

Village of Cazenovia, NY  
Street Tree Inventory Report



Prepared for the Village of Cazenovia by the Cornell University  
Student Weekend Arborist Team (SWAT)

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Executive Summary

This document reports the findings of the street tree inventory conducted in the Village of Cazenovia, New York on September 28, 2008 by the Student Weekend Arborist Team (SWAT) of Cornell University. These results include:

- 851 total trees were inventoried in the village's right-of-way, in Lakeland and Memorial Parks, and on The Green.
- 727 trees and 272 planting sites were inventoried in the village's right-of-way.
- 124 trees were inventoried in Lakeland and Memorial Parks, and on The Green.
- The current street tree population in the village's right-of-way is 72.77% of full stocking.
- 50 different species comprise the village's inventoried trees with Sugar Maple (33.73%) and Norway Maple (22.80%) occurring most often.
- 38.43% of inventoried trees have diameters between 1 – 11" while 61.57% have diameters greater than or equal to 12".
- The total estimated annual benefits for the village's publicly managed trees are \$115,369, or \$135.57 per tree.
- The replacement value of all publicly managed trees is \$4,598,729.

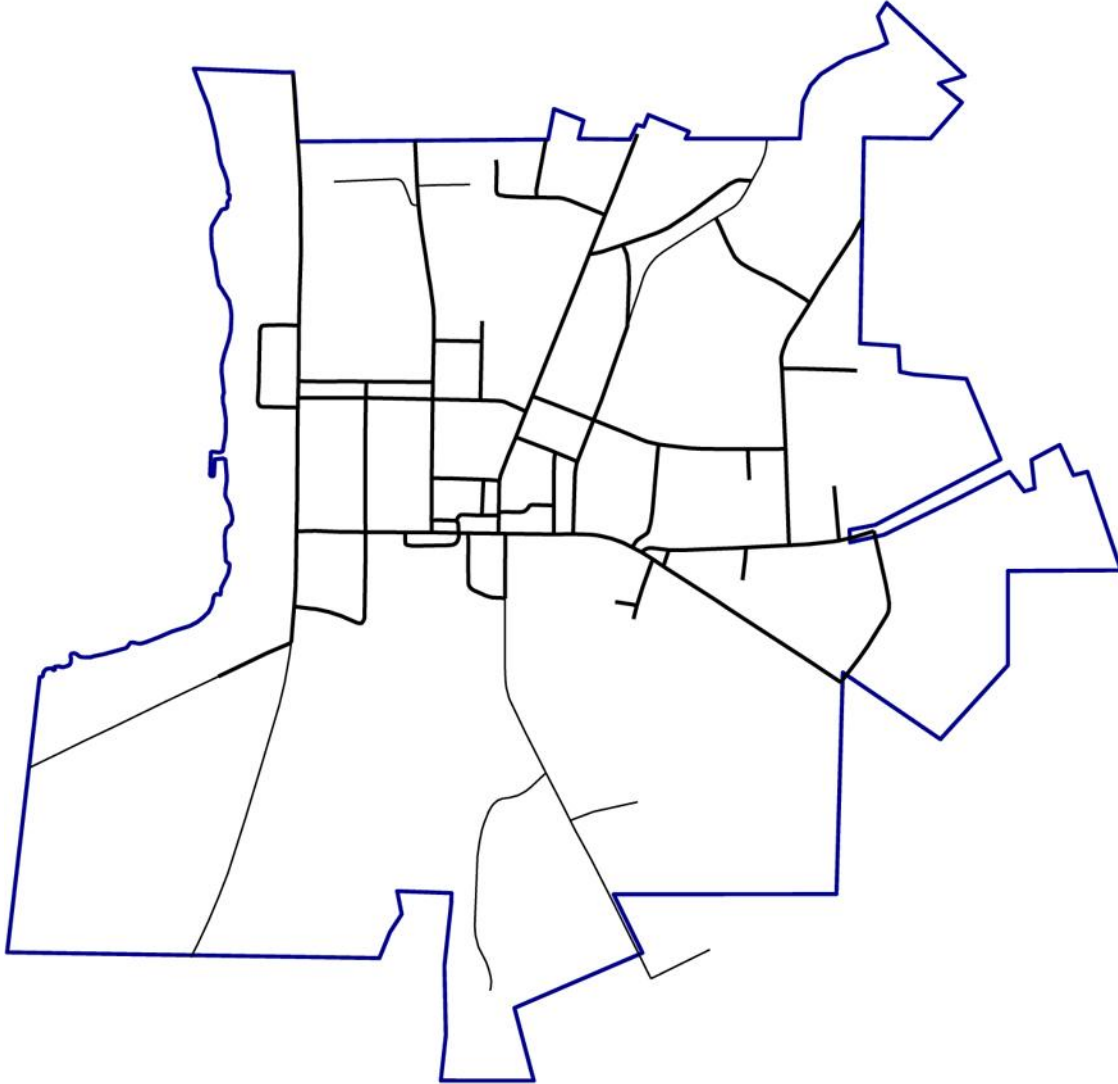
## Introduction

The urban forest is an integral part of communities. Whether found along streets, in parks, or in less structured open spaces, urban trees contribute greatly to the quality of community life. Recent research has shown that urban trees offer many benefits including improved air quality, reduced storm water runoff, reduced psychological stress, and increased residential property values. The urban forest is therefore an important natural resource that communities have an interest in protecting and preserving.

Much like any natural resource, the urban forest needs to be conserved and managed. A street tree inventory is an important tool in managing and planning urban tree populations. By providing complete and up-to-date information about the diversity, condition, and age of its trees, a street tree inventory enables a community to care for the contemporary urban forest as well as to plan intelligently for the urban forest of the future. Undertaking a street tree inventory, therefore, signifies a community's investment in and commitment to the current and future well-being not just of its trees, but that of the community itself.

Inventory Methodology

Trees and planting sites were inventoried on September 28, 2008 for most, but not all of the village. Streets included in the inventory were selected by the Cazenovia Tree Committee. Inventoried streets comprise approximately 89% of all street length in the village. Those streets surveyed are indicated in the map below by thicker line weight. In addition, 124 trees were inventoried in Lakeland and Memorial Parks, and on The Green.



