Hudson, IA

2020 Urban Forest Management Plan
Prepared by Iowa Department
of Natural Resources

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Executive Summary

Overview

This plan was developed to assist the City of Hudson 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 28% of Hudson'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 2019, 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 298 trees inventoried.

- Hudson's trees provide $59,424 of benefits annually, an average of $199 a tree
- There are at least 31 species of trees
- The top three genera are: Maple 34%, Ash 28%, and Crabapple 11%
- 49% of trees are in need of some type of management
- 29 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 29 trees needing removal, 19 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*
- 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

Introduction

This plan was developed to assist Hudson 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 or treatment and replacement planting. With proper planning and management of the current canopy in Hudson, these costs can be extended over years and public safety issues from dead and dying ash trees mitigated.

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

Inventory

In 2019, 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

The data collected for the 298 city trees was entered into the USDA Forest service program Street Tree Resource Analysis Tool for Urban forestry Management as part of the i-Tree suite. The following are results from the i-Tree STREETS analysis. Fin

Annual Benefits

Annual Energy Benefits

Trees conserve energy by shading buildings and blocking winds. Hudson's trees reduce energy related costs by approximately $15,750 annually (Appendix A, Table 1). These savings are both in Electricity (75.8 MWh) and in Natural Gas (10,200 Therms).

Annual Stormwater Benefits

Hudson's trees intercept about 832,452 gallons of rainfall or snow melt a year (Appendix A, Table 2). This interception provides $22,559 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 Hudson, it is estimated that trees remove 964 lbs of air pollution (ozone (O_3), particulate matter less than 10 microns (PM10), carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2)) per year with a net value of $2,709 (Appendix A, Table 3).

Annual Carbon Benefits

Carbon sequestration and storage reduce the amount of carbon in the atmosphere, mitigating climate change. In Hudson, trees sequester about 281,403 lbs of carbon a year with an associated value of $2,111 (Appendix A, Table 5). In addition, the trees store 3,120,924 lbs of carbon, with a yearly benefit of $23,407 (Appendix A, Table 4).

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. Hudson receives $16,295 in annual social benefits from trees (Appendix A, Table 6).

Financial Summary of all Benefits

According to the USDA Forest Service i-Tree STREETS analysis, Hudson's trees provide $59,424 of benefits annually. Benefits of individual trees vary based on size, species, health and location, but on average each of the 298 trees in Hudson provide approximately $199 annually (Appendix A, Table 7).

Forest Structure

Species Distribution

Hudson has over 31 different tree species along city streets and parks (Appendix A, Figure 1).
The distribution of trees by genera is as follows:

Maple	100	34%
Ash	84	28%

Apple (Crab)	33	11%
Honey Locust	10	3%
Northern Hackberry	10	3%

Age Class

Most of Hudson's trees (52%) are greater than 18 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. Hudson's size curve is on the larger side, indicating an older than average stand and hence a need to plant more young trees.

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 Hudson indicate that 93% of the trees are in good health, with only 7% of the foliage in poor health, dead or dying (Appendix A, Figure 3 & Appendix B, Figure 3). Similarly, 89% of Hudson's trees are in good health for wood condition (appendix A, Figure 4 & Appendix B, Figure 3).

Management Needs

The following outlines the specific management needs of the street and park trees by number of trees (Appendix B, Figure 3).

Needs	No. trees
Crown Cleaning	75
Crown Raising	2
Tree Staking	1
Tree Removal	29
Crown Reduction	38

Canopy Cover

The total canopy with both private and public trees is 12%, 669 acres. The canopy cover included in the Hudson inventory includes approximately 8.5 acres (Appendix A, Figure 4).

Recommendations

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.

<u>Critical concern trees – deal with as soon as possible</u>

Hudson has 10 critical concern trees that need immediate attention – 7 removals, 2 cleanings, and 1 reduction. 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.

Immediate needs – next 1-3 years

Hudson has 35 trees that were flagged for "immediate" attention meaning in the next 3 years. These include 12 removals, 12 cleanings, 9 reductions, 1 stake/train, and 1 treat pest/disease. See Recommended Maintenance map (Appendix B)

Poor tree species

After attending to the critical concern trees, trees in poor health should be assessed for removal and replacement with a better tree (Appendix B, Figure 3 & Appendix B, Figure 4). Of the 10 removals, 6 are ash trees. There are a total of 44 trees in poor condition. *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 Hudson.

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 (34%) (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 of the city ordinance (Appendix C). All trees planted must meet the restrictions in city ordinance 151 (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

Year 1

Removal: 19 trees flagged as critical concerns or immediate removals
Planting and Replacement: 15 trees to be planted in open locations
Trimming/Maintenance: Do maintenance tasks on 26 trees flagged for immediate/critical concern cleaning/reduction
Visual Survey for signs and symptoms of EAB – designate any trees for treatment and initiate treatment

Year 2

Removal: 10 trees flagged for routine removal plus as many ash trees as possible that aren't designated for treatment
Planting and Replacement: 15 trees in open locations
Trimming: 46 trees flagged for routine trimming

Year 3

Removal: All remaining ash trees not designated for treatment
Planting and Replacement: 15 trees to be planted in open locations
Trimming: 45 trees flagged for routine trimming

Year 4

Planting and Replacement: 15 trees in open locations
Routine trimming: Contract to trim 1/3 of the city trees

Year 5

Planting and Replacement: 15 trees in open locations
Routine trimming: Contract to trim 1/3 of the city trees

Year 6

Planting and Replacement: 15 trees in open locations
Routine trimming: Contract to trim 1/3 of the city trees

Emerald Ash Borer Plan

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*

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. 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 (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 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 ash trees on their property upon arrival of EAB if preventative treatments are not being used. City Code 151.13 states: "The designated City staff has the right to determine a hazardous tree on private property that is a threat to public safety, and issue a 30-day notice to remove to the owner. If not removed in 30 days, the City shall remove it at the owner's expense and bill accordingly on said person's property taxes. The owner has the right to appeal said decision in front of the Public Works Committee. Cutting or trimming a tree where there is risk of limbs, branches or any other portion of the tree falling or coming into contact with electric utility lines is prohibited without the express permission of the electric utility."

Works Cited

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Appendix A: i-Tree Data

Table 1: Annual Energy Benefits

Annual Energy Benefits of Public Trees

4/9/2020

Species	Total Electricity (MWh)	Electricity ($)	Total Natural Gas (Therms)	Natural Gas ($)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	22.5	1,710	2,982.6	2,923	4,633	(N/A)	25.8	29.4	60.17
Sugar maple	11.9	901	1,608.5	1,576	2,478	(N/A)	11.7	15.7	70.79
Apple	4.9	369	683.8	670	1,039	(N/A)	11.1	6.6	31.49
Silver maple	8.1	611	1,058.4	1,037	1,648	(N/A)	7.7	10.5	71.67
Norway maple	5.5	419	786.8	771	1,190	(N/A)	7.4	7.6	54.10
Red maple	1.6	119	215.6	211	331	(N/A)	3.4	2.1	33.06
Honeylocust	3.3	249	421.8	413	662	(N/A)	3.4	4.2	66.23
Northern hackberry	3.6	273	510.2	500	773	(N/A)	3.4	4.9	77.30
Black maple	2.3	177	316.0	310	487	(N/A)	3.0	3.1	54.06
White ash	1.5	116	168.5	165	281	(N/A)	2.3	1.8	40.11
Austrian pine	0.6	48	81.1	80	128	(N/A)	2.0	0.8	21.27
Norway spruce	1.0	73	128.1	125	198	(N/A)	2.0	1.3	33.04
Conifer Evergreen Medium	0.7	53	86.1	84	137	(N/A)	2.0	0.9	22.89
Pin oak	1.4	109	187.3	184	292	(N/A)	1.7	1.9	58.45
Black walnut	1.6	121	217.8	213	334	(N/A)	1.7	2.1	66.88
River birch	1.1	86	152.7	150	236	(N/A)	1.7	1.5	47.13
Pear	0.3	22	51.3	50	73	(N/A)	1.3	0.5	18.19
Ginkgo	0.2	13	25.7	25	38	(N/A)	1.3	0.2	9.61
Northern red oak	0.7	51	90.3	89	139	(N/A)	1.0	0.9	46.41
Northern white cedar	0.1	8	17.4	17	25	(N/A)	1.0	0.2	8.26
Littleleaf linden	0.4	32	57.8	57	89	(N/A)	0.7	0.6	44.52
Blue spruce	0.2	12	20.0	20	31	(N/A)	0.7	0.2	15.73
American sycamore	0.9	66	118.0	116	182	(N/A)	0.7	1.2	91.02
Bur oak	0.6	43	73.8	72	115	(N/A)	0.7	0.7	57.57
Kentucky coffeetree	0.0	0	0.5	0	1	(N/A)	0.3	0.0	0.66
Broadleaf Deciduous Mediu	0.1	8	16.9	17	24	(N/A)	0.3	0.2	24.47
American elm	0.1	6	11.7	11	18	(N/A)	0.3	0.1	17.66
American basswood	0.4	30	56.8	56	86	(N/A)	0.3	0.5	86.12
Willow	0.1	8	16.9	17	24	(N/A)	0.3	0.2	24.47
Mountain ash	0.1	6	12.8	13	18	(N/A)	0.3	0.1	18.19
Amur maple	0.2	14	24.7	24	38	(N/A)	0.3	0.2	38.13
Total	75.8	5,754	10,199.8	9,996	15,750	(N/A)	100.0	100.0	52.85

