

# City of Akron, Ohio



DANIEL HORRIGAN, MAYOR

# Master Tree Planting Plan

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## **Authority for Plan and Requirement of Annual Review**

This Master Tree Planting Plan (“Plan”) was approved and adopted by Council on \_\_\_\_\_, 2016, in conjunction with Ord. No. \_\_\_\_-2016. The Tree Commission is directed to review the plan at least annually, and to advise the Director of Public Service of recommended changes to the Plan, so that amendments can be considered by City Council, as necessary.

## **Mission Statement**

Use Best Management Practices (BMP’s) to maximize the economic<sup>1</sup>, environmental<sup>2</sup>, and social<sup>3</sup> benefits of a sustainable Urban Forest for the residents of Akron, Ohio.

## **Goals**

1. Maintain the health and vigor<sup>4</sup> of all trees in the Urban Forest.
2. Plant the largest suitable tree<sup>5</sup> for the site selected.
3. Achieve a fully stocked<sup>6</sup> Urban Forest.

## **Strategies**

1. Educate community leaders, residents, and employees, of the value and need for a sustainable Urban Forest.
2. Remove or prune, for safety, dead and hazardous trees as necessary.
3. Prune each tree every 2 years for the first 10 years, and every 5 years for the balance of the trees’ life.
4. Plant a diverse population of trees.
5. Maximize our stormwater reduction capabilities by replanting all removed trees from the previous year plus 1/20 of the available planting sites to achieve a fully stocked urban forest over a 20 year period.

# Footnotes

1. **Economic:** Trees provide a tremendous economic benefit to the community. Trees have been shown to:
  - increase property value and resale value.
  - reduce crime and vandalism thereby reducing insurance rates.
  - reduce energy consumption by reducing the need for air conditioning
  - reduce storm water runoff thereby reducing the need for expanded sewer systems.

**Sources:** USDA Forest Service  
University of IL

2. **Environmental:** Trees have been shown to improve the environment of the community by:
  - removing carbon from the air as well as preventing carbon from being burned by reducing the need for air conditioning.
  - filtering out air pollution and particles.
  - reducing combined sewer overflows to the Cuyahoga River by intercepting and holding rain on leaves, branches and bark.
  - increasing infiltration and storage of rainwater through the tree's root system.
  - reducing soil erosion by slowing rainfall before it strikes the soil.
  - slowing rainfall and allowing it to seep into the ground to be filtered rather than flooding into the storm sewer carrying street grime and pollutants with it.

**Source:** USDA Forest Service

3. **Social:** Trees have been shown to create social benefits by:
  - reducing crime and vandalism thereby reducing insurance rates.
  - Reducing stress.

**Source:** University of IL

4. **Health and Vigor:** Healthy, vigorous trees live longer and require less maintenance; thereby maximizing benefits while minimizing cost.

**Source:** USDA Forest Service  
University of FL

5. **Largest Tree:** Large trees live longer and provide greater economic benefits than small trees. Undersized trees fail to maximize the potential of the site. This failure is lost value for the community.

**Sources:** USDA Forest Service  
Cost Model by Alan Siewert, ODNR Division of Forestry

6. **Fully stocked:** Fully stocked means every available site has a tree growing in it. To maximize the benefits for the community all sites need to be stocked and functioning. Allowing a site to remain fallow or empty costs the community.

Note: When restoring an urban forest, mass planting to restock to 100% rapidly is not desirable as it will cause a "Baby Boom". Restocking requires time to develop an all-age, stable population.

