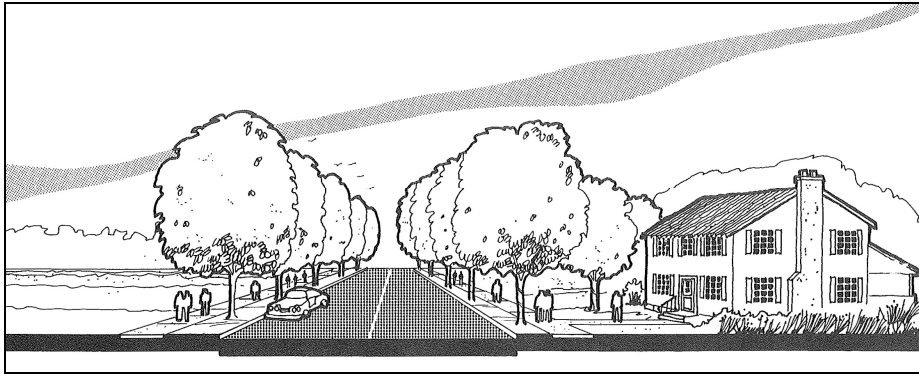
Boulevards with minimal building setbacks are typical of commercial and mixed use districts. Trees must be tolerant of restricted growing areas including reduced soil volumes, increased impervious surfaces, and urban environmental conditions. Species shall be selected to minimize potential conflicts between tree growth and built structures as well as pedestrian and traffic movement. Planting boulevards are often paved and the use of pervious pavers and structural soils, where appropriate, can increase the health and environmental benefits of these street trees.



**Figure 3.13: Low impact architectural element**

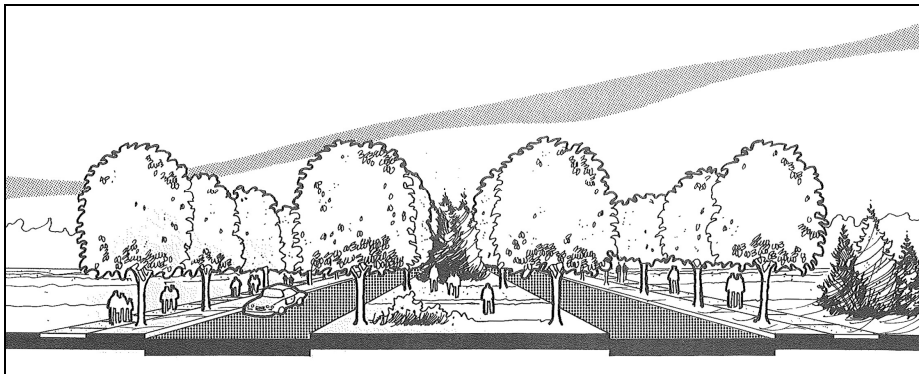
Buildings are typically one to one and a half stories and consist of residential, commercial or industrial land uses and street trees shall be selected to match the surrounding architectural and land use context. Wide planting boulevards allow for the development of a large canopy to maximize the environmental benefits of street trees.





**Figure 3.14: High impact architectural element**

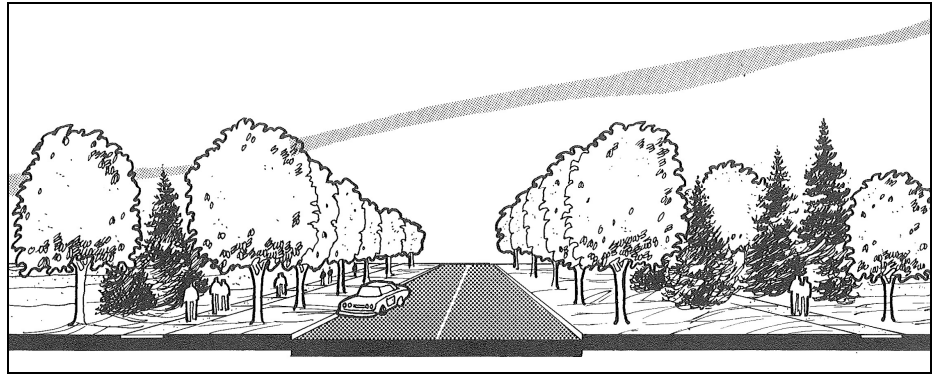
Buildings are typically two or more stories and consist of residential, commercial or industrial land uses and street trees shall be selected to match the surrounding architectural and land use context. Wide planting boulevards allow for the development of a large canopy to maximize the environmental benefits of street trees.



**Figure 3.15: Parkway with center median**

Street trees selected for planting along parkways shall promote visual and spatial interest while providing ecological benefits and serving as green corridors through Saint Paul. Planting boulevard trees in one to three block lengths and promoting the use of sequencing will increase canopy diversity while maintaining visual continuity. Median plantings reinforce the park like setting of parkways and shall include a diverse species pallet that includes native, conifer, flowering, nut, and fruit trees that add to the visual quality of the parkway system and compliment the architectural character of the surrounding neighborhoods.

## Guiding Principles + Design Standards



**Figure 3.16: Parkway with wide public right of way**

Street trees selected for planting along parkways shall promote visual and spatial interest while providing ecological benefits and serving as green corridors through Saint Paul. Planting boulevard trees in one to three block lengths and promoting the use of sequencing will increase canopy diversity while maintaining visual continuity. Trees planted within the right of way reinforce the park like setting of parkways and shall include a diverse species pallet that includes native, conifer, flowering, nut, and fruit trees that add to the visual quality of the parkway system and compliment the architectural character of the surrounding neighborhoods.

## Use of New Planting Techniques

Growing trees in urban conditions is difficult and one of the most limiting factors is the soil conditions urban trees are planted in. Reduced volumes, compaction, poor infiltration rates, and low organic matter content all contribute to reduce the viability of street trees.

Innovative planting technologies including engineered soils and permeable paving are effective at increasing soil rooting volumes and reducing compaction while supporting pavements and active use of the streetscape in urban areas. These same technologies increase the infiltration of stormwater reducing the volume sent into traditional stormwater systems and improving water quality.

New planting technologies should be incorporated into projects when cost effective or where site conditions require additional infrastructure to support the growth of urban trees. Where cost prohibitive and soil conditions are suitable, planting success can be increased by selecting the right tree for the location. Additional soil preparation by amending or physically loosening compacted soils can improve soil structure and increase root growth and overall tree success.

## Guiding Principles + Design Standards



Engineered soils reduce compaction and increase the available rooting volume of urban soils by using a porous base material composed of soil and coarse angular rock to support sidewalks, roads, or parking surfaces.



Greater soil volumes can be achieved using emerging modular technologies that create a structural armature to support walkways or parking surfaces over planting soils. These also increase on site stormwater infiltration volumes.



## **Section 4**

### **Tree Selection Criteria**

## Tree Selection Criteria

### Tree Selection and Species

The current list of trees considered for planting within publicly owned boulevards and city parks provides a wide range of species and characteristics to meet the diverse site requirements found across the urban landscape. Based on the context of a potential planting site, low or tall growing, columnar or broad canopy trees with a variety of textures, colors, and seasonal interest can be selected. Thirty-one genera are represented by over 100 trees including both deciduous and evergreen species allowing for the development of a diverse urban canopy.

A complete list of trees can be found in section 6.2

### Tree Selection Criteria

There are many factors that contribute to the growth of a healthy urban forest. One of the most important considerations is selecting the right tree for the right location by examining the environmental and site conditions, growth characteristics, and functional and design benefits of potential tree species.

With the emergence of new tree planting techniques and expanded use of structural soils the range of locations where urban street trees can successfully be planted will expand. Tree selection will be an important part of the success of these new technologies. Planting media, moisture and nutrient availability, and the increasing diversity of microclimates that these plantings will be placed in must be considered.

#### Environmental and site conditions

**Soil:** Urban soils vary greatly though compaction and reduced rooting volumes are typical. This negatively impacts root growth, rainfall infiltration, and nutrient availability for urban trees. Structural soil options exist and can improve tree success by increasing rooting volumes and porosity.

**Available soil moisture:** Reduced infiltration and increased stormwater runoff in urban areas reduces available soil moisture and can often lead to drought like conditions even when precipitation rates are normal. Drought tolerance must be considered as irrigation is typically not available.

**Impervious surfaces:** Urban areas have a high percentage of impervious surfaces which can reduce water infiltration, limit

## Tree Selection Criteria

soil oxygen exchange, and increase ambient temperatures. Permeable pavers or other infiltration systems can increase available soil moisture while reducing stormwater runoff and are already being used in city projects.

**Climate:** Regional climate patterns and zone hardiness are primary considerations when selecting tree species. Recent evidence of shifting hardiness zones due to climatic changes may require adaptive tree selection to meet a wide range of environmental conditions. Local microclimates including land cover, wind patterns, solar access, rainfall, and temperature directly affect tree growth success and need to be considered.

**Air quality:** Urban areas have elevated levels of air pollution that can negatively affect tree growth. Proximity to industrial land uses and heavily traveled transportation corridors should be considered.

**Deicing salt:** Salts used to keep sidewalks and roadways clear during winter months can negatively impact tree growth. Spring runoff transports these salts into surrounding soils and road spray can coat tree stems causing bud damage.

### Tree characteristics

**Size and spacing:** Mature canopy, trunk, and root structure size determine the amount of space that is required to support a tree without causing infrastructure damage or impinging on surrounding buildings and lighting. Small trees require less space and are typically planted at 25 foot intervals where utilities or buildings interfere with canopy growth while larger trees are planted at 40 foot intervals where limits to growth are fewer.

**Form, texture, color, and seasonal interest:** Matching tree characteristics to nearby architectural styles, community or historical identity, surrounding trees, and other contextual aspects adds to the visual unity and continuity of a street or neighborhood. The use of sequenced planting will require the consideration of how different tree species work together visually.

**Leaf debris and fruit:** Seasonal leaf and fruit drop can be a nuisance in urban areas and a safety concern in pedestrian walkways. Planting locations for fruit and nut bearing trees should be carefully considered in order to minimize the mess, maintenance, and potential conflicts with the pedestrian environment that may result from the increased debris of these

## Tree Selection Criteria

species. These trees are best suited to parks, on wide parkways, and on private residential property. An exception to this is the use of species that produce smaller or persistent fruits including flowering crabapple, serviceberry, and oaks which are generally less messy than other fruiting species. Ginkgos will only be considered for planting on boulevards in certain circumstances because of the trees propensity to produce unpleasant fruit.

**Pests and disease:** While it is impossible to predict major pest or disease outbreaks, careful tree selection can minimize potential losses when problems do occur. Options include selecting new varieties of disease resistant trees, coordinating tree selection to promote city wide diversity, and planting the right tree in the right place to promote tree health and resiliency.

**Past performance:** Trees that perform well in the urban environment should continue to be used where appropriate, adhering to the diversity goals outlined above. New varieties including those from the University of Minnesota should continue to be used on an ‘on trial’ basis so that additional high performance trees can be added to the list of acceptable species.

**Native Species:** Tree species native to the Minnesota landscape are able to thrive in the local climate and have adapted a natural resistance to regional pests and diseases. Many of these trees require soil conditions not found in city boulevards. However, due to their ecological and habitat benefits, native trees should be used where appropriate.

**Maintenance:** Tree maintenance levels vary according to the growth characteristics of different species. Since Maintenance is scheduled by district on a rotational basis, not all trees are maintained annually. High maintenance trees such as those which contain weak wood or other structural issues, are rapid growers, or require excessive pruning to reduce the risk to public safety if not maintained annually will be avoided.

### Location

**Site Context:** Diverse site conditions exist within the city ranging from commercial districts and industrial lands to residential neighborhoods, parks and parkways. Each of these areas has a unique combination of building and utility constraints as well as amount and type of sidewalk, curb, road, and parking infrastructure. Land use and land cover, density, and environmental conditions must be considered when selecting trees for these locations.



**Boulevard Trees:** The value of a boulevard planting site is determined by its width, location, type of grow space, potential infrastructure conflicts, presence of overhead utilities, and proximity to lighting, hydrants, signage, signals, and other trees. Observations about the underground rooting volume and structure as well as potential obstacles that exist within the planting area are also considered.

### Function + Design

**Environmental benefits:** Trees are able to provide a number of ecological benefits within the urban landscape. Contributions to stormwater management, heat island mitigation, air quality improvements, habitat, and sustainability should be considered when planning and planting trees in the urban environment.

**Human benefits:** Trees provide a number of benefits to humans that should be considered including aesthetic, social, and health benefits; reduction in energy costs; sense of identity; visual unity and continuity; enjoyment of the outdoors; and a connection to nature.



## **Section 5**

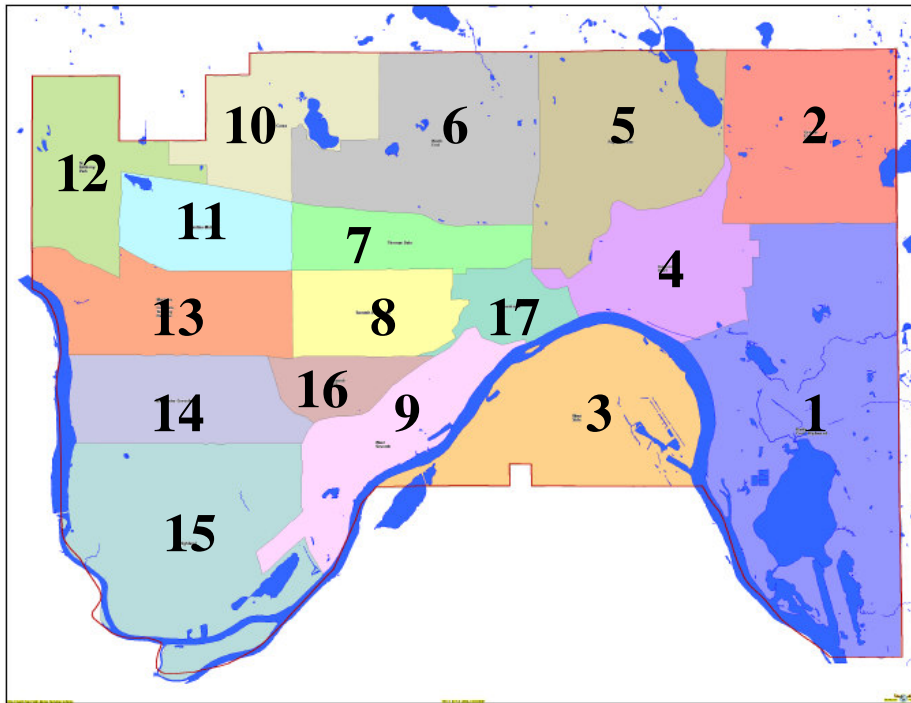
### **District Master Plan Maps**

### Street and Park Tree Master Plan Maps

The district master plan maps have been created to serve as a guide for future street tree planting and planning for the City of Saint Paul (park tree plantings are planned by the Design Section of Parks and Recreation). These maps identify overall planting patterns and coordinate tree species diversity across district boundaries.

Included with the maps are short descriptions of each district that provide context and identify a number of the challenges and opportunities associated with street tree management. There are also a number of city-wide urban forestry management issues that will affect the long term development of the streetscape and should be considered in each district. These include:

- **Structural Pruning**  
Forestry actively trims trees to establish good form and tree health so that structural issues do not arise which could reduce the long term survival and success of street trees.
- **Stem Girdling Roots**  
Many of the maple and linden trees planted in the 1970's have developed stem girdling roots that block the movement of water and nutrients between the roots and canopy effectively choking the tree. These trees are more susceptible to storm damage and early senescence.
- **Dutch Elm Disease**  
This fungal disease continues to infect the remaining American elm trees found in Saint Paul and will require ongoing monitoring and removal of affected trees. New varieties of DED resistant elm trees have been introduced and are being planted where site appropriate.
- **Emerald Ash Borer**  
Identified in Saint Paul in 2009, this insect has the potential to dramatically restructure the urban forest by eliminating large numbers of ash trees within the city.
- **Aphids**  
Aphids are commonly found on linden trees and exude a sticky substance that many consider a nuisance.



