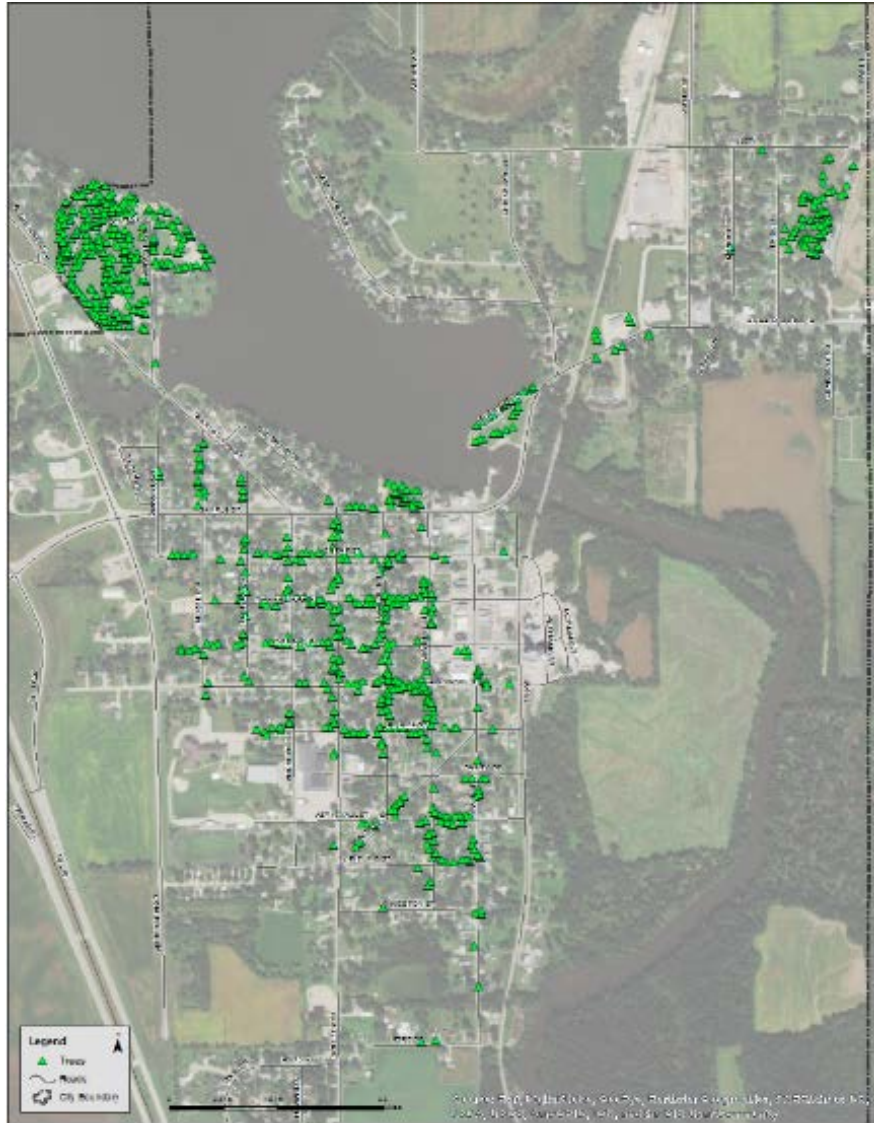


# Nashua, IA



2016 Urban Forest Management Plan  
Prepared by Kittelson Consulting Arborist, LLC  
In Partnership with the Iowa DNR



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# Executive Summary

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## Overview

This plan was developed to assist the City of Nashua with managing its urban forest, including budgeting and future planning. Trees can provide a multitude of benefits to the community, and sound management allows a community to best take advantage of these benefits. Management is especially important considering the serious threats posed by forest pests such as the emerald ash borer (EAB). EAB is an invasive insect imported from Eastern Asia on wood shipping crates that kills all species of ash trees (this does not include mountain ash). There is a strong possibility that 14% of Nashua's city owned trees (ash) will die once EAB becomes established in the community, unless preventative treatment is used. With proper planning and management, the costs of removing dead and dying trees can be extended over years, mitigating public safety issues.

## Inventory and Results

In 2016, a tree inventory was conducted using Global Positioning System (GPS) data collectors. The inventory was a complete inventory of street and park trees. Below are some key findings of the 849 trees inventoried.

- Nashua's trees provide \$165,837 of benefits annually, an average of \$195 a tree
- There are over 45 species of trees
- The top three genera are: Maple 53%, Ash 14%, and Spruce 5.8%
- 51% of trees are in need of some type of management
- 104 (78 ash) trees are recommended for removal

## Recommendations

The core recommendations are detailed in the Recommendations Section. The Emerald Ash Borer Plan includes management recommendations as well. Below are some key recommendations.

- Of the 104 (78 ash) trees needing removal, 35 trees are over 24 inches in diameter at 4.5 ft. and must be addressed immediately [\\*City ownership of the trees recommended for removal should be verified prior to any removal\\*](#)
- 86 of the 117 ash trees should be carefully examined, as they have one or more symptoms that could be related to an EAB infestation
- All trees should be pruned on a routine schedule- one third of the city every other year
- Plant a diverse mix of trees that do not include: fruiting trees, ash, maple, cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut
- Check ash trees with a visual survey yearly
- With the current budget it could take 60 years to remove ash – Suggestion: request a budget increase to \$7,500 annually and apply for grants to plant replacement trees

## Introduction

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This plan was developed to assist Nashua with the management, budgeting and future planning of their urban forest. Across the state, forestry budgets continue to decrease with more and more of that money spent on tree removal. With the anticipated arrival of Emerald Ash Borer (EAB), an invasive pest that kills native ash trees, it is time to prepare for the increased costs of tree removal and replacement planting. With proper planning and management of the current canopy in Nashua these costs can be extended over years and public safety issues from dead and dying ash trees mitigated.

Trees are an important component of Nashua's infrastructure and one of the greatest assets to the community. The benefits of trees are immense. Trees provide the community with improved air quality, stormwater runoff interception, energy conservation, lower traffic speeds, increased property values, reduced crime, improved mental health and create a desirable place to live, to name just a few benefits. It is essential that these benefits be maintained for the people of Nashua and future generations through good urban forestry management.

Good urban forestry management involves setting goals and developing management strategies to achieve these goals. An essential part of developing management strategies is a comprehensive public tree inventory. The inventory supplies information that will be used for maintenance, removal schedules, tree planting and budgeting. Basing actions on this information will help meet Nashua's urban forestry goals.

## Inventory

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In 2016, a tree inventory was conducted that included 100% of the city owned trees on both streets and parks. The tree data was collected using a handheld Global Positioning System (GPS) receiver. The data collector gives Geographic Information Systems (GIS) coordinates with an accuracy of 3 meters, which can be used in Arc GIS as an active GIS data layer. Because the inventory is a digital document the data can be updated with new information and become a working document.

The programming used to collect tree information on the data collectors was written to be compatible with a state-of-the-art software suite called i-Tree. i-Tree was developed by the USDA Forest Service to quantify the structure of community trees and the environmental services that trees provide. The i-Tree suite is a public domain which can be accessed for free.

To quantify the urban forest structure and benefits, specific data is collected for each tree. This data includes: location, land use, species, diameter at 4.5 ft., recommended maintenance, priority of that maintenance, leaf health, and wood condition. Additionally, signs and symptoms associated with EAB were noted for all ash trees. The signs and symptoms noted were canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

## Inventory Results

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The data collected for the 849 city trees was entered into the USDA Forest service program STREETS, part of the i-Tree suite. The following are results from the i-Tree STREETS analysis.

### **Annual Benefits**

#### **Annual Energy Benefits**

Trees conserve energy by shading buildings and blocking winds. Nashua's trees reduce energy related costs by approximately \$44,183 annually (Appendix A, Table 1). These savings are both in Electricity (210.8 MWh) and in Natural Gas (28,184 Therms).

#### **Annual Stormwater Benefits**

Nashua's trees intercept about 2,376,469 gallons of rainfall or snow melt a year (Appendix A, Table 2). This interception provides \$64,402 of benefits to the city.

#### **Annual Air Quality Benefits**

Air quality is a persistent public health issue in Iowa. The urban forest improves air quality by removing pollutants, lowering air temperature, and reducing energy consumption, which in turn reduces emissions from power plants, and emitting volatile organic matter (ozone). In Nashua it is estimated that trees remove 2,764.5 lbs. of air pollution (ozone (O<sub>3</sub>), particulate matter less than 10 microns (PM<sub>10</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>)) per year with a net value of \$7,793 (Appendix A, Table 3).

#### **Annual Carbon Benefits**

Carbon sequestration and storage reduce the amount of carbon in the atmosphere, mitigating climate change. In Nashua trees sequester about 783,353 lbs. of carbon a year with an associated value of \$5,875 (Appendix A, Table 4). In addition, the trees store 8,255,234 lbs. of carbon, with a yearly benefit of \$61,914 (Appendix A, Table 5).

#### **Annual Aesthetics Benefits**

Social benefits of trees are hard to capture. The analysis does have a calculation for this area that includes: aesthetic value, property values, lowered rates of mental illness and crime, city livability and much more. Nashua receives \$43,584 in annual social benefits from trees (Appendix A, Table 6).

#### **Financial Summary of all Benefits**

According to the USDA Forest Service i-Tree analysis, Nashua's trees provide \$165,837 of benefits annually. Benefits of individual trees vary based on size, species, health and location,

but on average each of the 849 trees in Nashua provide approximately \$195 annually (Appendix A, Table 7).