Table 2: Annual Stormwater Benefits

Annual Stormwater Benefits of Public Trees

4/9/2020

Species	Total rainfall interception (Gal)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	248,953	6,747	(N/A)	25.8	29.9	87.62
Sugar maple	159,250	4,316	(N/A)	11.7	19.1	123.30
Apple	17,573	476	(N/A)	11.1	2.1	14.43
Silver maple	124,280	3,368	(N/A)	7.7	14.9	146.43
Norway maple	50,368	1,365	(N/A)	7.4	6.1	62.04
Red maple	10,452	283	(N/A)	3.4	1.3	28.32
Honeylocust	33,905	919	(N/A)	3.4	4.1	91.88
Northern hackberry	36,682	994	(N/A)	3.4	4.4	99.41
Black maple	21,035	570	(N/A)	3.0	2.5	63.34
White ash	9,540	259	(N/A)	2.3	1.1	36.93
Austrian pine	7,688	208	(N/A)	2.0	0.9	34.72
Norway spruce	21,086	571	(N/A)	2.0	2.5	95.24
Conifer Evergreen Medium	8,477	230	(N/A)	2.0	1.0	38.29
Pin oak	12,334	334	(N/A)	1.7	1.5	66.85
Black walnut	19,181	520	(N/A)	1.7	2.3	103.96
River birch	8,578	232	(N/A)	1.7	1.0	46.49
Pear	1,058	29	(N/A)	1.3	0.1	7.17
Ginkgo	766	21	(N/A)	1.3	0.1	5.19
Northern red oak	6,262	170	(N/A)	1.0	0.8	56.57
Northern white cedar	1,021	28	(N/A)	1.0	0.1	9.22
Littleleaf linden	3,626	98	(N/A)	0.7	0.4	49.13
Blue spruce	1,801	49	(N/A)	0.7	0.2	24.40
American sycamore	14,478	392	(N/A)	0.7	1.7	196.17
Bur oak	5,409	147	(N/A)	0.7	0.6	73.29
Kentucky coffeetree	18	0	(N/A)	0.3	0.0	0.48
Broadleaf Deciduous Medium	586	16	(N/A)	0.3	0.1	15.88
American elm	432	12	(N/A)	0.3	0.1	11.72
American basswood	6,096	165	(N/A)	0.3	0.7	165.21
Willow	586	16	(N/A)	0.3	0.1	15.88
Mountain ash	264	7	(N/A)	0.3	0.0	7.17
Amur maple	667	18	(N/A)	0.3	0.1	18.06
Citywide total	832,452	22,559	(N/A)	100.0	100.0	75.70

Table 3: Annual Air Quality Benefits

Annual Air Quality Benefits of Public Trees

4/9/2020

Species	Deposition (lb)				Total Depos. ($)	Avoided (lb)				Total Avoided ($)	BVOC Emissions (lb)	BVOC Emissions ($)	Total (lb)	Total ($)	Standard Error	% of Total Trees	Avg. $/tree
	O_3	NO_2	PM_{10}	SO_2		NO_2	PM_{10}	VOC	SO_2								
Green ash	32.0	5.1	15.2	1.4	170	106.7	15.6	14.9	102.1	667	0.0	0	293.1	837	(N/A)	25.8	10.87
Sugar maple	22.8	3.9	11.0	1.0	122	56.5	8.2	7.9	53.8	352	-17.6	-66	147.4	409	(N/A)	11.7	11.68
Apple	5.1	0.8	2.4	0.2	27	23.4	3.4	3.2	22.0	145	0.0	0	60.6	172	(N/A)	11.1	5.22
Silver maple	22.0	3.7	10.7	1.0	118	37.9	5.6	5.3	36.4	237	-11.1	-42	111.4	314	(N/A)	7.7	13.64
Norway maple	10.2	1.8	5.0	0.5	55	26.7	3.9	3.7	25.1	166	-2.4	-9	74.3	212	(N/A)	7.4	9.62
Red maple	1.9	0.3	1.0	0.1	11	7.5	1.1	1.0	7.1	47	-0.7	-3	19.4	55	(N/A)	3.4	5.45
Honeylocust	6.6	1.1	3.0	0.3	35	15.4	2.3	2.2	14.8	96	-5.0	-19	40.6	112	(N/A)	3.4	11.23
Northern hackberry	5.9	1.0	3.0	0.3	32	17.4	2.5	2.4	16.3	108	0.0	0	48.8	140	(N/A)	3.4	14.00
Black maple	5.2	0.9	2.4	0.2	28	11.1	1.6	1.5	10.6	69	-1.7	-6	31.8	90	(N/A)	3.0	10.04
White ash	0.6	0.1	0.4	0.0	3	6.9	1.0	1.0	6.9	44	0.0	0	16.9	47	(N/A)	2.3	6.77
Austrian pine	0.9	0.2	0.8	0.1	6	3.0	0.4	0.4	2.9	19	-2.7	-10	6.0	15	(N/A)	2.0	2.44
Norway spruce	2.5	0.5	2.0	0.3	16	4.5	0.7	0.6	4.3	28	-11.2	-42	4.3	3	(N/A)	2.0	0.44
Conifer Evergreen Medium	1.0	0.2	0.9	0.1	7	3.2	0.5	0.5	3.2	20	-3.0	-11	6.6	16	(N/A)	2.0	2.66
Pin oak	1.9	0.3	1.0	0.1	10	6.8	1.0	0.9	6.5	42	-3.6	-13	14.9	39	(N/A)	1.7	7.82
Black walnut	2.5	0.4	1.2	0.1	13	7.6	1.1	1.1	7.2	47	0.0	0	21.2	61	(N/A)	1.7	12.15
River birch	1.6	0.3	0.8	0.1	9	5.4	0.8	0.8	5.1	34	-0.4	-1	14.4	41	(N/A)	1.7	8.16
Pear	0.2	0.0	0.1	0.0	1	1.5	0.2	0.2	1.3	9	0.0	0	3.6	10	(N/A)	1.3	2.55
Ginkgo	0.1	0.0	0.1	0.0	0	0.8	0.1	0.1	0.8	5	0.0	0	2.0	6	(N/A)	1.3	1.38
Northern red oak	1.3	0.2	0.6	0.1	7	3.2	0.5	0.4	3.0	20	-1.8	-7	7.5	20	(N/A)	1.0	6.65
Northern white cedar	0.1	0.0	0.1	0.0	1	0.5	0.1	0.1	0.5	3	-0.3	-1	1.0	3	(N/A)	1.0	0.86
Littleleaf linden	0.5	0.1	0.3	0.0	3	2.0	0.3	0.3	1.9	13	-0.3	-1	5.2	15	(N/A)	0.7	7.33
Blue spruce	0.2	0.0	0.2	0.0	1	0.7	0.1	0.1	0.7	5	-0.6	-2	1.5	4	(N/A)	0.7	1.82
American sycamore	2.3	0.4	1.0	0.1	12	4.2	0.6	0.6	4.0	26	0.0	0	13.1	38	(N/A)	0.7	19.04
Bur oak	0.6	0.1	0.3	0.0	3	2.7	0.4	0.4	2.6	17	0.0	0	7.0	20	(N/A)	0.7	9.95
Kentucky coffeetree	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)	0.3	0.08
Broadleaf Deciduous Medium	0.1	0.0	0.0	0.0	0	0.5	0.1	0.1	0.5	3	0.0	0	1.2	3	(N/A)	0.3	3.47
American elm	0.0	0.0	0.0	0.0	0	0.4	0.1	0.1	0.4	2	0.0	0	0.9	3	(N/A)	0.3	2.54
American basswood	1.0	0.2	0.5	0.0	5	1.9	0.3	0.3	1.8	12	-0.8	-3	5.2	14	(N/A)	0.3	14.28
Willow	0.1	0.0	0.0	0.0	0	0.5	0.1	0.1	0.5	3	0.0	0	1.2	3	(N/A)	0.3	3.47
Mountain ash	0.0	0.0	0.0	0.0	0	0.4	0.1	0.1	0.3	2	0.0	0	0.9	3	(N/A)	0.3	2.55
Amur maple	0.2	0.0	0.1	0.0	1	0.9	0.1	0.1	0.8	5	0.0	0	2.3	7	(N/A)	0.3	6.56
Citywide total	129.3	21.7	64.1	6.1	699	360.2	52.6	50.1	343.5	2,248	-63.4	-238	964.3	2,709	(N/A)	100.0	9.09