**Figure 5.1**

## **District Maps Index**

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**District 1-A**  
Battle Creek**Boundary:**

North: Minnehaha Avenue  
East: McKnight Road  
South: City and County Boundary  
West: Birmingham Street, Mississippi River

**Main Roads:**

North-South: White Bear Ave, McKnight Road, Highway 61  
East-West: Minnehaha Avenue, Third Street East, Interstate 94,  
Upper Afton Road

**Description:**

Land use varies across this district with moderate density residential, commercial, and industry adjacent to Interstate 94 and lower density residential neighborhoods to the north and south. Development ranges from traditional city blocks to suburban style cul-de-sacs. Planting boulevards vary depending on the adjacent land use.

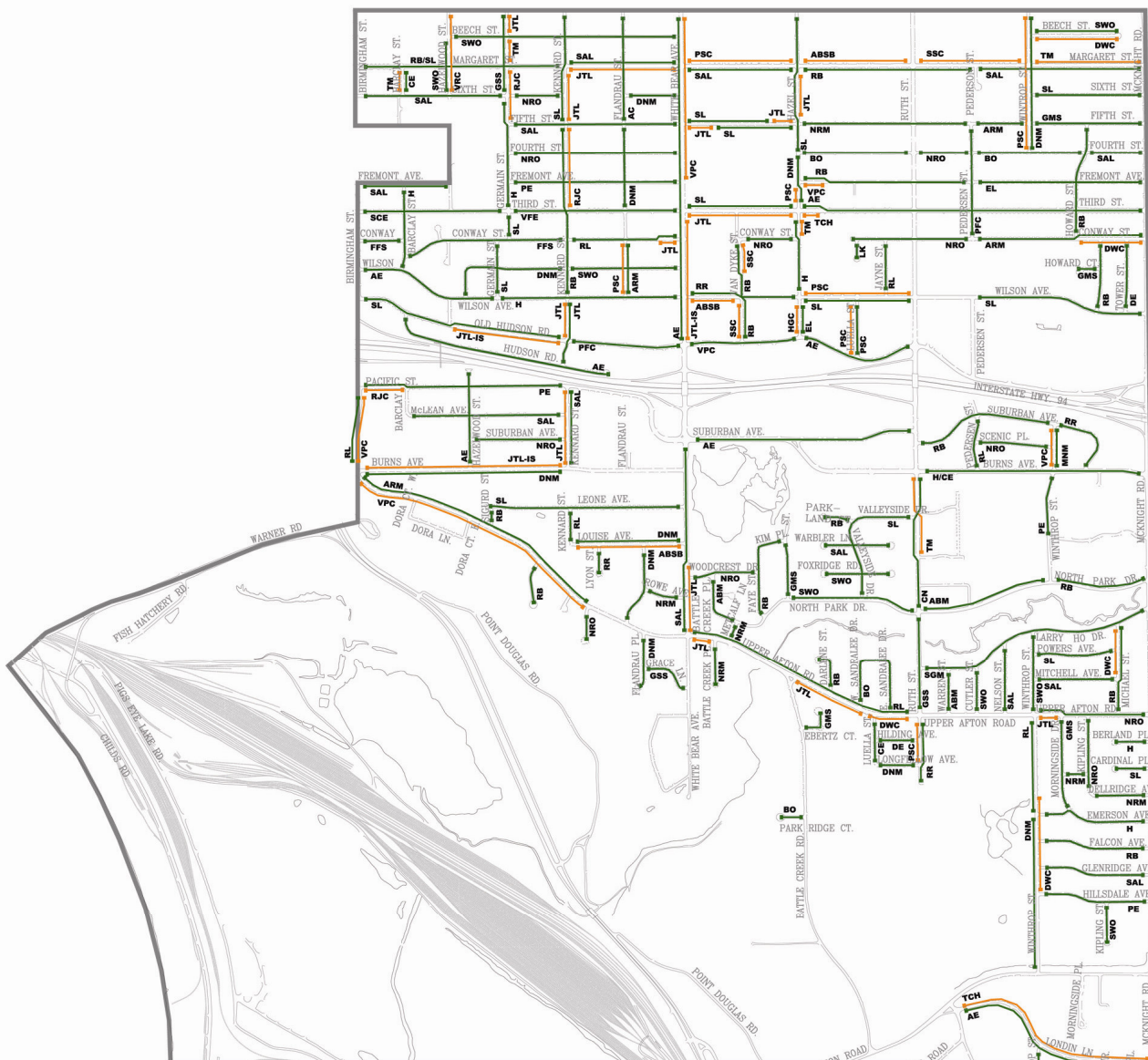
**Tree Species:**

The Saint Paul tree inventory has not been completed for this district.

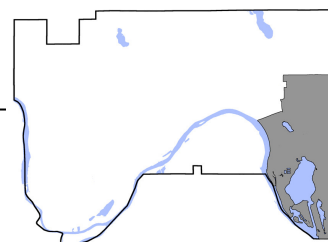
**Urban Forest Management:**

Oak wilt has been identified in district 1 and will require on-going management to reduce the spread of this fungus to other oak trees. Red Oak are most susceptible to this disease.

Japanese beetles are also a management concern and require on-going monitoring to control the potential spread of this pest.



## District 1-A Battle Creek



**District 1-B**  
Battle Creek**Boundary:**

North: Minnehaha Avenue  
East: McKnight Road  
South: City and County Boundary  
West: Birmingham Street, Mississippi River

**Main Roads:**

North-South: McKnight Road, Highway 61  
East-West: Lower Afton Road, Burlington Road, Carver Avenue

**Description:**

District 1B is composed of low density residential neighborhoods developed in the 1960's and 1970's with industrial land use near the river. Development is still occurring with large forested areas and parklands managed by the city and Ramsey County including Battle Creek Regional Park. The majority of roads do not have curbs or planting boulevards and soils have a high clay content.

**Tree Species:**

The tree inventory has not been completed for this district.

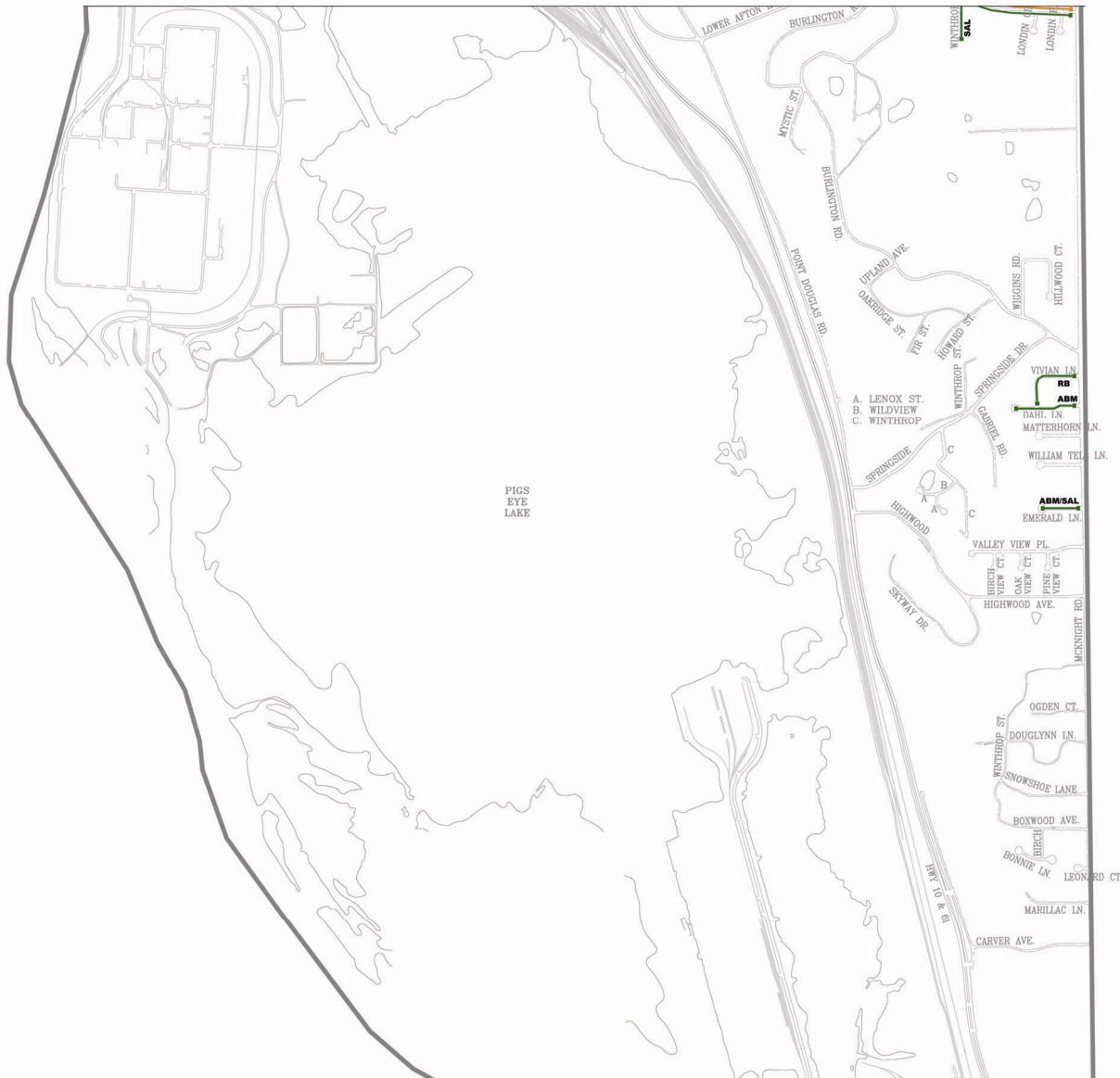
**Urban Forest Management:**

Without typical planting boulevards tree planting and maintenance occurs on an as needed basis.

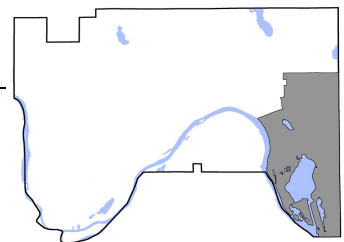
A Tree Preservation District Overlay exists within the city zoning code (see city ordinance 67.200) which guides tree management on private property to protect the natural character of the Highwood neighborhood.

**District  
Descriptions**





## District 1-B Battle Creek



## District 2

### Greater East Side

#### Boundary:

North: Larpenteur Avenue  
 East: McKnight Road  
 West: Johnson Parkway  
 South: Minnehaha Avenue

#### Main Roads:

North-South: Johnson Parkway, White Bear Avenue, McKnight Road  
 East-West: Larpenteur Avenue, Maryland Avenue, Seventh Avenue, Minnehaha Avenue

#### Description:

Land use in district 2 is primarily residential with a large commercial node, Phalen Village, at the intersection of Maryland Avenue and Prosperity Avenue southeast of Lake Phalen. Planting boulevards vary according to the age and development style of the neighborhood and range from traditional city boulevards to narrow planting strips with trees planted behind the sidewalk.

#### Tree Species:

Many ash trees were planted in this district when the residential neighborhoods were originally built and estimates place the ash population near 30-40% of the total canopy cover. Linden and honeylocust are also numerous. Extended sections of monocultures are common and exist where the same tree has been planted for six or more continuous blocks.

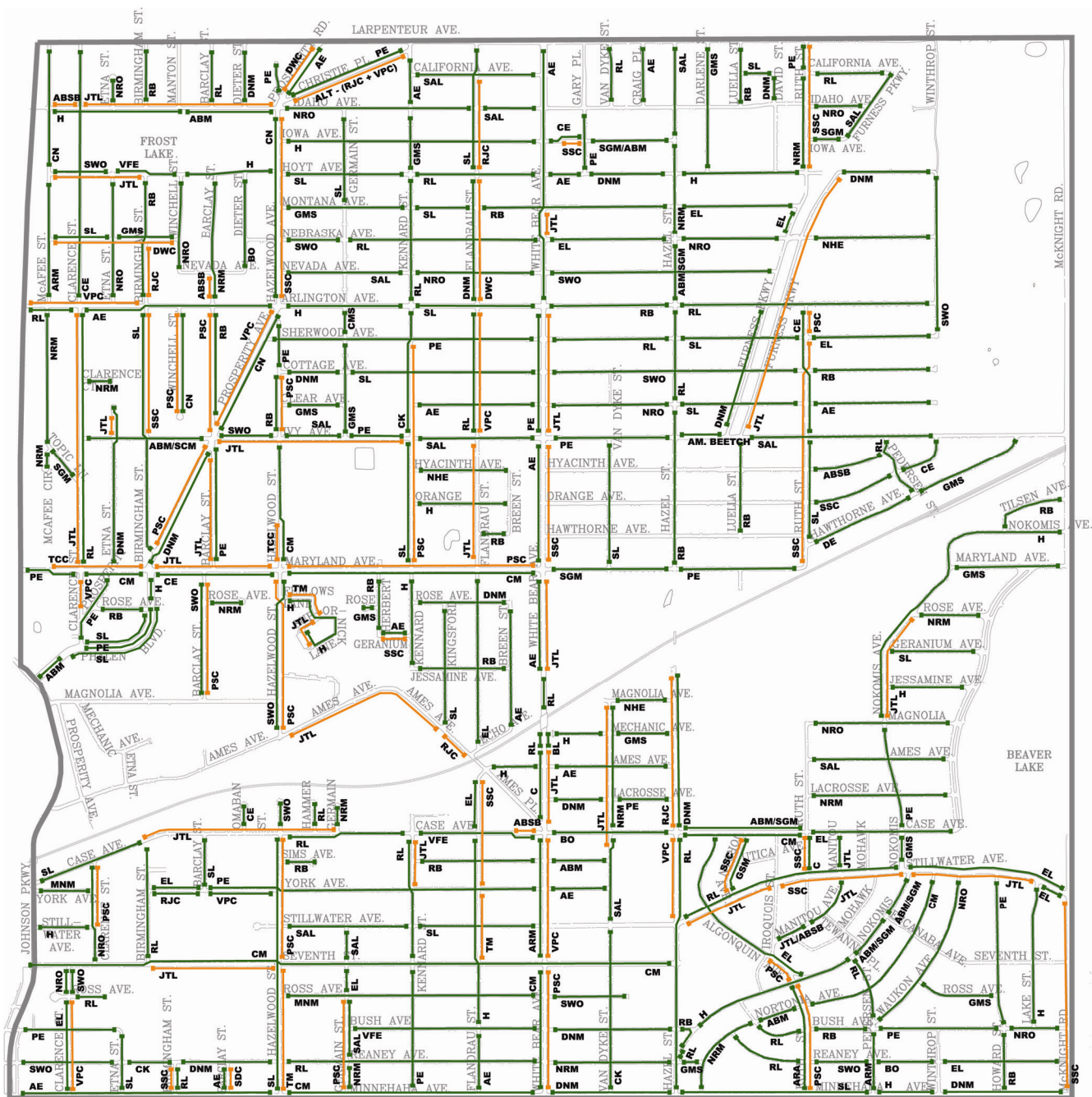
The tree inventory has not been completed for this district.