## **Forest Structure**

### **Species Distribution**

Nashua has over 45 different tree species along city streets and parks (Appendix A, Figure 1). The distribution of the top 11 trees by genera is as follows:

Maple	448	53%
Ash	117	14%
Spruce	49	5.8%
Hackberry	44	5.2%
Oak	29	3.4%
Walnut	28	3.3%
Apple (Crab)	22	2.6%
Pine	20	2.4%
Linden/Basswood	19	2.2%
Elm	16	1.9%
Locust	11	1.3%
Others	29	3.4%

### **Age Class**

Most of Nashua’s trees (53%) are less than 24 inches in diameter at 4.5 ft. (Appendix A, Figure 2). For age, it is preferred that the highest amounts of trees are in the smallest size category (a downward slope) to prepare for natural mortality and to maintain canopy cover. Nashua’s size curve is on the smaller side, indicating a younger than average stand.

### **Condition: Wood and Foliage**

Both wood condition and leaf condition are good indicators of the overall health of the urban forest. The foliage condition results for Nashua indicate that 98% of the trees are in good health, with only 2% of the foliage in poor health, dead or dying (Appendix A, Figure 3 & Appendix B, Figure 3). Similarly, 84% of Nashua’s trees are in good health for wood condition (appendix A, Figure 4 & Appendix B, Figure 3). Wood condition that is in poor health, dead or dying is about 15% of the population. This 15% is an estimate of trees that need management follow up.

### **Management Needs**

The following outlines the specific management needs of the street and park trees by number of trees and percent of canopy (Appendix B, Figure 5).

Crown Cleaning	218	25.68%
Crown Raising	16	1.88%

Tree Staking	10	1.18%
Tree Removal	104	12.25%
Crown Reduction	47	5.54%
Treat	38	4.48%

### Canopy Cover

The total canopy with both private and public trees is 20%, 410 acres. The canopy cover included in the Nashua inventory includes approximately 24.58 acres (Appendix A, Figure 5).

### Land Use and Location

The majority of Nashua’s city and park trees are in parks. (Appendix A, Figure 6 & Appendix A, Figure7). The following describes the land use and locations for the street and park trees.

#### Land Use

Park/vacant/other	51.47%
Single family residential	46.53%
Industrial/Large commercial	0%
Small commercial	2%
Multifamily residential	0%

#### Location

Other maintained locations	51.47%
Planting strip	47.00%
Cutout (surrounded by pavement)	00 .12%
Front yard	1.41%

## Recommendations

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### Risk Management

Hazardous trees can be a significant threat to both people and property. Trees that are dead or dying, or that have large issues such as trunk cracks longer than 18 inches should be removed. Broken branches and branches that interfere with motorist’s vision of pedestrians, vehicles, traffic signs and signals, etc. should be removed.

#### Hazardous trees

Nashua has 7 critical concern trees that need immediate removal. These trees can be seen on the Location of Trees with Recommended Maintenance map (Appendix B, Figure 4). It is recommended to start with the large diameter critical concern trees first. All 7 trees over 24 inches in diameter at 4.5 ft. that should be addressed immediately. Please refer to the six year maintenance plan at the end of this section. After all of the critical concern trees are addressed, there should be follow up on the trees marked as needing maintenance. There are a total of 433 trees with these needs.

### Poor tree species

After the removal of the critical concern trees, ash trees in poor health should be assessed for removal (Appendix B, Figure 3 & Appendix B, Figure 4). Of the 104 removals, 78 are ash trees. There are a total of 117 ash trees, and 86 of those have signs and symptoms that have been associated with EAB. In addition, there are 25 trees that are in poor health. [\\*City ownership of the trees recommended for removal should be verified prior to any removal\\*](#)

### **Pruning Cycle**

Proper pruning can extend the life and good health of trees, as well as reduce public safety issues. In the Management Needs section of the Findings there are four main maintenance issues to be addressed: routine pruning, crown cleaning, crown raising, and crown reduction. Crown cleaning removes dead, diseased, and damaged limbs. Crown raising is the removal of lower branches that are 2 inches in diameter or larger in the case of providing clearance for pedestrians or vehicles. Crown reduction is removing individual limbs from structures or utility wires. It is recommended that all trees be pruned on a routine schedule every five to seven years. Please refer to the six year maintenance plan for further information.

### **Planting**

Most of the planting over the next 5 years will replace the trees that are removed. It is recommended to plant 1.2 trees for every tree removed, since survival rates will not be 100%. Please refer to the six year maintenance plan at the end of this section. It is not essential that the new trees be planted in the same location of the trees being removed. However, maintaining the same number of trees helps ensure continuation of the benefits of the existing forest in Nashua.

It is important to plant a diverse mix of species in the urban forest to maintain canopy health, since most insects and diseases target a genus (ash) or species (green ash) of trees. Current diversity recommendations advise that a genus (i.e. maple, oak) not make up more than 20% of the urban forest and a single species (i.e. silver maple, sugar maple, white oak, bur oak) not make up more than 10% of the total urban forest. Presently, the forest is heavily planted with maple (53%) (Appendix A, Figure 1). Maples should not be planted until this percentage can be lowered. Also, ash trees have not been recommended since 2002, due to the threat of EAB. Other species to avoid because they are public nuisances include: cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut, as outlined in section 151.02 of city ordinance (Appendix C). All trees planted must meet the restrictions in city ordinance 151.02 (Appendix C).

### **Continual Monitoring**

Due to the threat of EAB, it is important to continuously check the health of ash trees. It is recommended that ash trees be checked with a visual survey every year for tree decline and for the following signs and symptoms: canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.



## **Six Year Maintenance Plan with No Additional Funding**

### **Year 1**

Removal: 4 largest critical concern trees  
Planting and Replacement: 0 trees to be planted in open locations  
Young Tree Pruning & Maintenance:  
Visual Survey for signs and symptoms of EAB

### **Year 2**

Removal: 3 largest critical concern trees  
Planting and Replacement: 0 trees to be planted in open locations  
Young Tree Pruning & Maintenance:  
Visual Survey for signs and symptoms of EAB

### **Year 3**

Removal: 2 ash in poor health  
\*Or saving for ash tree treatment and/or future ash removal  
Planting and Replacement: 3 trees to be planted in open locations and locations from previous removals  
Young Tree Pruning & Maintenance:  
Visual Survey for signs and symptoms of EAB

### **Year 4**

Removal: 2 ash in poor health  
\*Or saving for ash tree treatment and/or future ash removal  
Planting and Replacement: 3 trees in open locations from previous removals  
Routine trimming: Contract to trim 1/3 of the city trees  
Young Tree Pruning & Maintenance:  
Visual Survey for signs and symptoms of EAB

### **Year 5**

Removal: 2 ash in poor health  
\*Or saving for ash tree treatment and/or future ash removal  
Planting and Replacement: 3 trees to be planted in open locations and locations from previous removals  
Young Tree Pruning & Maintenance:  
Visual Survey for signs and symptoms of EAB

### **Year 6**

Removal: 2 ash in poor health  
\*Or saving for ash tree treatment and/or future ash removal  
Planting and Replacement: 3 trees in open locations from previous removals  
Routine trimming: Contract to trim 1/3 of the city trees  
Young Tree Pruning & Maintenance:  
Visual Survey for signs and symptoms of EAB

\*Reduction of ash over 6 years: Approximately 8 ash trees removed (approximately 7% of ash). It will take approximately 60 years to remove all ash with the current budget. EAB could potentially kill all ash within 4 to 15 years of its arrival.

\*\* To remove all ash trees within 6 years, the budget would need to be increased to \$15,000 a year. If the budget were increased to \$7,500 a year all ash could be removed in 13 years.

## **Emerald Ash Borer Plan**

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### **Ash Tree Removal**

Tree removal will be prioritized with dead, dying, hazardous trees to be removed first (Appendix B, Figure 7). Next will be all ash in poor condition and displaying signs and symptoms of EAB (Appendix B, Figure 2 & Appendix B, Figure 3). *\*City ownership of the tree recommended for removal should be verified prior to any removal\**

### **Treatment of Ash Trees**

Chemical treatment can be effective tool for communities to spread removal costs out over several years while allowing trees to continue to provide benefits. However, treatment is not recommended if EAB is more than 15 miles away from the community. For more information on the cost of treatment strategies visit <http://extension.entm.purdue.edu/treecomputer/>

### **EAB Quarantines**

EAB is an extremely destructive plant pest and it is responsible for the death and decline of millions of ash trees. Ash in both forested and urban settings constitute a significant portion of the canopy cover in the United States. Current tools to detect, control, suppress and eradicate this pest are not as robust as the USDA would desire. In order to stay ahead of this hard to detect beetle, the USDA is attempting to contain the beetle before it spreads beyond its known positions by regulating articles.

A regulated article under the USDA's quarantine includes any of the following items:

- emerald ash borer
- firewood of all hardwood species (for example ash, oak, maple and hickory)
- nursery stock and green lumber of ash
- any other ash material, whether living, dead, cut or fallen, including logs, stumps, roots, branches, as well as composted and not composted chips of the genus ash (Mountain ash is not included)

In addition, any other article, product or means of conveyance not listed above may be designated as a regulated article if a USDA inspector determines that it presents a risk of spreading EAB once a quarantine is in effect for your county.

### **Wood Disposal**

A very important aspect of planning is determining how wood infested with EAB will be handled, keeping in mind that quarantines will restrict its movement. Consider who will cut and haul the dead and dying trees? Is there an accessible, secured site big enough to store and sort the hundreds of trees and the associated brush and chips? How will wood be disposed of or utilized? Do you have equipment capable of handling the amount and size of ash trees your

tree inventory has identified? Once your county is under quarantine for EAB, contact USDA-APHIS-PPQ at 515-251-4083 or visit the website [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/emerald\\_ash\\_b/regulatory.shtml](http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/regulatory.shtml). Wood waste can be disposed of as you normally would if your county is not part of a quarantine.

### **Canopy Replacement**

As budget permits, all removed trees will be replaced. All trees will meet the restrictions in city ordinance 151.02 (Appendix C). “No person shall plant in any street any fruit-bearing tree or any tree of the kinds commonly known as cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut.” Also ash and maple should not be planted.

### **Postponed Work**

While finances, staffing and equipment are focused on the management of ash, usual services may be delayed. Tree removal requests on genera other than ash will be prioritized by hazardous or emergency situations only.