Table 4: Annual Carbon Stored

Stored CO2 Benefits of Public Trees

4/9/2020

Species	Total Stored CO2 (lbs)	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	1,061,605	7,962	(N/A)	25.8	34.0	103.40
Sugar maple	663,478	4,976	(N/A)	11.7	21.3	142.17
Apple	76,804	576	(N/A)	11.1	2.5	17.46
Silver maple	493,456	3,701	(N/A)	7.7	15.8	160.91
Norway maple	168,359	1,263	(N/A)	7.4	5.4	57.39
Red maple	22,898	172	(N/A)	3.4	0.7	17.17
Honeylocust	83,821	629	(N/A)	3.4	2.7	62.87
Northern hackberry	91,975	690	(N/A)	3.4	2.9	68.98
Black maple	56,021	420	(N/A)	3.0	1.8	46.68
White ash	20,428	153	(N/A)	2.3	0.7	21.89
Austrian pine	5,041	38	(N/A)	2.0	0.2	6.30
Norway spruce	28,352	213	(N/A)	2.0	0.9	35.44
Conifer Evergreen M	5,875	44	(N/A)	2.0	0.2	7.34
Pin oak	45,886	344	(N/A)	1.7	1.5	68.83
Black walnut	82,934	622	(N/A)	1.7	2.7	124.40
River birch	26,253	197	(N/A)	1.7	0.8	39.38
Pear	3,632	27	(N/A)	1.3	0.1	6.81
Ginkgo	1,103	8	(N/A)	1.3	0.0	2.07
Northern red oak	27,052	203	(N/A)	1.0	0.9	67.63
Northern white cedar	333	2	(N/A)	1.0	0.0	0.83
Littleleaf linden	11,813	89	(N/A)	0.7	0.4	44.30
Blue spruce	1,161	9	(N/A)	0.7	0.0	4.35
American sycamore	78,517	589	(N/A)	0.7	2.5	294.44
Bur oak	19,445	146	(N/A)	0.7	0.6	72.92
Kentucky coffeetree	12	0	(N/A)	0.3	0.0	0.09
Broadleaf Deciduous	1,101	8	(N/A)	0.3	0.0	8.26
American elm	908	7	(N/A)	0.3	0.0	6.81
American basswood	37,616	282	(N/A)	0.3	1.2	282.12
Willow	1,101	8	(N/A)	0.3	0.0	8.26
Mountain ash	908	7	(N/A)	0.3	0.0	6.81
Amur maple	3,037	23	(N/A)	0.3	0.1	22.78
Citywide total	3,120,924	23,407	(N/A)	100.0	100.0	78.55

Table 5: Annual Carbon Sequestered

Annual CO_2 Benefits of Public Trees

4/9/2020

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
Green ash	49,847	374	-5,096	-230	-40	37,798	283	82,319	617 (N/A)	25.8	29.3	8.02
Sugar maple	30,426	228	-3,185	-135	-25	19,920	149	47,026	353 (N/A)	11.7	16.7	10.08
Apple	7,141	54	-369	-56	-3	8,152	61	14,869	112 (N/A)	11.1	5.3	3.38
Silver maple	35,059	263	-2,369	-91	-18	13,506	101	46,106	346 (N/A)	7.7	16.4	15.03
Norway maple	6,833	51	-808	-59	-6	9,263	69	15,229	114 (N/A)	7.4	5.4	5.19
Red maple	2,123	16	-110	-15	-1	2,638	20	4,636	35 (N/A)	3.4	1.6	3.48
Honeylocust	6,267	47	-402	-25	-3	5,502	41	11,342	85 (N/A)	3.4	4.0	8.51
Northern hackberry	4,598	34	-441	-34	-4	6,033	45	10,156	76 (N/A)	3.4	3.6	7.62
Black maple	3,902	29	-269	-21	-2	3,909	29	7,520	56 (N/A)	3.0	2.7	6.27
White ash	2,832	21	-98	-12	-1	2,555	19	5,277	40 (N/A)	2.3	1.9	5.65
Austrian pine	440	3	-24	-10	0	1,064	8	1,469	11 (N/A)	2.0	0.5	1.84
Norway spruce	1,006	8	-136	-19	-1	1,607	12	2,458	18 (N/A)	2.0	0.9	3.07
Conifer Evergreen Medium	492	4	-28	-11	0	1,170	9	1,623	12 (N/A)	2.0	0.6	2.03
Pin oak	4,809	36	-220	-14	-2	2,404	18	6,978	52 (N/A)	1.7	2.5	10.47
Black walnut	3,731	28	-398	-17	-3	2,673	20	5,989	45 (N/A)	1.7	2.1	8.98
River birch	1,752	13	-126	-11	-1	1,899	14	3,515	26 (N/A)	1.7	1.2	5.27
Pear	455	3	-17	-5	0	497	4	930	7 (N/A)	1.3	0.3	1.74
Ginkgo	148	1	-5	-4	0	293	2	432	3 (N/A)	1.3	0.2	0.81
Northern red oak	663	5	-130	-8	-1	1,121	8	1,646	12 (N/A)	1.0	0.6	4.11
Northern white cedar	89	1	-2	-2	0	170	1	255	2 (N/A)	1.0	0.1	0.64
Littleleaf linden	1,304	10	-57	-5	0	717	5	1,959	15 (N/A)	0.7	0.7	7.35
Blue spruce	103	1	-6	-3	0	261	2	356	3 (N/A)	0.7	0.1	1.33
American sycamore	1,824	14	-377	-10	-3	1,469	11	2,906	22 (N/A)	0.7	1.0	10.90
Bur oak	1,302	10	-93	-5	-1	945	7	2,149	16 (N/A)	0.7	0.8	8.06
Kentucky coffeetree	3	0	0	0	0	4	0	7	0 (N/A)	0.3	0.0	0.05
Broadleaf Deciduous Medi	224	2	-5	-1	0	176	1	393	3 (N/A)	0.3	0.1	2.95
American elm	111	1	-4	-1	0	137	1	242	2 (N/A)	0.3	0.1	1.82
American basswood	1,940	15	-181	-5	-1	673	5	2,428	18 (N/A)	0.3	0.9	18.21
Willow	224	2	-5	-1	0	176	1	393	3 (N/A)	0.3	0.1	2.95
Mountain ash	114	1	-4	-1	0	124	1	232	2 (N/A)	0.3	0.1	1.74
Amur maple	268	2	-15	-2	0	308	2	560	4 (N/A)	0.3	0.2	4.20
Citywide total	170,029	1,275	-14,981	-811	-118	127,165	954	281,403	2,111 (N/A)	100.0	100.0	7.08

Table 6: Annual Social and Aesthetic Benefits

Annual Aesthetic/Other Benefits of Public Trees

4/9/2020

Species	Total ($)	Standard Error	% of Total Trees	% of Total $	Avg. $/tree
Green ash	4,132	(N/A)	25.8	25.4	53.67
Sugar maple	3,000	(N/A)	11.7	18.4	85.71
Apple	411	(N/A)	11.1	2.5	12.46
Silver maple	2,669	(N/A)	7.7	16.4	116.05
Norway maple	662	(N/A)	7.4	4.1	30.11
Red maple	341	(N/A)	3.4	2.1	34.06
Honeylocust	1,475	(N/A)	3.4	9.1	147.51
Northern hackberry	600	(N/A)	3.4	3.7	59.96
Black maple	489	(N/A)	3.0	3.0	54.32
White ash	386	(N/A)	2.3	2.4	55.08
Austrian pine	143	(N/A)	2.0	0.9	23.85
Norway spruce	215	(N/A)	2.0	1.3	35.76
Conifer Evergreen Medium	147	(N/A)	2.0	0.9	24.54
Pin oak	411	(N/A)	1.7	2.5	82.19
Black walnut	293	(N/A)	1.7	1.8	58.61
River birch	175	(N/A)	1.7	1.1	35.03
Pear	26	(N/A)	1.3	0.2	6.40
Ginkgo	19	(N/A)	1.3	0.1	4.77
Northern red oak	52	(N/A)	1.0	0.3	17.18
Northern white cedar	29	(N/A)	1.0	0.2	9.70
Littleleaf linden	137	(N/A)	0.7	0.8	68.29
Blue spruce	38	(N/A)	0.7	0.2	18.77
American sycamore	117	(N/A)	0.7	0.7	58.34
Bur oak	111	(N/A)	0.7	0.7	55.72
Kentucky coffeetree	5	(N/A)	0.3	0.0	5.26
Broadleaf Deciduous Medium	26	(N/A)	0.3	0.2	26.22
American elm	20	(N/A)	0.3	0.1	19.89
American basswood	119	(N/A)	0.3	0.7	119.43
Willow	26	(N/A)	0.3	0.2	26.22
Mountain ash	6	(N/A)	0.3	0.0	6.40
Amur maple	15	(N/A)	0.3	0.1	15.48
Citywide total	16,295	(N/A)	100.0	100.0	54.68