#### Urban Forest Management:

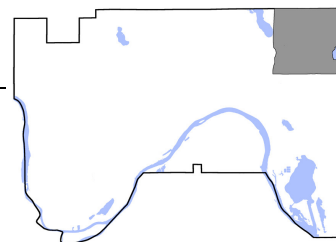
Due to the high percentage of ash trees in this district and the discovery of the Emerald Ash Borer in Saint Paul, diversification of tree planting will be an important management goal for this district. Reducing the length of monocultures by using a sequencing pattern is one method to increase diversity.

Japanese beetles are a management concern in district 2 and require on-going monitoring to control the potential spread of this pest.

## District Descriptions



## District 2 Greater East Side



## District 3-A West Side

### Boundary:

North: Mississippi River

South: Annapolis Street

### Main Roads:

North-South: Smith Avenue, Wabasha Street, Robert Street, Lafayette/52

East-West: Water Street, Fillmore Avenue, George Street, Annapolis Street

### Description:

This district is divided between the upper bluff lands and the river flats. Residential and mixed commercial occupy the upper bluff lands while industry and the downtown airport occupy the river flats. Large amounts of parkland are found along the Mississippi River.

### Tree Species:

The tree inventory has not been completed for this district.

### Urban Forest Management:

#### Lower River Flats:

The land between the bluffs and the Mississippi River contains industrial land uses as well as the downtown airport and parklands including Harriet Island. Planting boulevards vary greatly and many do not support tree planting.

Trees are difficult to establish in this area due to the large amount of industrial land use, sandy soils that dry rapidly, and flooding of the Mississippi River floodplain. Maintenance is done on an as needed basis.

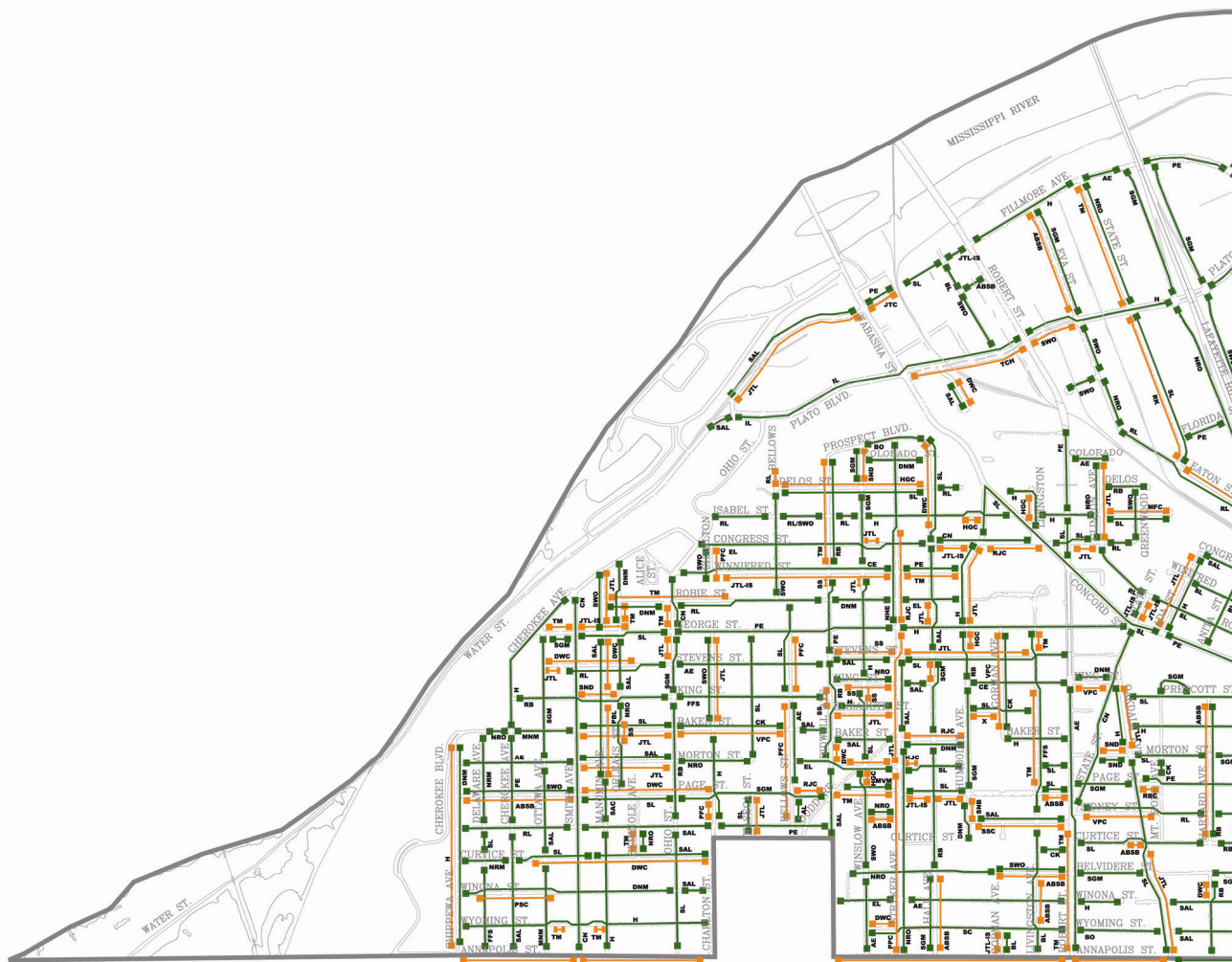
#### Upper Bluff lands:

Development on the uplands is primarily residential and mixed use commercial built in the early 1900's. Planting boulevards are typical though some streets do not have curbs and are not planted. Shallow limestone bedrock creates alkaline soils and shallow soil profiles for tree planting and infrastructure. Views to downtown are valued by residents and tree management along Prospect Boulevard and Park reflect residents' requests to maintain this view-shed.

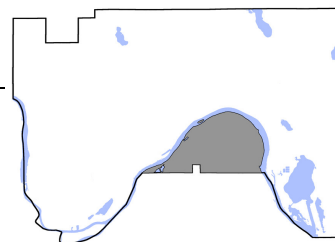
Small pockets of oak wilt have been identified in district 3 and will require on-going management to reduce the spread of this fungus to other oak trees. Red Oaks are more susceptible.

## District Descriptions





## District 3-A West Side



## District 3-B West Side

### Boundary:

North: Mississippi River

South: Annapolis Street

### Main Roads:

North-South: Smith Avenue, Wabasha Street, Robert Street, Lafayette/52

East-West: Water Street, Fillmore Avenue, George Street, Annapolis Street

### Description:

This district is divided between the upper bluff lands and the river flats. Residential and mixed commercial occupy the upper bluff lands while industry and the downtown airport occupy the river flats. Large amounts of parkland are found along the Mississippi River.

### Tree Species:

The tree inventory has not been completed for this district.

### Urban Forest Management:

#### Lower River Flats:

The land between the bluffs and the Mississippi River contains industrial land uses as well as the downtown airport and parklands including Harriet Island. Planting boulevards vary greatly and many do not support tree planting.

Trees are difficult to establish in this area due to the large amount of industrial land use, sandy soils that dry rapidly, and flooding of the Mississippi River floodplain. Maintenance is done on an as needed basis.

#### Upper Bluff lands:

Development on the uplands is primarily residential and mixed use commercial built in the early 1900's. Planting boulevards are typical though some streets do not have curbs and are not planted. Shallow limestone bedrock creates alkaline soils and shallow soil profiles for tree planting and infrastructure. Views to downtown are valued by residents and tree management along Prospect Boulevard and Park reflect residents' requests to maintain this view-shed.

Small pockets of oak wilt have been identified in district 3 and will require on-going management to reduce the spread of this fungus to other oak trees. Red Oaks are more susceptible.

## District Descriptions



## **District 4**

### Dayton's Bluff

#### **Boundary:**

North: Phalen Boulevard  
 East: Birmingham Street  
 South: Mississippi River and Warner Road  
 West: Payne Avenue and Lafayette

#### **Main Roads:**

North-South: Seventh Street, Earl Street, Johnson Parkway  
 East-West: Minnehaha Avenue, Third Avenue, Interstate 94

#### **Description:**

This area of Saint Paul developed early in city's history and is largely comprised of residential neighborhoods that date from the mid-1800's to the 1930's. Industrial land uses are located along Phalen Boulevard and near downtown with commercial occurring along 7<sup>th</sup> street. Natural areas overlook the Mississippi River including Mounds Park and the Bruce Vento Nature Sanctuary.

#### **Tree Species:**

Planting boulevards are typical to residential streets and support a wide range of tree species. Where appropriate, the unique architectural character of the neighborhood should influence tree selection. The tree inventory has not been completed for this district.

#### **Urban Forest Management:**

Phalen Boulevard forms the northern boundary of district 4 and is an important link between Lake Phalen and Downtown Saint Paul. It is a relatively new corridor and challenges exist in establishing and maintaining tree plantings in line with the overall vision for this route.

Johnson Parkway serves as an important link between Phalen Park and Indian Mounds Park

Mounds Boulevard and the surrounding parklands have cultural and historical significance to Saint Paul. Tree planting responds to these important aspects as well as the view shed across the Mississippi river to downtown.

Indian Mounds Park is a culturally and ecologically significant site that requires careful planning and maintenance to provide historical context, views to the Mississippi River and

## **District Descriptions**



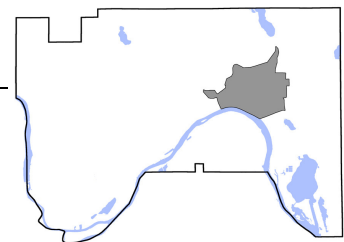
downtown, and restoration of the native plant communities that once grew on the site.

The Bruce Vento Nature Sanctuary at the base of the river bluff near downtown was once an industrial area of the city now undergoing ecological restoration.

Shallow bedrock in this district influences available soil moisture as well as the placement of trees and infrastructure.



## District 4 Dayton's Bluff



## **District 5**

### **Payne-Phalen**

#### **Boundary:**

North: Larpenteur Avenue  
 East: Phalen Boulevard  
 South: Grove Street  
 West: Interstate 35E

#### **Main Roads:**

North-South: Interstate 35E, Payne Avenue, Arcade Street  
 East-West: Wheelock Parkway, Maryland Avenue, Phalen Boulevard

#### **Description:**

Residential development in district 5 began near downtown in the mid 1800's and progressed northward with neighborhoods approaching Larpenteur Avenue built in the 1940's. Land use is primarily residential with mixed use commercial nodes. Industrial land and rail corridors exist near downtown in the district's southwest corner. Planting boulevards in residential areas are typical to residential streets though street tree canopy coverage is slightly below city average.

#### **Tree Species:**

The tree inventory has not been completed for this district.

#### **Urban Forest Management:**

Wheelock Parkway is a significant east/west transportation route with a wide right of way and room for healthy tree growth. The parkway passes through Phalen Park greatly increasing the available planting area and species that can be planted.

Native plant restoration is being conducted in Phalen Park to improve the habitat quality of the existing oak savanna community on the northwest corner of Lake Phalen. Saint Paul maintains the trails around the lake including the sections that extend into the city of Maplewood.

## **District Descriptions**



## District 6-A

### North End

#### Boundary:

North: Larpenteur Avenue  
 East: Interstate 35E  
 South: Railroad tracks  
 West: Lexington Parkway and Dale Street

#### Main Roads:

North-South: Lexington Parkway, Dale Street, Rice Street, Jackson Street  
 East-West: Larpenteur Avenue, Maryland Avenue, Front Avenue

#### Description:

District 6 is largely composed of residential neighborhoods developed between 1850 and the 1940's with typical planting boulevards that support a wide range of tree species. Commercial and industrial land uses exist near the intersection of Como Avenue and Dale Street, along the Great Northern rail corridor, and at the intersection of Jackson Street and Arlington Avenue.

#### Tree Species:

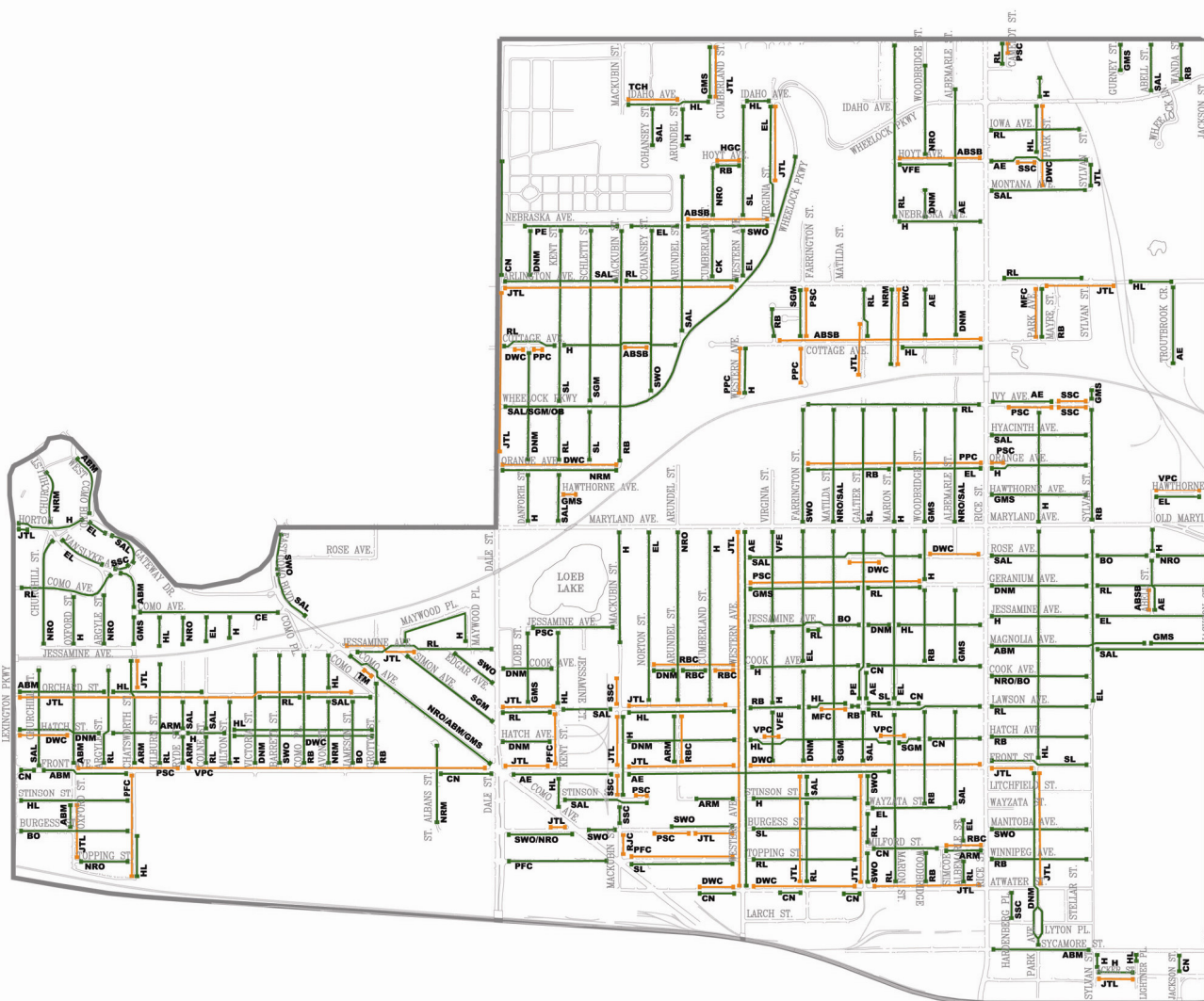
Species diversity in district 6 is moderate with maple and ash forming the largest percentage of tree canopy cover. The ash population is relatively large and currently represents 1 of every 5 trees.

