

# Middletown, IA



2010 Management Plan  
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# Executive Summary

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## Overview

This plan was developed to assist the City of Middletown 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 5% of Middletown's city owned trees (ash) will die once EAB becomes established in the community. 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 2010, 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 59 trees inventoried.

- Middletown's trees provide \$9,239 of benefits annually, an average of \$156 a tree
- There are over 16 species of trees
- The top three genus are: Maple 28%, Black Walnut 33%, and Basswood 8%
- 57% of trees are in need of some type of management
- 1 tree is 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 1 tree needing removal, it is 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\*
- 0 of the 3 ash trees are in need of follow up because they are displaying signs and symptoms associated with EAB, monitor
- 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: 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 up to 3 years to remove ash – Suggestion: request a budget increase to \$2,000 annually and apply for grants to plant replacement trees

## Introduction

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This plan was developed to assist Middletown 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 Middletown, these costs can be extended over years and public safety issues from dead and dying ash trees mitigated.

Trees are an important component of Middletown'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 Middletown 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 Middletown's urban forestry goals.

## Inventory

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In 2010, a tree inventory was conducted that included 100% of the city owned trees on streets. 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 of 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 59 city trees was entered into the USDA Forest service program Street Tree Resource Analysis Tool for Urban forestry Management (STRATUM), part of the i-Tree suite. The following are results from the i-Tree STRATUM analysis. Findings

### **Annual Benefits**

#### **Annual Energy Benefits**

Trees conserve energy by shading buildings and blocking winds. Middletown's trees reduce energy related costs by approximately \$2,754 annually (Appendix A, Table 1). These savings are both in Electricity (13.4 MWh) and in Natural Gas (1,770.4 Therms).

#### **Annual Stormwater Benefits**

Middletown's trees intercept about 111,507 gallons of rainfall or snow melt a year (Appendix A, Table 2). This interception provides \$3,022 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 mater (ozone). In Middletown, it is estimated that trees remove 164.1 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 \$397 (Appendix A, Table 3).

#### **Annual Carbon Benefits**

Carbon sequestration and storage reduce the amount of carbon in the atmosphere, mitigating climate change. In Middletown, trees sequester about 47,707 lbs of carbon a year with an associated value of \$358 (Appendix A, Table 4). In addition, the trees store 366,956 lbs of carbon, with a yearly benefit of \$2,752 (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. Middletown receives \$2,643 in annual social benefits from trees (Appendix A, Table 6).

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

According to the USDA Forest Service i-Tree STRATUM analysis, Middletown's trees provide \$9,239 of benefits annually. Benefits of individual trees vary based on size, species, health and

location, but on average each of the 59 trees in Middletown provide approximately \$156.60 annually (Appendix A, Table 7).

## **Forest Structure**

### **Species Distribution**

Middletown has over 16 different tree species along city streets and parks (Appendix A, Figure 1).

The distribution of trees by genus is as follows:

Maple	17	28%
Walnut	20	39%
Basswood	5	8%
Redbud	4	7%
Oak	3	5%
Ash	3	5%
Hackberry	2	3%
Apple (Crab)	1	2%
Locust	1	1%
Sycamore	1	1%
Pine	1	1%
Elm	1	1%

### **Age Class**

Most of Middletown's trees (44%) are between 12 and 18 inches in diameter at 4.5 ft (Appendix A, Figure 2). For age, a Bell Curve is preferred and shows the highest amount of trees around 18 inches in diameter at 4.5 ft. Middletown's size curve is on track, indicating a diverse aged stand. Continued planting is important to keep this trend from falling into a over-mature average.

### **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 Middletown indicate that 46% of the trees are in good health, with only 5% of the foliage in poor health, dead or dying (Appendix A, Figure 3 & Appendix B, Figure 3). Similarly, 37% of Middletown'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 7% of the population. This 7% is an estimate of trees that need management follow up. The remaining trees not included above are marked as fair, which is representative of the 57% of trees in need of some type of trimming, branch removal, other.

## 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 3).

Crown Cleaning	22	37%
Crown Raising	2	<3%
Tree Staking	0	0%
Tree Removal	1	1%
Crown Reduction	10	17%

## Canopy Cover

The canopy cover of Middletown is approximately 1 acres (Appendix A, Figure 4). According to the 2000 census, Middletown occupies 390 acres. Thus the canopy cover on city land is <1%.

## Land Use and Location

The majority of Middletown's city and park trees are in planting strips in single family residential neighborhoods (Appendix A, Figure 6 & Appendix A, Figure7). The following describes the land use and locations for the street and park trees.

### Land Use

Single family residential	84%
Park/vacant/other	10%
Industrial/Large commercial	5%
Small commercial	0%
Multifamily residential	0%

### Location

Backyard	12%
Other maintained locations	15%
Cutout (surrounded by pavement)	<1%
Front yard	73%

## 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

Middletown has 0 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. There are 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 that do not include trimming. There are a total of 10 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 1 removal, none is ash trees. There are a total of 3 ash trees, and none of those have signs and symptoms that have been associated with EAB. In addition, there are no ash 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 Middletown.

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 (28%) and walnut (39%)(Appendix A, Figure 1). Maples and Walnuts 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, which you may consider altering your current code to be outlined in section 3-2-1g of the city



ordinance (Appendix C). All trees planted must meet the restrictions in city ordinance (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 death 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: largest immediate concern tree

Planting and Replacement: 4 trees to be planted in open locations

Visual Survey for signs and symptoms of EAB

#### **Year 2**

Removal: immediate concern trees

Planting and Replacement: 5 trees in open locations or from year one removals

Routine trimming: Contract to trim 1/3 of the city trees

Visual Survey for signs and symptoms of EAB

#### **Year 3**

Removal: removal of any new critical concern trees and large immediate

Planting and Replacement: 4 trees to be planted in open locations and locations from previous removals

Visual Survey for signs and symptoms of EAB

#### **Year 4**

Removal: removal of any new critical concern trees large immediate

Planting and Replacement: 5 trees in open locations or from previous removals

Routine trimming: Contract to trim 1/3 of the city trees

Visual Survey for signs and symptoms of EAB

#### **Year 5**

Removal: removal of any new critical concern trees and large immediate

Planting and Replacement: 4 trees to be planted in open locations and locations from previous removals

Visual Survey for signs and symptoms of EAB

#### **Year 6**

Removal: removal of any new critical concern trees and large immediate

Planting and Replacement: 4 trees in open locations from previous removals

Routine trimming: Contract to trim 1/3 of the city trees

Visual Survey for signs and symptoms of EAB

\*Reduction of ash over 6 years: No ash trees removed at this time. It will take approximately 3 years to remove all ash with the current budget. EAB could potentially kill all ash within 4 years of its arrival.

# 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 4). 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\*

## EAB Quarantines

EAB is an extremely destructive plant pest and it is responsible for the death and decline of over 25 million 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 ash trees will be replaced. All trees will meet the restrictions in city ordinance 151.02 (Appendix C). The new plantings will be a diverse mix and will not include ash, maple, cottonwood, poplar, box elder, Chinese elm, evergreen, willow or black walnut.