Table 7: Summary of Benefits in Dollars

Total Annual Benefits of Public Trees by Species ($)

4/9/2020

Species	Energy	CO_2	Air Quality	Stormwater	Aesthetic/Other	Total ($)	Standard Error	% of Total $
Green ash	4,633	617	837	6,747	4,132	16,967	(N/A)	28.6
Sugar maple	2,478	353	409	4,316	3,000	10,554	(N/A)	17.8
Apple	1,039	112	172	476	411	2,210	(N/A)	3.7
Silver maple	1,648	346	314	3,368	2,669	8,345	(N/A)	14.0
Norway maple	1,190	114	212	1,365	662	3,543	(N/A)	6.0
Red maple	331	35	55	283	341	1,044	(N/A)	1.8
Honeylocust	662	85	112	919	1,475	3,254	(N/A)	5.5
Northern hackberry	773	76	140	994	600	2,583	(N/A)	4.3
Black maple	487	56	90	570	489	1,692	(N/A)	2.8
White ash	281	40	47	259	386	1,012	(N/A)	1.7
Austrian pine	128	11	15	208	143	505	(N/A)	0.8
Norway spruce	198	18	3	571	215	1,005	(N/A)	1.7
Conifer Evergreen Medi	137	12	16	230	147	542	(N/A)	0.9
Pin oak	292	52	39	334	411	1,129	(N/A)	1.9
Black walnut	334	45	61	520	293	1,253	(N/A)	2.1
River birch	236	26	41	232	175	710	(N/A)	1.2
Pear	73	7	10	29	26	144	(N/A)	0.2
Ginkgo	38	3	6	21	19	87	(N/A)	0.1
Northern red oak	139	12	20	170	52	393	(N/A)	0.7
Northern white cedar	25	2	3	28	29	86	(N/A)	0.1
Littleleaf linden	89	15	15	98	137	353	(N/A)	0.6
Blue spruce	31	3	4	49	38	124	(N/A)	0.2
American sycamore	182	22	38	392	117	751	(N/A)	1.3
Bur oak	115	16	20	147	111	409	(N/A)	0.7
Kentucky coffeetree	1	0	0	0	5	7	(N/A)	0.0
Broadleaf Deciduous M	24	3	3	16	26	73	(N/A)	0.1
American elm	18	2	3	12	20	54	(N/A)	0.1
American basswood	86	18	14	165	119	403	(N/A)	0.7
Willow	24	3	3	16	26	73	(N/A)	0.1
Mountain ash	18	2	3	7	6	36	(N/A)	0.1
Amur maple	38	4	7	18	15	82	(N/A)	0.1
Citywide Total	15,750	2,111	2,709	22,559	16,295	59,424	(N/A)	100.0