The inventory was conducted by the Student Weekend Arborist Team (SWAT) of Cornell University. This team has conducted inventories in twenty-three upstate New York communities since 2002, and the data collected on tree characteristics, maintenance need, and planting sites have been used to create urban forest master plans for these communities.

Data was collected in a walking survey utilizing Pharos PDAs equipped with the USDA Forest Service's i-Tree MCTI/STRATUM PDA utility. Data collected includes the following:

(1) **Tree Location:** Locations for right-of-way trees and right-of-way planting sites were established primarily by property address. If an address was unavailable, a location was assigned based upon the next sequential address. Site numbers were assigned for trees and planting spaces at each address. For addresses with multiple trees and/or planting spaces, site numbers were assigned from left to right facing the property. Trees and planting spaces located at street corners were assigned the property address, but if located on a side street different than the property street address, a notation for "side" was made. Locations for park trees were established primarily by GPS coordinates (see below).

(2) **GPS:** Latitude (Y) and Longitude (X) for right-of-way trees, right-of-way planting sites, and park trees were collected with Magellan Gold Meridian series receivers, accurate between 3 and 7 meters, in the Lat/Lon coordinate system with a WGS 84 Datum. Coordinates for right-of-way trees and planting sites were corrected after the inventory to more closely approximate property addresses according to a parcel shapefile supplied by the Madison County GIS Department. Coordinates for park trees were not generally corrected.

(3) **Location Site:** Placement of trees and planting sites was assessed by one of five ratings: 1= front yard or lawn; 2 = treelawn planting strip less than four feet wide; 3 = treelawn planting strip greater than four feet wide; 4 = sidewalk tree pit; 5 = street median.

(4) **Species:** Trees were identified and assigned their respective botanical names. Common names were added subsequent to the inventory.

(5) **DBH:** Trunk diameter at breast height (approximately 4.5 feet above the ground) was measured to the nearest inch. DBH is the most commonly used measure of tree size and age. It is not an absolute measure, however, as relationships between DBH and canopy spread or DBH and tree age vary by species.

(6) **Condition Wood:** The health of a tree's wood (its structural health) was assessed by one of four ratings: 1= Dead or Dying – *extreme problems*; 2 = Poor – *major problems*; 3 = Fair – *minor problems*; 4 = Good – *no apparent problems*.

(7) **Condition Leaves:** The health of a tree's leaves (its functional health) was assessed by one of four ratings: 1= Dead or Dying – *extreme problems*; 2 = Poor – *major problems*; 3 = Fair – *minor problems*; 4 = Good – *no apparent problems*.

(8) **Percent Deadwood:** "Deadwood" refers to branches that are dead, dying, or diseased. The percentage of deadwood in the tree canopy was assessed by one of five ratings: 1= less than 10%; 2 = 10 – 25%; 3 = 25 – 50%; 4 = 50 – 75%; 5 = greater than 75%.

(9) **Maintenance Recommendation:** Tree maintenance needs were assessed by one of four ratings: 1= None – *no maintenance necessary*; 2 = Train – *routine maintenance for a young tree*; 3 = Routine Prune – *routine maintenance of a mature tree*; 4 = High Priority Prune – *a tree requiring immediate maintenance*.

(10) **Consult:** Based on the condition of the tree, an assessment was made as to whether a certified arborist should be brought in to examine the tree.

(11) **Sidewalk Damage:** The presence or absence of damage associated with tree roots where the sidewalk was heaved at least  $\frac{3}{4}$  inch was noted.

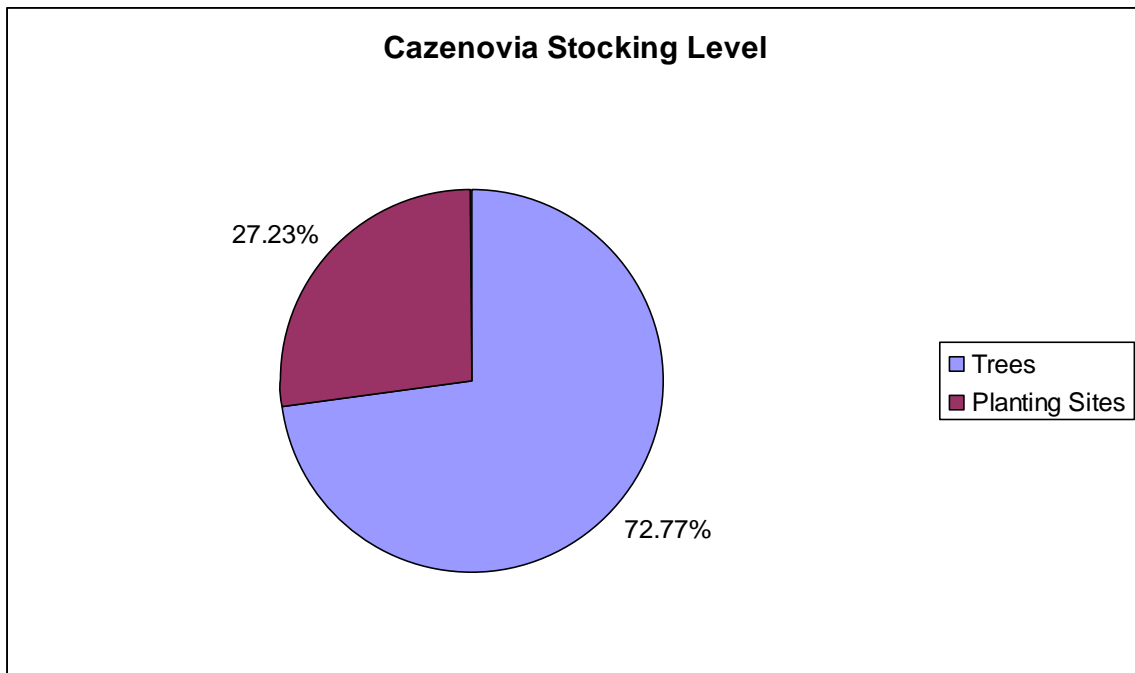
(12) **Wire Conflict:** The presence or absence of single or triple phase overhead utility wires was noted.