## **Postponed Work**

While finances, staffing and equipment are focused on the management of ash, usual services may be delayed. Tree removal requests on genus 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 ash trees on their property upon arrival of EAB. City Code 3-2-2 Other Conditions Regulated states “The following actions are required and may also be abated in the manner provided in ordinance: 1. The removal of diseased trees or dead wood, but not diseased trees and dead wood outside the property lines and inside the curb lines upon the public street.” There is a possibility the city can add Ash trees to city code 3-2-1 k, which requires removal of trees infected with Dutch elm disease.

## Budget

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### Current Budget

**Total \$12,000 over 6 years (\$2,000/year)**

#### **FY 2011 Budget**

Removal: \$2,000

Planting: \$

Watering & Maintenance: \$

#### **FY 2012 Budget**

Removal: \$1,000

Planting: \$1,000

Routine trimming: \$

Watering & Maintenance: \$

#### **FY 2013 Budget**

Removal: \$1,000

Planting: \$1,000

Watering & Maintenance: \$

#### **FY 2014 Budget**

Removal: \$1,000

Planting: \$

Routine trimming: \$1,000

Watering & Maintenance: \$

#### **FY 2015 Budget**

Removal: \$1,000

Planting: \$1,000

Watering & Maintenance: \$

#### **FY 2016 Budget**

Removal: \$1,000

Planting: \$400

Routine trimming: \$600

Watering & Maintenance: \$

\*Reduction of ash over 6 years: no ash trees need to be removed at this time, monitor the ash for any signs/symptoms of decline or EAB. **It will take approximately 3 years to remove all ash with the current budget.**

### Purposed Budget Increase

EAB could potentially kill all ash trees in Middletown within 4 years of its arrival. To remove all ash trees as well as current immediate concern trees within 3 years the budget would need to be increased to \$2,000 a year. If the budget were increased to \$2,000 a year all ash could be removed within 2-3 years, as well as existing and any new hazard trees. Additionally, it is recommended that Middletown 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.

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## Appendix A: i-Tree Data

**Table 1: Annual Energy Benefits**

### Annual Energy Benefits of Public Trees by Species

11/22/2010

Species	Total Electricity (MWh)	Electricity (\$)	Total Natural Gas (Therms)	Natural Gas (\$)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Black walnut	4.4	333	544.5	534	866	(N/A)	33.9	31.5	43.31
Sugar maple	1.9	141	243.0	238	379	(N/A)	13.6	13.8	47.42
American basswood	1.2	94	180.0	176	271	(N/A)	8.5	9.8	54.10
Norway maple	0.7	52	92.7	91	143	(N/A)	6.8	5.2	35.62
Silver maple	1.2	89	145.3	142	231	(N/A)	6.8	8.4	57.76
Eastern redbud	0.8	59	119.5	117	177	(N/A)	6.8	6.4	44.14
Green ash	0.8	61	100.8	99	159	(N/A)	5.1	5.8	53.12
Northern hackberry	0.8	61	103.1	101	162	(N/A)	3.4	5.9	80.79
Northern pin oak	0.6	44	87.0	85	130	(N/A)	3.4	4.7	64.76
Red maple	0.3	22	39.9	39	61	(N/A)	1.7	2.2	60.68
Honeylocust	0.3	21	33.4	33	54	(N/A)	1.7	2.0	53.77
Apple	0.0	0	0.6	1	1	(N/A)	1.7	0.0	0.87
Eastern white pine	0.1	4	9.5	9	14	(N/A)	1.7	0.5	13.58
American sycamore	0.4	29	53.7	53	82	(N/A)	1.7	3.0	82.02
Oak	0.1	7	13.7	13	21	(N/A)	1.7	0.8	20.64
Siberian elm	0.0	2	3.5	3	6	(N/A)	1.7	0.2	5.59
Other street trees	0.0	0	0.0	0	0	(N/A)	0.0	0.0	0.00
Citywide total	13.4	1,019	1,770.4	1,735	2,754	(N/A)	100.0	100.0	46.67

**Table 2: Annual Stormwater Benefits**

### Annual Stormwater Benefits of Public Trees by Species

11/22/2010

Species	Total rainfall interception (Gal)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Black walnut	31,236	847	(N/A)	33.9	28.0	42.33
Sugar maple	16,581	449	(N/A)	13.6	14.9	56.17
American basswood	10,871	295	(N/A)	8.5	9.8	58.93
Norway maple	3,990	108	(N/A)	6.8	3.6	27.03
Silver maple	12,278	333	(N/A)	6.8	11.0	83.19
Eastern redbud	4,188	114	(N/A)	6.8	3.8	28.38
Green ash	6,874	186	(N/A)	5.1	6.2	62.10
Northern hackberry	7,919	215	(N/A)	3.4	7.1	107.31
Northern pin oak	6,243	169	(N/A)	3.4	5.6	84.60
Red maple	2,867	78	(N/A)	1.7	2.6	77.70
Honeylocust	1,557	42	(N/A)	1.7	1.4	42.19
Apple	7	0	(N/A)	1.7	0.0	0.20
Eastern white pine	595	16	(N/A)	1.7	0.5	16.14
American sycamore	5,490	149	(N/A)	1.7	4.9	148.79
Oak	608	16	(N/A)	1.7	0.6	16.47
Siberian elm	203	5	(N/A)	1.7	0.2	5.49
Other street trees	0	0	(N/A)	0.0	0.0	0.00
Citywide total	111,507	3,022	(N/A)	100.0	100.0	51.22