**Sources:** USDA Forest Service  
Theoretical Urban Forest Model by Alan Siewert, ODNR Division of Forestry

## **Actions**

**Action 1:** An Inventory of Trees and Planting Sites

**Action 2:** Master Planting Design

**Action 3:** Systematic Annual Tree Risk Assessment

**Action 4:** Regular Educational Sessions, Arbor Day Activities

**Action 5:** Heritage Trees, Heritage Tree Corridors

**Action 6:** Memorial Tree Program

**Action 7:** Maintenance

**Action 8:** Tree Canopy Goals

## Action 1: An Inventory of Trees and Planting Sites

### Specifications

- Maintain a Tree Inventory with the following information:
  - Zone - Wards 1 through 10
  - Tree Identification – Common Name and Scientific Name
  - Available Planting Sites
  - Land Use – Single Family, Multi-family, Retail, Industrial, School, Church, Vacant Lot, City Park
  - Location Site – Street Lawn, Tree Grate 4X4, Tree Grate 4X6, Tree Grate 5X5, Median, Raised Planter, Behind Curb (No Walk), In Front of Sidewalk (No Curb)
  - Size-Diameter at breast height (54 inches)
  - Sidewalk Damage - < .25", .25" to .75", .75" to 3", > 3"
  - Number of Blocks Affected
  - Wire Conflict – Electric wires exist, Electric wires exist but are not conflicting, Electric wires exist and are conflicting
  - Date Planted – mm/dd/yyyy
  - Address
  - Coordinates – Latitude and Longitude, Northing and Easting
  - Growing Nursery
  - Installing Contractor
  - Requested By – Accompanied by the phone number and the date of the request
  - Condition of Wood
  - Condition of Leaves
  - Maintenance Recommendations
  - Street Lawn Width
  - Dates of Pruning – Work History
  - Date of Removal
  - Levels 1, 2, and 3 Tree Risk Assessments
  - Pictures

### Implementation

The data collection and input will be performed by the Engineering Bureau. The first year, all of the street trees will be inventoried. In the years to follow, the Tree Inventory will be updated by examining two Wards each year. The City will be completely updated every 5 years. This inventory will be extended to other City facilities and Parks as time permits.

## Action 2: Master Planting Design

### Specifications

The Master Tree Planting Plan will establish and maintain a diverse population of trees with a **target** of no more than: 2.5% of the population in one cultivar, 5% of the population in one species, 10% of the population from one genus and 15% of the population from one family (2.5-5-10-15). The Tree Commission shall adhere to a maximum of no more than 5% of the population in one cultivar, 10% of the population be one species, 20% of the population be from one genus and 30% of the population be from one family (5-10-20-30).

The Master Planting Design specifies species of trees to be planted in each tree segment of the community. A tree segment will be of the same site constraints and not exceed 9 city blocks long. The plan will make every effort to have a minimum of 8 segments between tree segments of the same cultivar, 6 segments between tree segments of the same species, 4 segments between tree segments of the same genus, and 2 segments between tree segments of the same family. Trees shall be selected to match the hardiness of the tree to the difficulty of the site and the appropriate size of tree to each site.

Diligent effort will be made to maintain the above standards. However, should that not be possible, the standards shall not be relaxed more than 6 segments between tree segments of the same cultivar, 4 segments between tree segments of the same species, 2 segments between tree segments of the same genus, and 1 segment between tree segments of the same family.

The plan will not plant:

- large trees under power lines.
- large trees in sites too small for the mature size.
- trees in sites where they will not survive and thrive.
- small trees in sites suitable for larger trees.
- hardy trees in sites of quality capable of supporting less hardy trees.

Trees planted will be the species specified in the Master Planting Design unless otherwise approved by the Service Director, upon consultation with the Tree Commission, if necessary. See appeal process.

Site Selection Parameters:

Size	Small	Medium	Large
Overhead	< 25 Feet	26-40 Feet	> 41 Feet
Street Lawn Width	3 - 6 Feet	6.1 – 8.5 Feet	> 8.6 Feet
From Intersection	20 Feet	20 Feet	20 Feet
Driveways	10 Feet	10 Feet	10 Feet
Fire Hydrants	10 Feet	10 Feet	10 Feet
Downspouts	3 Feet	3 Feet	3 Feet
Stop Signs	65 Feet	65 Feet	65 Feet
Water Lateral	5 Feet	5 Feet	5 Feet
Gas Lateral	3 Feet	3 Feet	3 Feet

Other Trees and Planting Sites	30 Feet	40 Feet	40 Feet
Utility/Light Poles	10 Feet	10 Feet	15 Feet
Traffic Signs	10 Feet	10 Feet	10 Feet
Between Tree Grates	25 Feet	25 Feet	30 Feet

Diversity parameters:

- Maximum percentage of any cultivar in population 5%
- Maximum percentage of any species in population 10%
- Maximum percentage of any genus in population 20%
- Maximum percentage of any family in population 30%

**Appeals Process – Object to Planned Street Trees**

Homeowners desiring a different species of tree than depicted in the Master Tree Plan may object to the Tree Commission prior to the planting of the tree. Objections must be made in writing and include the species of tree that is to be planted according to the Plan and the species of tree that should be planted according to the homeowner. Objections must include the scientific names for clarity, plant attributes and growing characteristics, and an explanation supporting the request.