### **Monitoring**

It is recommended that ash trees be checked with a visual survey every year for tree death and for the following signs and symptoms: canopy dieback, epicormic shoots, bark splitting, D-shaped borer exit holes, and wood pecker damage.

### **Private Ash Trees**

It is strongly recommended that private property owners start removing or treating ash trees on their property upon arrival of EAB. City Code 151.06 states “If it is determined with reasonable certainty that any such condition exists (trees or shrubs in the City reported or suspected to be infected with or damaged by any disease or insect or disease pests) on private property and that the danger to other trees or to adjoining property or passing motorists or pedestrians is imminent, the Council shall notify by certified mail the owner, occupant or person in charge of such property to correct such condition by treatment or removal within fourteen (14) days of said notification. If such owner, occupant or person in charge of said property fails to comply within 14 days of receipt of notice, the Council may cause the condition to be corrected and the cost assessed against the property.”

# Budget

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## Current Budget

Total \$12,500 over 6 years (\$2,085/year)

### **FY 2017 Budget**

Removal: \$2,800

\*Or saving for ash tree treatment and/or future ash removal

Planting: \$0

Watering & Maintenance: \$0

### **FY 2018 Budget**

Removal: \$2,100

\*Or saving for ash tree treatment and/or future ash removal

Planting: \$0

Routine trimming: \$0

Watering & Maintenance: \$0

### **FY 2019 Budget**

Removal: \$1,400

\*Or saving for ash tree treatment and/or future ash removal

Planting: \$300

Watering & Maintenance: \$100

### **FY 2020 Budget**

Removal: \$1,400

\*Or saving for ash tree treatment and/or future ash removal

Planting: \$300

Routine trimming: \$200

Watering & Maintenance: \$100

### **FY 2021 Budget**

Removal: \$1,400

\*Or saving for ash tree treatment and/or future ash removal

Planting: \$300

Watering & Maintenance: \$100

### **FY 2022 Budget**

Removal: \$1,400

\*Or saving for ash tree treatment and/or future ash removal

Planting: \$300

Routine trimming: \$200

Watering & Maintenance: \$100

\*Reduction of ash over 6 years: approximately 8 ash trees removed (approximately 7% of ash). **It will take approximately 60 years to remove all ash with the current budget.**

## Purposed Budget Increase

EAB could potentially kill all ash trees in Nashua within 4 years of its arrival. To remove all ash trees within 6 years the budget would need to be increased to \$15,000 a year. If the budget

were increased to \$7,500 a year all ash could be removed within 13 years. Additionally, it is recommended that Nashua apply for grants to fund replacement trees. Utility Company grants are usually between \$500 and \$10,000 for community-based, tree-planting projects that include parks, gateways, cemeteries, nature trails, libraries, nursing homes, and schools.

Another option being considered by many communities is treating a number of selected trees, either to maintain those trees in the landscape or to delay their removal – to spread out the costs and number of trees needing removed all at once. Trunk injection is administered every two years for the life of the tree. If treatment is discontinued, the tree dies. For instance, in this treatment scenario, the average ash diameter is 20 inches and at \$15 per inch, about 19 of 38 trees could be treated per year (every other year treatment). This would be 19 trees at \$5,700 selected for treatment, and Nashua would still need to find \$1,400 for removal. Alternatively, if all 38 treatable trees are treated the same year (and then every other year), it would cost approximately \$11,400 those years for treatment and leave nothing for removal. These are alternatives to straight removal of ash trees. However, whether or not the treatment option is selected, there will be an increased cost of dealing with ash trees if EAB is found in Nashua It is suggested to consider increasing the budget to plan for this.

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## Appendix A: i-Tree Data

**Table 1: Annual Energy Benefits**

**Annual Energy Benefits of Public Trees by Species**

Species	Total Electricity (MWh)	Electricity (\$)	Total Natural Gas (Therms)	Natural Gas (\$)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Silver maple	55.31	4,198.30	7,271.25	7,125.82	11,324.12	(N/A)	20.38	25.63	65.46
Black maple	37.26	2,827.98	5,199.35	5,095.36	7,923.34	(N/A)	15.67	17.93	59.57
Green ash	26.78	2,032.61	3,578.59	3,507.01	5,539.62	(N/A)	12.72	12.54	51.29
Norway maple	20.93	1,588.94	2,977.46	2,917.91	4,506.85	(N/A)	11.43	10.20	46.46
Northern hackberry	13.91	1,055.41	1,940.78	1,901.96	2,957.37	(N/A)	5.18	6.69	67.21
Norway spruce	2.97	225.08	420.89	412.47	637.55	(N/A)	4.95	1.44	15.18
Sugar maple	11.13	845.14	1,497.36	1,467.41	2,312.56	(N/A)	4.12	5.23	66.07
Black walnut	8.25	626.46	1,154.99	1,131.89	1,758.36	(N/A)	3.30	3.98	62.80
Apple	0.97	73.87	158.36	155.19	229.06	(N/A)	2.59	0.52	10.41
Bur oak	3.78	287.01	515.44	505.13	792.14	(N/A)	1.53	1.79	60.93
Honeylocust	3.17	240.29	414.77	406.47	646.76	(N/A)	1.30	1.46	58.80
Chinese elm	3.29	249.88	461.58	452.35	702.23	(N/A)	1.30	1.59	63.84
Littleleaf linden	1.01	76.72	148.89	145.91	222.63	(N/A)	1.18	0.50	22.26
Eastern white pine	1.35	102.24	156.28	153.16	255.39	(N/A)	1.18	0.58	25.54
White ash	1.28	96.88	153.62	150.54	247.42	(N/A)	1.06	0.56	27.49
American basswood	2.59	196.80	371.83	364.40	561.19	(N/A)	1.06	1.27	62.35
Austrian pine	1.24	94.01	170.55	167.14	261.14	(N/A)	0.94	0.59	32.64
Red maple	1.06	80.13	146.44	143.51	223.64	(N/A)	0.94	0.51	27.96
Blue spruce	0.59	45.08	90.02	88.22	133.30	(N/A)	0.82	0.30	19.04
Northern red oak	0.54	40.88	68.63	67.26	108.14	(N/A)	0.71	0.24	18.02
American elm	2.46	186.34	313.84	307.56	493.90	(N/A)	0.59	1.12	98.78
Other City Trees	10.92	828.81	1,548.56	1,517.59	2,346.40	(N/A)	7.07	5.31	994.47
<b>Total</b>	<b>210.79</b>	<b>15,998.84</b>	<b>28,759.46</b>	<b>28,184.27</b>	<b>44,183.12</b>	<b>(N/A)</b>	<b>100.00</b>	<b>100.00</b>	<b>52.04</b>

**Table 2: Annual Stormwater Benefits**

Annual Stormwater Benefits of Public Trees by Species						
Species	Total Rainfall Interception (Gal)	Total (\$)	Stand. Error	% of Total Trees	% of Total \$	Avg. \$/tree
Silver maple	768,378.61	20,823.06	(N/A)	20.38	32.33	120.36
Black maple	370,021.35	10,027.58	(N/A)	15.67	15.57	75.40
Green ash	258,949.97	7,017.54	(N/A)	12.72	10.90	64.98
Norway maple	182,608.83	4,948.70	(N/A)	11.43	7.68	51.02
Northern hackberry	127,373.81	3,451.83	(N/A)	5.18	5.36	78.45
Norway spruce	47,986.19	1,300.43	(N/A)	4.95	2.02	30.96
Sugar maple	144,433.33	3,914.14	(N/A)	4.12	6.08	111.83
Black walnut	102,628.64	2,781.24	(N/A)	3.30	4.32	99.33
Apple	3,825.63	103.67	(N/A)	2.59	0.16	4.71
Bur oak	50,249.25	1,361.75	(N/A)	1.53	2.11	104.75
Honeylocust	38,466.88	1,042.45	(N/A)	1.30	1.62	94.77
Chinese elm	40,388.87	1,094.54	(N/A)	1.30	1.70	99.50
Littleleaf linden	6,943.89	188.18	(N/A)	1.18	0.29	18.82
Eastern white pine	18,452.21	500.05	(N/A)	1.18	0.78	50.01
White ash	8,085.35	219.11	(N/A)	1.06	0.34	24.35
American basswood	31,592.44	856.16	(N/A)	1.06	1.33	95.13
Austrian pine	20,791.87	563.46	(N/A)	0.94	0.87	70.43
Red maple	7,246.56	196.38	(N/A)	0.94	0.30	24.55
Blue spruce	8,401.83	227.69	(N/A)	0.82	0.35	32.53
Northern red oak	3,120.74	84.57	(N/A)	0.71	0.13	14.10
American elm	20,983.63	568.66	(N/A)	0.59	0.88	113.73
Other City Trees	115,538.69	3,131.10	(N/A)	7.07	4.86	1,330.19
Citywide total	2,376,468.59	64,402.30	(N/A)	100.00	100.00	75.86