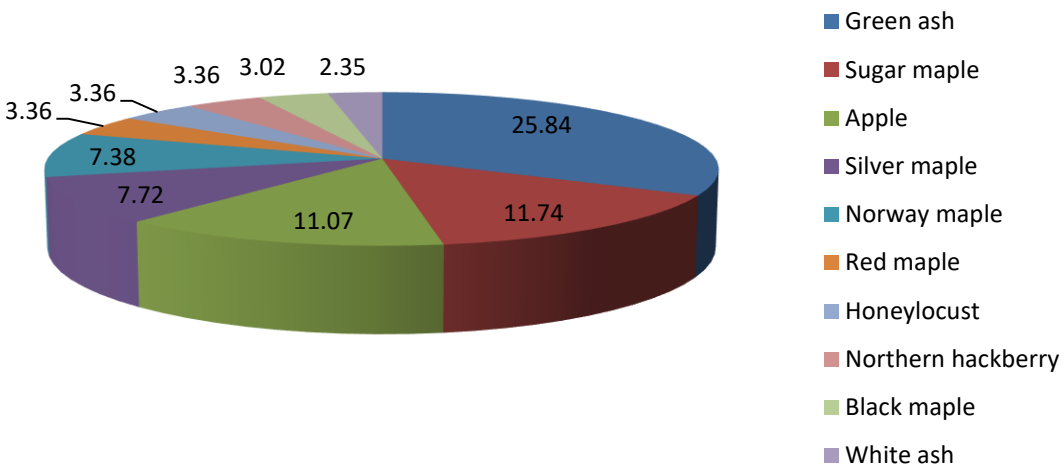

Figure 1: Species Distribution

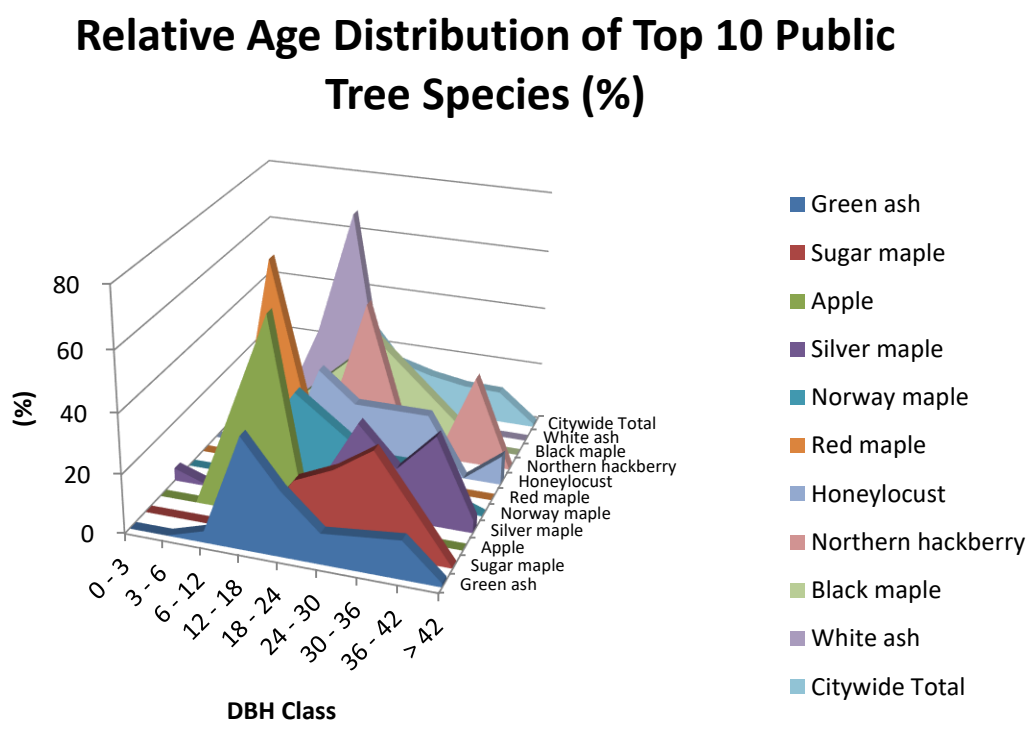

Figure 2: Relative Age Class

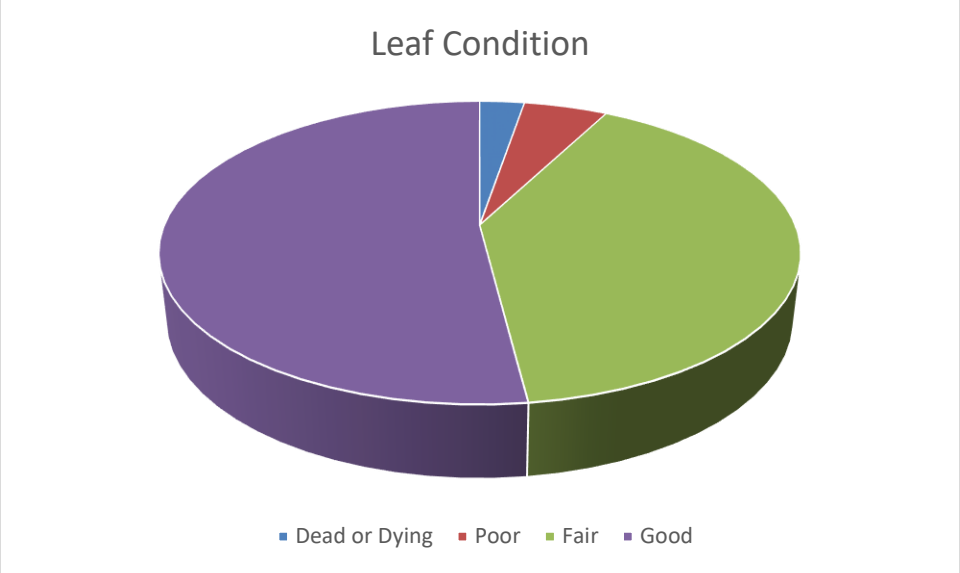

Figure 3: Foliage Condition

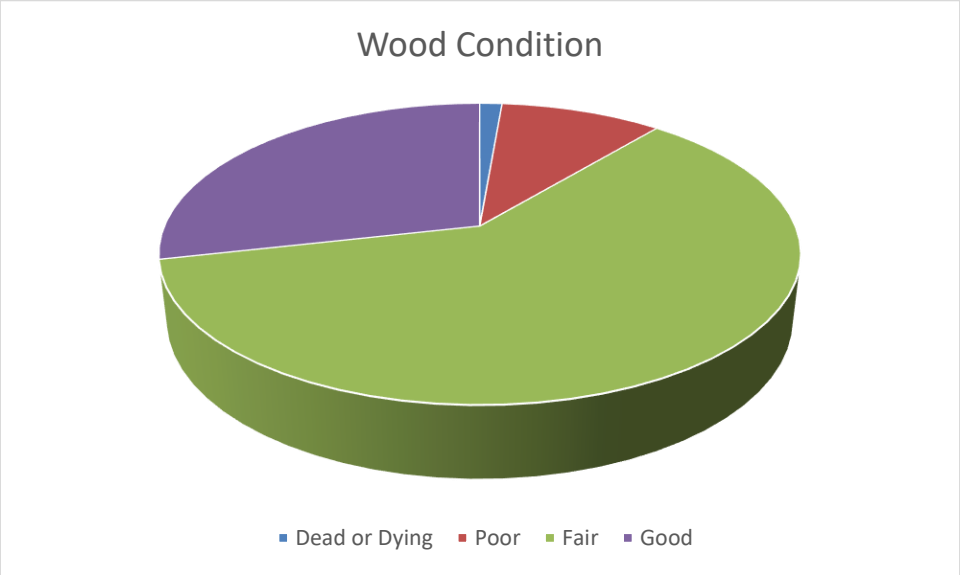

Figure 4: Wood Condition

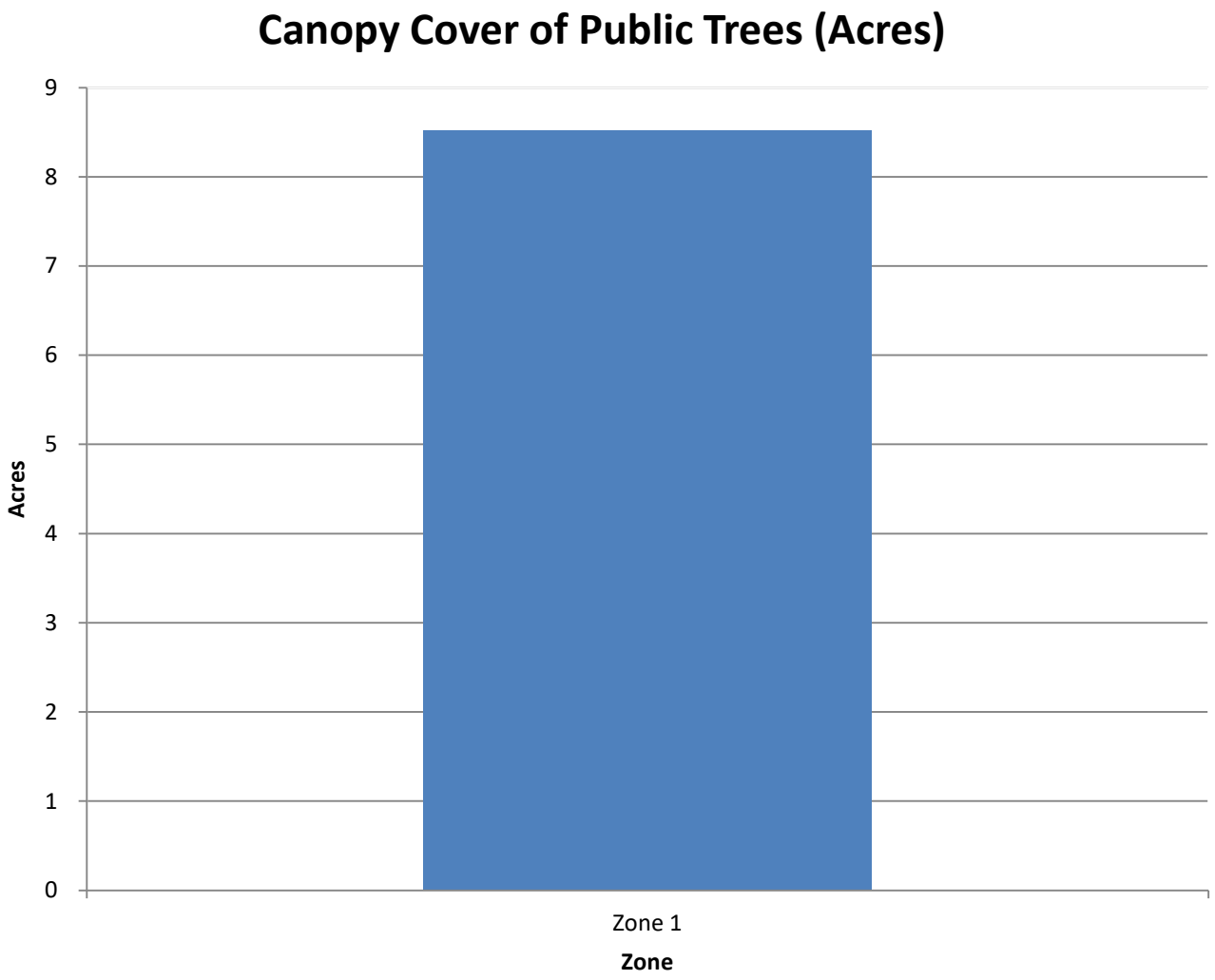

Figure 5: Canopy Cover in Acres

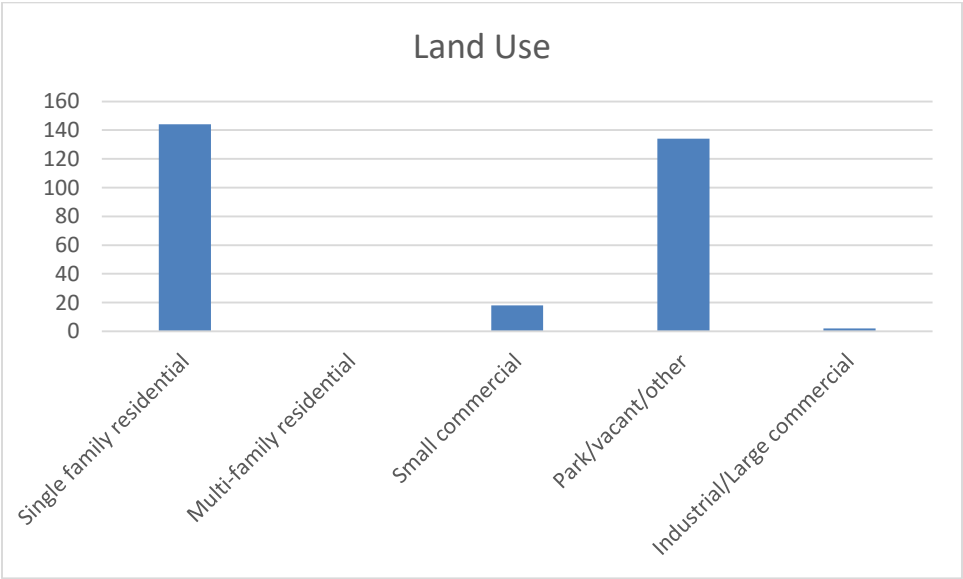

Figure 6: Land Use of city/park trees

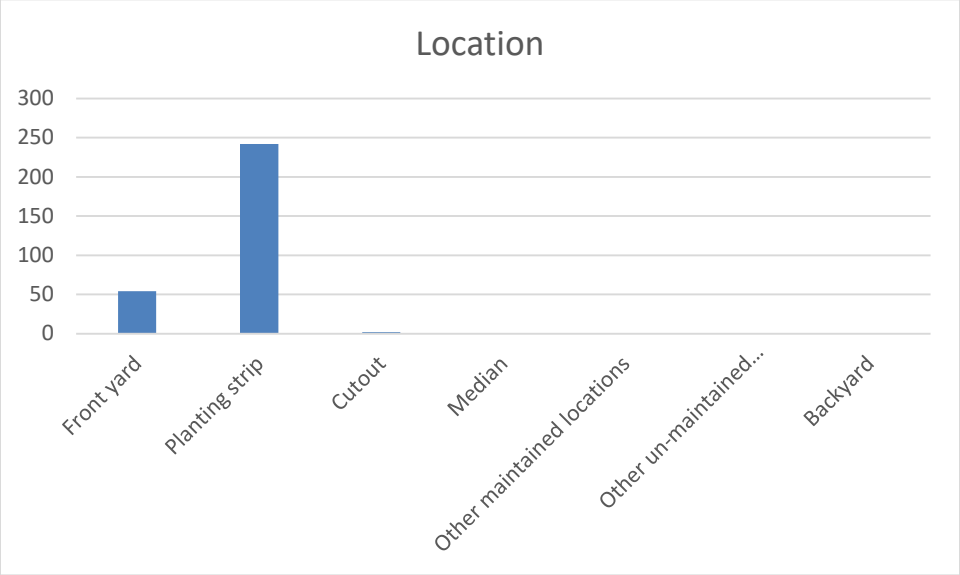

Figure 7: Location of city/park trees

Appendix B: ArcGIS Mapping

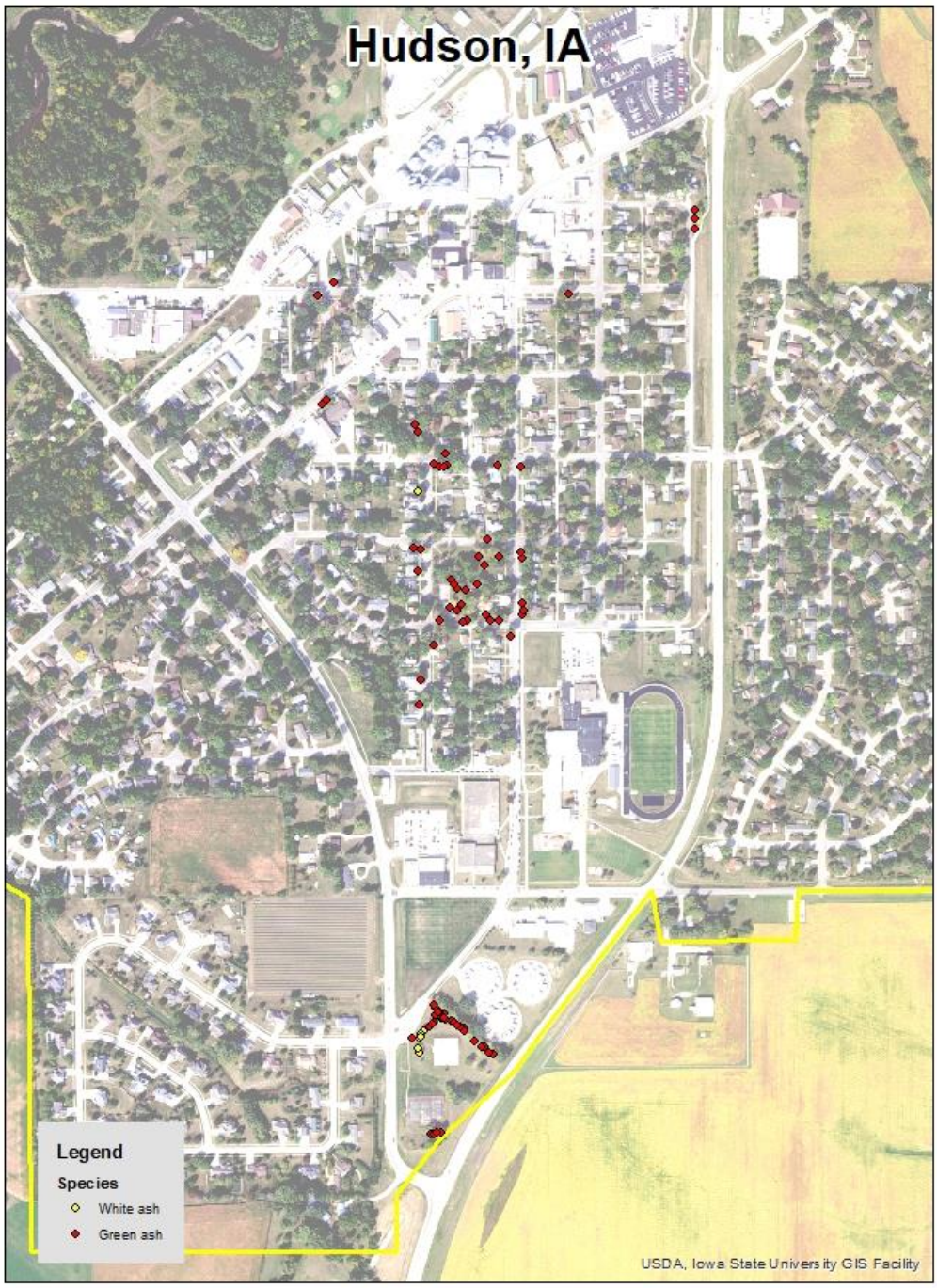

Figure 1: Location of Ash Trees

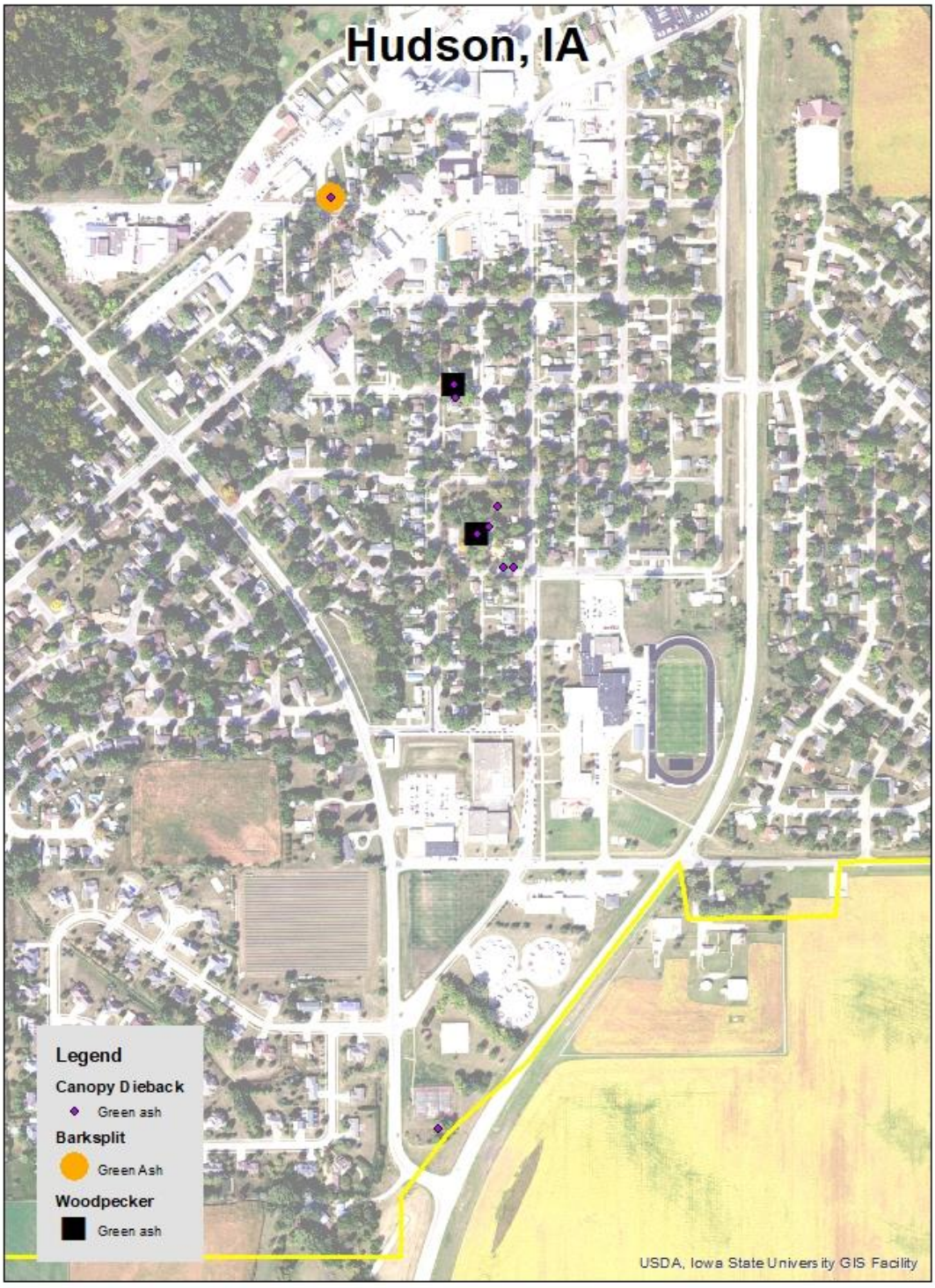

Figure 2: Location of EAB symptoms

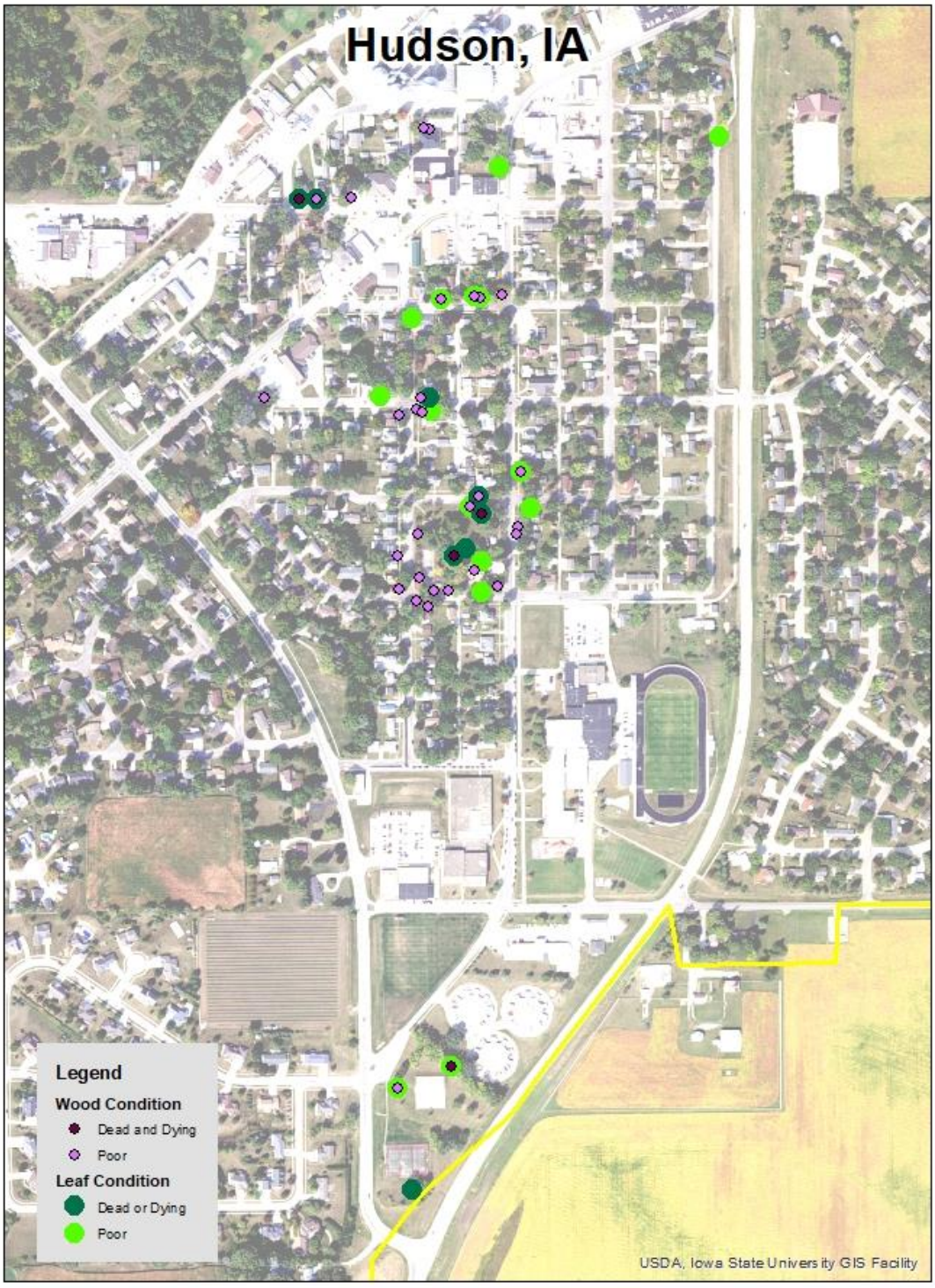