**Table 3: Annual Air Quality Benefits**

## Annual Air Quality Benefits of Public Trees by Species

11/22/2010

Species	Deposition (lb)				Total Depos. (\$)	Avoided (lb)				Total Avoided (\$)	BVOC Emissions (lb)	BVOC Emissions (\$)	Total (lb)	Total (\$) Error	Standard % of Total Trees	Avg. \$/tree
	O <sub>3</sub>	NO <sub>2</sub>	PM <sub>10</sub>	SO <sub>2</sub>		NO <sub>2</sub>	PM <sub>10</sub>	VOC	SO <sub>2</sub>							
Black walnut	2.6	0.4	1.5	0.1	14	20.4	3.0	2.9	19.9	128	0.0	0	50.7	143 (N/A)	33.9	7.14
Sugar maple	2.0	0.3	1.0	0.1	11	8.8	1.3	1.2	8.4	55	-1.6	-6	21.5	60 (N/A)	13.6	7.46
American basswood	1.2	0.2	0.7	0.1	7	6.0	0.9	0.8	5.6	37	-1.1	-4	14.4	40 (N/A)	8.5	7.96
Norway maple	0.5	0.1	0.3	0.0	3	3.3	0.5	0.5	3.1	20	-0.2	-1	8.1	23 (N/A)	6.8	5.69
Silver maple	1.7	0.3	0.9	0.1	9	5.4	0.8	0.8	5.3	34	-1.0	-4	14.3	40 (N/A)	6.8	9.97
Eastern redbud	1.5	0.2	0.7	0.1	8	3.8	0.6	0.5	3.5	24	0.0	0	11.0	32 (N/A)	6.8	7.90
Green ash	0.7	0.1	0.4	0.0	4	3.7	0.5	0.5	3.6	23	0.0	0	9.6	27 (N/A)	5.1	9.11
Northern hackberry	1.8	0.3	0.9	0.1	10	3.8	0.6	0.5	3.6	24	0.0	0	11.5	33 (N/A)	3.4	16.60
Northern pin oak	1.4	0.2	0.7	0.1	7	2.9	0.4	0.4	2.6	18	-0.3	-1	8.3	24 (N/A)	3.4	11.87
Red maple	0.7	0.1	0.3	0.0	4	1.4	0.2	0.2	1.3	8	-0.2	-1	4.0	12 (N/A)	1.7	11.54
Honeylocust	0.3	0.0	0.1	0.0	1	1.3	0.2	0.2	1.3	8	-0.2	-1	3.2	9 (N/A)	1.7	8.90
Apple	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0 (N/A)	1.7	0.11
Eastern white pine	0.1	0.0	0.1	0.0	0	0.3	0.0	0.0	0.3	2	-0.2	-1	0.6	1 (N/A)	1.7	1.48
American sycamore	0.8	0.1	0.4	0.0	4	1.9	0.3	0.3	1.8	12	0.0	0	5.5	16 (N/A)	1.7	15.71
Oak	0.0	0.0	0.0	0.0	0	0.5	0.1	0.1	0.4	3	0.0	0	1.1	3 (N/A)	1.7	2.99
Siberian elm	0.0	0.0	0.0	0.0	0	0.1	0.0	0.0	0.1	1	0.0	0	0.3	1 (N/A)	1.7	0.83
Other street trees	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0 (N/A)	0.0	0.00
Citywide total	15.2	2.6	7.8	0.7	83	63.5	9.3	8.9	60.8	397	-4.7	-18	164.1	462 (N/A)	100.0	7.84

Table 4: Annual Carbon Stored

## Stored CO2 Benefits of Public Trees by Species

11/22/2010

Species	Total Stored CO2 (lbs)	Total (\$)	Standar d Error	% of Total Trees	% of Total \$	Avg. \$/tree
Black walnut	84,668	635	(N/A)	33.9	23.1	31.75
Sugar maple	55,914	419	(N/A)	13.6	15.2	52.42
American	43,488	326	(N/A)	8.5	11.9	65.23
Norway maple	9,450	71	(N/A)	6.8	2.6	17.72
Silver maple	35,809	269	(N/A)	6.8	9.8	67.14
Eastern redbud	23,265	174	(N/A)	6.8	6.3	43.62
Green ash	23,116	173	(N/A)	5.1	6.3	57.79
Northern	30,611	230	(N/A)	3.4	8.3	114.79
Northern pin oak	22,225	167	(N/A)	3.4	6.1	83.35
Red maple	7,945	60	(N/A)	1.7	2.2	59.59
Honeylocust	3,037	23	(N/A)	1.7	0.8	22.78
Apple	14	0	(N/A)	1.7	0.0	0.10
Eastern white pine	257	2	(N/A)	1.7	0.1	1.93
American	25,943	195	(N/A)	1.7	7.1	194.57
Oak	1,035	8	(N/A)	1.7	0.3	7.76
Siberian elm	178	1	(N/A)	1.7	0.1	1.33
Other street trees	0	0	(N/A)	0.0	0.0	0.00
Citywide total	366,956	2,752	(N/A)	100.0	100.0	46.65

Table 5: Annual Carbon Sequestered

## Annual CO<sub>2</sub> Benefits of Public Trees by Species

11/22/2010

Species	Sequestered (lb)	Sequestered (\$)	Decomposition Release (lb)	Maintenance Release (lb)	Total Released (\$)	Avoided (lb)	Avoided (\$)	Net Total (lb)	Total Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Black walnut	9,055	68	-406	-4	-3	7,349	55	15,993	120 (N/A)	33.9	33.5	6.00
Sugar maple	3,528	26	-268	-2	-2	3,119	23	6,377	48 (N/A)	13.6	13.4	5.98
American basswood	3,032	23	-209	-1	-2	2,081	16	4,903	37 (N/A)	8.5	10.3	7.35
Norway maple	1,220	9	-45	-1	0	1,142	9	2,315	17 (N/A)	6.8	4.9	4.34
Silver maple	3,504	26	-172	-1	-1	1,959	15	5,290	40 (N/A)	6.8	11.1	9.92
Eastern redbud	1,703	13	-112	-1	-1	1,313	10	2,903	22 (N/A)	6.8	6.1	5.44
Green ash	1,748	13	-111	-1	-1	1,338	10	2,974	22 (N/A)	5.1	6.2	7.44
Northern hackberry	945	7	-147	0	-1	1,337	10	2,134	16 (N/A)	3.4	4.5	8.00
Northern pin oak	470	4	-107	0	-1	979	7	1,341	10 (N/A)	3.4	2.8	5.03
Red maple	0	0	-38	0	0	477	4	439	3 (N/A)	1.7	0.9	3.29
Honeylocust	474	4	-15	0	0	466	3	925	7 (N/A)	1.7	1.9	6.94
Apple	9	0	0	0	0	6	0	14	0 (N/A)	1.7	0.0	0.11
Eastern white pine	53	0	-1	0	0	94	1	146	1 (N/A)	1.7	0.3	1.09
American sycamore	960	7	-125	0	-1	650	5	1,485	11 (N/A)	1.7	3.1	11.14
Oak	209	2	-5	0	0	159	1	362	3 (N/A)	1.7	0.8	2.72
Siberian elm	58	0	-1	0	0	47	0	103	1 (N/A)	1.7	0.2	0.77
Other street trees	0	0	0	0	0	0	0	0	0 (N/A)	0.0	0.0	0.00
Citywide total	26,965	202	-1,761	-12	-13	22,515	169	47,707	358 (N/A)	100.0	100.0	6.06

Table 6: Annual Social and Aesthetic Benefits

## Annual Aesthetic/Other Benefits of Public Trees by Species

11/22/2010

Species	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Black walnut	913	(N/A)	33.9	34.5	45.63
Sugar maple	391	(N/A)	13.6	14.8	48.82
American basswood	241	(N/A)	8.5	9.1	48.21
Norway maple	131	(N/A)	6.8	5.0	32.69
Silver maple	318	(N/A)	6.8	12.0	79.48
Eastern redbud	102	(N/A)	6.8	3.9	25.47
Green ash	157	(N/A)	5.1	6.0	52.43
Northern hackberry	121	(N/A)	3.4	4.6	60.41
Northern pin oak	43	(N/A)	3.4	1.6	21.53
Red maple	0	(N/A)	1.7	0.0	0.00
Honeylocust	103	(N/A)	1.7	3.9	102.70
Apple	0	(N/A)	1.7	0.0	0.03
Eastern white pine	15	(N/A)	1.7	0.6	15.42
American sycamore	67	(N/A)	1.7	2.5	66.60
Oak	29	(N/A)	1.7	1.1	28.56
Siberian elm	14	(N/A)	1.7	0.5	14.24
Other street trees	0	(±NaN)	0.0	0.0	0.00
Citywide total	2,643	(N/A)	100.0	100.0	44.80