**Table 3: Annual Air Quality Benefits**

Annual Air Quality Benefits of Public Trees by Species																	
Species	Deposition				Total Deposition (\$)	Avoided				Total Avoided (\$)	BVOC Emissions		Total (lb)	Total (\$)	Stand. Error	% of Total Trees	Avg. \$/tree
	O3 (lb)	NO2 (lb)	PM10 (lb)	SO2 (lb)		NO2 (lb)	PM10 (lb)	VOC (lb)	SO2 (lb)		Emissions (lb)	(\$)					
Silver maple	129.39	21.94	63.90	5.73	698.71	260.67	38.17	36.44	250.23	1,631.14	- 67.15	- 251.80	739.32	2,078.06	(N/A)	20.38	12.01
Black maple	96.08	16.38	44.03	4.26	509.43	178.51	25.94	24.72	168.75	1,110.19	- 31.21	- 117.03	527.45	1,502.59	(N/A)	15.67	11.30
Green ash	28.64	4.58	14.31	1.28	154.24	127.09	18.56	17.71	121.38	793.64	0.00	0.00	333.55	947.88	(N/A)	12.72	8.78
Norway maple	35.94	6.20	17.85	1.59	194.73	101.14	14.65	13.95	94.99	627.39	- 8.55	- 32.05	277.77	790.07	(N/A)	11.43	8.15
Northern hackberry	20.27	3.51	10.37	0.91	110.77	66.83	9.70	9.24	63.07	415.37	0.00	0.00	183.91	526.13	(N/A)	5.18	11.96
Norway spruce	5.15	1.02	4.43	0.63	34.49	14.26	2.07	1.97	13.43	88.56	- 22.43	- 84.11	20.53	38.94	(N/A)	4.95	0.93
Sugar maple	20.88	3.56	10.07	0.92	112.11	52.86	7.72	7.36	50.43	329.95	- 16.17	- 60.64	137.62	381.42	(N/A)	4.12	10.90
Black walnut	13.53	2.16	6.30	0.61	71.56	39.63	5.75	5.48	37.40	246.32	0.00	0.00	110.87	317.88	(N/A)	3.30	11.35
Apple	0.91	0.15	0.46	0.04	4.93	4.86	0.69	0.66	4.41	29.76	- 0.01	- 0.02	12.18	34.67	(N/A)	2.59	1.58
Bur oak	7.52	1.20	3.41	0.34	39.50	18.04	2.63	2.50	17.14	112.39	0.00	0.00	52.77	151.89	(N/A)	1.53	11.68
Honeylocust	7.60	1.25	3.44	0.35	40.06	14.91	2.18	2.09	14.33	93.33	- 6.13	- 22.99	40.02	110.40	(N/A)	1.30	10.04
Chinese elm	5.73	0.92	2.65	0.26	30.27	15.82	2.30	2.19	14.92	98.28	0.00	0.00	44.78	128.55	(N/A)	1.30	11.69
Littleleaf linden	0.80	0.14	0.46	0.04	4.52	4.93	0.71	0.68	4.59	30.47	- 0.46	- 1.71	11.89	33.28	(N/A)	1.18	3.33
Eastern white pine	2.09	0.41	1.76	0.26	13.90	6.17	0.92	0.88	6.10	39.06	- 7.78	- 29.16	10.81	23.80	(N/A)	1.18	2.38
White ash	0.43	0.07	0.31	0.02	2.57	5.90	0.87	0.84	5.78	37.23	0.00	0.00	14.22	39.80	(N/A)	1.06	4.42
American basswood	4.55	0.78	2.19	0.20	24.43	12.55	1.82	1.73	11.76	77.79	- 3.80	- 14.26	31.78	87.97	(N/A)	1.06	9.77
Austrian pine	3.57	0.71	2.83	0.44	23.23	5.90	0.86	0.82	5.61	36.78	- 8.03	- 30.12	12.70	29.89	(N/A)	0.94	3.74
Red maple	1.40	0.24	0.70	0.06	7.58	5.05	0.73	0.70	4.78	31.42	- 0.51	- 1.91	13.15	37.10	(N/A)	0.94	4.64
Blue spruce	1.05	0.21	0.91	0.13	7.04	2.90	0.42	0.40	2.69	17.91	- 2.95	- 11.08	5.74	13.87	(N/A)	0.82	1.98
Northern red oak	0.50	0.09	0.27	0.02	2.78	2.52	0.37	0.35	2.44	15.84	- 0.69	- 2.59	5.88	16.03	(N/A)	0.71	2.67
American elm	6.94	1.18	3.25	0.31	36.99	11.53	1.69	1.62	11.12	72.30	0.00	0.00	37.64	109.29	(N/A)	0.59	21.86
Other City Trees	18.51	3.10	9.44	0.98	101.01	52.61	7.63	7.26	49.49	326.56	- 9.11	- 34.17	139.91	393.40	(N/A)	7.07	159.95
Citywide Total	411.47	69.78	203.37	19.37	2,224.85	1,004.67	146.37	139.57	954.85	6,261.67	- 184.97	- 693.62	2,764.49	7,792.90	(N/A)	100.00	9.18

**Table 4: Annual Carbon Stored**  
**Stored CO2 Benefits of Public Trees by Species**

Species	Total stored CO2 (lbs)	Total (\$)	Stand . Error	% of Total Trees	% of Total \$	Avg. \$/tree
Silver maple	2,856,835.20	21,426.26	(N/A)	20.38	34.61	123.85
Black maple	1,020,545.99	7,654.09	(N/A)	15.67	12.36	57.55
Green ash	930,775.00	6,980.81	(N/A)	12.72	11.27	64.64
Norway maple	593,862.08	4,453.97	(N/A)	11.43	7.19	45.92
Northern hackberry	308,813.66	2,316.10	(N/A)	5.18	3.74	52.64
Norway spruce	52,475.60	393.57	(N/A)	4.95	0.64	9.37
Sugar maple	611,371.40	4,585.29	(N/A)	4.12	7.41	131.01
Black walnut	440,755.13	3,305.66	(N/A)	3.30	5.34	118.06
Apple	16,002.23	120.02	(N/A)	2.59	0.19	5.46
Bur oak	250,559.62	1,879.20	(N/A)	1.53	3.04	144.55
Honeylocust	99,222.22	744.17	(N/A)	1.30	1.20	67.65
Chinese elm	189,943.76	1,424.58	(N/A)	1.30	2.30	129.51
Littleleaf linden	19,172.07	143.79	(N/A)	1.18	0.23	14.38
Eastern white pine	18,022.39	135.17	(N/A)	1.18	0.22	13.52
White ash	16,200.31	121.50	(N/A)	1.06	0.20	13.50
American basswood	170,799.07	1,280.99	(N/A)	1.06	2.07	142.33
Austrian pine	30,908.05	231.81	(N/A)	0.94	0.37	28.98
Red maple	16,409.05	123.07	(N/A)	0.94	0.20	15.38
Blue spruce	6,743.36	50.58	(N/A)	0.82	0.08	7.23
Northern red oak	8,426.33	63.20	(N/A)	0.71	0.10	10.53
American elm	136,066.78	1,020.50	(N/A)	0.59	1.65	204.10
Other City Trees	461,324.23	3,459.93	(N/A)	7.07	5.59	1,361.42
Citywide total	8,255,233.52	61,914.25	(N/A)	100.00	100.00	72.93

**Table 5: Annual Carbon Sequestered**

Annual CO2 Benefits of Public Trees by Species													
Species	Sequestered (lb)	Sequestered (\$)	Decomposition Release(lb)	Maintenance Release (lb)	Total Release (\$)	Avoided (lb)	Avoided (\$)	Net Total (lb)	Total (\$)	Stand. Error	% of Total Trees	% of Total \$	Avg. \$/tree
Silver maple	220,703.28	1,655.27	- 13,715.01	- 598.85	- 107.35	92,781.26	695.86	299,170.67	2,243.78	(N/A)	20.38	38.19	12.97
Black maple	23,856.98	178.93	- 4,898.62	- 355.49	- 39.41	62,497.55	468.73	81,100.42	608.25	(N/A)	15.67	10.35	4.57
Green ash	61,960.00	464.70	- 4,467.72	- 268.32	- 35.52	44,920.06	336.90	102,144.01	766.08	(N/A)	12.72	13.04	7.09
Norway maple	31,774.94	238.31	- 2,860.38	- 212.75	- 23.05	35,115.12	263.36	63,816.93	478.63	(N/A)	11.43	8.15	4.93
Northern hackberry	16,661.00	124.96	- 1,483.19	- 128.70	- 12.09	23,324.26	174.93	38,373.37	287.80	(N/A)	5.18	4.90	6.54
Norway spruce	2,451.49	18.39	- 251.88	- 59.87	- 2.34	4,974.21	37.31	7,113.95	53.35	(N/A)	4.95	0.91	1.27
Sugar maple	28,102.67	210.77	- 2,935.28	- 125.39	- 22.96	18,677.47	140.08	43,719.47	327.90	(N/A)	4.12	5.58	9.37
Black walnut	20,396.88	152.98	- 2,115.62	- 89.90	- 16.54	13,844.69	103.84	32,036.05	240.27	(N/A)	3.30	4.09	8.58
Apple	1,709.02	12.82	- 77.08	- 16.97	- 0.71	1,632.43	12.24	3,247.40	24.36	(N/A)	2.59	0.41	1.11
Bur oak	8,467.84	63.51	- 1,202.69	- 42.32	- 9.34	6,342.95	47.57	13,565.79	101.74	(N/A)	1.53	1.73	7.83
Honeylocust	6,234.09	46.76	- 477.40	- 24.18	- 3.76	5,310.34	39.83	11,042.85	82.82	(N/A)	1.30	1.41	7.53
Chinese elm	7,562.51	56.72	- 911.73	- 36.27	- 7.11	5,522.30	41.42	12,136.81	91.03	(N/A)	1.30	1.55	8.28
Littleleaf linden	2,926.08	21.95	- 92.62	- 13.46	- 0.80	1,695.59	12.72	4,515.60	33.87	(N/A)	1.18	0.58	3.39
Eastern white pine	1,295.97	9.72	- 86.51	- 21.06	- 0.81	2,259.39	16.95	3,447.79	25.86	(N/A)	1.18	0.44	2.59
White ash	2,397.22	17.98	- 77.80	- 11.90	- 0.67	2,140.94	16.06	4,448.46	33.36	(N/A)	1.06	0.57	3.71
American basswood	9,463.88	70.98	- 819.84	- 31.01	- 6.38	4,349.16	32.62	12,962.19	97.22	(N/A)	1.06	1.65	10.80
Austrian pine	1,327.44	9.96	- 148.36	- 24.96	- 1.30	2,077.52	15.58	3,231.65	24.24	(N/A)	0.94	0.41	3.03
Red maple	2,145.07	16.09	- 78.76	- 10.53	- 0.67	1,770.83	13.28	3,826.61	28.70	(N/A)	0.94	0.49	3.59
Blue spruce	487.16	3.65	- 32.37	- 11.31	- 0.33	996.17	7.47	1,439.65	10.80	(N/A)	0.82	0.18	1.54
Northern red oak	774.92	5.81	- 40.53	- 6.05	- 0.35	903.42	6.78	1,631.78	12.24	(N/A)	0.71	0.21	2.04
American elm	3,030.99	22.73	- 653.12	- 23.79	- 5.08	4,118.11	30.89	6,472.19	48.54	(N/A)	0.59	0.83	9.71
Other City Trees	17,945.66	134.59	- 2,215.81	- 137.09	- 17.65	18,316.38	137.37	33,909.14	254.32	(N/A)	7.07	4.33	107.52
Citywide Total	471,675.09	3,537.56	- 39,642.33	- 2,250.13	- 314.19	353,570.14	2,651.78	783,352.78	5,875.15	(N/A)	100.00	100.00	6.92