Street Tree Inventory Summary

Stocking Levels

Two methodologies are commonly used to determine street tree stocking levels. The first compares the number of street trees per mile of street to an ideal 100% stocking level (180 trees per mile of street). The second compares the number of existing street trees to the total number of potential street trees (number of trees plus the number of available planting spaces). This report utilizes the second methodology.

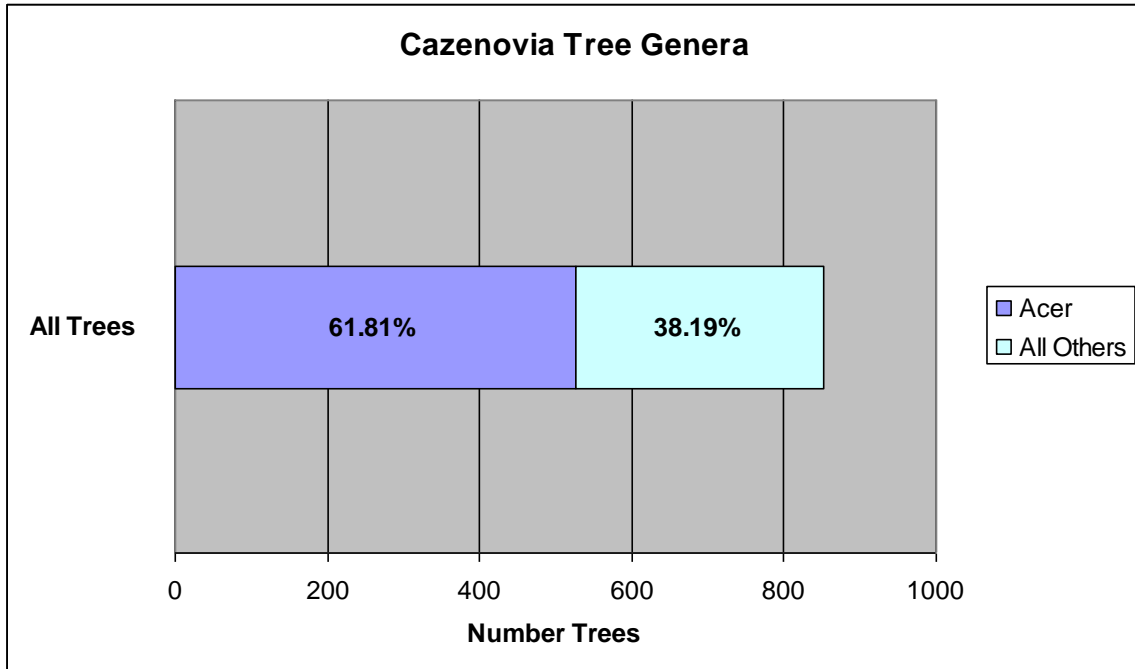
The Cazenovia Street Tree Inventory accounted for 727 street trees and 272 planting spaces in the village's right-of-way. The proportion of trees to potential street trees translates into a 72.77% street tree stocking level (see graph below). A 60% stocking level is the national average and most municipalities have stocking levels between 50 and 75%.



Genera and Species Distribution

The Cazenovia Street Tree Inventory accounted for 851 publicly managed trees. 727 trees were inventoried in the village’s right-of-way and 124 trees were inventoried in Lakeland and Memorial Parks and on The Green.

A significant percentage of all trees inventoried (61.81%) were Maples (*Acer* genus) (see graph below).



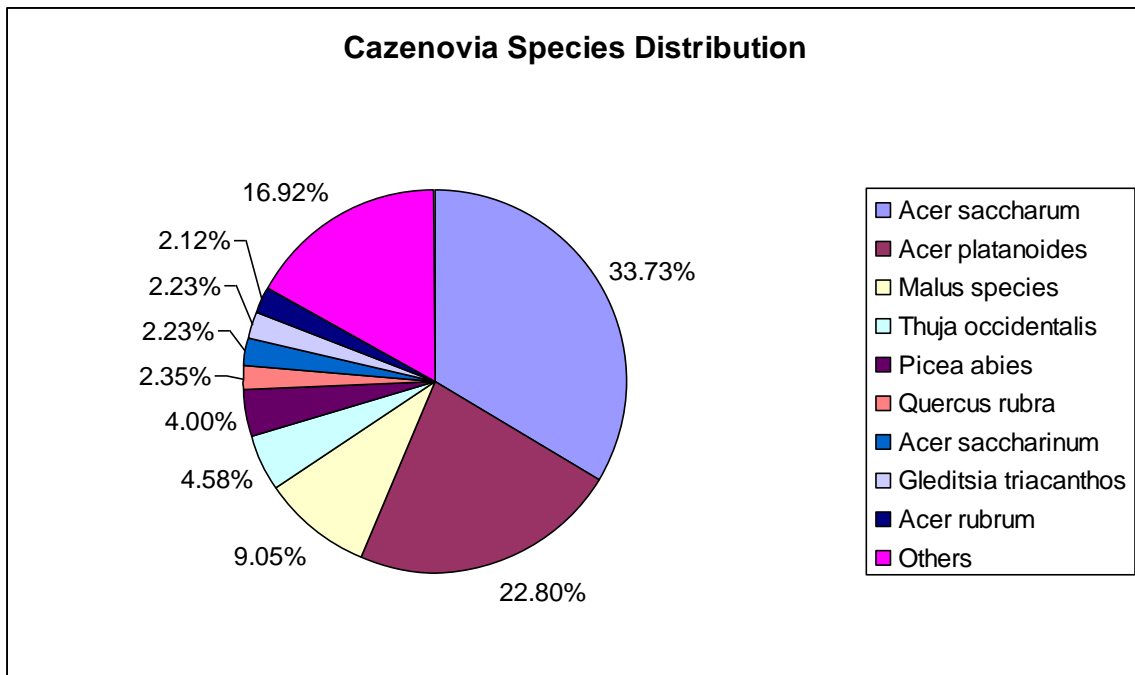
No other genus besides *Acer* accounted for more than 9.05% of all inventoried trees (see table below).