Table 7: Summary of Benefits in Dollars



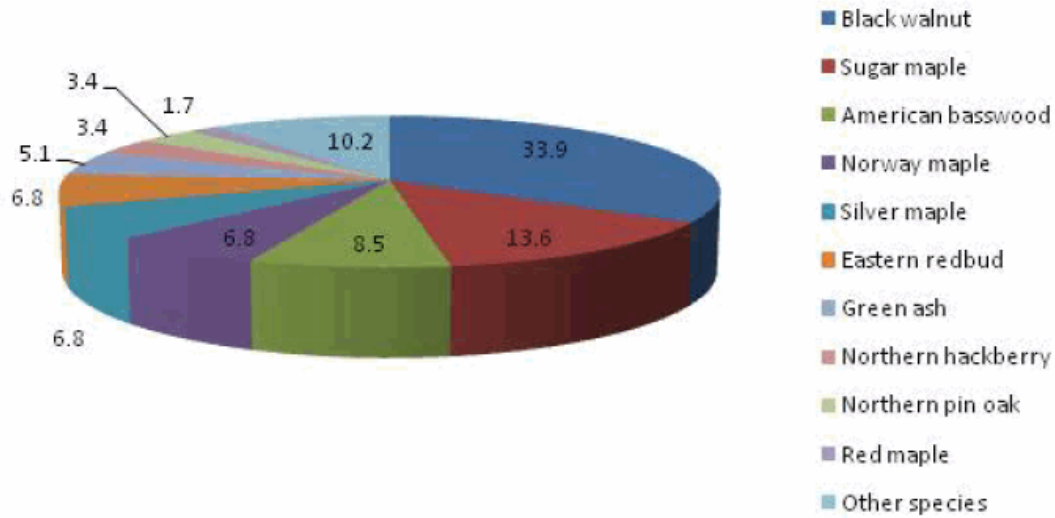
## Total Annual Benefits of Public Trees by Species (\$)

11/22/20

Species	Energy	CO <sub>2</sub>	Air Quality	Stormwater	Aesthetic/Other	Total (\$)	Standard Error	% of Total \$
Black walnut	866	120	143	847	913	2,888 (±0)		31.3
Sugar maple	379	48	60	449	391	1,327 (±0)		14.4
American basswood	271	37	40	295	241	883 (±0)		9.6
Norway maple	142	17	23	108	131	422 (±0)		4.6
Silver maple	231	40	40	333	318	961 (±0)		10.4
Eastern redbud	177	22	32	114	102	445 (±0)		4.8
Green ash	159	22	27	186	157	553 (±0)		6.0
Northern hackberry	162	16	33	215	121	546 (±0)		5.9
Northern pin oak	130	10	24	169	43	376 (±0)		4.1
Red maple	61	3	12	78	0	153 (±0)		1.7
Honeylocust	54	7	9	42	103	215 (±0)		2.3
Apple	1	0	0	0	0	1 (±0)		0.0
Eastern white pine	14	1	1	16	15	48 (±0)		0.5
American sycamore	82	11	16	149	67	324 (±0)		3.5
Oak	21	3	3	16	29	71 (±0)		0.8
Siberian elm	6	1	1	5	14	27 (±0)		0.3
Other street trees	0	0	0	0	0	0 (±0)		0.0
Citywide Total	2,754	358	462	3,022	2,643	9,239 (±0)		100.0

## Species Distribution of Public Trees (%)

11/22/2010

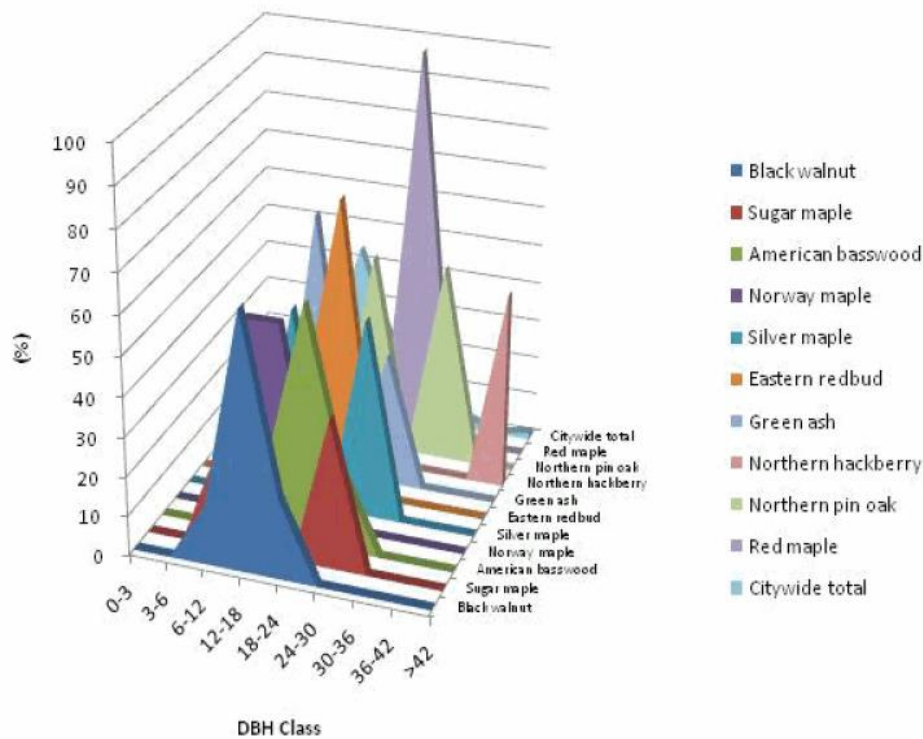


Species	Percent
Black walnut	33.9
Sugar maple	13.6
American basswood	8.5
Norway maple	6.8
Silver maple	6.8
Eastern redbud	6.8
Green ash	5.1
Northern hackberry	3.4
Northern pin oak	3.4
Red maple	1.7
Other species	10.2
Total	100.0

Figure 1: Species Distribution

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

11/22/2010



Species	DBH class (in)								
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42
Black walnut	0.0	0.0	15.0	65.0	20.0	0.0	0.0	0.0	0.0
Sugar maple	0.0	0.0	25.0	37.5	0.0	37.5	0.0	0.0	0.0
American basswood	0.0	0.0	0.0	20.0	60.0	20.0	0.0	0.0	0.0
Norway maple	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0
Silver maple	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	0.0
Eastern redbud	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0
Green ash	0.0	0.0	0.0	66.7	0.0	33.3	0.0	0.0	0.0
Northern hackberry	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0
Northern pin oak	0.0	0.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0
Red maple	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Citywide total	1.7	1.7	15.3	44.1	18.6	13.6	3.4	0.0	1.7