Figure 3: Location of Poor Condition Trees

Figure 4: Location of Trees with Recommended Maintenance

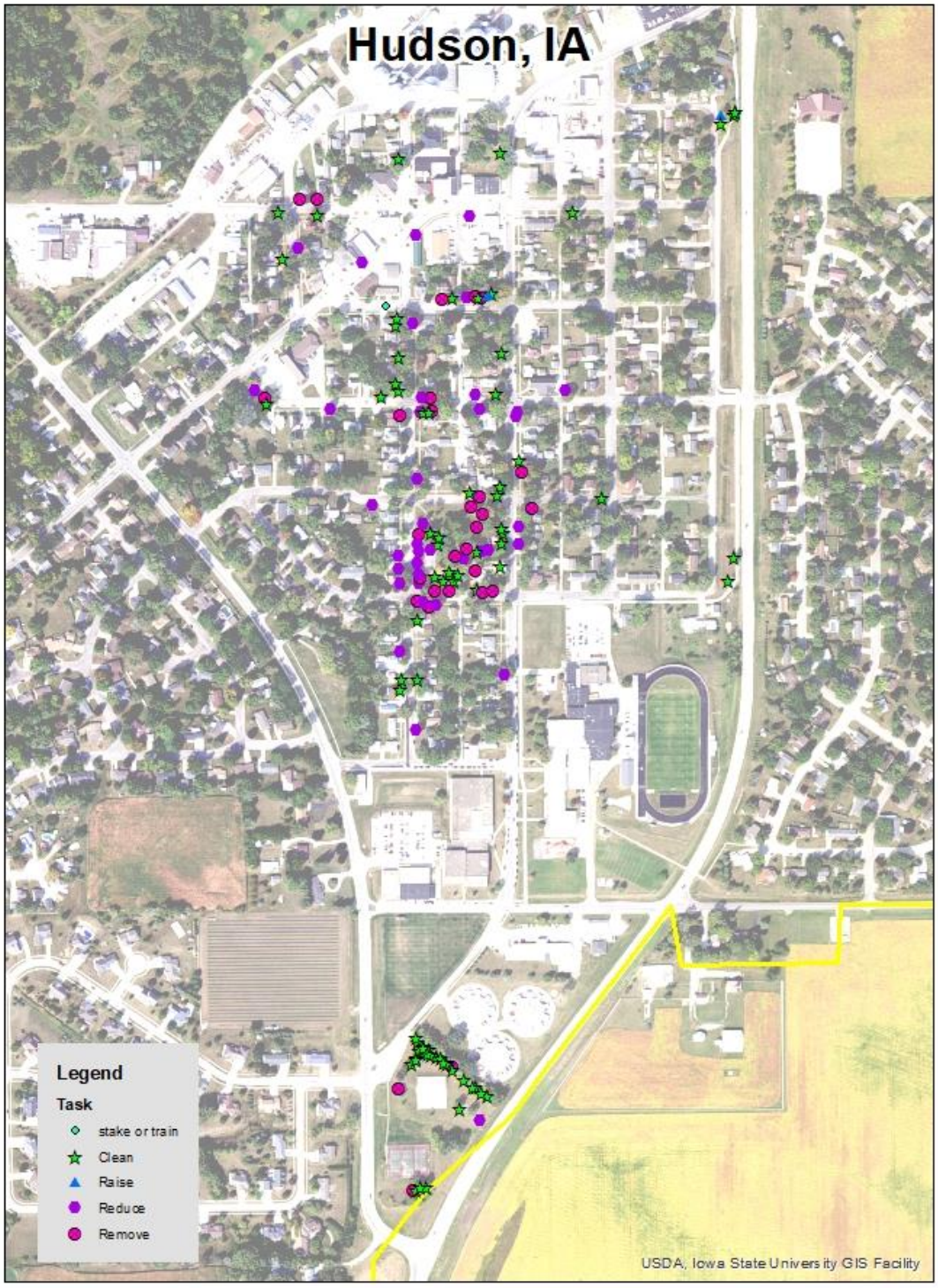

Figure 5: Maintenance Tasks *City ownership of the trees recommended for removal should be verified prior to any removal*

Appendix C: Hudson Tree Ordinances

CHAPTER 151
TREES

151.01 PURPOSE.

The purpose of this chapter is to beautify and preserve the appearance of the City by requiring street trees to be uniformly located and maintained. The primary responsibility of maintaining street trees is placed upon the abutting property owner or said owner's designated agent, and the designated City staff shall personally supervise any extensive trimming or cutting of said trees.

151.02 DEFINITIONS.

For use in this chapter, the following terms are defined:

1. "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 lines 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.
2. "Designated City staff" means the working supervisor—director of public works or such other person—as may be designated by City Council.
3. "Street" means the entire width between property lines of avenues or highways.
4. "Property owner" means a person owning private property in the City as shown by the County Auditor's plats of the City.
5. "Public property" means any and all property located within the confines of the City and owned by the City or held in the name of the City by any of the departments, commissions, or agencies within the City government.