Genus	Number Trees	Percentage
<i>Acer (Maple)</i>	526	61.81%
<i>Malus (Apple)</i>	77	9.05%
<i>Picea (Spruce)</i>	43	5.05%
<i>Thuja (Cedar)</i>	39	4.58%
<i>Quercus (Oak)</i>	25	2.94%
<i>Gleditsia (Honeylocust)</i>	19	2.23%
<i>Syringa (Lilac)</i>	17	2.00%
<i>Tilia (Linden)</i>	11	1.29%
<i>Juglans (Walnut)</i>	10	1.18%
Others	84	9.87%



Within the *Acer* genus, two species of Maples, Sugar Maple (*Acer saccharum*) and Norway Maple (*Acer platanoides*), accounted for 91.44% of all Maples.

Regarding the population of inventoried trees, Sugar Maples accounted for 33.73%, Norway Maples 22.80%, and Crabapples (*Malus species*) 9.05% of all trees (see graph below – a complete species list can be found as an appendix).

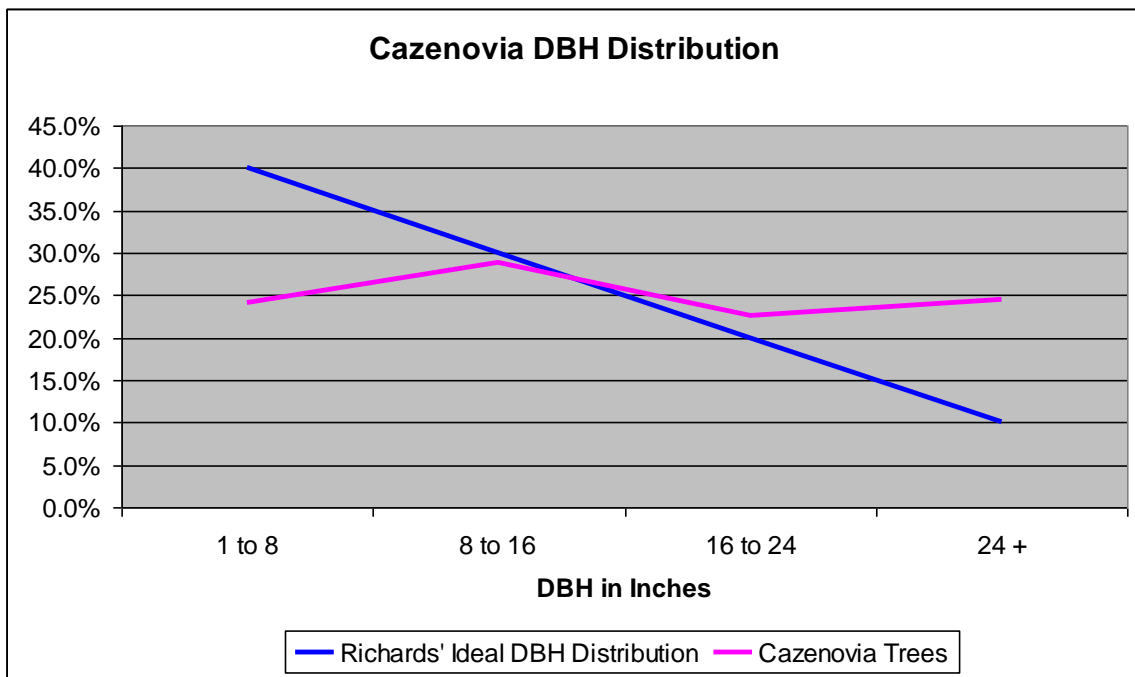


As a general rule, no one tree species should constitute more than 10% of the total street tree population and no one tree genus should exceed 20%. With respect to species, the percentages of Sugar and Norway Maples exceed the 10% rule and indicate these species are overrepresented in the population. With regard to genus, the percentage of trees in the *Acer* genus (61.81%) far exceeds the 20% rule and indicates Maples are overrepresented in the population.

Diameter Distribution

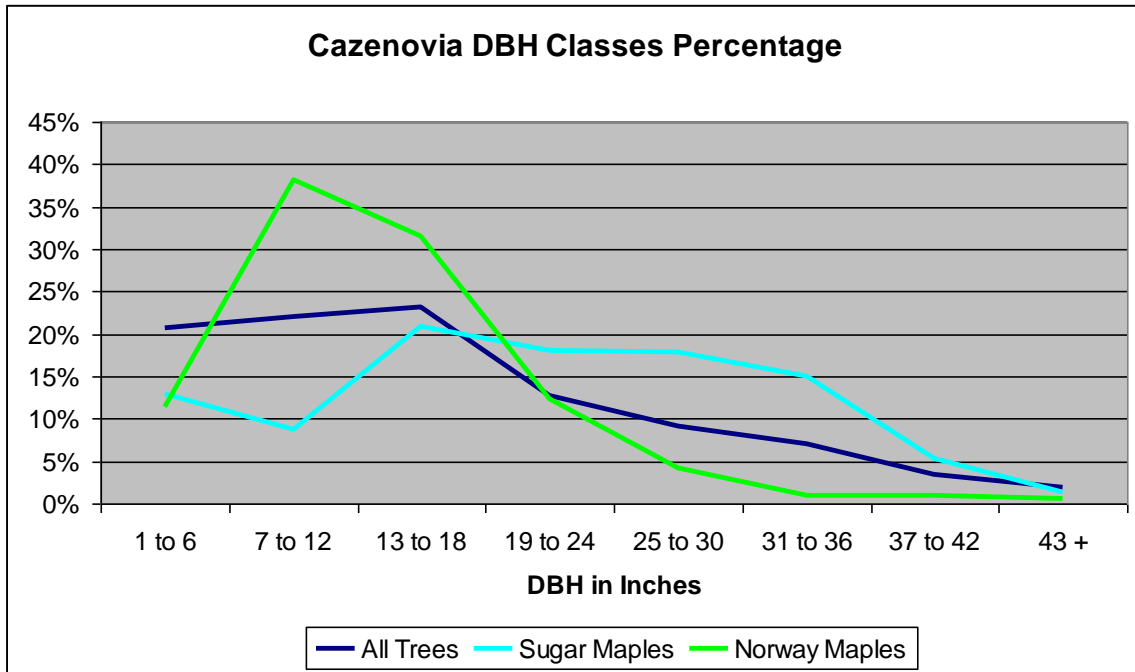
Tree diameter is not only a measure of tree age and size, but it is also a valuable indicator of the benefits provided by street trees. In general, the older and larger the tree, the more the benefits provided. At the same time, there must be a sufficient number of younger, smaller trees in the street tree population to account for the loss of trees over time and thereby maintain a sustainable urban forest. Accordingly, Richards (1983)<sup>1</sup> postulated an ideal distribution of street trees whereby 40% of trees would have a dbh less than 8 inches, 30% 8 to 16 inches, 20% 16 to 24 inches, and 10% greater than 24 inches.