Figure 2: Relative Age Class

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

11/22/2010

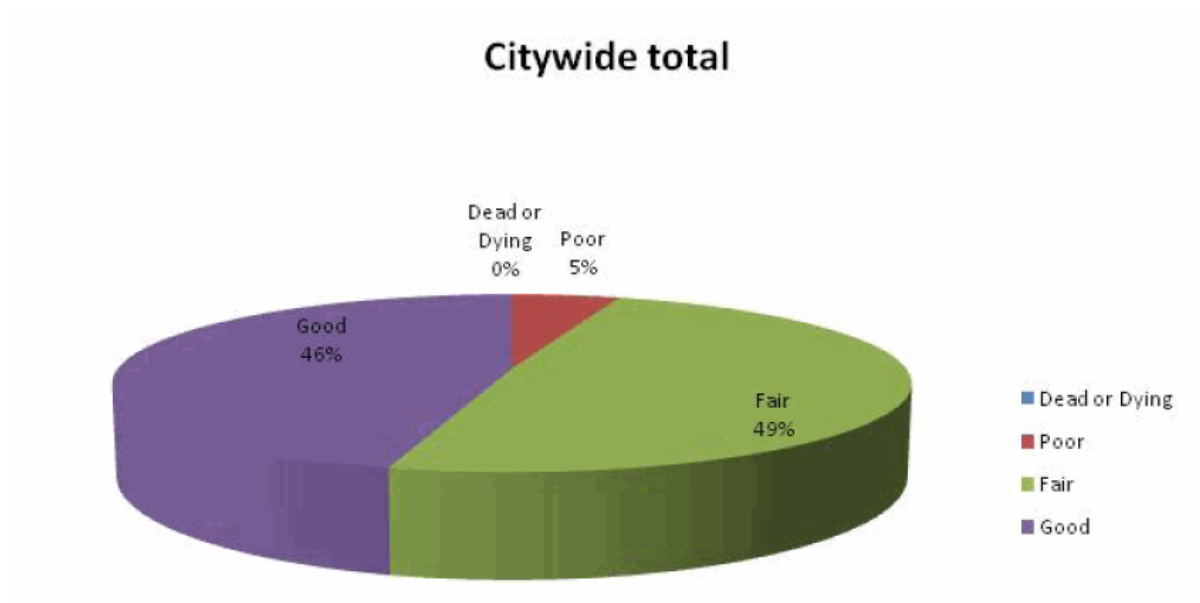


Figure 3: Foliage Condition

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

11/22/2010

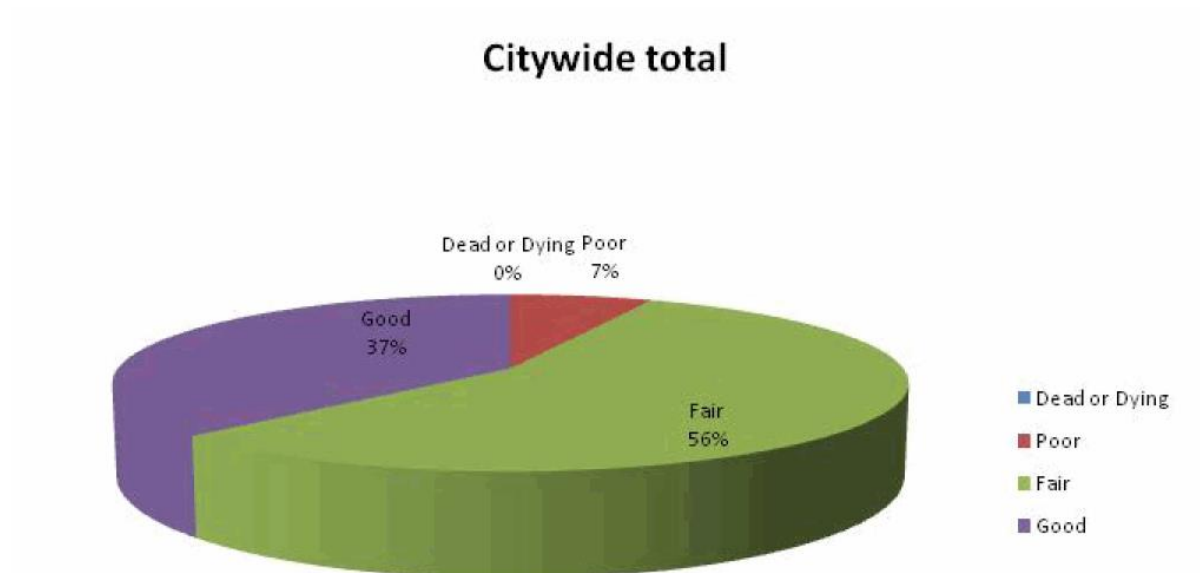
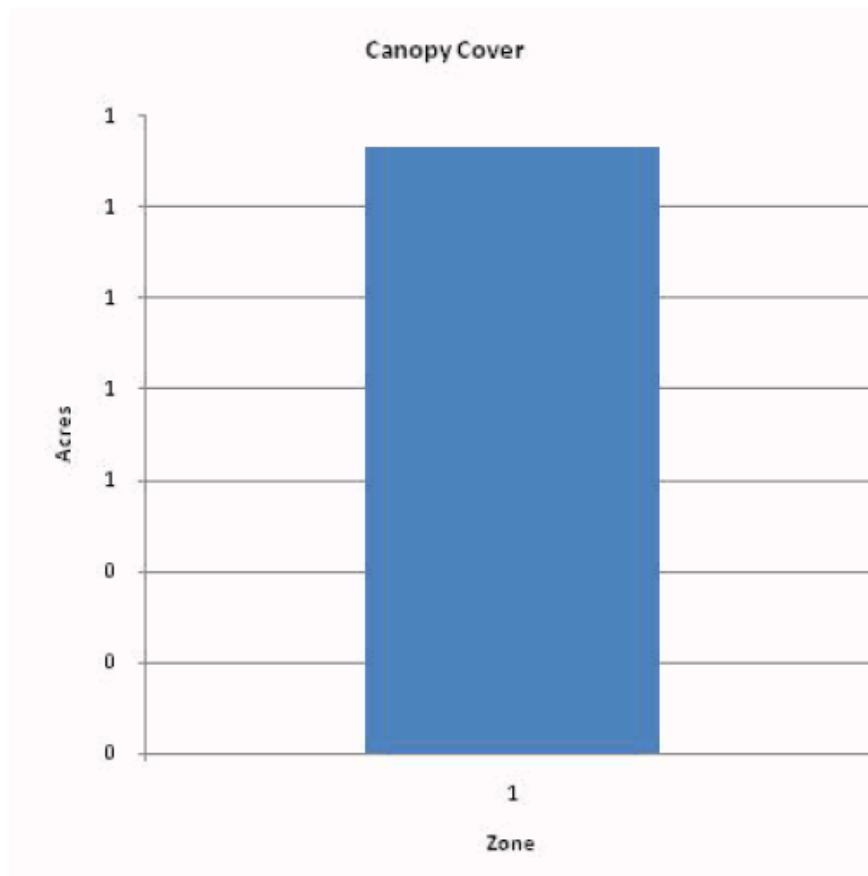