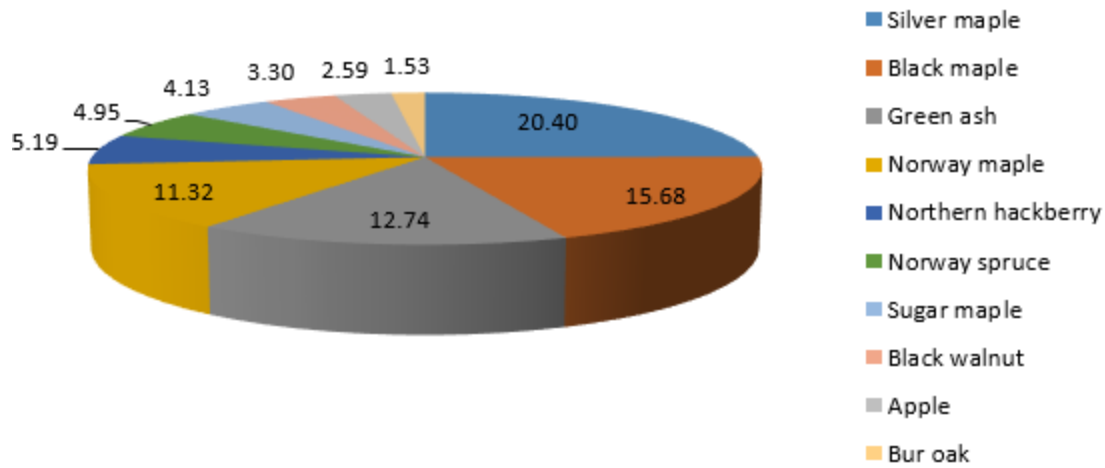


**Table 6: Annual Social and Aesthetic Benefits**

<b>Annual Aesthetic/Other Benefit of Public Trees by Species</b>					
Species	Total (\$)	Stand. Error	% of Total Trees	% of Total \$	Avg. \$/tree
Silver maple	17,518.00	(N/A)	20.38	40.19	101.26
Black maple	2,875.54	(N/A)	15.67	6.60	21.62
Green ash	5,482.25	(N/A)	12.72	12.58	50.76
Norway maple	3,094.41	(N/A)	11.43	7.10	31.90
Northern hackberry	2,301.02	(N/A)	5.18	5.28	52.30
Norway spruce	660.23	(N/A)	4.95	1.51	15.72
Sugar maple	2,776.42	(N/A)	4.12	6.37	79.33
Black walnut	1,588.03	(N/A)	3.30	3.64	56.72
Apple	95.02	(N/A)	2.59	0.22	4.32
Bur oak	640.14	(N/A)	1.53	1.47	49.24
Honeylocust	1,602.33	(N/A)	1.30	3.68	145.67
Chinese elm	596.62	(N/A)	1.30	1.37	54.24
Littleleaf linden	365.49	(N/A)	1.18	0.84	36.55
Eastern white pine	317.11	(N/A)	1.18	0.73	31.71
White ash	359.85	(N/A)	1.06	0.83	39.98
American basswood	655.61	(N/A)	1.06	1.50	72.85
Austrian pine	129.22	(N/A)	0.94	0.30	16.15
Red maple	308.88	(N/A)	0.94	0.71	38.61
Blue spruce	145.36	(N/A)	0.82	0.33	20.77
Northern red oak	74.69	(N/A)	0.71	0.17	12.45
American elm	384.66	(N/A)	0.59	0.88	76.93
Other City Trees	1,612.66	(N/A)	7.07	3.70	660.15
Citywide Total	43,583.54	(N/A)	100.00	100.00	51.34

**Table 7: Summary of Benefits in Dollars**  
**Average Annual Benefits of Public Trees by Species (\$/tree)**

Species	Energy	CO2	Air Quality	Stormwater	Aesthetic/Other	Total	Stand
Silver maple	65.46	12.97	12.01	120.36	101.26	312.06	(N/A)
Black maple	59.57	4.57	11.30	75.40	21.62	172.46	(N/A)
Green ash	51.29	7.09	8.78	64.98	50.76	182.90	(N/A)
Norway maple	46.46	4.93	8.15	51.02	31.90	142.46	(N/A)
Northern hackberry	67.21	6.54	11.96	78.45	52.30	216.46	(N/A)
Norway spruce	15.18	1.27	0.93	30.96	15.72	64.06	(N/A)
Sugar maple	66.07	9.37	10.90	111.83	79.33	277.50	(N/A)
Black walnut	62.80	8.58	11.35	99.33	56.72	238.78	(N/A)
Apple	10.41	1.11	1.58	4.71	4.32	22.13	(N/A)
Bur oak	60.93	7.83	11.68	104.75	49.24	234.44	(N/A)
Honeylocust	58.80	7.53	10.04	94.77	145.67	316.80	(N/A)
Chinese elm	63.84	8.28	11.69	99.50	54.24	237.54	(N/A)
Littleleaf linden	22.26	3.39	3.33	18.82	36.55	84.35	(N/A)
Eastern white pine	25.54	2.59	2.38	50.01	31.71	112.22	(N/A)
White ash	27.49	3.71	4.42	24.35	39.98	99.95	(N/A)
American basswood	62.35	10.80	9.77	95.13	72.85	250.91	(N/A)
Austrian pine	32.64	3.03	3.74	70.43	16.15	125.99	(N/A)
Red maple	27.96	3.59	4.64	24.55	38.61	99.34	(N/A)
Blue spruce	19.04	1.54	1.98	32.53	20.77	75.86	(N/A)
Northern red oak	18.02	2.04	2.67	14.10	12.45	49.28	(N/A)
American elm	98.78	9.71	21.86	113.73	76.93	321.01	(N/A)
Other City Trees	994.47	107.52	159.95	1,330.19	660.15	3,252.28	(N/A)
Citywide Total	52.04	6.92	9.18	75.86	51.34	195.33	(N/A)

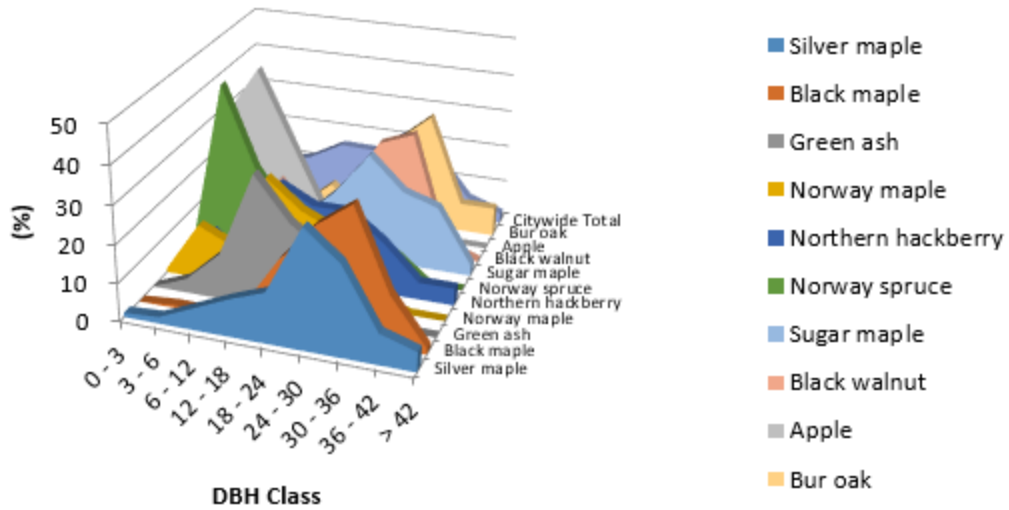


**Species Distribution of Public Trees**

Species	Percent
Silver maple	20.40
Black maple	15.68
Green ash	12.74
Norway maple	11.32
Northern hackberry	5.19
Norway spruce	4.95
Sugar maple	4.13
Black walnut	3.30
Apple	2.59
Bur oak	1.53
Other Species	18.16

**Figure 1: Species Distribution**

## Relative Age Distribution of Top 10 Public Tree Species (%)



Relative Age Distribution of Top 10 Public Tree Species (%)									
Species	0 - 3	3 - 6	6 - 12	12 - 18	18 - 24	24 - 30	30 - 36	36 - 42	> 42
Silver maple	1.16	1.73	5.78	9.83	13.29	31.21	23.70	8.09	5.20
Black maple	0.00	0.75	0.75	3.76	17.29	27.82	34.59	13.53	1.50
Green ash	0.00	3.70	12.04	34.26	23.15	16.67	10.19	0.00	0.00
Norway maple	1.03	14.43	10.31	29.90	22.68	18.56	3.09	0.00	0.00
Northern hackberry	0.00	9.09	2.27	25.00	20.45	20.45	13.64	4.55	4.55
Norway spruce	0.00	45.24	23.81	11.90	9.52	2.38	7.14	0.00	0.00
Sugar maple	0.00	2.86	2.86	8.57	17.14	28.57	20.00	17.14	2.86
Black walnut	0.00	3.57	14.29	3.57	14.29	28.57	32.14	3.57	0.00
Apple	27.27	40.91	22.73	4.55	4.55	0.00	0.00	0.00	0.00
Bur oak	0.00	23.08	0.00	7.69	0.00	23.08	30.77	7.69	7.69
Citywide Total	1.65	8.83	11.07	16.02	15.78	21.55	16.73	5.77	2.59