The graph below plots the DBH distribution for all inventoried Cazenovia trees in relation to Richards’ ideal DBH distribution. It is evident from the graph that (1) Cazenovia currently lacks an adequate number of younger, smaller trees to account for the loss of trees over time, and (2) there is a disproportionate share of older, larger trees.



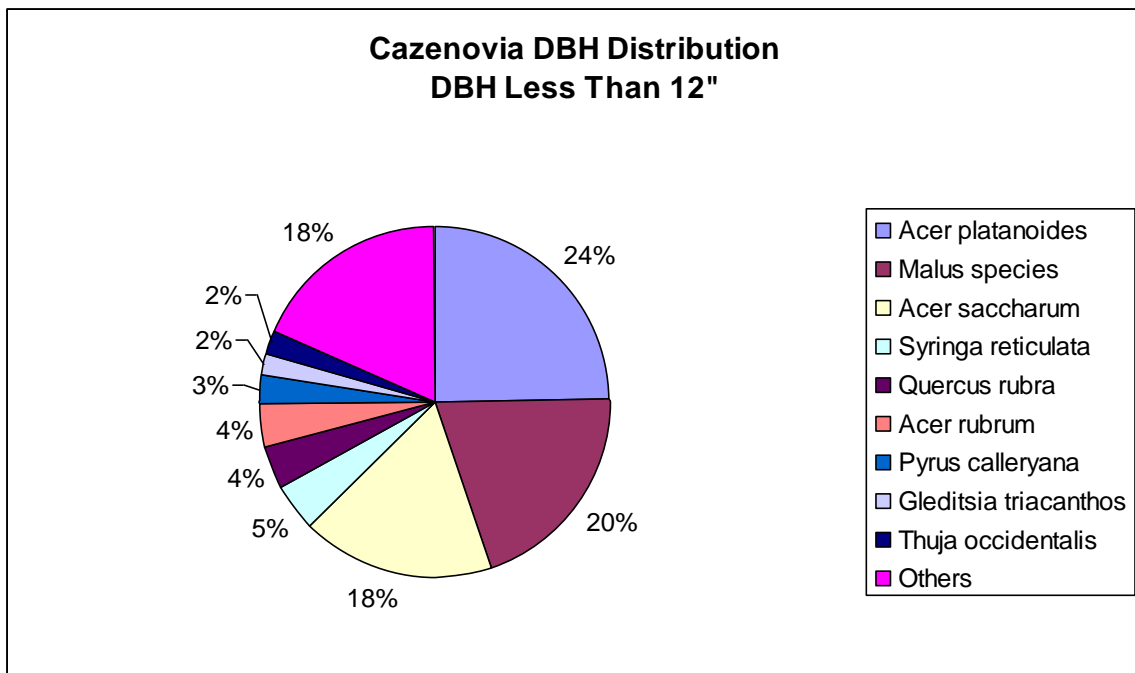
The graph below plots the DBH distribution for Sugar and Norway Maples, the two most prevalent tree species in the village inventory, against the DBH distribution for all inventoried trees.

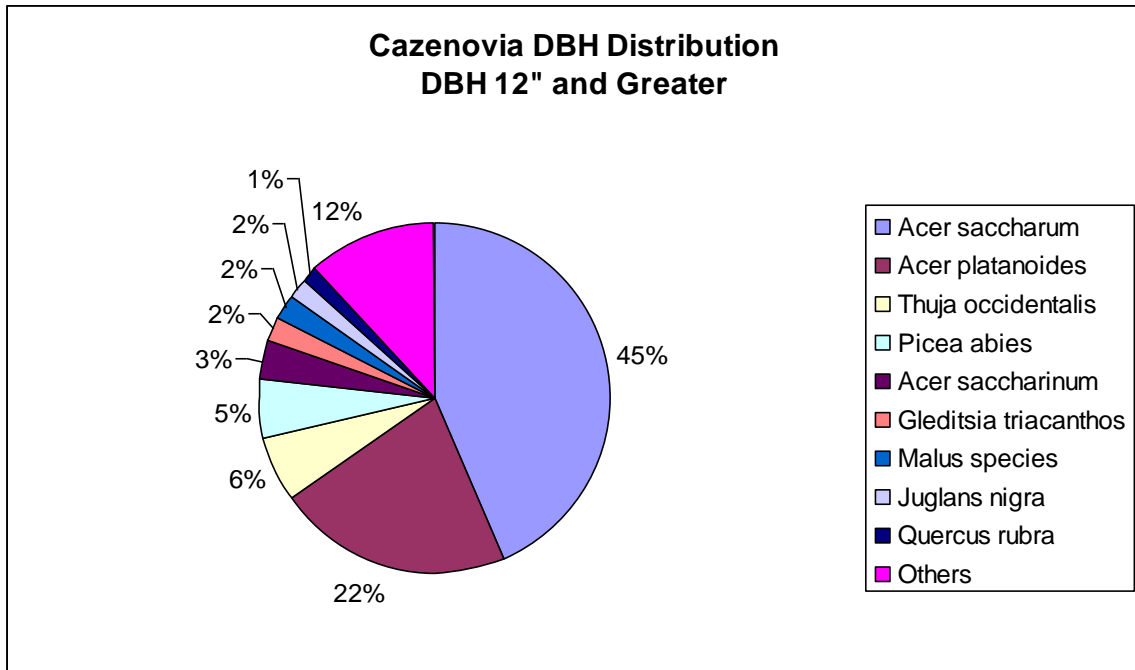
<sup>1</sup> Richards, N.A. (1983) Diversity and stability in a street tree population. *Urban Ecology*, 7:159-171.