#### Urban Forest Management:

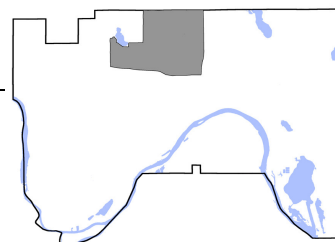
Wheelock Parkway serves as a connection between Como Park and Phalen Park. Current tree species planted along the boulevard include lindens, sugar maples, and buckeye which benefit from the wide boulevard. Views from Wheelock Parkway towards downtown are valued by residents especially near the intersection with Arlington Avenue.

Rice Street is a significant commercial street in this district and currently has a small number of street trees planted within its north-south corridor.

## District Descriptions



## District 6-A North End





## District 6-B

### North End

#### Boundary:

North: Larpenteur Avenue  
 East: Interstate 35E  
 South: Railroad tracks  
 West: Lexington Parkway and Dale Street

#### Main Roads:

North-South: Lexington Parkway, Dale Street, Rice Street, Jackson Street  
 East-West: Larpenteur Avenue, Maryland Avenue, Front Avenue

#### Description:

District 6 is largely composed of residential neighborhoods developed between 1850 and the 1940's with typical planting boulevards that support a wide range of tree species. Commercial and industrial land uses exist near the intersection of Como Avenue and Dale Street, along the Great Northern rail corridor, and at the intersection of Jackson Street and Arlington Avenue.

#### Tree Species:

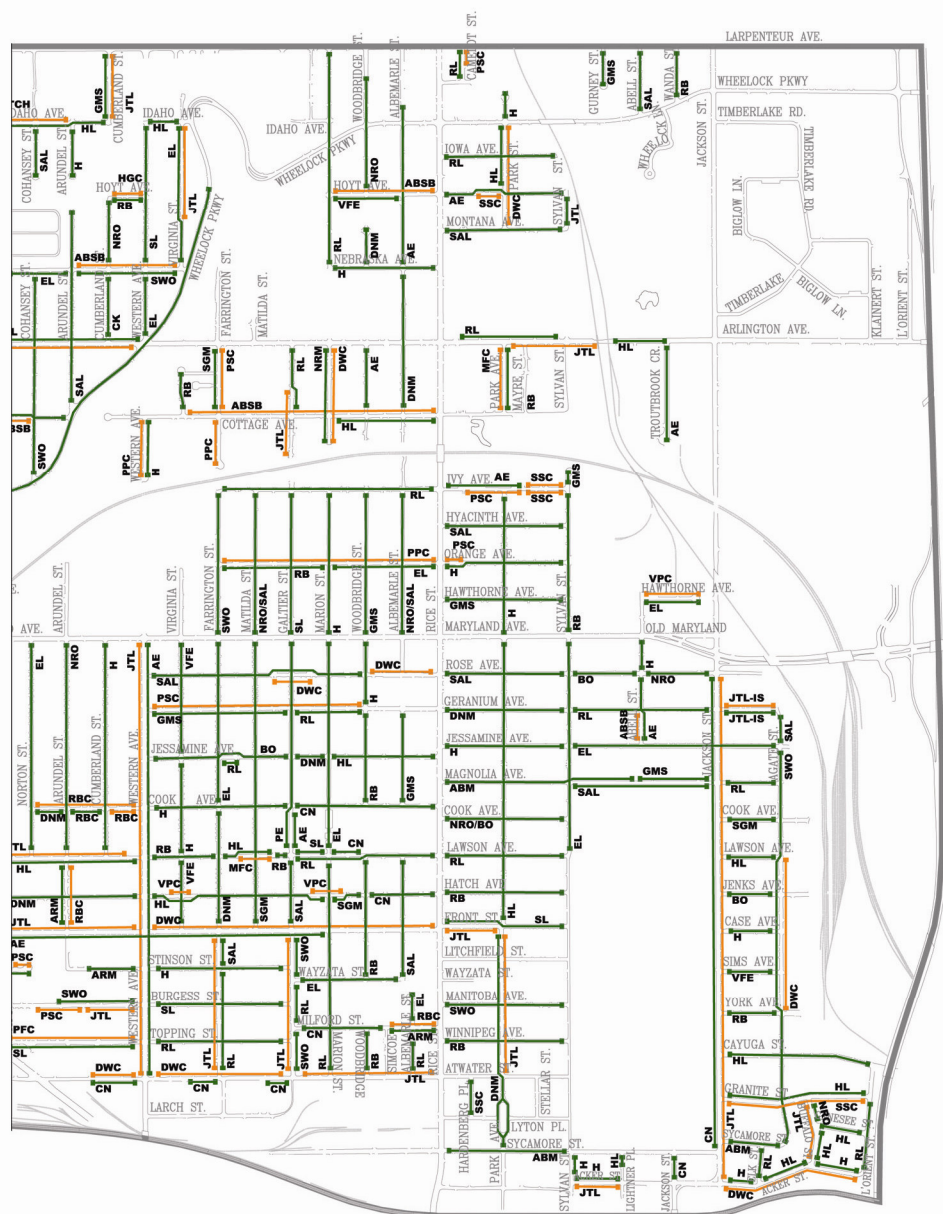
Species diversity in district 6 is moderate with maple and ash forming the largest percentage of tree canopy cover. The ash population is relatively large and currently represents 1 of every 5 trees.

#### Urban Forest Management:

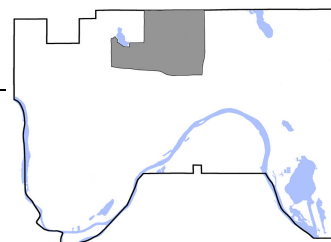
Wheelock Parkway serves as a connection between Como Park and Phalen Park. Current tree species planted along the boulevard include lindens, sugar maples, and buckeye which benefit from the wide boulevard. Views from Wheelock Parkway towards downtown are valued by residents especially near the intersection with Arlington Avenue.

Rice Street is a significant commercial street in this district and currently has a small number of street trees planted within its north-south corridor.

## District Descriptions



## District 6-B North End



## **District 7**

Thomas-Dale

### **Boundary:**

North: Railroad tracks  
 East: Interstate 35E  
 South: University Avenue  
 West: Lexington Parkway

### **Main Roads:**

North-South: Lexington Parkway, Dale Street, Rice Street,  
 Jackson Street  
 East-West: University Avenue, Como Avenue

### **Description:**

Commercial and industrial land uses are common in this centrally located district and primarily occur along University Avenue, Como Avenue, the BN rail line, and within the Capital Planning Area (CPA) north of the state capital building. The CPA includes high percentages of impervious surface though wide planting boulevards are common.

Residential neighborhoods with small pockets of commercial land use exist across the rest of the district. Streets follow an east/west grid with typical planting boulevards that range from six to twelve feet wide.

### **Tree Species:**

The tree inventory has not been completed for this district.

### **Urban Forest Management:**

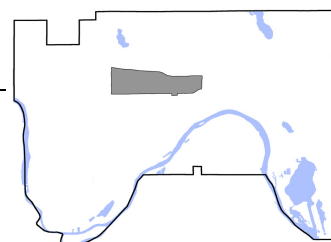
The Central Corridor Light Rail Transit line being developed along University Avenue will travel along the southern boundary of district 7 and inform the street tree planting and maintenance operations adjacent to the rail corridor.

Tree planting and maintenance within the Capital Planning Area is administered by the Capital Area Architectural and Planning Board.





## District 7 Thomas-Dale



## **District 8**

### Summit-University

#### **Boundary:**

North: University Avenue  
 East: Marion/Kellogg Boulevard  
 South: Summit Avenue  
 West: Lexington Parkway

#### **Main Roads:**

North-South: Lexington Parkway, Dale Street  
 East-West: University Avenue, Interstate 94, Selby Avenue, Summit Avenue

#### **Description:**

Residential neighborhoods vary and include the historic architecture of Summit and Selby Avenues, dense residential development near downtown, and traditional neighborhood development across the rest of the district. Planting boulevards range from four to eighteen feet though in the area north of Interstate 94 and east of Dale Street they have been reduced or eliminated with newer development.

University Avenue and Selby Avenue are the primary commercial corridors.

#### **Tree Species:**

The Saint Paul tree inventory has not been completed for this district though a high population of ash trees has been observed.

#### **Urban Forest Management:**

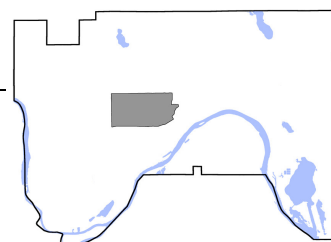
The Central Corridor Light Rail Transit line being developed along University Avenue will travel along the northern boundary of district 8 and inform the street tree planting and maintenance operations adjacent to the rail corridor.

Summit Avenue is a heavily traveled parkway that forms the southern boundary of district 8. This east/west route is valued for its aesthetic and historical character influencing tree selection and maintenance operations along the boulevard. The district 8 portion of Summit Avenue does not contain a planting median.

## **District Descriptions**



## District 8 Summit-University



## District 9

### West Seventh

#### Boundary:

North/West: Interstate 35E  
 East: Kellogg Boulevard  
 South/East: Mississippi River

#### Main Roads:

North-South: Interstate 35E, West Seventh/Fort Road, Shepard Road, Smith Avenue  
 East-West: Grand Avenue, St. Clair Avenue, Randolph Avenue

#### Description:

The West Seventh neighborhood is one of the older areas of Saint Paul with development along the Mississippi River beginning in the mid nineteenth century. West 7<sup>th</sup> is the primary traffic and mixed use commercial corridor with planting vaults located within the boulevard. Industrial land uses exist along West 7<sup>th</sup>, the Mississippi River, and Shepard Avenue.

Traditional residential neighborhoods occupy the land between West 7<sup>th</sup> and the river bluffs and contain standard planting boulevards. New high density residential development is being built along the Mississippi River near downtown. A mixture of planting boulevards and vegetated medians are being used to increase pervious surfaces and reduce stormwater runoff from the site.

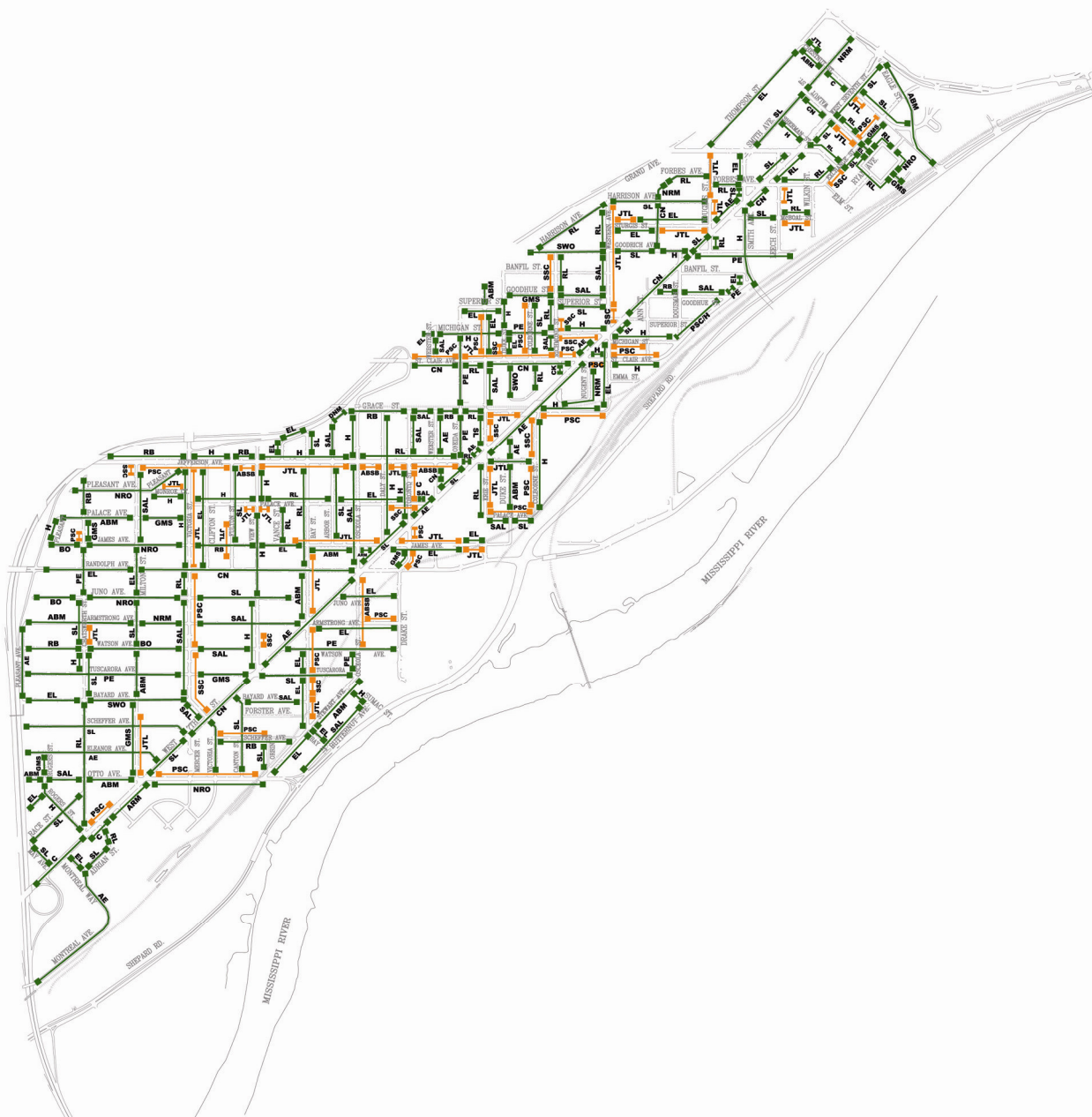
#### Tree Species:

The tree inventory has not been completed for this district.

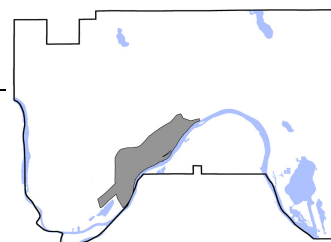
#### Urban Forest Management:

Shallow bedrock and peaty soils create difficult planting conditions that include reduced rooting profiles, dry soil conditions, and conflicts with subsurface infrastructure.

A 1998 storm damaged many trees south of Randolph Avenue resulting in a younger street tree canopy and reduced numbers of private trees.



## District 9 West Seventh



## District 10

### Como Lake

#### Boundary:

North: Larpenteur Avenue  
 East: Dale Street  
 South: Railroad tracks  
 West: Snelling Avenue

#### Main Roads:

North-South: Snelling Avenue, Lexington Parkway, Dale Street  
 East-West: Larpenteur Ave, Como Avenue, Energy Park Drive

#### Description:

Como Park is located in the center of district 10 and provides many amenities including Lake Como, recreational parklands, a conservatory, and zoo. Residential neighborhoods with pockets of commercial businesses surround this park and have typical planting boulevards that support a wide range of tree plantings. Commercial and industrial land uses exist in the southwest corner of district 10 near Energy Park Drive.

#### Tree Species:

The residential neighborhoods north of Lake Como contain large populations of ash trees planted when the neighborhood was built in the 1940's and 1950's. Maples, primarily Norway varieties, comprise the largest percentage of the tree canopy.

Como Park contains large wooded areas and open spaces that include a diverse range of native tree species. These natural areas also provide wildlife habitat within Saint Paul.