Figure 2: Relative Age Class

### % Functional (Foliage) Condition of Public Trees

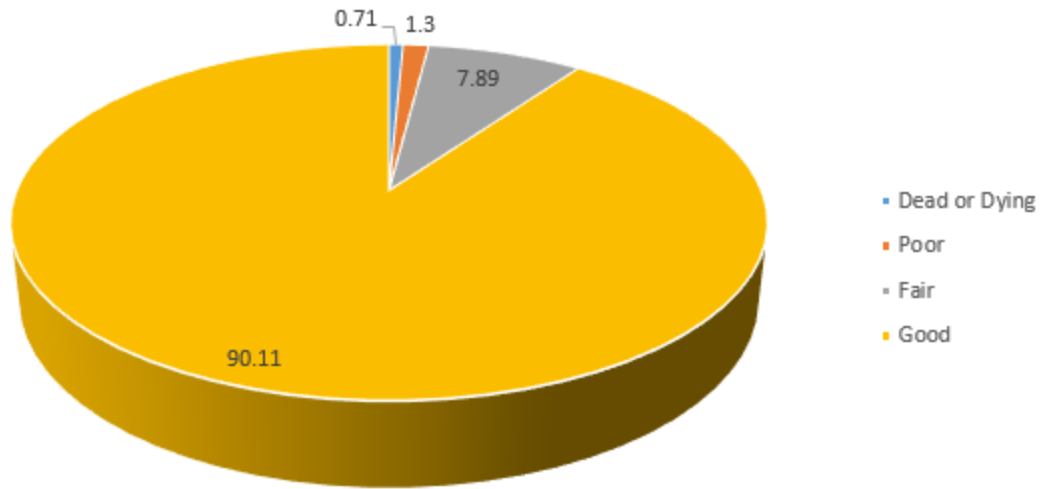


Figure 3: Foliage Condition

### Structural (Woody) Condition of Public Trees (%)

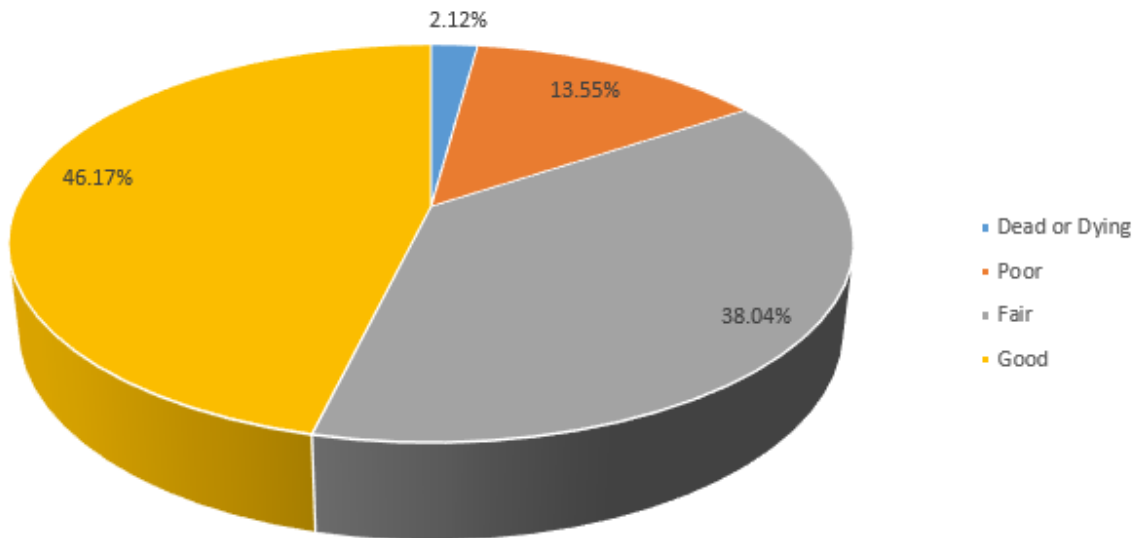
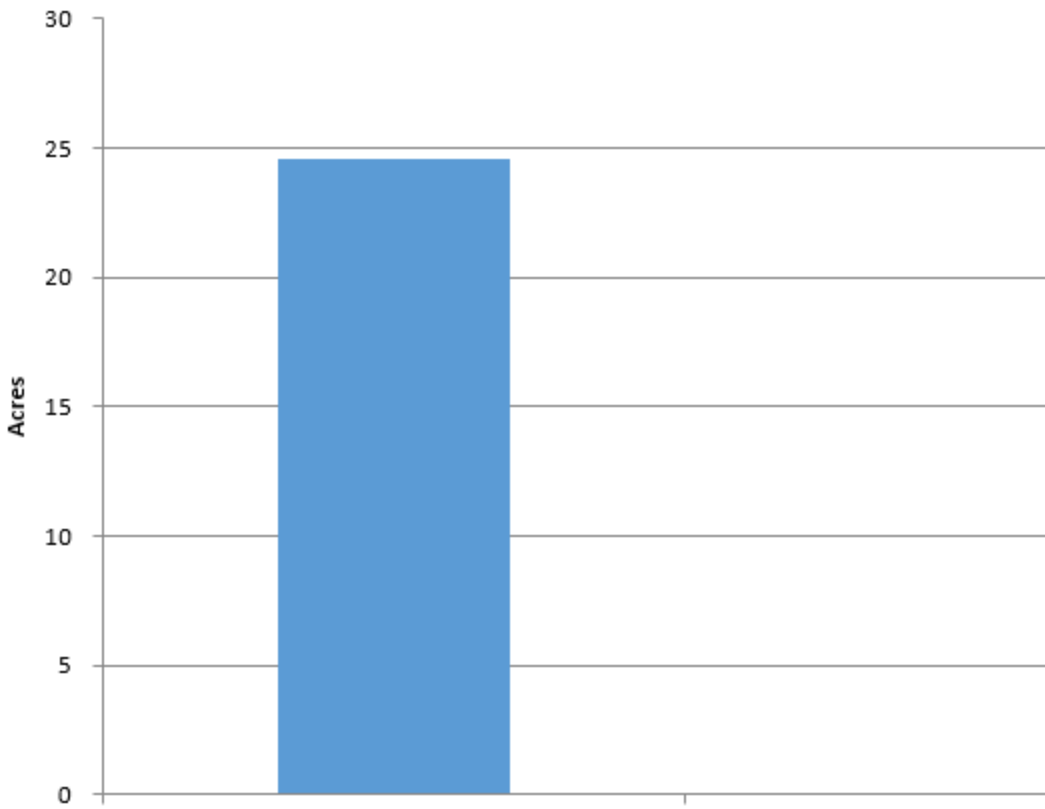


Figure 4: Wood Condition

## Canopy Cover of Public Trees (Acres)



Zone	Acres	% of Total Canopy
1	24.54	99.85
1v	0.04	0.15
<b>Citywide Total</b>	<b>24.58</b>	<b>100.00</b>

**Figure 5: Canopy Cover in Acres**

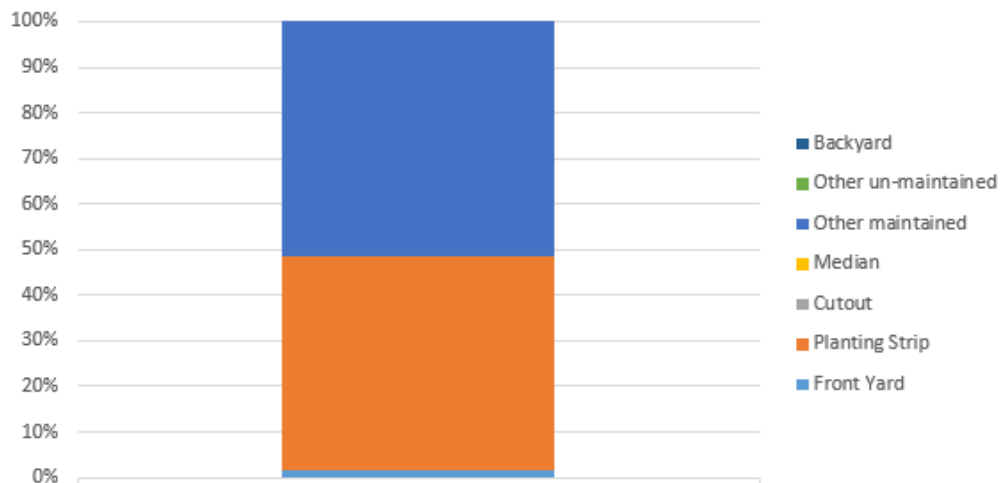
### % Land Use of Public Trees



Citywide	Single family residential	395 (N/A)	46.53
	Multi-family residential	0 (N/A)	0.00
	Industrial/Large commercial	0 (N/A)	0.00
	Park/vacant/other	437 (N/A)	51.47
	Small Commercial	17 (N/A)	2.00
	<b>Total</b>	<b>849 (N/A)</b>	<b>100.00</b>

**Figure 6: Land Use of city/park trees**

### % Location of Public Trees



Citywide	Front yard	12 (N/A)	1.41
	Planting strip	399 (N/A)	47.00
	Cutout	1 (N/A)	0.12
	Median	0 (N/A)	0.00
	Other maintained locations	437 (N/A)	51.47
	Other un-maintained locations	0 (N/A)	0.00
	Backyard	0 (N/A)	0.00
	<b>Total</b>	<b>849 (N/A)</b>	<b>100.00</b>