It is evident based on this graph that (1) the Sugar Maple population is disproportionately old compared to the rest of the population and (2) Norway Maples once comprised a large proportion of new plantings, but their planting has since decreased.

This analysis is supported by the graphs below which depict the DBH distribution of inventoried trees by species for trees with a DBH less than 12 inches and trees with a DBH of 12 inches and greater.



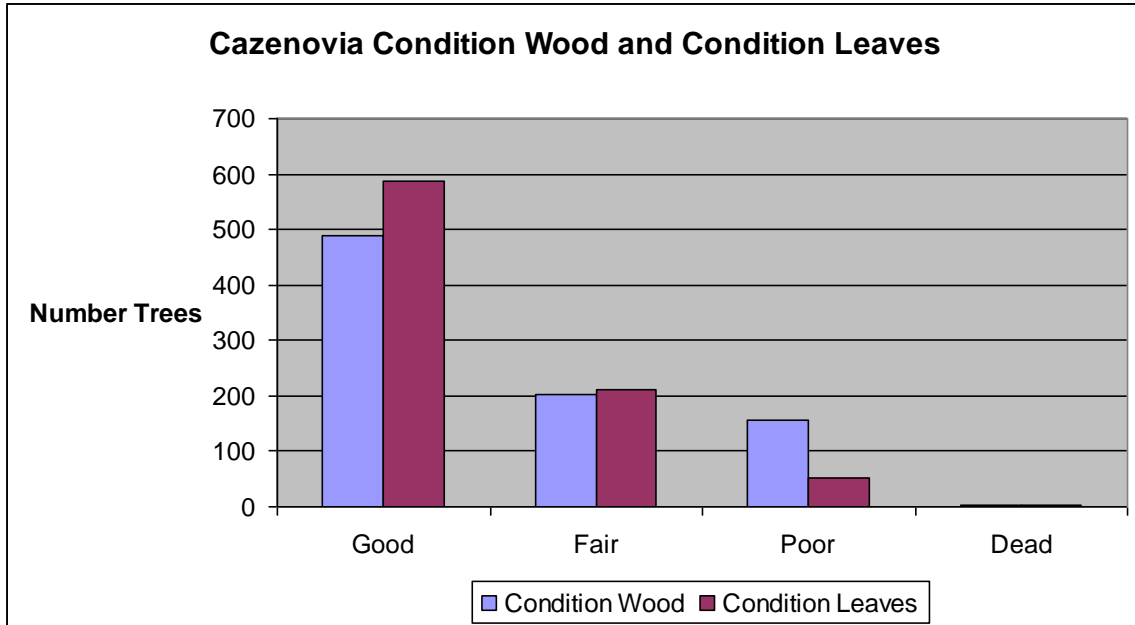


38.43% of inventoried trees have trunk diameters less than 12 inches while 61.57% have diameters greater than or equal to 12 inches.

Not surprisingly, since they are the most prevalent species among Cazenovia’s inventoried trees, Sugar and Norway Maples figure prominently in both DBH distributions. Norway Maples are more prevalent than Sugar Maples in the smaller DBH classes, while Sugar Maples are more prevalent than Norway Maples in the larger DBH classes.

Tree Condition and Maintenance

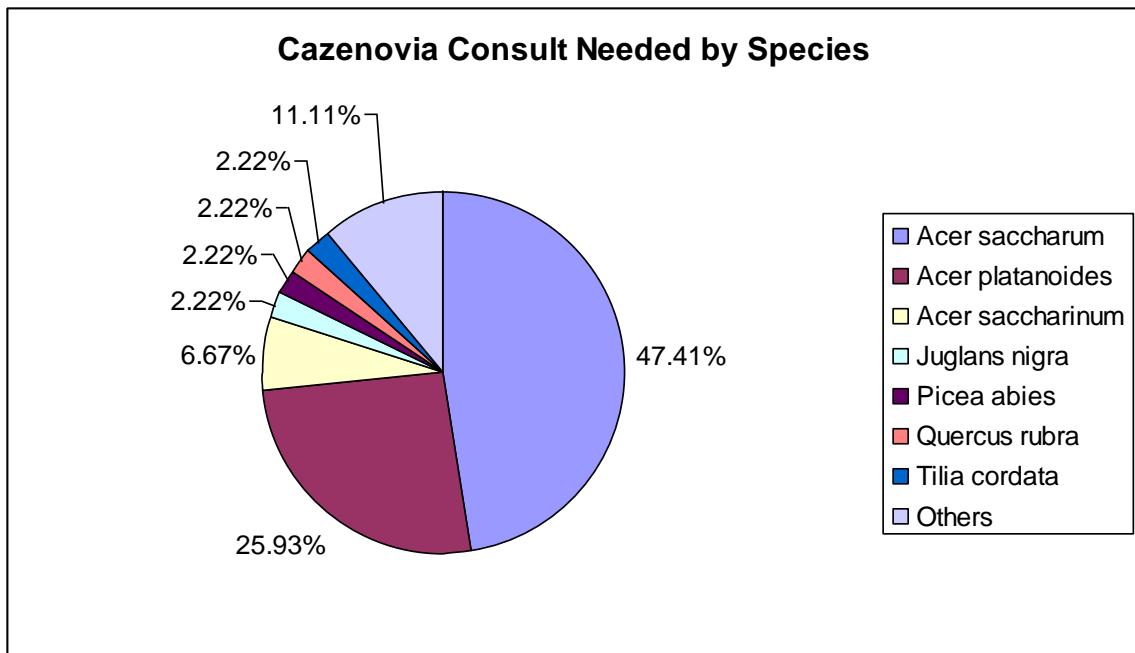
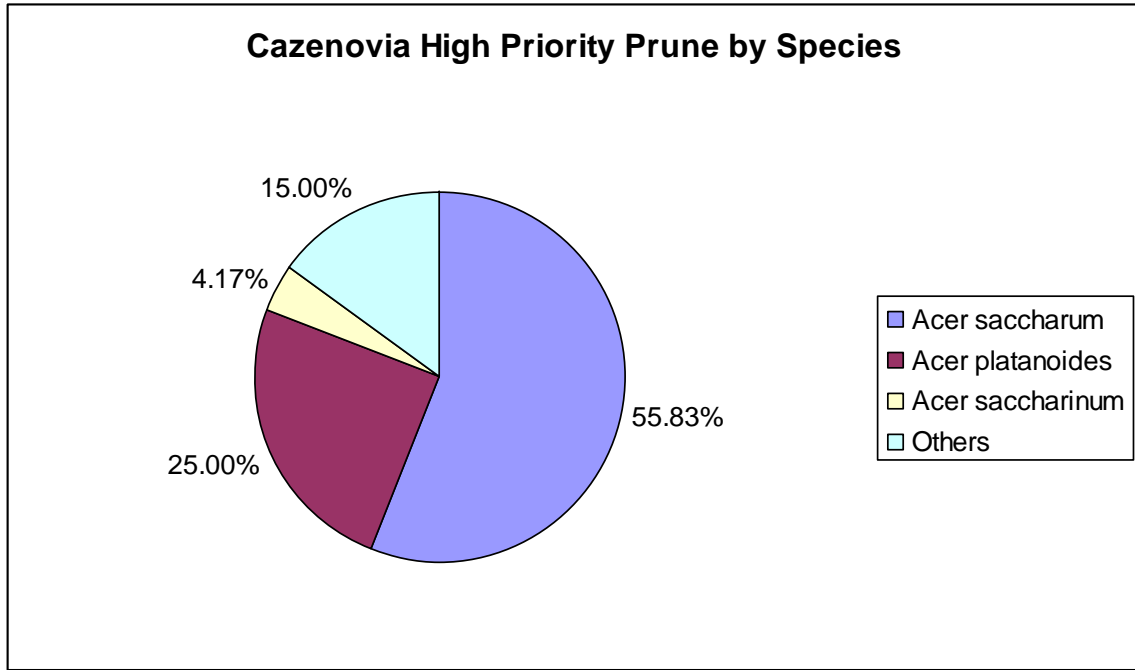
Most Cazenovia trees are in good condition and a large majority is in at least fair condition (see graph below).