#### Urban Forest Management:

Successful tree establishment on Energy Park Drive between Lexington Parkway and Snelling Avenue remains an on-going challenge. Maintenance is on an on-demand basis and the species pallet continues to develop.

Como Park is one of the largest parks in Saint Paul. Maintenance and tree planting activities are coordinated with Parks staff and scheduled as needed or in conjunction with park projects.

A severe storm in 2007 caused significant damage across the district and tree replacement is on-going. Arbor Day events and trees planted in partnership with Friends of the Parks are helping reforest parklands within the district.

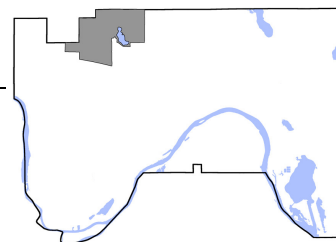
## District Descriptions



District 10 borders the Minnesota State Fairgrounds along Snelling Avenue which affects the scheduling of maintenance and planting operations during the state fair.



## District 10 Como Lake



## **District 11**

Hamline-Midway

### **Boundary:**

North: Pierce Butler  
 East: Lexington Parkway  
 South: University Avenue  
 West: Transfer Road

### **Main Roads:**

North-South: Transfer Road, Snelling Avenue, Lexington Parkway  
 East-West: Pierce Butler, Minnehaha Avenue, University Avenue

### **Description:**

District 11 is primarily composed of residential neighborhoods with an area of light industrial and commercial land in the southwest corner near University Avenue and Transfer Road. Railroad tracks and commercial arterial roads border the district to the north and west. Residential planting boulevards are typical and support a wide range of tree species.

### **Tree Species:**

Maples are the primary tree planted in district 11 and currently comprise 45% of the canopy. Ash and lindens are the next most abundant with 20% and 12% respectively.

### **Urban Forest Management:**

Snelling Avenue and University Avenue are the primary transportation corridors within District 11 carrying a high volume of private and commercial traffic.

A small number of trees are planted along Snelling Avenue and maintenance is completed on an as-needed basis. Snelling Avenue is a Minnesota State Highway and managed by the Department of Transportation.

The Central Corridor Light Rail Transit line being developed along University Avenue will travel along the southern boundary of district 11 and inform the street tree planting and maintenance operations adjacent to the rail corridor.

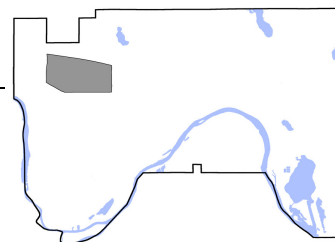
Hamline University's campus is located on Snelling Avenue in the north-central part of this district.

## **District Descriptions**





## District 11 Hamline-Midway



**District 12**

Saint Anthony Park

**Boundary:**

North: Hoyt Avenue and Como Avenue

East: Cleveland Avenue extending to Snelling Avenue

South: Interstate 94

West: Emerald Street

**Main Roads:**

North-South: Highway 280, Raymond Avenue

East-West: Como Ave, Energy Park Drive, University Ave

**Description:**

Residential neighborhoods occupy the north and west areas of the district while commercial and industrial land uses occupy the southern area near Highway 280 and Interstate 94. Planting boulevards in the residential neighborhoods are typical of residential streets and able to support a variety of tree species.

**Tree Species:**

Tree diversity across the district is moderate with maple, ash, and linden trees comprising the largest percentages of tree species. The size of the ginkgo population is relatively low but this species can be a nuisance due to fruit drop and may require additional management.

**Urban Forest Management:**

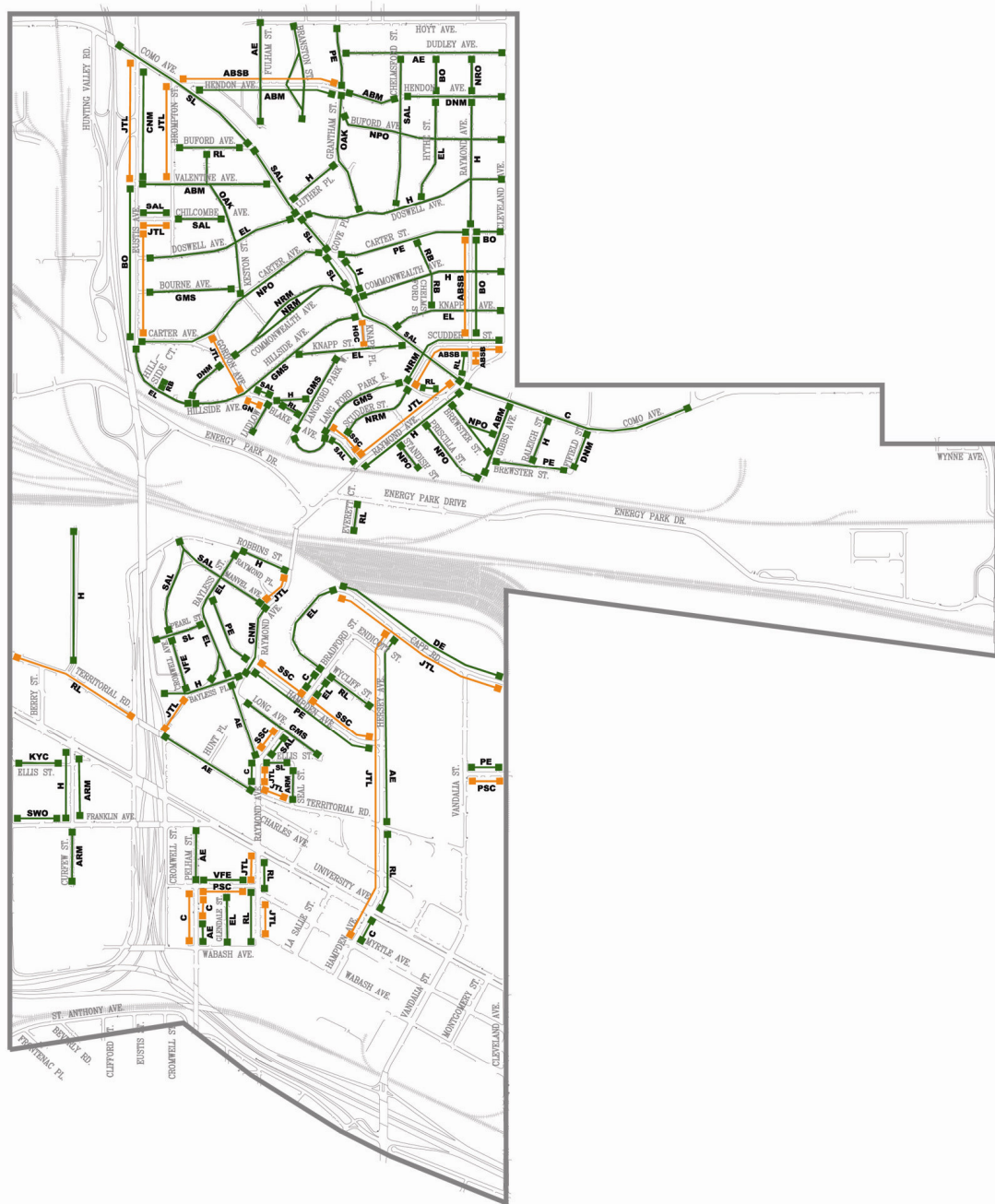
Emerald Ash Borer was first found in this neighborhood and will continue to be a major management challenge for the district. While the population of ash trees is not excessive it is still high and potential losses will have a large impact on the total canopy cover. Diverse management strategies will exist within this neighborhood in order to control the spread of this pest. Refer to the EAB management plan for more information on how Saint Paul is dealing with this pest.

Oak wilt exists within small pockets of District 12 and will require on-going monitoring and maintenance as needed.

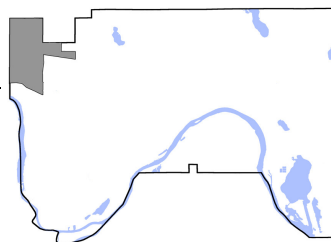
The Central Corridor Light Rail Transit line being developed along University Avenue will travel through the south end of district 12 and inform the street tree planting and maintenance operations adjacent to the rail corridor.

The Saint Paul campus of the University of Minnesota borders the northeast corner of the district.

**District  
Descriptions**



## District 12 Saint Anthony Park



## District 13

### Union Park

#### Boundary:

North: University Avenue  
 East: Lexington Parkway  
 South: Summit Avenue  
 West: Mississippi River

#### Main Roads:

North-South: Cretin Avenue, Cleveland Avenue, Fairview Avenue, Snelling Avenue, Lexington Parkway  
 East-West: University Avenue, Interstate 94, Marshall Avenue, Summit Avenue

#### Description:

Union Park is a large district that stretches from the Mississippi River to Lexington Parkway. It is composed of residential neighborhoods and mixed commercial districts with industry located along the Interstate 94 corridor. The district is well connected to the rest of the city by major transportation routes and parkways. The University of Saint Thomas and Concordia College are located within this district.

#### Tree Species:

Maple, ash, and linden are the most commonly planted trees on public right of ways. Many of Saint Paul's remaining large elm trees are located in this district and require additional maintenance due to their large size and the potential for Dutch elm disease.

#### Urban Forest Management:

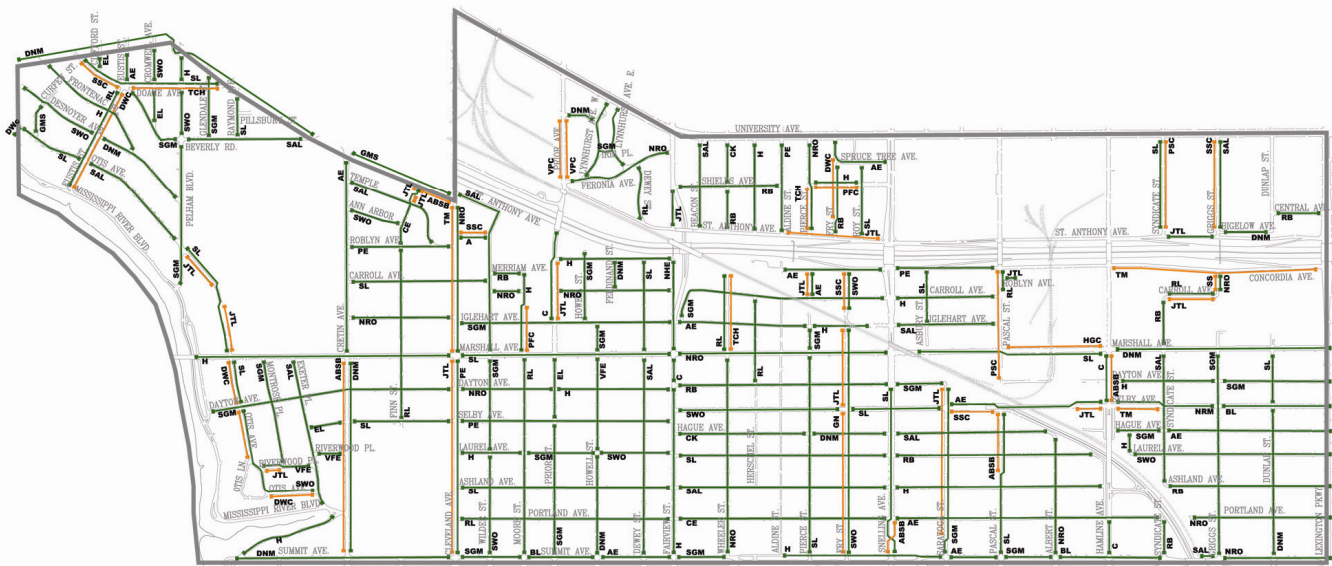
Summit Avenue is a heavily traveled parkway that contains a large planting median and forms the southern boundary of district 13. This east/west route is valued for its aesthetic and historical character and many of the trees have reached mature size and are entering senescence, increasing maintenance requirements.

The Mississippi River Boulevard corridor is one of the most highly used parkways in the city and includes separate bicycle and pedestrian pathways overlooking the Mississippi River. A number of mature oak trees along the west side of the boulevard are in poor condition due to root damage that occurred during the construction of the bike and pedestrian paths. City right of way and tree management operations extend into the boulevards on the east side of MRB.

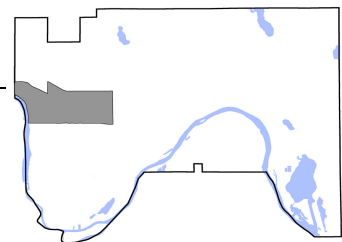
## District Descriptions

A landscape master plan for Merriam Park was developed by the neighborhood in 2008 to guide planting and park development.

The Central Corridor Light Rail Transit line being developed along University Avenue will travel along the northern boundary of district 13 and inform the street tree planting and maintenance operations adjacent to the rail corridor.



## District 13 Union Park



## District 14

### Macalester-Groveland

#### Boundary:

North: Summit Avenue  
 East: Ayd Mill Road  
 South: Randolph Avenue  
 West: Mississippi River

#### Main Roads:

North-South: Cretin Avenue, Cleveland Avenue, Fairview Avenue, Snelling Avenue, Ayd Mill Road  
 East-West: Summit Ave, St. Clair Ave, Randolph Ave

#### Description:

District 14 is composed of residential neighborhoods that extend from the Mississippi River to Lexington Parkway. These neighborhoods developed in a grid pattern except in areas west of Cretin Avenue and in Tangletown near Macalester College. Typical residential planting boulevards exist throughout the district and are able to support a wide variety of tree species.

The primary commercial corridors are along Grand Avenue and Snelling Avenue with small pockets of commercial activity spread across the district. The University of St Thomas and Macalester College are located in this district.

#### Tree Species:

Maple trees make up the largest percentage of tree species in this district followed by ash and linden.

#### Urban Forest Management:

Summit Avenue is a heavily traveled parkway that contains a large planting median and forms the northern boundary of district 14. This east/west route is valued for its aesthetic and historical character and many of the trees have reached mature size requiring increased maintenance.

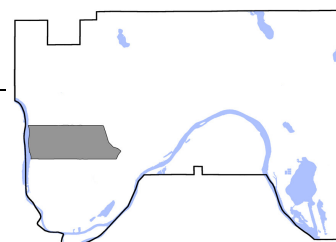
The Mississippi River Boulevard corridor is one of the most highly used parkways in the city and includes separate bicycle and pedestrian pathways overlooking the Mississippi River. A number of mature oak trees along the west side of the boulevard are in poor condition due to root damage that occurred during the construction of the bike and pedestrian paths. City right of way and tree management operations extend into the boulevards on the east side of MRB.

## District Descriptions



## District 14

### Macalester-Groveland



## District 15 Highland

### Boundary:

North: Randolph Avenue  
East: Interstate 35E  
South/West: Mississippi River

### Main Roads:

North-South: Cretin Avenue, Cleveland Avenue, Fairview Avenue, Snelling Avenue, Hamline Avenue, Lexington Parkway, Interstate 35E  
East-West: Randolph Avenue, Ford Parkway, Montreal Avenue, West Seventh/Fort Road, Shepard Road

### Description:

Residential neighborhoods are the primary land use in district 15 and development patterns range from traditional gridded neighborhoods to curvilinear street layouts near the Mississippi River and south of Montreal Avenue. Increased residential density occurs between West 7<sup>th</sup> and Shepard Road as well as south of Ford Parkway on Cleveland Avenue.

Commercial activity is located along Ford Parkway, Cleveland Avenue, Snelling Avenue, and West 7<sup>th</sup>. Industrial land uses generally occur along the Mississippi River including the Ford plant site at Ford Parkway and Mississippi River Boulevard.