151.03 ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE.

1. Location. Whenever possible trees should be planted inside the property lines and not between the sidewalk and curb.

A. Alignment. All trees hereafter 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 within 10 feet from the near edge of the road.

B. Spacing. Trees shall not be planted on the parking if parking is less than 12 feet in length and four feet, nine inches in depth (sidewalk to curb), or contains less than 50 square feet of exposed soil or grass surface. Trees shall not be planted closer than 20 feet to street intersections (property lines extended) and four feet, nine inches from any driveways. No tree that will attain a mature height of 30 feet may be planted under existing utility lines.

C. Street Trees. Trees and shrubs planted within the street limit, and trees having a trunk more than 50 percent within the public street, as defined above, are referred to as "street trees." The planting of street trees shall be done by the City or owner of abutting private property only in accordance with the planting plan approved by the Council and on file in City Hall. Permits will be issued without charge.

2. Nuisance. The following trees are not permitted to be planted in any street or public place in the City:

Box Elder	Siberian Elm	Chinese Elm
Cottonwood	White Poplar	Lombardy Poplar
Bolleana Poplar	Poplar Willows	Tree of Heaven
American Elm	Silver Maple	Catalpa
Black Locust	Weeping Birch	Poplar
European Mountain Ash or any species of Ash Tree	Fruit Trees (except ornamentals)	

No conifers or evergreens should be planted between the sidewalk and the curb of any City street for safety and visibility considerations. See City Hall Planting Plan for trees recommended for planting.

3. Method of Support. Trees may be guyed or supported in an upright position according to accepted arboricultural practices. The guys or supports shall be fastened in such a way that they will not girdle or cause serious injury to the trees or endanger public safety.

4. Trimming or Pruning.

A. All public tree trimming or pruning shall utilize Natural Target Pruning Practice now commonly accepted by the United States Forest Service. All efforts to protect the branch collar will be the responsibility of the tree trimmer or pruner.

B. All limbs over one inch in diameter must be bottom cut first to prevent stripping of bark as limbs fall. Any limbs which endanger other limbs, trees, or property shall be lowered to the ground—not felled.

C. Oaks shall not be pruned from March through November to prevent the spread of oak wilt unless in cases of wind or ice storm damage. To avoid the spreading of disease, tools shall be disinfected with alcohol before use on another tree.

151.04 PERMITS AND LICENSES REQUIRED.

1. Except as allowed in Section 151.05 of this chapter, no person shall cut or remove any plant, tree, or shrub on the streets or on public property without first obtaining a permit from the designated City

staff, who shall issue said permit if the proposed work is necessary and the proposed methods and workmanship are satisfactory.

2. The designated City staff may demand the posting of bond or insurance before the permit is granted. Such bond or insurance shall be of sufficient amount to reasonably cover any damages that may occur to life or property while the provisions of the permit are being carried out.

3. Every permit granted in accordance with this section by the designated City staff shall describe the work to be done, the estimated cost, define the species, sizes and location of all trees and shrubs concerned and contain a definite date of expiration.

4. Any permit may be declared void if the terms are violated.

5. No person shall engage in the business of removing, cutting or trimming of trees or shrubbery in the City without first obtaining a license therefor. The applicant shall submit written application to the designated City staff setting forth said person's experience and qualifications. Upon determination by the designated City staff that such person is qualified, he or she shall be granted a license, which shall allow the removal, cutting, and trimming of trees and shrubbery in the City. The license shall be valid for one year, commencing January 1, and terminating December 31, of each year. The license fee shall be established by resolution of the Council and shall be paid prior to the issuance of the license. No trimming, cutting, or removal shall be done until the license has been obtained.

6. In addition, applicants may be required to pass a test designed and administered by the designated City staff.

151.05 EXEMPTIONS.

Section 151.04 does not apply to the following:

1. The United States of America, the State of Iowa, any county, municipality or political subdivisions of the State, any department, bureau or agency or any of the foregoing or any official representative of any of the forgoing in pursuit of official duties.

2. Any person with reference to trees and shrubs on such person's own premises.

3. Any individual performing labor or services on or in connection with trees at the direction and under the personal supervision of a licensed tree trimmer while in the performance of such functions.

4. Any public utility engaged in tree trimming and/or tree removal for the purpose of line clearance in order to insure the continuity of utility service to the public.

151.06 MATERIALS FASTENED TO TREES REQUIRE PERMIT.

No person shall fasten any sign, box, wire, rope or other materials to, around, or through any tree or shrub in any street, park, or public place in the City except by the permission of designated City staff or when such materials are designed to preserve such tree or shrub and have been placed under a permit granted by City Hall.

151.07 CONSTRUCTION POLLUTANTS NOT ALLOWED.

No person shall deposit, place, store, or maintain upon any street, park, or public place in the City any stone, brick, sand, concrete, or other material which shall impede the free passage of water, air, and fertilizer to the roots of any tree or shrub growing therein except by permission of the designated City staff or when such materials are designed for the construction of sidewalks, pavement, gutters, or other public improvements under a permit granted by the City or some department thereof.

151.08 ERECT BARRIERS FOR PROTECTION OF TREES.

During all building and construction operations, the contractor or builder shall erect suitable protective barricades around all trees and shrubs in any street, park, or public place in the City in order to prevent said trees from being injured. Additionally, an appropriate drip line of the trees and shrubs must be maintained without impact to the trees or shrubs by grading or compacting the soil for construction purposes.

151.09 DESTROYING OF TREES.

No person shall break, deface, injure, kill, or destroy any tree or shrub or set fire or permit any fire to burn where such fire or heat thereof will injure any portion of any tree or shrub in any street, park or public place in the City. Topping of any City-owned tree is prohibited.

151.10 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 15 feet above the surface of the street and eight feet above the sidewalks.

(Code of Iowa, Sec. 364.12[2c])

151.11 ASSESSMENT FOR TRIMMING DONE BY CITY.

If the abutting property owner fails to trim the trees as required in this chapter, the City may serve notice on the abutting property owner requiring the owner to do so within five days. If the owner fails to trim the trees within that time, the City may perform the required action and assess the coats against the abutting property for collection in the same manner as a property tax.

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

151.12 TRIMMING TREES TO BE SUPERVISED.

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.

151.13 REMOVAL OF TREES PER THE CITY.

The designated City staff shall remove, on the order of the Council, any tree on the streets of the City which interferes with the making of improvements or with travel thereon. Said official shall additionally remove any trees on the street, not on private property, which have become diseased, or which constitute a danger to the public, or which may otherwise be declared a nuisance. The designated City staff has the right to determine a hazardous tree on private property that is a threat to public safety, and issue a 30-day notice to remove to the owner. If not removed in 30 days, the City shall remove it at the owner's expense and bill accordingly on said person's property taxes. The owner has the right to appeal said decision in front of the Public Works Committee. Cutting or trimming a tree where there is risk of limbs, branches or any other portion of the tree falling or coming into contact with electric utility lines is prohibited without the express permission of the electric utility.

151.14 FELLING OF TREES AND LIMBS ONTO STREETS.

If a tree or limb will fall on any street, alley, or sidewalk, the designated City staff must be notified prior to felling.

1. The person to whom the permit is issued shall be responsible for placing such signs, flags, flares and barricades as are needed to warn persons of the danger of using the street, sidewalk, or alley.
2. Trees or branches which are felled or trimmed onto public property must be removed immediately unless an extension of time is granted by the designated City staff in writing.
3. Stump removal cavities must be cleared and refilled with soil in the same operation. At no time shall a cavity remain unfilled overnight.

151.15 BOND OR EVIDENCE OF INSURANCE.

Any person, before engaging in the business or occupation of removing, cutting, or trimming trees or shrubbery in the City, shall deposit with the City a good and sufficient bond or evidence of insurance in the sum of not less than $10,000.00, provide evidence of liability insurance in the sum of $100,000.00, conditioned that such person shall faithfully comply with the provisions of this chapter and shall indemnify, save and keep harmless the City and its officers from any and all claims, damages, and losses and actions by reason of any acts or things done under or by authority or permission granted herein. The coverage shall be at least as broad as the ISO Form Number CGOOOI covering the commercial general liability written on an occurrence basis only. A copy of the current insurance certificate shall be maintained on file with the City Clerk. Automobile Liability with limits of no less than $500,000.00 combined single limits per occurrence for bodily injury, personal injury, and property damage. The certificate must be on file in the office of the City Clerk before the permit shall be issued.

151.16 WORKER'S COMPENSATION POLICY.

Any person, before engaging in the business or occupation of removing, cutting or trimming trees in the City shall furnish satisfactory evidence to the City that the workers employed by that person are covered by a suitable worker's compensation policy according to the laws of that State. The certificate must be on file in the office of the City Clerk before the permit shall be issued.

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 9th 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.