**Figure 7: Location of city/park trees**

## Appendix B: ArcGIS Mapping



Figure 1: Location of Ash Trees



Figure 2: Location of EAB symptoms

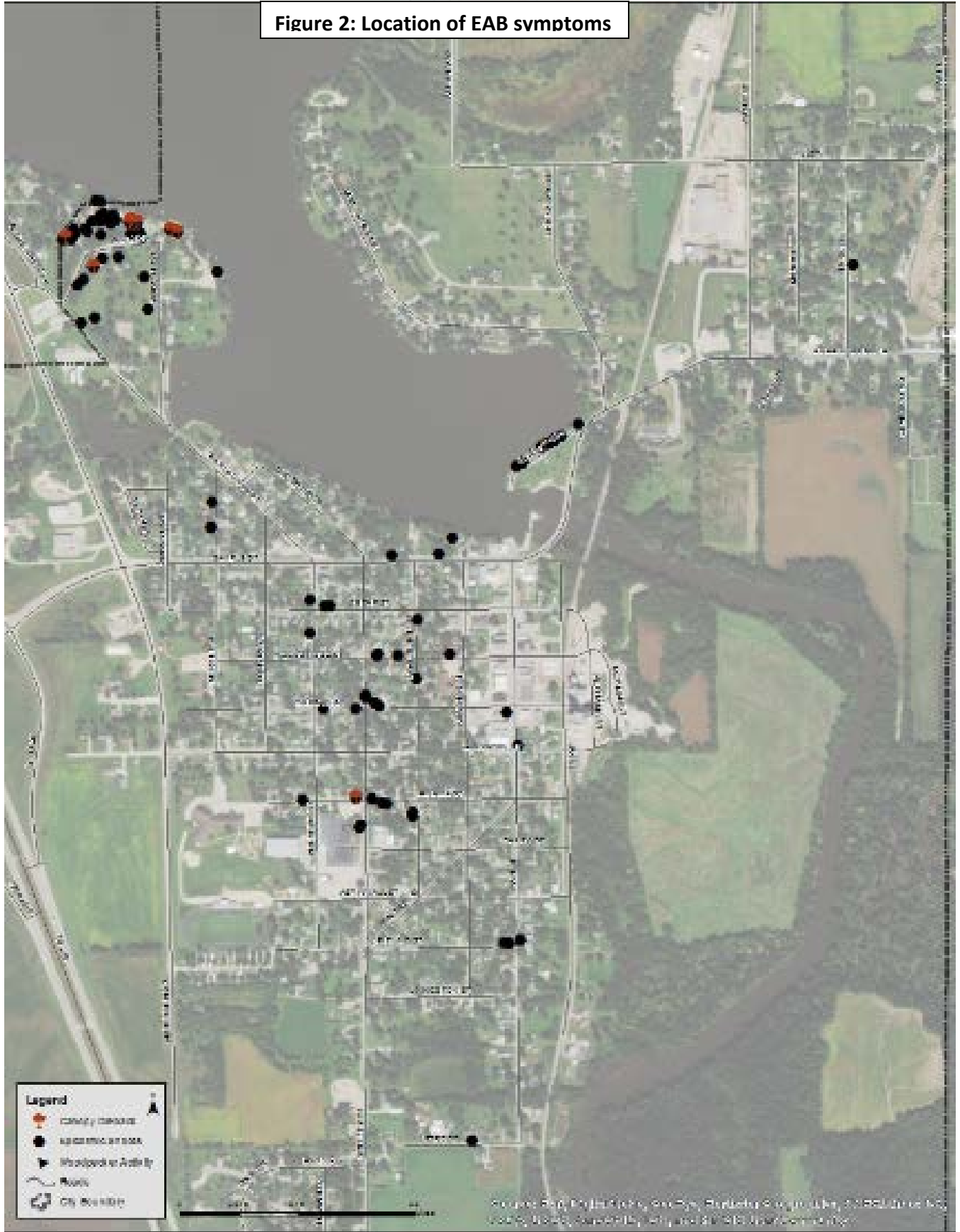


Figure 3: Location of Ash with Canopy Dieback





Figure 5: Location of Treatable Ash in Good Condition

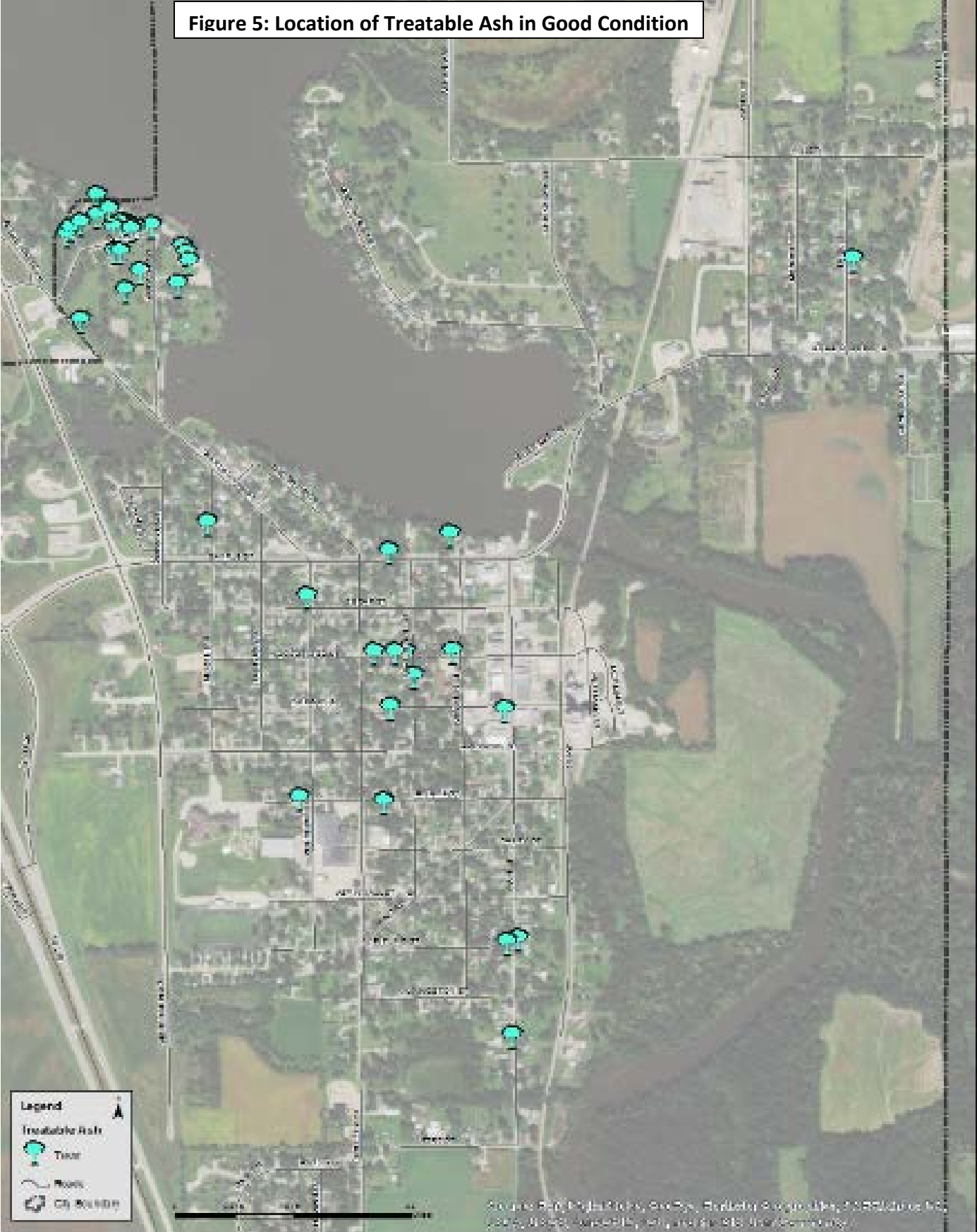


Figure 6: Location of Trees with Recommended Maintenance

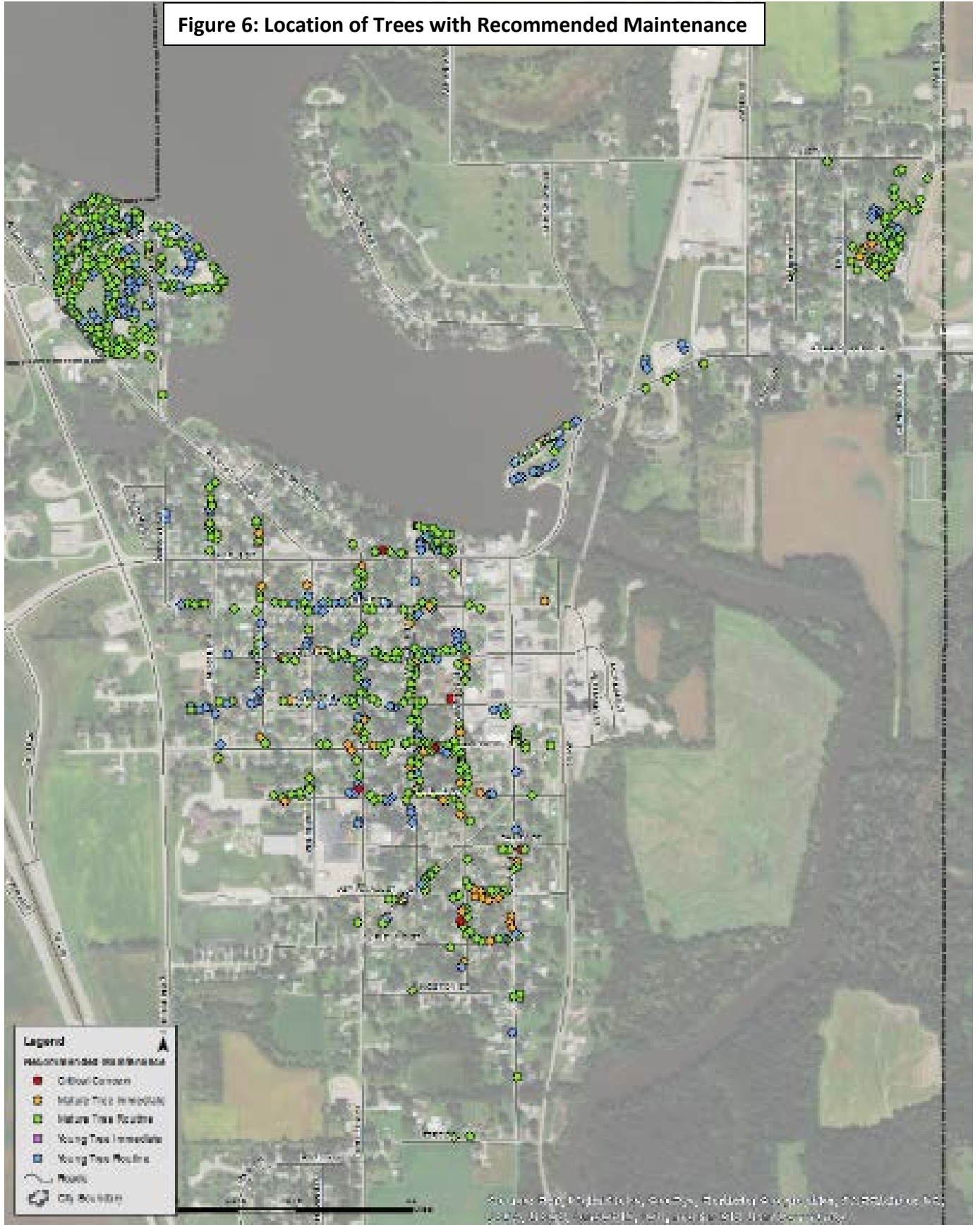
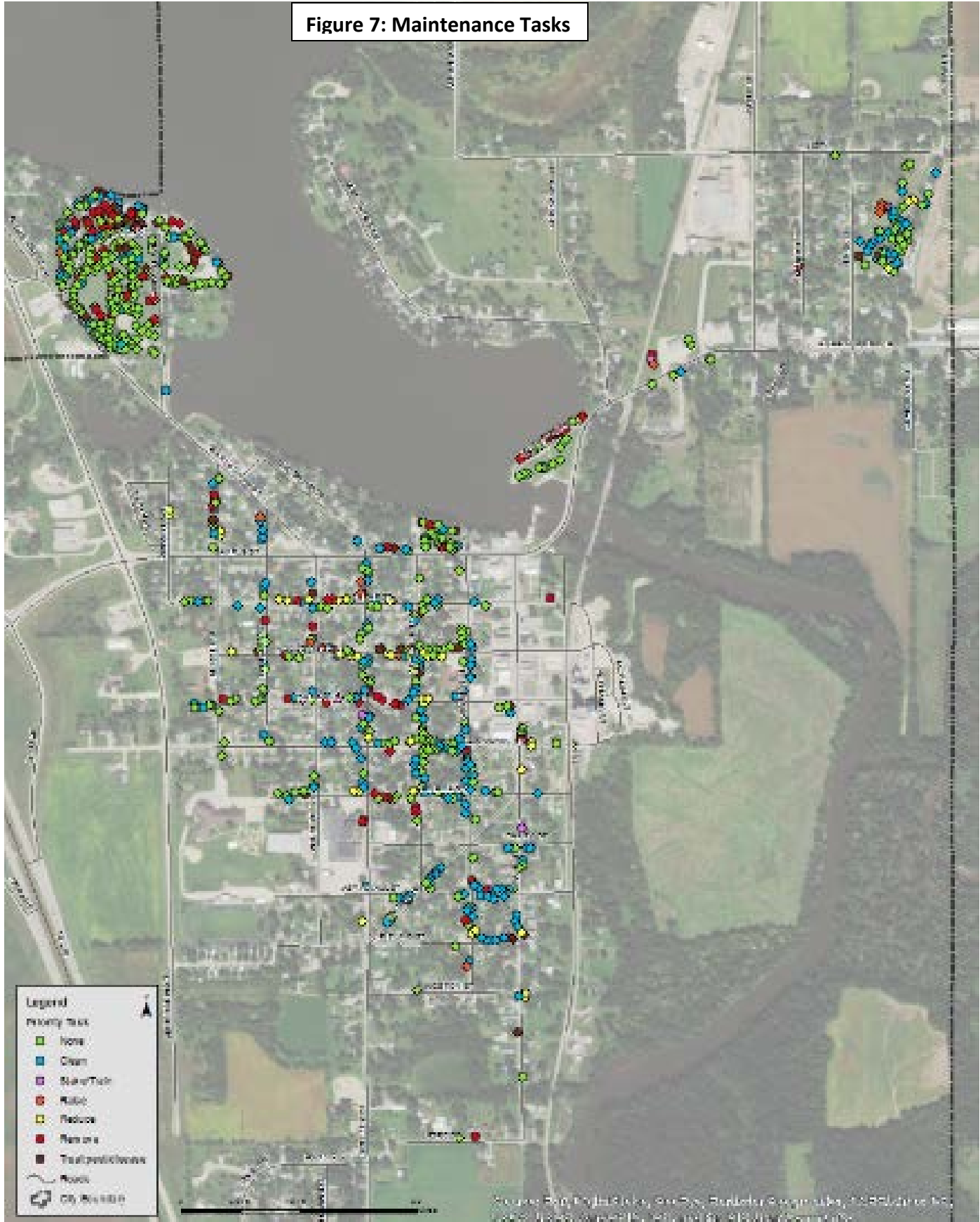


Figure 7: Maintenance Tasks



## Appendix C: Nashua Tree Ordinances

### TREES

151.01 Definition  
151.02 Planting Restrictions  
151.03 Duty to Trim Trees

151.04 Trimming Trees to be Supervised  
151.05 Disease Control  
151.06 Inspection and Removal

**151.01 DEFINITION.** For use in this chapter, “parking” means that part of the street, avenue or highway in the City not covered by sidewalk and lying between the lot line and the curb line; or, on unpaved streets, that part of the street, avenue or highway lying between the lot line and that portion of the street usually traveled by vehicular traffic.

**151.02 PLANTING RESTRICTIONS.** No tree shall be planted in any parking or street except in accordance with the following:

1. **Alignment.** All trees planted in any street shall be planted in the parking midway between the outer line of the sidewalk and the curb. In the event a curb line is not established, trees shall be planted on a line ten (10) feet from the property line.
2. **Spacing.** Trees shall not be planted on any parking which is less than nine (9) feet in width, or contains less than eighty-one (81) square feet of exposed soil surface per tree. Trees shall not be planted closer than twenty (20) feet from street intersections (property lines extended) and ten (10) feet from driveways. If it is at all possible trees should be planted inside the property lines and not between the sidewalk and the curb.
3. **Prohibited Trees.** No person shall plant in any street any fruit-bearing tree or any tree of the kinds commonly known as cottonwood, poplar, box elder; Chinese elm, evergreen, willow or black walnut.

**151.03 DUTY TO TRIM TREES.** The owner or agent of the abutting property shall keep the trees on, or overhanging the street, trimmed so that all branches will be at least fifteen (15) feet above the surface of the street and eight (8) feet above the sidewalks. If the abutting property owner fails to trim the trees, the City may serve notice on the abutting property owner requiring that such action be taken within five (5) days. If such action is not taken within that time, the City may perform the required action and assess the costs against the abutting property for collection in the same manner as a property tax. No topping or dehorning of trees is permitted except by special written permission



of the Council. Trees becoming stag-headed may have the dead portions removed back to sound green wood with a proper 45° cut only.