### Tree Species:

A significant number of ash trees are planted in district 15 reducing species diversity and increasing the threat posed by the emerald ash borer. Maple trees also form a large percentage of the urban tree canopy and increased species diversity will be necessary to improve long term forest health and stability.

### Urban Forest Management:

Planting boulevards range from non-existent to sixteen feet wide across the district.

Mississippi River Boulevard is one of the most highly used parkways in Saint Paul and includes separate bicycle and pedestrian pathways overlooking the Mississippi River. Many of the mature oaks along the west side of the boulevard are in poor condition due to root damage that occurred during the construction of these paths. City right of way and tree management extend into the boulevards on the east side of MRB.

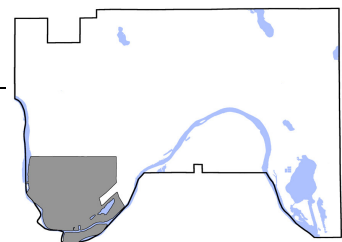
## District Descriptions



Parkways within district 15 include Ford Parkway, Highland Parkway, and Edgumbe Road. Additional streets with planting medians include St. Paul Avenue and Montreal Avenue.



## District 15 Highland



## **District 16**

### **Summit Hill**

#### **Boundary:**

North: Summit Avenue  
South/East: Interstate 35E  
West: Ayd Mill Road

#### **Main Roads:**

North-South: Lexington Parkway, Victoria Street, Ayd Mill Road, Interstate 35E  
East-West: Summit Avenue, Grand Avenue, St. Clair Avenue

#### **Description:**

Located at the top of Ramsey Hill and overlooking downtown Saint Paul, district 16 includes the areas of Crocus Hill, Grand Avenue, and Summit Avenue. The historic and architecturally unique neighborhoods include typical development patterns with tree planted boulevards as well as the curvilinear streets of Crocus Hill that do not include planting boulevards.

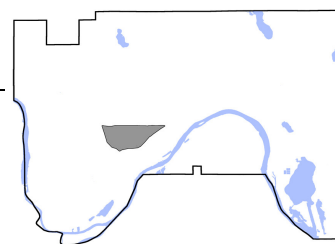
Mixed use commercial is located along Grand Avenue. Linwood Park at the southern end of the district provides extensive view-sheds from the bluff top.

#### **Tree Species:**

Maple trees comprise a significant portion of the canopy reducing overall species diversity. Ash and linden are also commonly planted in district 16.



## District 16 Summit Hill



**District 17**

Capital River/Downtown

**Boundary:**

North: University Avenue

East: Lafayette Road

South: Mississippi River

West: Kellogg Boulevard

**Description:**

Tree planting conditions within the central business district vary widely depending on land use and activity levels associated with commercial development. Solar access and microclimates are determined by the density and height of commercial buildings as well as the amount of impervious surface that is able to capture and radiate heat while blocking rainwater infiltration.

Land use in district 17 is primarily commercial. Residential and mixed use development is increasing in the downtown area improving livability and the pedestrian environment by increasing the number of street trees and connected green spaces.

A number of open spaces exist within downtown including Mears Park, Rice Park, Landmark Plaza, and Kellogg Park which overlooks the Mississippi River. Plazas associated with private development and public facilities increase the overall open space and provide additional opportunities to increase the urban canopy in the central business district.

**Tree Species:**

The tree inventory has not been completed for district 17.

**Urban Forest Management:**

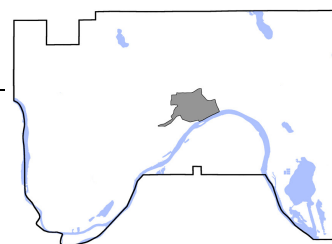
Maintenance and tree planting are done on an as needed basis

The Central Corridor Light Rail Transit line being developed along University Avenue will have a terminus in district 17. The project includes right of way design and will inform street tree planting and maintenance operations along the rail corridor.

The 2005 Downtown Development Strategy outlines a vision for downtown Saint Paul that includes increased tree canopy cover and creates a network of green streets that link the parks and built amenities of the central business district. The goal of this document is to increase the livability of downtown and improve the pedestrian environment for those living and working in Saint Paul.



# **District 17** **Capital River-** **Downtown Saint Paul**



## Species List

## Deciduous Trees

|        |                                 |
|--------|---------------------------------|
| ABM    | Autumn Blaze Maple              |
| ABSB   | Autumn Brilliance Service Berry |
| AC     | Adams Crab                      |
| AE     | Accolade Elm                    |
| ARA    | Autumn Spire Maple              |
| ARM    | Armstrong Red Maple             |
| ASB    | Autumn Splendor Buckeye         |
| BA     | Black Alder                     |
| BB     | Blue Beech                      |
| BC     | Black Cherry                    |
| BH     | Bitternut Hickory               |
| BIA    | Bigtooth Aspen                  |
| BL     | Boulevard Linden                |
| BLW    | Black Walnut                    |
| BN     | Butternut                       |
| BO     | Bur Oak                         |
| BRM    | Burgundy Belle Maple            |
| C      | Columnar Norway Maple           |
| CE     | Cathedral Elm                   |
| CK     | Crimson King Norway Maple       |
| CN     | Cleveland Norway Maple          |
| COT    | Cottonwood                      |
| CS     | Catalpa                         |
| DE     | Discovery Elm                   |
| DNM    | Deborah Norway Maple            |
| DWC    | Donald Wyman Flowering Crab     |
| EL     | Emerald Lustre Norway Maple     |
| EO     | Fastigate English Oak           |
| FFS    | Fall Fiesta Sugar Maple         |
| FMMS   | Flax Mill Majesty Sugar Maple   |
| GMS    | Green Mountain Sugar Maple      |
| GN     | Globe Norway Maple              |
| H      | Hackberry                       |
| HE     | Homestead Elm                   |
| HG     | Harvest Gold Flowering Crab     |
| IL     | Imperial Honeylocust            |
| JTL    | Japanese Tree Lilac             |
| JTL-IS | Japanese Tree Lilac-Ivory Silk  |
| KMA    | Korean Mountain Ash             |
| KYC    | Kentucky Coffeetree             |
| MFC    | Madonna Flowering Crab          |
| ML     | Moraine Locust                  |
| MTA    | Showy Mountain Ash              |
| NHE    | New Horizon Elm                 |
| NPO    | Northern Pin Oak                |
| NRM    | Northwood Red Maple             |
| OB     | Ohio Buckeye                    |
| ORM    | October Glory Red Maple         |
| PE     | Princeton Elm                   |
| PFC    | Prairiefire Flowering Crab      |
| POP    | Silver Leafed Poplar            |
| PPC    | Purple Prince Flowering Crab    |
| PRF    | Prairie Rose Crab               |
| PSC    | Pinkspire Flowering Crab        |
| RB     | River Birch                     |
| RBC    | Red Baron Flowering Crab        |
| RE     | Red Elm                         |

## District Descriptions



|     |                              |
|-----|------------------------------|
| RJC | Red Jewel Flowering Crab     |
| RL  | Redmond Linden               |
| RO  | Red Oak                      |
| RPO | Regal Prince Oak             |
| SAL | Sentry American Linden       |
| SBE | Sensation Boxelder           |
| SDC | Snowdrift Flowering Crab     |
| SG  | Sentry Ginkgo                |
| SGM | Sienna Glen Maple            |
| SHL | Shademaster Honeylocust      |
| SL  | Skyline Locust               |
| SLP | Siouxland Poplar             |
| SSC | Spring Snow Flowering Crab   |
| SWO | Swamp White/ Bicolor Oak     |
| SYC | Sycamore                     |
| TA  | Trembling Aspen              |
| TCC | Thunderchild Flowering Crab  |
| TCH | Thornless Cockspur Hawthorne |
| TE  | Triumph Elm                  |
| VFE | Valley Forge Elm             |
| VPC | Velvet Pillar Flowering Crab |
| WO  | White Oak                    |
| WW  | Weeping Willow               |

## Coniferous Trees

|     |                       |
|-----|-----------------------|
| AP  | Austrian Pine         |
| ARB | Arborvitae            |
| BF  | Balsam Fir            |
| BHS | Black Hills Spruce    |
| CBS | Colorado Blue Spruce  |
| CGS | Colorado Green Spruce |
| DF  | Douglas Fir           |
| ERC | Eastern Red Cedar     |
| KF  | Korean Fir            |
| MS  | Meyer Spruce          |
| NS  | Norway Spruce         |
| PP  | Ponderosa Pine        |
| RP  | Red Pine              |
| SAR | Arborvitae 'Smaragd'  |
| SF  | Siberian Fir          |
| SP  | Scotch Pine           |
| TAM | Larch/Tamarack        |
| VF  | Veitch Fir            |
| WF  | White Fir             |
| WP  | White Pine            |
| WS  | White Spruce          |





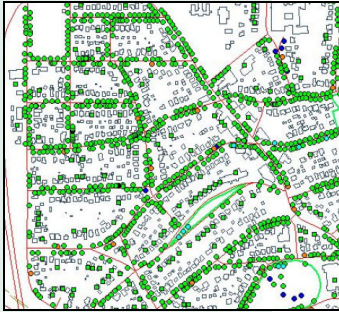
## **Section 6**

### **Appendix**

## Appendix

### 6.1

### Street Tree Inventory



The Saint Paul tree inventory is a map based record of tree species currently planted on city boulevards.

Forestry is currently creating a comprehensive street tree inventory to be used as a tool for urban forestry management. Once completed this information will assist the Forestry in establishing and measuring canopy cover, more accurately identify areas that are in need of reforestation, coordinate tree planting across the city to promote overall species diversity, and monitor the health of the changing urban forest.

Information will be updated as the inventory proceeds and trees are planted and removed. Data will be available by contacting Saint Paul Forestry or visiting the Forestry website at [www.stpaul.gov/index.aspx?nid=2828](http://www.stpaul.gov/index.aspx?nid=2828)

### 6.2

### Tree Species List

The following tree species list outlines the trees currently considered for planting in the City of Saint Paul. This list will be reviewed to consider new trees available for the Minnesota climate as well as for species that may warrant removal due to emerging diseases or insect threats.

Contact Saint Paul Forestry for information on tree species currently being planted on city boulevards or visit the Forestry website at [www.stpaul.gov/index.aspx?nid=2828](http://www.stpaul.gov/index.aspx?nid=2828)

**Figure 6.1: Tree List**

| Common Name               | Scientific Name                        | Code | Height | Form      |
|---------------------------|--|------|--------|-----------|
| Balsam Fir                | <i>Abies balsamea</i>                  | BF   | 60     | Pyramidal |
| White Fir                 | <i>Abies concolor</i>                  | WF   | 60     | Pyramidal |
| Korean Fir                | <i>Abies koreana</i>                   | KF   | 20-25  | Pyramidal |
| Siberian Fir              | <i>Abies sibirica</i>                  | SF   | 40     | Pyramidal |
| Veitch Fir                | <i>Abies veitchii</i>                  | VF   | 50-75  | Pyramidal |
| Sensation Boxelder        | <i>Acer negundo</i> 'Sensation'        | SBE  | 45     | Irregular |
| Cleveland Norway Maple    | <i>Acer platanoides</i> 'Cleveland'    | CN   | 60     | Upright   |
| Columnar Norway Maple     | <i>Acer platanoides</i> 'Columnar'     | C    | 50     | Columnar  |
| Crimson King Norway Maple | <i>Acer platanoides</i> 'Crimson King' | CK   | 50     | Rounded   |

| Common Name                     | Scientific Name                                      | Code | Height | Form      |
|---------------------------------|--|------|--------|-----------|
| Deborah Norway Maple            | <i>Acer platanoides</i> 'Deborah'                    | DNM  | 50     | Oval      |
| Emerald Lustre Norway Maple     | <i>Acer platanoides</i> 'Emerald Lustre'             | EL   | 50     | Rounded   |
| Globe Norway Maple              | <i>Acer platanoides</i> 'Globe'                      | GN   | 20-30  | Rounded   |
| Armstrong Red Maple             | <i>Acer x freemanii</i> 'Armstrong'                  | ARM  | 55     | Upright   |
| Autumn Blaze Maple              | <i>Acer x freemanii</i> 'Jeffersred'                 | ABM  | 55     | Upright   |
| Sienna Glen Maple               | <i>Acer x freemanii</i> 'Sienna'                     | SGM  | 60     | Oval      |
| Autumn Spire Maple              | <i>Acer rubrum</i> 'Autumn Spire'                    | ARA  | 50     | Upright   |
| Burgundy Belle Maple            | <i>Acer rubrum</i> 'Burgundy Belle'                  | BRM  | 45     | Compact   |
| Northwood Red Maple             | <i>Acer rubrum</i> 'Northwood'                       | NRM  | 50     | Oval      |
| October Glory Red Maple         | <i>Acer rubrum</i> 'October Glory'                   | ORM  | 50     | Rounded   |
| Fall Fiesta Sugar Maple         | <i>Acer saccharum</i> 'Bailsta'                      | FFS  | 50-75  | Oval      |
| Flax Mill Majesty Sugar Maple   | <i>Acer saccharum</i> 'Majesty'                      | FMMS | 65     | Oval      |
| Green Mountain Sugar Maple      | <i>Acer saccharum</i> 'Green Mountain'               | GMS  | 75     | Upright   |
| Ohio Buckeye                    | <i>Aesculus glabra</i>                               | OB   | 40     | Rounded   |
| Autumn Splendor Buckeye         | <i>Aesculus sylvatica</i> 'Autumn Splendor'          | ASB  | 20-40  | Oval      |
| Black Alder                     | <i>Alnus glutinosa</i>                               | BA   | 45     | Upright   |
| Autumn Brilliance Service Berry | <i>Amelanchier x grandiflora</i> 'Autumn Brilliance' | ABSB | 25     | Upright   |
| River Birch                     | <i>Betula nigra</i>                                  | RB   | 60     | Pyramidal |
| Blue Beech                      | <i>Carpinus caroliniana</i>                          | BB   | 30     | Spreading |
| Bitternut Hickory               | <i>Carya cordiformis</i>                             | BH   | 50-70  | Irregular |
| Catalpa                         | <i>Catalpa speciosa</i>                              | CS   | 60     | Oval      |
| Hackberry                       | <i>Celtis occidentalis</i>                           | H    | 60     | Spreading |
| Thornless Cockspur Hawthorne    | <i>Crataegus crus-galli inermis</i>                  | TCH  | 15-18  | Spreading |
| Sentry Ginkgo                   | <i>Ginkgo biloba</i> 'Sentry'                        | SG   | 60     | Pyramidal |
| Imperial Honeylocust            | <i>Gleditsia triacanthos inermis</i> 'Impcole'       | IL   | 35     | Spreading |
| Moraine Locust                  | <i>Gleditsia triacanthos inermis</i> 'Moraine'       | ML   | 30-80  | Rounded   |
| Shademaster Honeylocust         | <i>Gleditsia triacanthos inermis</i> 'Shademaster'   | SHL  | 40     | Upright   |
| Skyline Locust                  | <i>Gleditsia triacanthos inermis</i> 'Skycole'       | SL   | 50     | Pyramidal |
| Kentucky Coffeetree             | <i>Gymnocladus dioica</i>                            | KYC  | 60-75  | Spreading |
| Butternut                       | <i>Juglans cinerea</i>                               | BN   | 50     | Irregular |
| Black Walnut                    | <i>Juglans nigra</i>                                 | BLW  | 60     | Irregular |
| Eastern Red Cedar               | <i>Juniperus virginiana</i>                          | ERC  | 30-45  | Pyramidal |
| Larch/Tamarack                  | <i>Larix laricina</i>                                | TAM  | 50     | Pyramidal |
| Adams Crab                      | <i>Malus</i> 'Adams'                                 | AC   | 20-25  | Rounded   |
| Donald Wyman Flowering Crab     | <i>Malus</i> 'Donald Wyman'                          | DWC  | 20     | Rounded   |
| Harvest Gold Flowering Crab     | <i>Malus</i> 'Harvest Gold'                          | HG   | 20     | Rounded   |
| Madonna Flowering Crab          | <i>Malus</i> 'Madonna'                               | MFC  | 18-20  | Rounded   |
| Pinkspire Flowering Crab        | <i>Malus</i> 'Pinkspire'                             | PSC  | 20     | Rounded   |
| Prairie Rose Crab               | <i>Malus</i> 'Prairie Rose'                          | PRF  | 20     | Rounded   |
| Prairiefire Flowering Crab      | <i>Malus</i> 'Prairiefire'                           | PFC  | 15-20  | Rounded   |
| Purple Prince Flowering Crab    | <i>Malus</i> 'Purple Prince'                         | PPC  | 17-20  | Rounded   |
| Red Baron Flowering Crab        | <i>Malus</i> 'Red Baron'                             | RBC  | 20     | Rounded   |
| Red Jewel Flowering Crab        | <i>Malus</i> 'Red Jewel'                             | RJC  | 15     | Rounded   |
| Snowdrift Flowering Crab        | <i>Malus</i> 'Snowdrift'                             | SDC  | 20     | Rounded   |
| Spring Snow Flowering Crab      | <i>Malus</i> 'Spring Snow'                           | SSC  | 25     | Rounded   |
| Thunderchild Flowering Crab     | <i>Malus</i> 'Thunderchild'                          | TCC  | 20     | Rounded   |