Figure 4: Wood Condition

## Canopy Cover of Public Trees (Acres)

11/22/2010



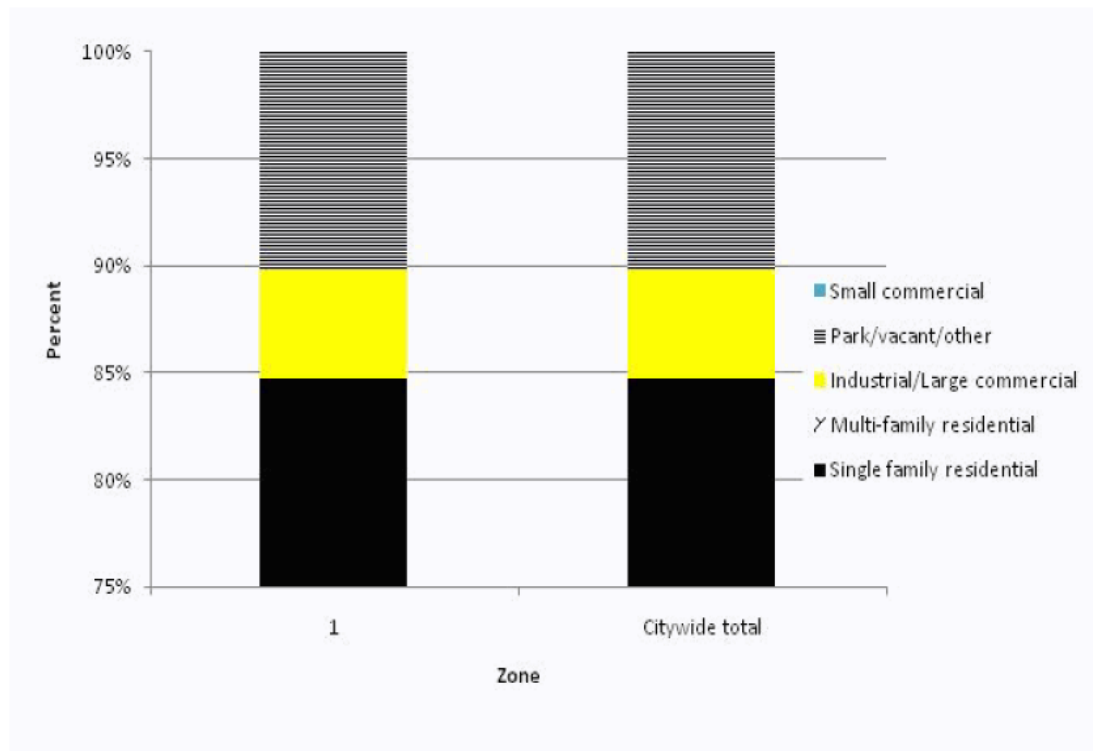
Zone	Acres	% of Total Canopy Cover
1	1	100.0
Citywide total	1	100.0

	Total Land Area	Total Street and Sidewalk Area	Total Canopy Cover	Canopy Cover as % of Total Land Area	Canopy Cover as % of Total Streets and Sidewalks
Citywide	0	0	1		

Figure 5: Canopy Cover in Acres

## Land Use of Public Trees by Zone (%)

11/22/2010



Zone	Single family residential	Multi-family residential	Industrial/ Large commercial	Park/vacant/ other	Small commercial
1	84.7	0.0	5.1	10.2	0.0
Citywide total	84.7	0.0	5.1	10.2	0.0

Figure 6: Land Use of city/park trees

## Location of Public Trees by Zone (%)

11/22/2010

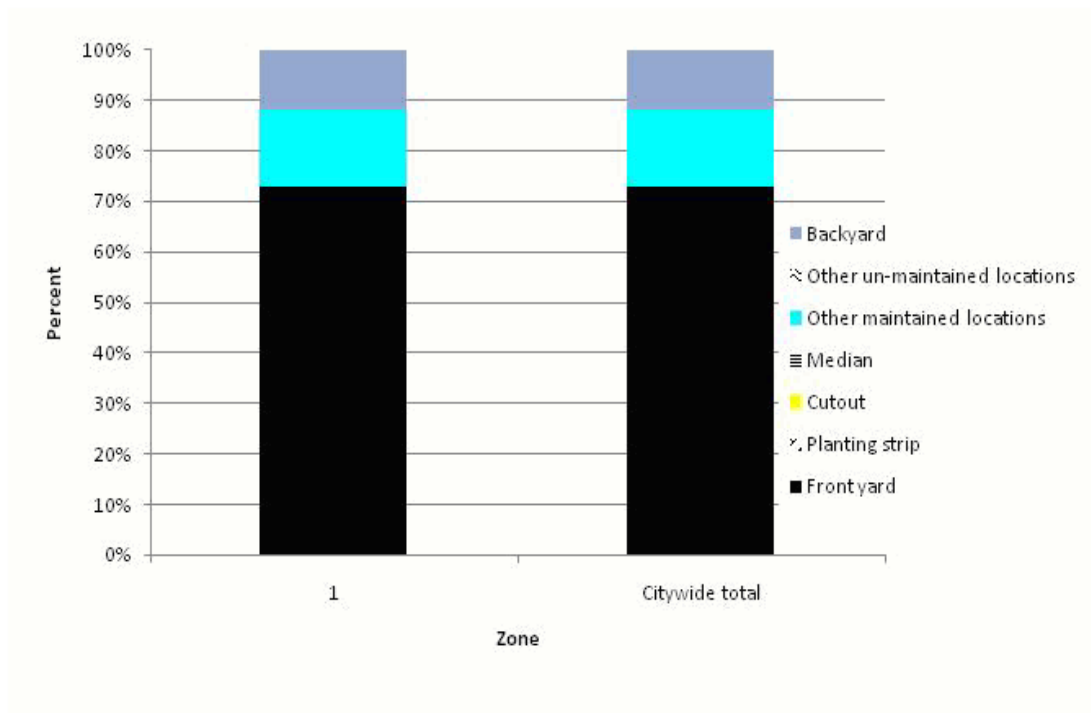


Figure 7: Location of city/park trees



## Appendix B: ArcGIS Mapping



**Figure 1: Location of Ash Trees**



## NO SYMPTOMS

Figure 2: Location of EAB symptoms



Figure 3: Location of Poor Condition Trees





**Figure 4: Location of Trees with Recommended Maintenance\***City ownership of the trees recommended for removal should be verified prior to any removal\*





**Figure 5: Maintenance Tasks** \*City ownership of the trees recommended for removal should be verified prior to any removal\*

# Appendix C: Middletown Tree Ordinances

## COMMUNITY PROTECTION

### TITLE III COMMUNITY PROTECTION

#### CHAPTER 2 NUISANCES

- 3-2-1 Definitions
- 3-2-2 Other Conditions Regulated
- 3-2-3 Notice to Abate Nuisance or Condition
- 3-2-4 Contents of Notice to Abate
- 3-2-5 Method of Service
- 3-2-6 Request for Hearing and Appeal
- 3-2-7 Abatement in Emergency
- 3-2-8 Abatement by Municipality
- 3-2-9 Collection of Cost of Abatement
- 3-2-10 Installment Payment of Cost of Abatement
- 3-2-11 Failure to Abate

3-2-1 DEFINITIONS. For use in this Ordinance, the following terms are defined:

1. The term "nuisance" means whatever is injurious to health, indecent, or unreasonably offensive to the senses or an obstacle to the free use of property, so as essentially to unreasonably interfere with the comfortable enjoyment of life or property. The following are declared to be nuisances:  
(Code of Iowa, Sec. 657.1)
  - a. The erecting, continuing, or using any building or other place for the exercise of any trade, employment, or manufacture, which by occasioning noxious exhalations, unreasonably offensive smells, or other annoyances, becomes injurious and dangerous to the health, comfort, or property of individuals or the public.  
(Code of Iowa, Sec. 657.2(1))
  - b. The causing or suffering any offal, filth, or noisome substance to accumulate or to remain in any place to the prejudice of others.  
(Code of Iowa, Sec. 657.2(2))
  - c. The causing of any litter to accumulate or to remain in any place to the prejudice of others.  
(Code of Iowa, Sec. 455B.361(2))
  - d. The obstructing or encumbering by fences, buildings, or otherwise the public roads, private driveways, streets, alleys, commons, landing places, or burying grounds.  
(Code of Iowa, Sec. 657.2(5))
  - e. Houses of ill fame, kept for the purpose of prostitution and lewdness, gambling houses, or houses resorted to for the use of controlled substances or houses

where drunkenness, quarreling, fighting or breaches of the peace are carried on or permitted to the disturbance of others.  
(Code of Iowa, Sec. 657.2(6))

- f. Billboards, signboards, and advertising signs, whether erected and constructed on public or private property, which so obstruct and impair the view of any portion or part of a public street, avenue, highway, boulevard or alley or of a railroad or street railway track as to render dangerous the use thereof, especially near intersecting streets.  
(Code of Iowa, Sec. 657.2(7))
- X g. Cotton-bearing cottonwood trees and all other cotton-bearing poplar trees in the City.  
(Code of Iowa, Sec. 657.2(8))
- h. The depositing or storing of flammable junk, such as old rags, rope, cordage, rubber, bones, and paper, by any person including dealers in such articles, within the fire limits of this City, unless it be in a building of fire resistant construction.  
(Code of Iowa, Sec. 657.2(10))
- i. The emission of dense smoke, noxious fumes, or fly ash.  
(Code of Iowa, Sec. 657.2(11))
- X j. Dense growth of all weeds, grasses, vines, brush, or other vegetation in the City so as to constitute a health, safety, or fire hazard including any City owned property between the abutting property line and the street right-of-way.  
(Code of Iowa, Sec. 657.2(12))
- X k. Trees infected with Dutch elm disease.  
(Code of Iowa, Sec. 657.2(13))
- l. Effluent from septic tank or drain field running or ponding on the ground in the open.
- m. Any article or substance placed upon a street, alley, sidewalk, public ground, or in any ditch, waterway, or gutter so as to obstruct the drainage.  
(Code of Iowa, Sec. 716.1)
- n. Accumulations of rubbish or trash tending to harbor vermin and rodents.

- 2. The term "property owner" means the contract purchaser if there is one of record, otherwise the record holder of legal title.  
(Code of Iowa, Sec. 364.1)

3-2-2 OTHER CONDITIONS REGULATED. The following actions are required and may also be abated in the manner provided in this Ordinance:

- X 1. The removal of diseased trees or dead wood, but not diseased trees and dead wood outside the lot and property lines and inside the curb lines upon the public street.  
(Code of Iowa, Sec. 364.12(3)(b))

2. The removal, repair, or dismantling of dangerous buildings or structures.  
(Code of Iowa, Sec. 364.12(3)(c))

3-2-3 NOTICE TO ABATE NUISANCE OR CONDITION. Whenever the Mayor or other authorized municipal officer finds that a nuisance or other condition exists which is listed in Chapter 2, the Mayor or officer shall cause to be served upon the property owner as shown by the records of the County Auditor a written notice to abate the nuisance within a reasonable time after notice. The City may elect to follow Chapter 657 of the Iowa Code.  
(Code of Iowa, Sec. 364.12(3)(h))

3-2-4 CONTENTS OF NOTICE TO ABATE. The notice to abate shall contain:  
(Code of Iowa, Sec. 364.12(3)(h))

1. A description of what constitutes the nuisance or other condition.
2. The location of the nuisance or condition.
3. A statement of the act or acts necessary to abate the nuisance or condition.
4. A reasonable time within which to complete the abatement.
5. A statement that if the nuisance or condition is not abated as directed and no request for hearing is made within the time prescribed, the City will abate it and assess the costs against such person.

3-2-5 METHOD OF SERVICE. The notice may be served by certified mail or personal service to the property owner as shown by the records of the County Auditor.  
(Code of Iowa, Sec. 364.12(3)(h))

3-2-6 REQUEST FOR HEARING AND APPEAL. Any person ordered to abate a nuisance or condition may have a hearing with the municipal officer ordering the abatement as to whether a nuisance or prohibited condition exists. A request for a hearing must be made in writing and delivered to the municipal officer ordering the abatement within the time stated in the notice, or it will be conclusively presumed that a nuisance or prohibited condition exists and it must be abated as ordered.

At the conclusion of the hearing, the hearing officer shall render a written decision as to whether a nuisance or prohibited condition exists. If the officer finds that a nuisance or prohibited condition exists, the officer must order it abated within an additional time which must be reasonable under the circumstances. An appeal from this decision may be had by immediately filing a written notice with the hearing officer. This appeal shall be heard before the City Council at a time and place fixed by the Council. The findings of the Council shall be conclusive and, if a nuisance or prohibited condition is found to exist, it shall be ordered abated within a time reasonable under the circumstances.

3-2-7 ABATEMENT IN EMERGENCY. If it is determined that an emergency exists by reason of the continuing maintenance of the nuisance or condition, the City may perform any action that may be required under this chapter without prior notice, and assess the costs as provided herein, after

notice to the property owner under the applicable provision of Sections 3-2-4 and 3-2-5 and hearing as provided in Section 3-2-7.  
(Code of Iowa, Sec. 364.12(3)(h))

3-2-8 ABATEMENT BY MUNICIPALITY. If the person notified to abate a nuisance or condition neglects or fails to abate as directed, the City may perform the required action to abate, keeping an accurate account of the expense incurred. The itemized expense account shall be filed with the City Clerk, who shall pay such expenses on behalf of the municipality.  
(Code of Iowa, Sec. 364.12(3)(h))

3-2-9 COLLECTION OF COST OF ABATEMENT. The Clerk shall mail a statement of the total expense incurred to the property owner who has failed to abide by the notice to abate, and if the amount shown by the statement has not been paid within one month, the City Clerk shall certify the costs to the County Auditor and they shall then be collected with, and in the same manner, as general property taxes.  
(Code of Iowa, Sec. 364.12(3)(h))

3-2-10 INSTALLMENT PAYMENT OF COST OF ABATEMENT. If the amount expended to abate the nuisance or condition exceeds \$100, the City may permit the assessment to be paid in up to ten (10) annual installments, to be paid in the same manner and at the same rate of interest charged delinquent real estate taxes by the County Treasurer.  
(Code of Iowa, Sec. 364.13)

3-2-11 FAILURE TO ABATE. Any person causing or maintaining a nuisance who shall fail or refuse to abate or remove the same within the reasonable time required and specified in the notice to abate shall be in violation of the Code of Ordinances. Each day in which any such civil violation continues shall be deemed a separate and distinct offense.