The Tree Commission will review all written objections and issue a written recommendation to the Service Director.

The Service Director, upon considering the recommendation of the Tree Commission and the submission of the homeowner, shall make the final decision to deviate from the Plan or plant the species depicted in the Plan.

**Implementation**

The first step will be to determine the hardiness of the site utilizing the Site Hardiness Index form (See Appendix I). The Site Hardiness Index form will provide a score ranging from 0-20. The score is converted to a rating and this rating determines the hardiness of the site.

The second step will be to establish the size of the street lawn or planting area. The size of the planting area determines if a small (3-6'), medium (6.1-8.5') or large (>8.6') tree can be planted.

The third step will be to take the information from above and transfer it to find a suitable tree in the Master Tree List (See Appendix II).

The fourth and final step will be to assign the tree variety utilizing the specifications as outlined in the Master Planting Design. A list of streets detailing the street limits, tree variety and tree quantity will be maintained within this document (See Appendix III). Color coded maps depicting the Master Tree Planting Design will be maintained within this document (See Appendix IV).

## **Action 3: Systematic Annual Tree Risk Assessment**

### **Specifications**

- Tree Risk Assessment program through the Tree Inventory:
  - Identify trees with structural defects that need to be removed
  - Identify trees with structural defects that can be pruned to make safe

### **Implementation**

The Engineering Bureau will perform this task in two Wards per year in conjunction with the Tree Inventory update. The date of the Level 1 inspection will be recorded and maintained in the Tree Inventory. If needed, Level 2 and Level 3 inspections (See Appendix V) will be recorded and maintained utilizing the Tree Inventory. Service requests will be submitted with a report of findings and recommended actions for these structural defects.

## Action 4: Regular Educational Sessions, Arbor Day Activities

### Specifications

The Tree Commission will assist the Director of Public Service in developing an educational plan that will include an Arbor Day activity to compliment the efforts of Keep Akron Beautiful, a quarterly newsletter posted on the City of Akron website and a minimum of two additional educational activities. The educational plan should be updated annually.

### Implementation

#### Educational Plan Template

<b>Audience</b>	<b>Citizens</b>	<b>Municipal Employees</b>
<b>Messages</b>	<i>Our citizens live in an Urban Forest that needs routine maintenance to improve the quality of life for each individual, families and the community as a whole. Support for urban forestry activities improves the health and welfare of our citizens.</i>	<i>The Urban Forest is a valuable piece of Urban infrastructure that needs management on par with other municipal programs. A healthy urban forest improves the quality of life for our citizens.</i>
<b>Outcomes</b>	Support for Tree Care Programming	Consistent cooperation with all tree related activity
<b>Strategies</b>	*Utilize local media for regular press releases, articles, and event coverage	Educate and regularly remind about the City's tree ordinance
	Coordinate with Keep Akron Beautiful an annual public Arbor Day celebration	Invite to assist with Arbor Day and the Blue Heron activities
	Always stress public safety when discussing tree care issues	Encourage and budget for routine continued education
	Always stress wise use of taxpayer dollars when discussing tree care issues	Work together to develop and implement tree care specifications and policy
	Print stormwater reduction capabilities of trees on water/sewer bills	
	Offer educational tree sessions at local ward meetings	
	**Utilize door hangers and yard signs for any tree care activity	