| Common Name                    | Scientific Name                        | Code   | Height | Form      |
|--------------------------------|--|--------|--------|-----------|
| Velvet Pillar Flowering Crab   | <i>Malus 'Velvet Pillar'</i>           | VPC    | 20     | Rounded   |
| Norway Spruce                  | <i>Picea abies</i>                     | NS     | 60     | Pyramidal |
| Black Hills Spruce             | <i>Picea glauca densata</i>            | BHS    | 40     | Pyramidal |
| White Spruce                   | <i>Picea glauca</i>                    | WS     | 50     | Pyramidal |
| Meyer Spruce                   | <i>Picea meyeri</i>                    | MS     | 40     | Pyramidal |
| Colorado Green Spruce          | <i>Picea pungens</i>                   | CGS    | 60     | Pyramidal |
| Colorado Blue Spruce           | <i>Picea pungens var. glauca</i>       | CBS    | 60     | Pyramidal |
| Austrian Pine                  | <i>Pinus nigra</i>                     | AP     | 40     | Pyramidal |
| Ponderosa Pine                 | <i>Pinus ponderosa var. scopulorum</i> | PP     | 55     | Pyramidal |
| Red Pine                       | <i>Pinus resinosa</i>                  | RP     | 60-80  | Pyramidal |
| White Pine                     | <i>Pinus strobus</i>                   | WP     | 80     | Pyramidal |
| Scotch Pine                    | <i>Pinus sylvestris</i>                | SP     | 55     | Pyramidal |
| Sycamore                       | <i>Platanus occidentalis</i>           | SYC    | 80     | Rounded   |
| Silver Leafed Poplar           | <i>Populus alba</i>                    | POP    | 70     | Upright   |
| Siouxland Poplar               | <i>Populus deltoides 'Siouxland'</i>   | SLP    | 90     | Rounded   |
| Cottonwood                     | <i>Populus deltoides</i>               | COT    | 80     | Upright   |
| Bigtooth Aspen                 | <i>Populus grandidentata</i>           | BIA    | 65     | Pyramidal |
| Trembling Aspen                | <i>Populus tremuloides</i>             | TA     | 60     | Oval      |
| Black Cherry                   | <i>Prunus serotina</i>                 | BC     | 60     | Spreading |
| Douglas Fir                    | <i>Pseudotsuga menziesii</i>           | DF     | 60     | Pyramidal |
| White Oak                      | <i>Quercus alba</i>                    | WO     | 60-80  | Rounded   |
| Swamp White/ Bicolor Oak       | <i>Quercus bicolor</i>                 | SWO    | 60     | Columnar  |
| Regal Prince Oak               | <i>Quercus x warei 'Long'</i>          | RPO    | 40-60  | Upright   |
| Northern Pin Oak               | <i>Quercus ellipsoidalis</i>           | NPO    | 50-60  | Pyramidal |
| Bur Oak                        | <i>Quercus macrocarpa</i>              | BO     | 60-80  | Spreading |
| Fastigate English Oak          | <i>Quercus robur 'Fastigiata'</i>      | EO     | 40-60  | Columnar  |
| Red Oak                        | <i>Quercus rubra</i>                   | RO     | 80     | Pyramidal |
| Weeping Willow                 | <i>Salix alba</i>                      | WW     | 50     | Weeping   |
| Korean Mountain Ash            | <i>Sorbus alnifolia</i>                |        | 40     | Rounded   |
| Showy Mountain Ash             | <i>Sorbus decora</i>                   | MTA    | 20-30  | Rounded   |
| Japanese Tree Lilac-Ivory Silk | <i>Syringa reticulata 'Ivory Silk'</i> | JTL-IS | 20     | Upright   |
| Japanese Tree Lilac            | <i>Syringa reticulata</i>              | JTL    | 25     | Oval      |
| Arborvitae                     | <i>Thuja occidentalis</i>              | ARB    | 40-50  | Pyramidal |
| Arborvitae 'Smaragd'           | <i>Thuja occidentalis 'Smaragd'</i>    | SAR    | 15-20  | Pyramidal |
| Sentry American Linden         | <i>Tilia americana 'McKSentry'</i>     | SAL    | 40-45  | Pyramidal |
| Boulevard Linden               | <i>Tilia americana 'Boulevard'</i>     | BL     | 60     | Pyramidal |
| Redmond Linden                 | <i>Tilia americana 'Redmond'</i>       | RL     | 65-75  | Pyramidal |
| Accolade Elm                   | <i>Ulmus 'Accolade'</i>                | AE     | 75     | Spreading |
| Cathedral Elm                  | <i>Ulmus x 'Cathedral'</i>             | CE     | 50     | Spreading |
| Discovery Elm                  | <i>Ulmus davidiana japonica</i>        | DE     | 35-45  | Spreading |
| Homestead Elm                  | <i>Ulmus carpinifolia 'Homestead'</i>  | HE     | 55-60  | Upright   |
| New Horizon Elm                | <i>Ulmus x 'New Horizon'</i>           | NHE    | 50-60  | Upright   |
| Princeton Elm                  | <i>Ulmus americana 'Princeton'</i>     | PE     | 60     | Spreading |
| Red Elm                        | <i>Ulmus rubra</i>                     | RE     | 80     | Spreading |
| Triumph Elm                    | <i>Ulmus 'Morton Glossy'</i>           | TE     | 55     | Upright   |
| Valley Forge Elm               | <i>Ulmus americana 'Valley Forge'</i>  | VFE    |        | Spreading |

## Planting Guidelines

Forestry oversees the planting of boulevard and park trees throughout the city and coordinates with a number of contractors and organizations to implement planned tree planting operations.

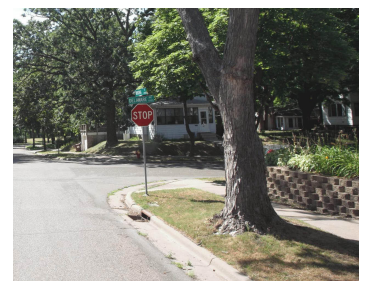
Street trees are planted on boulevards that are a minimum of 36 inches wide and where street improvements have already been completed. Trees are planted during the spring and fall by licensed contractors following city specifications and standards. Forestry staff verify the establishment of new trees within one year of planting with dead trees replaced by the contractor.

Planting the right tree for the right location is crucial for the long term survival of the urban forest. Tree selection is guided by the Street and Park Tree Master Plan and based on the existing or proposed site conditions. Spring planting is recommended for species including oaks, birch, hawthorns, serviceberry, and red maple to ensure establishment and increase survival rates through the first winter.

The following criteria are followed as closely as possible by Forestry staff when determining tree placement:

- Trees are planted on boulevards that have a minimum width of 36 inches.
- Large, medium, and small trees will not be planted closer than 40, 30, and 20 feet from each other respectively, unless the shape of the tree warrants a deviation in spacing.
- Conifer trees will be considered where boulevards are wide enough to accommodate full form mature trees without interrupting sight lines or public safety.
- Trees that bear large fruits or nuts will be considered for planting in parks and wide parkways where fruit debris will not disrupt public safety nor require additional right of way maintenance to clean up fallen fruit.
- If trees on private or public property are growing too close to a potential planting site and will hinder the development of a new tree, no new trees will be planted.
- When planting beneath overhead wires, selection of species will be made to minimize interference with those wires and to reduce maintenance needs. Required line clearance and trimming near overhead wires will be

### 6.3



Utilities, lighting, and street signage are a few of the obstacles that must be considered when planting trees

done by Forestry.

- No trees will be placed within 30 feet of a stop sign, traffic sign or signal, nor within 15 feet of a street light.
- New trees will not be planted within 5 feet of identifiable underground gas utility nor within 10 feet of an underground water utility.
- New trees will not be placed within 10 feet of a fire hydrant, driveway or utility pole.
- When possible, new trees will be planted near old stumps that have not yet been removed. However, due to woody material underground this is not always possible and planting decisions are left to the discretion of Forestry.
- No tree will be planted on a street that does not yet have curb and gutters. When the public works department installs curbs tree roots can be damaged, and therefore Forestry waits to plant the area until curbs are installed.

Refer to Section 6.14 in the appendix for further information on planting a tree in the public boulevard.

Boulevard tree planting by individual property owners is allowed and a free permit available through Forestry is required. Forestry staff will check the conditions of the site and recommend appropriate species for the planting site.

| FACTOR           | RECOMMENDED OFFSETS | EXPLANATION  |
|------------------|---------------------|--|
| Street Light     | 15 to 20 feet       | Variable based on luminary mounting height, overhang from curb and angle of light distribution.                  |
| Utility Pole     | 10 to 15 feet       | Generally, trees should not be in the same alignment as utility poles. Dependent on cross arms and transformers. |
| Fire Hydrant     | 10 feet             | Allows for hose attachments and maintenance work.  |
| Water Gate Valve | 5 to 15 feet        | Allows for maintenance work.   |
| Gas Shut Off     | 5 feet              | Allows for maintenance work. Most are located on the meter outside of the house.                                 |
| Driveway         | 10 feet             | Allows driver visibility.  |
| Sidewalk         | 5 feet              | Delays root damage.  |
| Street Sign      | 5 feet              | Signage should be located between the tree and curb for maximum visibility.                                      |
| Intersections    | 15 to 40 feet       | Depends on boulevard width, traffic volume and position of traffic lights, opticon and other safety conditions.  |
| Yard Trees       | 20 to 40 feet       | Dependent on mature sizes of the yard tree and the boulevard tree.   |

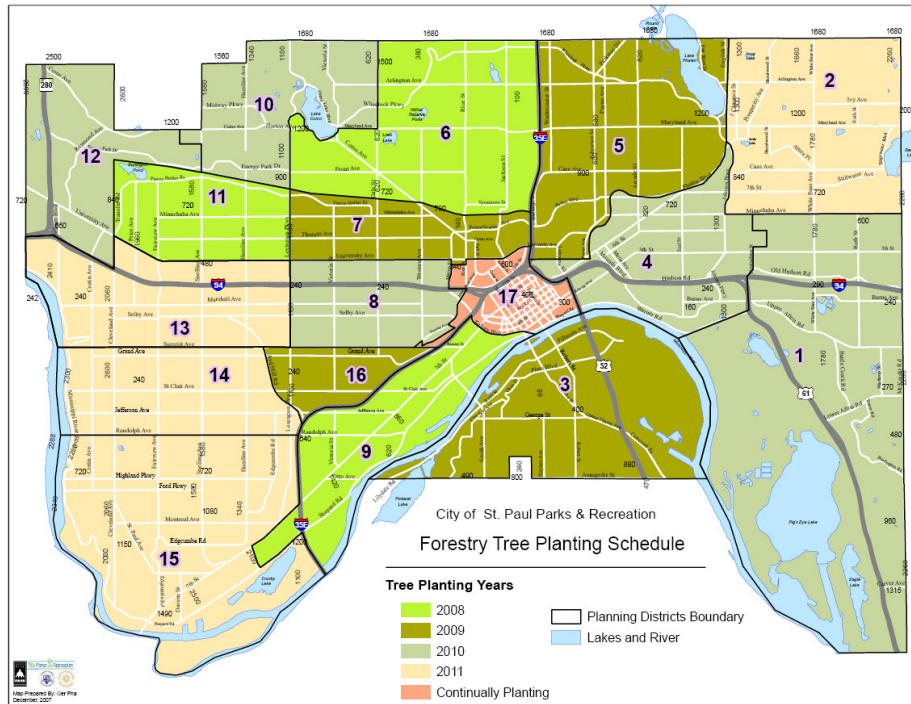
**Figure 6.2: Spacing Chart**



## Planting and Replacement Schedule

## 6.4

Trees are planted by district on an annually rotating basis and will be scheduled based on the planting plan. Due to this rotational planting there may be a delay between the time a failing tree is removed and scheduled replacement of the tree.



**Figure 6.3: District Planting Map**

Park trees are supported in two primary ways and are either funded and planted by the city or through private donations. City planting of park trees is based on the planning goals for a park or in response to other needs such as replacing storm damaged trees. Planting schedules and locations for privately donated trees are based on the request that has been made, the availability of space, and the need for additional trees within city parks.

Memorial trees are planted in parks or other locations by request when a community member places a special order with the city. These trees are planted in a location selected during the donation process as long as a planting space that doesn't interfere with infrastructure, safety, surrounding trees, or other designated land uses is available.

Individuals and groups can donate trees to the city through Tree Saint Paul which uses donations to reforest public lands. Donations can be made by contacting Saint Paul Parks and Recreation.

Memorial trees can be ordered through the Saint Paul Department of Parks and Recreation Amenity Donation Program.

Tree selection is based on tree location criteria mentioned above and section 4 of this master plan which outlines the tree selection criteria. Forestry staff will use the site conditions, tree characteristics, and guidelines of this master plan to determine the proper tree for the location.

## **6.5 Notification of Planting**

Residents will be notified up to one month before planting begins that a new tree will be planted on the boulevard.

Forestry staff will leave a pamphlet or flyer in the door of each house where a new tree will be placed letting citizens know what type of tree will be planted and general care instruction.

Up to one month prior to planting Forestry staff will paint a white “T” on the curb to show the approximate location of the tree. This may change by a few feet as utilities are located after the “T” is put on the curb.

## **6.6 Specifications and Standards**

The city of Saint Paul requires adherence to the city-wide tree planting specifications when new trees are installed. Tree specifications cover the following:

- Materials and Standards
- Plant Preparation
- Plant Installation
- Inspections and Initial Acceptance
- Maintenance and Warranties
- Final Acceptance

For more information or to obtain a copy of these specifications contact Saint Paul Forestry.

Refer to ANSI A-300 Part 6 for more information on proper tree planting and transplanting

## General Maintenance and Removal

### 6.7

The city of Saint Paul's Forestry section is responsible for the maintenance of all publicly owned trees. Monitoring the condition, trimming and removal of trees on public property is Forestry's primary objective to ensure continued health of the urban forest.