#### EDITOR'S NOTE

A suggested form of notice for the abatement of nuisances is included in the appendix of the Code of Ordinances.

Caution is urged in the use of this administrative abatement procedure, particularly where cost of abatement is more than minimal or where there is doubt as to whether or not a nuisance does in fact exist. If compliance is not secured following notice and hearings, we recommend you review the situation with your attorney before proceeding with abatement and assessment of costs. Your attorney may recommend proceedings in court under Chapter 657 of the Code of Iowa rather than this procedure.



Prepared by Mary Ann Brown, 100 Valley St., Burlington, IA 52601 (319) 753-6201

RESTRICTIVE COVENANTS CONCERNING  
PIONEER SUBDIVISION AND FIRST ADDITION TO  
PIONEER SUBDIVISION IN THE CITY OF MIDDLETOWN,  
DES MOINES COUNTY, STATE OF IOWA

WHEREAS, the City of Middletown (an Iowa municipal corporation) is the owner of the real estate as legally described in Exhibit A attached hereto; and

WHEREAS, said owner desires that certain restrictions be placed upon the use of the land embraced within the property legally described on Exhibit A attached hereto, which is to be known as Pioneer Subdivision and First Addition to Pioneer Subdivision.

NOW, THEREFORE, KNOWN BY THESE PRESENTS:

That all covenants of any of the land embraced within Pioneer Subdivision and First Addition to Pioneer Subdivision in the City of Middletown, Des Moines County, Iowa, shall be subject to the following restrictive covenants:

1. These covenants are to assist in developing and maintaining a subdivision with compatible homes in surroundings so as to assure harmony and continuity in this community.

2. These Restrictive Covenants shall apply to all lots in Pioneer Subdivision and First Addition to Pioneer Subdivision, except Lot No. 5 in Pioneer Subdivision and Lot No. 15 in First Addition to Pioneer Subdivision. Because it is anticipated that Lot Nos. 5 and 15 will not be residential lots, the owner will deal with appropriate restrictions on development of Lot Nos. 5 and 15 through a special use permit application process.

3. All other lots described herein shall be used for single-family residential dwellings. No dwellings shall be erected in these subdivisions with less than 1,200 square feet of living space in the case of a one-story structure and 1,800 square feet in the case of a two-story or split-level structure. Any house that originally was in the city limits of the City of Middletown that has been displaced by the relocation of U.S. Highway 34 and is relocated to these subdivisions is exempted from this size restriction.

4. No building shall be erected on these lots nearer than 10 feet to any side lot line. Should any dwelling and its appurtenances be erected on more than one lot, all of which lots are owned by the same person or persons, this side lot line restriction shall apply only to those lot lines adjacent to lots owned by others. No building shall be constructed closer than 25 feet to the frontage of any lot.

5. No more than one dwelling unit shall be erected on any lot in these subdivisions.

6. No trailer or mobile home may be placed on any lot in these subdivisions.

7. No tent, shack, garage, barn, or other similar building shall be used as a residence, even for a temporary period, in these subdivisions.

8. During construction, a new dwelling may be resided in on a temporary basis during the construction of said dwelling. Construction of any new dwelling shall be completed within two years from the date the building permit is issued.

9. The owner of each lot, vacant or unimproved, shall keep the same and any structures erected thereon in a clean and

neat condition and shall keep the lots free from weeds and debris. All lots must be mowed even if unimproved.

10. No trade shall be carried on upon any lot identified as a residential lot in these subdivisions, except for a home occupation, as now defined in Middletown City Code of Ordinances.

11. A perpetual easement for the installation and maintenance of public utilities is reserved in the locations as shown on the plat.

12. The grading, leveling, and filling of lots shall be established, kept, and maintained in conformity with the grade of adjoining lots in such a manner that there shall not be banks or sharp grades along or adjacent to lot lines.

13. No animals, livestock, or poultry of any kind shall be raised, bred, or kept in these subdivisions, except household pets. All pets must be kept inside the residence, in pens, or on leashes. Excessively noisy pets will not be allowed in these subdivisions.

14. Each dwelling unit shall provide off-street parking space for at least two vehicles, within 18 months from the date the lot is conveyed by the City.

15. No bothersome trees, such as mulberry, cottonwood, poplar, or honey locust, shall be planted within these subdivisions.

16. No barbed wire shall be used in the construction of any fence in these subdivisions. No fence other than a decorative fence with a height of no more than three feet shall be allowed from the front of the residence to the frontage line of the lot. Privacy fences from the front of the house to the back of the property line shall not exceed six and one-half feet above the finished grade line or the floor

level of the patio, deck, or swimming facilities for which they are constructed.

17. No fence, structure, or planting shall be erected or maintained within 20 feet of the lot corner of any corner lot in these subdivisions, unless approved by the City, for traffic safety.

18. Pursuant to Middletown City Code of Ordinances, all dwellings, garages, or outbuildings constructed must have their construction plans approved by the City Council based upon a proper application for a building permit.

19. No recreational vehicles, boats, campers, or the trailers for said recreational vehicles can be parked in the front yards of the lots for more than 48 continuous hours.

20. The frontage of any building erected in these subdivisions shall be within 10 feet of being in line with any existing dwellings' frontage on adjacent lots.

21. All dwellings shall be constructed with a foundation with footings or a basement.

22. On any lot on which a dwelling is erected, a sidewalk shall be constructed on the frontage of the lot as well as on the side of any corner lot in compliance with the specifications set forth in Middletown City Code of Ordinances.

23. If the parties hereto or their heirs or assignees violate or attempt to violate any of the covenants or restrictions herein, it shall be lawful for any person or persons owning any other lots in said subdivisions or the City of Middletown to prosecute proceedings at law or in equity against the person or persons violating or attempting to violate such covenant or restrictions to either prevent said persons from doing so or to recover damages due to such

for herein, the City may recover reasonable attorney fees and costs associated with such litigation from the individual against whom litigation was commenced if the City prevails in said litigation.

25. Invalidation of any one of these covenants by judgment or court order shall in no way affect the validity of the other provisions, which shall remain in full force and effect.

26. These covenants are to run with the land and shall be binding upon the owner and all of the owner's successors in interest and all persons claiming under them until January 1, 2008, at which time said covenants shall be automatically extended for successive periods of 10 years, unless a vote by a majority of the Middletown City Council to change the covenants in whole or in part has occurred or the City of Middletown has approved an ordinance affecting the subdivision. In such case, the terms of the ordinance should take precedence over these covenants.

Dated this 8<sup>th</sup> day of February, 1999.

  
Tal D. Hinesley, Mayor

ATTEST:

  
Loretta J. Tholmann, City Clerk

**The State of Iowa is an Equal Opportunity Employer and provider of ADA services.**

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 Director Richard Leopold at 515-281-5918.