\*See Appendix VI

\*\*See Appendix VII

<b>Audience</b>	<b>Elected Officials</b>	<b>Green Industry</b>
<b>Messages</b>	<i>The Urban Forest is a valuable component of our community and requires annual funding and administrative support to maintain a safe and healthy urban forest. Tree care saves lives and money. A healthy urban forest improves the quality of life for our citizens.</i>	<i>Our community expects products and services to be in line with the latest government, scientific, and industry standards.</i>
<b>Outcomes</b>	Consistent budgetary and administrative support for our urban forestry program	Certified Arborists
<b>Strategies</b>	Ordinance requires council representative on Tree Commission	Develop clear, concise specifications and policies for pruning, removal, planting, construction, etc.
	Invite to attend or assist with Arbor Day activities	Invite to attend or assist with Arbor Day activities
	Utilize council representative to relay urban forestry issues and goals to city council	
	Report activity and issues to council via written or oral report	
	Invite to Tree City USA Awards ceremony	

## **Action 5: Heritage Trees, Heritage Tree Corridors**

### **Specifications**

The Tree Commission will consider a heritage tree(s), or a heritage tree corridor to preserve tree(s) related to cultural heritage due to historical events, age, size, location or environmental impact.

### **Implementation**

- The Tree Commission will accept nominations for consideration of heritage tree designation on public property within the city corporation limit or non-contiguous park lands or green space, and the Tree Commission will make recommendations to the Service Director. Legislation designating the Heritage Tree or Heritage Tree Corridor may be presented, by the Service Director, to City Council for consideration.
- The purpose is to protect the large tree population from vandalism, construction damage or any other improper arboriculture practice in the public right of way, park or public lands.
- The Service Director will work with public utilities to minimize and preserve trees which may conflict with overhead or underground utilities.
- Qualifications – tree(s) (individual or tree corridor) must be at least 75 percent of their mature size in height and spread (50 percent of trees standing within the corridor must meet this requirement).
- Permits must be secured as required by Section 101.06 of the Akron Codified Ordinances. No heritage tree shall be altered in violation of Section 101.04 of the Akron Codified Ordinances.
- Any work permitted by the Service Director within the root zone of a heritage tree shall be done only after a 48 hour notification has been given to the Service Director.
- The Director of Public Service will maintain a map and registry of Heritage Trees and/or Heritage Tree Corridors, through the Tree Inventory (See Appendix VIII), and provide a certificate recognizing the Heritage Tree and/or Heritage Tree Corridor to the abutting property owners.

## **Action 6: Memorial Tree Program**

### **Specifications**

The Service Director will establish a memorial tree planting program for the public on public property whereby a memorializing party may request that a tree be planted as a living memorial.

### **Implementation**

- Utilize the annual Street Tree Replacement Program to provide an affordable means of establishing a living memorial to family members, friends or an admired individual.
- Specific locations may be requested by the memorializing party(s) but must be either in a city park or along a public right of way and must conform to the tree planting standards and be approved by the City Arborist/Horticulturist or his/her designee.
- The Director of Public Service will maintain a map and registry of memorial trees, through the Tree Inventory (See Appendix IX), and provide a certificate recognizing the memorial tree to the memorializing party.
- The cost of the tree shall be paid by the memorializing party(s), with the City of Akron being reimbursed the current tree contract bid price prior to tree planting. The tree will be planted the next available planting season (spring or fall).
- Memorial trees will be maintained by the City, and should the tree die or be destroyed, it will be replaced with a 2 to 2.5 caliper inch sized tree, of the same variety, the following planting season at no cost to the memorializing party(s).

## **Action 7: Maintenance**

### **Specifications**

The City of Akron will remove or prune, for safety reasons, all dead and hazardous trees as necessary utilizing a combination of Contractors and City personnel to accomplish this. The City will commit to pruning each tree every 2 years for the first 10 years after the initial planting, and every 5 years for the balance of the trees' life. These cycles have been proven to be the most cost effective for northern climate cities.

### **Implementation**

All City departments and Contractors hired by the City shall adhere to the pruning guidelines (Appendix X) when working on trees within the right-of-way. International Society of Arboriculture Certified Arborists shall be used on all contract work and stated as such in contracts advertised by the City. City of Akron personnel who perform work on trees should be encouraged to attain the Certified Arborist status.