*(Code of Iowa, Sec. 364.12[2c, d & e])*

**151.04 TRIMMING TREES TO BE SUPERVISED.** Except as allowed in Section 151.03, it is unlawful for any person to trim or cut any tree in a street or public place unless the work is done under the supervision of the City.

**151.05 DISEASE CONTROL.** Any dead, diseased or damaged tree or shrub which may harbor serious insect or disease pests or disease injurious to other trees is hereby declared to be a nuisance.

**151.06 INSPECTION AND REMOVAL.** The Council shall inspect or cause to be inspected any trees or shrubs in the City reported or suspected to be dead, diseased or damaged, and such trees and shrubs shall be subject to the following:

1. City Property. If it is determined that any such condition exists on any public property, including the strip between the curb and the lot line of private property, the Council may cause such condition to be corrected by treatment or removal. The Council may also order the removal of any trees on the streets of the City which interfere with the making of improvements or with travel thereon.

2. Private Property. If it is determined with reasonable certainty that any such condition exists on private property and that danger to other trees or to adjoining property or passing motorists or pedestrians is imminent, the Council shall notify by certified mail the owner, occupant or person in charge of such property to correct such condition by treatment or removal within fourteen (14) days of said notification. If such owner, occupant or person in charge of said property fails to comply within fourteen (14) days of receipt of notice, the Council may cause the condition to be corrected and the cost assessed against the property.

*(Code of Iowa, Sec. 364.12[3b & h])*



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Federal law prohibits employment discrimination on the basis of race, color, age, religion, national origin, sex or disability. State law prohibits employment discrimination on the basis of race, color, creed, age, sex, sexual orientation, gender identity, national origin, religion, pregnancy, or disability. State law also prohibits public accommodation (such as access to services or physical facilities) discrimination on the basis of race, color, creed, religion, sex, sexual orientation, gender identity, religion, national origin, or disability. If you believe you have been discriminated against in any program, activity or facility as described above, or if you desire further information, please contact the Iowa Civil Rights Commission, 1-800-457-4416, or write to the Iowa Department of Natural Resources, Wallace State Office Bldg., 502 E. 9<sup>th</sup> St., Des Moines, IA 50319.

If you need accommodations because of disability to access the services of this Agency, please contact the Director at 515-725-8200.