Trees that Forestry maintains include those growing:

- On public street boulevards
- On park land
- On easements behind sidewalks
- In the public right of way of streets and alleys
- On other municipal property such as golf courses and natural areas

Reasons for removal:

- Dead or declining health
- Disease
- Unsound or damaged structure
- Invasive species
- Construction

Notice of removal:

- Trees are marked for removal with a red paint ring and a number signifying the tree's diameter at breast height (D.B.H.)
- Notice will be provided 48 hours prior to removal unless the tree has been deemed dangerous or for emergency situations
- No parking signs are posted 24 hours in advance when necessary
- Forestry arborists or supervisors will explain the rationale behind the decision to remove a tree that is marked. However, the final decision as to whether a tree is removed rests with the Forestry
- Diseased trees marked for removal in a given year will be removed as soon as possible, or by April 1 of the following year

Stump Removal:

- The scheduling and number of stump removals done per year will be dependant on the priority level of other forestry work and subject to available budgets
- Stumps will be ground out during tree planting if they effect the placement of new trees
- Utilities must be located prior to stump removal



## Removal of Nuisance and Dangerous Trees:

### Dutch Elm Disease

Dutch elm disease had a devastating impact on the urban canopy of Saint Paul in the 1970's and remaining American elm populations are still being affected. Identification and removal of infected trees can slow the spread of DED and control the population of the beetle that acts as the primary vector for this fungal disease.



This elm is showing signs of decline associated with DED

Elm trees are surveyed each summer by trained and licensed tree inspectors to locate and mark diseased, dead, and dangerous trees. Trees found to have DED will be marked for removal when the infection has progressed beyond a treatable stage. Property owners may receive a permit for private trimming and treatment if the infection is in the early stages and less than 5% of the canopy is affected. Removal work will be performed by Forestry crews and notice of removal will be provided to the adjacent property owner.

Private property trees identified as having DED will be subject to removal pursuant to city ordinance, Chapter 175, which gives Forestry the right to act on dangerous and nuisance trees. Once DED is identified, a letter will be sent to the property owner and one month given for removal of the infected tree. Any work not completed within the allotted time will be abated by the city and the cost of removal assessed to the property owner.

Treatment of public trees through private tree care companies is an option for property owners with elm trees in the early stages of infection. A free city permit is required and fungicide injections must be administered by a permitted tree care company. Saint Paul Forestry does not treat public elm trees for DED.

For more information on Dutch elm disease visit the Forestry website at [www.stpaul.gov/index.aspx?NID=2493](http://www.stpaul.gov/index.aspx?NID=2493). Information regarding the diseased tree removal ordinance can be found under chapter 175 of the city code, available at [www.stpaul.gov](http://www.stpaul.gov).

## Emerald Ash Borer

With the arrival of EAB additional management plans have been put in place to slow the spread of this pest, avoid the development of hazardous conditions, and spread the projected costs of dealing with EAB over a number of years. Ash trees will be removed when certain criteria are met. These include:

- Known and suspected infestations of EAB
- When 30% or more of the canopy is in decline
- Structured removal to reduce the ash tree population

Trees and stumps will be removed during the abatement process. Wood debris will be managed in accordance to the EAB management plan and transferred to the Pigs Eye Wood Recycling Center for further treatment and utilization. Ash management procedures will adapt and respond to recommendations by the Minnesota Department of Agriculture and the changing status of this infestation.

Private property trees identified as having EAB will be subject to removal pursuant to city ordinance, Chapter 175, which gives Forestry the right to act on dangerous and nuisance trees. Once EAB is identified, a letter will be sent to the property owner and one month given for removal of the infected tree. Any work not completed within the allotted time will be completed by Forestry and the cost of removal assessed to the property owner.

Treatment through private tree care companies is an option for property owners with ash trees in the early stages of infestation. A free city permit is required and pesticide injections must be administered by a permitted tree care company. Saint Paul Forestry only chemically treats public ash trees for EAB when trees meet the standards outlined in the “EAB Management Plan.”

For more information including EAB storm procedures, tree replacement, and chemical treatment options refer to the “Emerald Ash Borer Management Plan” available on the Forestry website [www.stpaul.gov/index.aspx?nid=2828](http://www.stpaul.gov/index.aspx?nid=2828). Additional resources are available on the Forestry website or from the Minnesota Department of Agriculture. Information regarding the diseased tree removal ordinance can be found under chapter 175 of the city code, available at [www.stpaul.gov](http://www.stpaul.gov).



Adult borer  
Image: David Cappaert



S-shaped galleries caused by feeding larva



Girdled trap trees are used to slow the spread of EAB



## 6.9

### Trimming

Public property trees are trimmed by Saint Paul Forestry in accordance with national standards and care is taken to ensure the health of the trees and the urban forest as a whole.

Forestry crews trim publicly owned trees for a variety of reasons including:

- To improve the aesthetic appearance of the trees and the streetscape
- To improve the health of the tree, removal of diseased or failing limbs, correction of growth defects and reduction of wind resistance
- To remove dead limbs that could fall and cause damage or injuries
- To lessen interference with vehicle traffic, pedestrians, and buildings

Refer to ANSI A-300 Part 1 standards on pruning

## 6.10

### Storm Damage and Emergency Response

#### Storm Cleanup

Storm damage is categorized into three levels depending on the severity of the storm event and is managed by Forestry. A level 3 storm event includes coordination by the Emergency Operations Center (EOC).

##### Level 1:

A storm event having no significant over riding impact on community issues; can usually be mitigated by a single forestry crew.

##### Level 2:

A storm event characterized by association with community issues transcending simple debris clean up and disposal; may entail the utilization of more than one forestry crew.

##### Level 3:

A severe or catastrophic storm event that has widespread impact on public safety.



Storms can cause various levels of damage to trees and property

Forestry provides 24 hour response to tree damage and debris clean up from storm events on publicly owned park lands and public street right of ways. Storm management priority will depend on the severity of the storm event and will follow these general procedures.

- Assist with life threatening situations or tasks
- Reopen emergency street corridors
- Reopen arterial, collector, and residential street corridors
- Removal of trees from structures
- Removal of damaged and dangerous trees
- Removal of destroyed but non-threatening trees
- Park clean up
- Stump removal and tree replanting

When storm damage is wide spread or severe additional park maintenance staff or independent contractors may be retained to assist with debris clean up, debris hauling, non-right of way tree removals, stump removals, and storm mitigation pruning.

Storm debris is transported to the Pigs Eye Wood Recycling Center for utilization. Refer to the Storm Management Plan for complete information on storm response.

## **Emergency Maintenance or Removal**

Trees within the public right of way or on city park lands that pose a public safety threat due to root, trunk, or branch damage or structural deficiencies will be repaired or removed depending on the severity of the damage. Trees that have minor damage that can be restored through trimming, cabling, or other maintenance to the point where they are no longer a threat will be repaired. Trees that are damaged beyond the point of repair and threaten public safety will be removed as determined by Forestry.

## **Dangerous Trees**

Trees on private property that have been determined to be dangerous or unsafe by Forestry inspectors are removed under chapter 177 of the Code of Ordinances. Notice will be provided and 10 days given for the removal of the tree by the property owner. If the tree is not removed within the specified period the city will remove the tree and assess the property for the expense of the tree removal.

For complete information on dangerous trees refer to Title 17, Chapter 177 of the Saint Paul Code of Ordinances



**6.11****Drought Management**

Drought is a complex natural event that can have serious impacts on the long term health of the urban forest. Watering procedures have been established to minimize the stressful impacts on trees and alleviate or prevent drought damage.

Drought severity is determined through the National Weather Service using drought models that measure general conditions across the region and not isolated rain events. Once the drought stage is determined established watering procedures are followed. High profile trees, recently planted trees, and special areas such as Harriet Island and Shepard Road will receive priority.

Implementation of the drought plan will be made public through press releases and internal city notification. Public trees will be watered by city crews with additional assistance from private contractors if drought conditions become extremely severe. Property owners are encouraged to water boulevard and private trees to reduce the overall impact of the drought and maintain city-wide tree health.

For more information on the procedures and resources available to mitigate the effects of drought refer to the Saint Paul Drought Plan available through [www.stpaul.gov](http://www.stpaul.gov)

**6.12****Wood Utilization**

Wood waste generated from trees removed in Saint Paul is transported to the Pigs Eye Wood Recycling Center currently managed by Environmental Wood Supply. EWS prepares the material for reuse by District Energy's cogeneration power plant in downtown Saint Paul.

New pathways for wood utilization will be evaluated as supplies change and opportunities emerge.

**6.13****Saint Paul Tree Ordinances**

The following table provides an overview of city ordinances related to the management of public trees. For complete information refer to the Saint Paul Code of Ordinances available online at [www.stpaul.gov](http://www.stpaul.gov).

|   |  |
|---|--|
| <b>Part II- Legislative Code</b>        |  |
| <b>Title 8: Zoning Code</b>             |  |
| Chapter 66<br>Sec.66.343 (b)23          | Requires street trees in traditional neighborhood development        |
| Chapter 67<br>Article II 67.200         | Tree Preservation Overlay District                                   |
| <b>Title 17: Trees</b>                  |  |
| Chapter 175                             | Dutch Elm Disease  |
| Chapter 176                             | Preservation and Protection of Trees                                 |
| Chapter 177                             | Dangerous Tree Ordinance   |
| Chapter 178                             | Private tree planting, trimming, and removal on public property      |
| Chapter 178                             | Planters in Commercial Areas   |
| <b>Title 29: Licenses</b>               |  |
| Chapter 362                             | Tree trimming by private contractors                                 |
| <b>Part III- Administrative Code</b>    |  |
| <b>Title 1: General Provisions</b>      |  |
| Chapter 7A                              | Department of Parks and Recreation                                   |
| 7A.02 (3)                               | Care of trees on public lands  |
| 7A.02 (4)                               | Disease and pest control programs, reforestation and nursery program |
| <b>Title 4: Policies and Procedures</b> |  |
| Chapter 61                              | Tree Maintenance and Assessments                                     |

Figure 6.4: City Tree Ordinances

**6.14****Saint Paul Tree Advisory Panel**

The Tree Advisory Panel (TAP) was created in November 2008 to fill a need for a citizen advisory group to provide feedback and advice in regard to the management of Saint Paul's urban forest. The mission of TAP is "to serve as a link between the Forestry unit and the citizens of Saint Paul to preserve, promote, and enhance the urban forest." The main duties of TAP is to relay citizen expectations; review and advise Forestry on its policies, procedures, and operations; assist in lobbying for resources needed to protect and enhance the urban forest; help set long term goals to help build and sustain a healthy, diverse urban forest; and assist with public education and outreach.

TAP consists of Saint Paul residents representing each of the seven City Council wards, city staff, and members of the business community, University of Minnesota, and Friends of the Parks and Trails of St. Paul and Ramsey County. The panel holds monthly meetings and has dealt with various urban forestry issues since their inception. Major activities undertaken thus far have been addressing green infrastructure opportunities of the proposed Central Corridor Light Rail Transit line and supporting outreach efforts for the emerald ash borer. To find out the latest information about TAP, please visit: [www.ci.stpaul.mn.us/index.aspx?nid=3571](http://www.ci.stpaul.mn.us/index.aspx?nid=3571)

**6.15****Public Permits**

City ordinance requires a written permit from Saint Paul Forestry before citizens perform any tree work within the public right of way. This includes tree trimming, stump removal, chemical treatment, the creation of tree sculptures, and any other boulevard work not done by Forestry. Permits are free and can be obtained by calling (651) 632-5129.

When requesting a permit to plant a boulevard tree Forestry staff will inspect the boulevard to determine if a tree will grow successfully in the location. Tree species most likely to survive and least likely to cause problems in a specific location will be recommended. Spacing recommendations will also be made to ensure that each tree has room to grow to maturity. Factors used to determine tree placement and selection are the same as for city planted trees. Gopher State One is required to locate utilities prior to planting to ensure safety to those digging and to avoid damage to underground facilities.

For more information on tree planting and ways to give newly planted trees the best start for a long and healthy life visit the Saint Paul Forestry website for information and links.

- **Saint Paul Parks and Recreation Department**  
[www.stpaul.gov/index.aspx?nid=243](http://www.stpaul.gov/index.aspx?nid=243)  
Find information on Saint Paul parks and activities happening around the city.
- **Saint Paul Forestry**  
[www.stpaul.gov/index.aspx?nid=2828](http://www.stpaul.gov/index.aspx?nid=2828)  
Find the latest information on forestry management in Saint Paul including tree planting, tree care, and emerald ash borer. View district planting maps and find information on requesting a public permit for tree planting on public boulevards.
- **Saint Paul Tree Advisory Panel**  
[www.stpaul.gov/index.aspx?NID=3571](http://www.stpaul.gov/index.aspx?NID=3571)
- **National Emerald Ash Borer Website**  
[www.emeraldashborer.info](http://www.emeraldashborer.info)  
This website contains the latest national information and research on EAB as well as educational materials for local governments and homeowners.



- Simons, K. and G. Johnson. 2008. *The Road to a Thoughtful Street Tree Master Plan*. University of Minnesota.
- America Public Works Association (APWA). 2004. *Master Street Plan*. Section 18.4 p66, Public Works Management Practices Manual 6<sup>th</sup> Edition.
- Bonestroo and The Tree Trust. August 2007. *City Trees: Sustainability Guidelines and Best Practices, Pilot Version*.
- McPherson, E. et al. 2006. *Midwest Community Tree Guide: Benefits, Costs, and Strategic Planting*. USDA, Forest Service, Pacific Southwest Research Station.
- Santamour Jr, F. 2002. *Trees for Urban Planting: Diversity, Uniformity, and Common Sense*. U.S. Department of Agriculture
- Saint Paul Tree Advisory Panel Recommendations, Adopted 2009
- Saint Paul Street Tree Master Plan, 1978
- Saint Paul Parks and Recreation Comprehensive Plan 2008
- Saint Paul Parks and Recreation Vision Plan 2008
- University of Minnesota Extension service plant ID-  
[www.sustland.umn.edu/plant/plantdata.asp](http://www.sustland.umn.edu/plant/plantdata.asp)
- Bachman's Nursery Catalog, Minneapolis MN, 2009
- Arbor Day Foundation, [www.arborday.org/trees/benefits.cfm](http://www.arborday.org/trees/benefits.cfm)
- Burden, D. 2006. *Benefits of Urban Street Trees*.  
[www.ufe.org/files/pubs/22benefitsofurbanstreettrees.pdf](http://www.ufe.org/files/pubs/22benefitsofurbanstreettrees.pdf)
- Department of Parks and Recreation/Forestry Section. June 2009. *Emerald Ash Borer Management Program for the City of Saint Paul, Minnesota*
- City of Saint Paul, Division of Parks and Recreation. 2004 (Updated 2006). *Drought Plan*
- Saint Paul Parks and Recreation, Forestry Section. February 2009. *City-Wide Tree Planting Specifications for Spring 2009*
- City of Saint Paul Neighborhood Plans,  
[www.stpaul.gov/index.aspx?NID=3446](http://www.stpaul.gov/index.aspx?NID=3446)
  - Sunray-Battlecreek-Highwood (District 1) Plan, 2004
  - West Side Community Plan and the Riverview Commercial Corridor Revitalization Program (District 3), 2001
  - District 4 Plan Update, 1986
  - District 5 Plan, 1979
  - District 6 North End-South Como Community Plan, 2004
  - District 7 Plan, 2007
  - District 9 Plan, 1980
  - District 14 Macalester-Groveland Community Plan, 2001
  - Downtown Development Strategy, 2003 (Updated 2005)