The Engineering Bureau primarily handles all tree related work through the use of contractors. The Engineering Bureau's current tree responsibilities include:

- Planting of trees (In the street lawn and project related)
- Pruning contract (In the street lawn)
- Project related tree removals
- Utility related tree removals
- Tree appraisals
- Tree Risk Assessments
- Street Tree Inventory

The Parks Maintenance Division uses a combination of City of Akron personnel and contractors for tree related work. The Parks Maintenance Division's current tree responsibilities include:

- Pruning with City of Akron personnel (311 requests and in the park system)
- Tree Removal Contract (In the street lawn and parks)
- Tree Removal with City of Akron personnel (In the street lawn and parks)
- Utility related tree removals with City of Akron personnel (when time permits)
- Stump grinding with City of Akron personnel and through Contract
- Tree Risk Assessments

## **Action 8: Tree Canopy Goals**

### **Specifications**

The Urban Tree Canopy (UTC) in the City of Akron is 37% based on a study conducted in 2013. The suggested goal for our region is 40% UTC for a community to fully realize all of the benefits, including stormwater retention, of the urban forest. The City of Akron would need to plant an additional 51,067 trees to accomplish this goal.

### **Implementation**

Please see Appendix XI for recommendations to achieve this goal.

## Calendar of Activities

### 1) January

#### i) Meeting

- (a) Welcome new Tree Commissioners
- (b) Review Ordinance
- (c) Review Master Planting Plan
  - 1. *Update if necessary*
- (d) Begin Planning Arbor Day Celebration
  - 1. *Last Friday in April*
- (e) Notify members of Tree City USA Awards ceremony
- (f) Appeals

#### ii) Activities

- (a) Public Relations for Urban Forestry Activities

### 2) February

#### i) Meeting

- (a) Plan Arbor Day Celebration in conjunction with Keep Akron Beautiful
- (b) Review Tree City USA Awards invitation
  - 1. *Make payment arrangements*
- (c) Appeals

#### ii) Activities

- (a) Public Relations for Urban Forestry Activities

### 3) March

#### i) Meeting

- (a) Finalize Arbor Day Celebration
- (b) Complete Tree City USA Awards RSVP

- (c) Appeals

- ii) Activities

- (a) Return Tree City USA Awards RSVP

- (b) Public Relations for Urban Forestry Activities

#### 4) April

- i) Meeting

- (a) Appeals

- ii) Activities

- (a) Attend Local Arbor Day Celebrations

- (b) Attend Tree City USA Awards Ceremony

- (c) Public Relations for Urban Forestry Activities

#### 5) May

- i) Meeting

- (a) Provide an update from the Tree City USA Awards ceremony for those unable to attend

- (b) Approve Fall planting list

- (c) Appeals

- ii) Activities

- (a) Mail letters to notify residents of the City's intention to plant a tree in the Fall

- (b) Public Relations for Urban Forestry Activities

#### 6) June

- i) Meeting

- (a) Notify members of NE Ohio Urban Forestry Symposium

- 1. *Make payment arrangements*

- (b) Appeals

- ii) Activities
  - (a) Public Relations for Urban Forestry Activities

## 7) July

- i) Meeting
  - (a) Appeals
- ii) Activities
  - (a) Public Relations for Urban Forestry Activities

## 8) August

- i) Meeting
  - (a) Appeals
- ii) Activities
  - (a) Public Relations for Urban Forestry Activities

## 9) September

- i) Meeting
  - (a) Appeals
- ii) Activities
  - (a) Public Relations for Urban Forestry Activities

## 10) October

- i) Meeting
  - (a) New Commissioner Appointments
  - (b) Appeals
- ii) Activities
  - (a) Public Relations for Urban Forestry Activities

11) November

i) Meeting

(a) Approve Spring planting list

(b) Appeals

ii) Activities

(a) Mail letters to notify residents of the City's intention to plant a tree in the Spring

(b) Public Relations for Urban Forestry Activities

12) December

i) Meeting

(a) Complete Tree City USA Certification and Growth Award

(b) Transition of outgoing Tree Commissioners

(c) Appeals

ii) Activities

(a) Public Relations for Urban Forestry Activities