In addition, a majority of inventoried Cazenovia trees (85.90%) is in need of a Routine Prune at most; 14.10% of inventoried trees require a High Priority Prune and 15.86% should be inspected by a licensed arborist (see table below).

Maintenance Recommendation	Number of Trees	
None	124	14.57%
Train	108	12.69%
Routine Prune	499	58.64%
High Priority Prune	120	14.10%
<b>Consult Needed</b>		
No	716	84.14%
Yes	135	15.86%

It is also clear, however, that the village’s aging Sugar Maple population accounts for a large percentage of maintenance needs and concerns. While Sugar Maples comprise 33.73% of Cazenovia’s inventoried trees, they also comprise 55.83% of High Priority Prunes and 47.41% of Consults Needed.



### STRATUM Analysis

STRATUM (Street Tree Resource Analysis Tool for Urban Forest Managers) is a computer-based street tree management and analysis tool developed by the USDA Forest Service for urban forest management. It uses street tree inventory data to (1) quantify the dollar value of annual urban forest benefits such as energy conservation, air quality improvement, CO<sub>2</sub> reduction, storm water control, and property value increase, and (2) evaluate the benefits, costs, and management needs of community trees.

Based on the data collected in the September 28, 2008 inventory, a STRATUM analysis was performed for the Village of Cazenovia. This analysis revealed the following:

The total estimated annual benefits for Cazenovia's inventoried trees amount to \$115,369, or \$135.57 per tree. Of this total, energy conservation is \$50,101, CO<sub>2</sub> reduction is \$1,271, air quality improvement is \$9,150, stormwater control is \$13,524, and property value increase is \$41,323. Not surprisingly, Sugar and Norway Maples, the two most heavily represented species in the inventory, contributed most of these benefits. Sugar Maples accounted for \$52,003 in annual benefits, or 45.1% of the total, and Norway Maples accounted for \$24,729 in annual benefits, or 21.4% of the total.

The replacement value of all inventoried trees is \$4,598,729. The replacement value of the village's Sugar Maples is \$1,718,830, or 37.38% of the total, and the replacement value of its Norway Maples is \$804,880, or 17.50% of the total.

STRATUM tables can be found in an appendix of this report.

## Management Recommendations

Data from the Cazenovia Street Tree Inventory revealed the following:

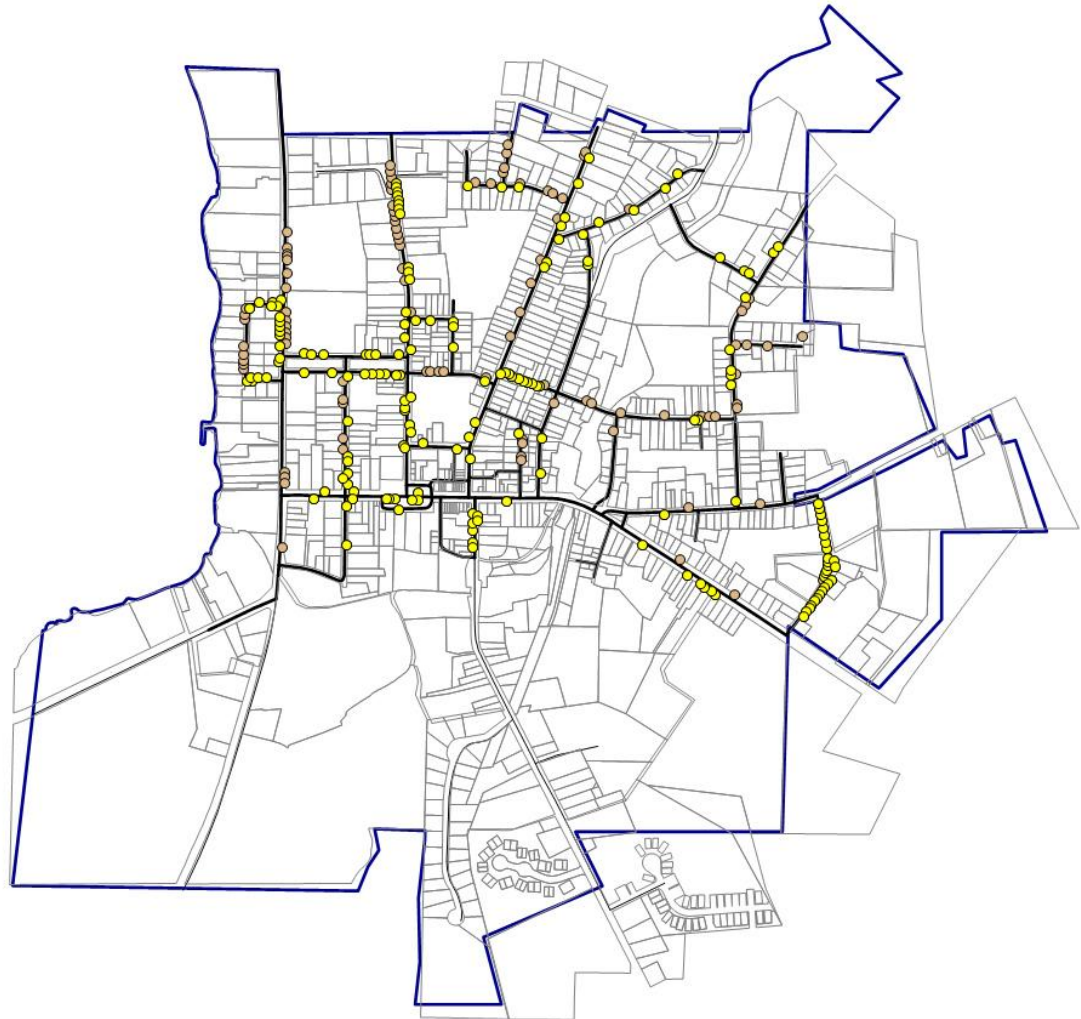
- Stocking level is above the national average with trees occupying 72.77% of available tree planting spaces.
- Trees are generally in good condition. 731 trees (85.90%) are in need of a Routine Prune at most while 120 trees (14.10%) were given a rating of High Priority Prune and 135 a rating of Consult Needed (15.86%), relatively low percentages. However, a disproportionately high proportion of trees rated High Priority Prune and Consult Needed consist of Sugar Maples.
- The population is insufficiently diverse with a disproportionate representation of Sugar and Norway Maples, and maple trees generally.
- The overall DBH distribution suggests that the overall population is aging and more trees need to be planted in order to sustain current stocking levels, much less increase them. Aging is especially evident in the DBH distribution of Sugar Maples.

Based on this data, this report makes the following recommendations:

- New plantings should primarily include species and genera other than Maples, and particularly Sugar and Norway Maples. As a general rule, no one tree species should comprise more than 10% of the street tree population nor should any genera exceed 20%. That way, if a species becomes susceptible to an insect or disease, a majority of the other trees will likely not be affected.
- While the village's current 72.77% stocking level exceeds the national average, the 272 planting sites identified in its right-of-way suggests ample opportunity for additional street tree plantings. Typically after an inventory, more resources are spent on the deferred maintenance of older trees than on planting new trees. New plantings, however, are required to maintain current stocking levels, and even a modest yearly planting program will begin the rejuvenation of community trees necessary if removed trees are to be replaced and more trees added.
- Decisions on where to plant new trees are based on a community's perceived greatest need. Many communities find that a cluster planting provides the greatest visibility and impact. A map of the 272 planting spaces identified in the inventory (see next page) indicates where in the village plantings might occur. It should be noted that 99 planting spaces (36.40%) are located beneath single or triple phase utility wires, while 173 (63.60%) are not. For example, while 26 planting spaces were identified on Forman Street, 17 of these spaces (65.38%) were subject to potential wire conflicts, and of the 39 planting spaces identified on Sullivan Street, 16 (42.03%) were subject to potential wire conflicts. A table indicating stocking



levels and planting spaces without wires for individual streets is included as an appendix.



**Cazenovia Planting Spaces – spaces without wire conflicts are in yellow**

- Ideally, new trees would be planted in all available planting sites. Budget limitations, however, coupled with the opposition of some property owners to a tree planted in the right-of-way make that goal difficult, if not impossible, to achieve. If maximizing street tree benefits is a priority, then larger growing tree species should be emphasized where possible versus smaller growing species. The table below details the relative benefits of a mature crabapple and a mature sugar maple, both in good condition.

Species	DBH	Energy	CO2	Air Quality	Storm Water	Aesthetic/Other	Total	Replacement Value
<i>Malus spp.</i>	15	\$44.61	\$0.90	\$7.64	\$8.27	\$20.48	\$81.90	\$4,976
<i>Acer saccharum</i>	36	\$120.73	\$3.58	\$22.68	\$50.21	\$110.58	\$307.78	\$17,580

- Where small trees are advisable, due primarily to the presence of overhead single or triple phase utility wires, trees selected for planting sites should mature at less than 30'. Appropriate species to consider would be various disease resistant Crabapples, Winter King Hawthorn, Amelanchier (Serviceberry), cold hardy strains of Redbud, Korean Sun, Mountain Frost or Prairie Gem Flowering Pear, Globe or Bessoniana Black Locust, Japanese Lilac, Wireless Zelkova, and Imperial Honeylocust among others. A list of both smaller and larger maturing trees appropriate for urban street tree plantings can be found in the "Recommended Urban Trees" booklet available from Cornell University's Urban Horticulture Institute (<http://www.hort.cornell.edu/uhi/outreach/recurbtrees/index.html>).

- The Emerald Ash Borer is an invasive beetle devastating Ash (*Fraxinus*) populations in the Midwest. While the EAB has not yet impacted New York State, it has been found in Pennsylvania and continues to spread. Accordingly, as a precautionary measure new plantings of Ash trees should be avoided at present. The Cazenovia Street Tree Inventory located 8 Ash trees or 0.94% of all trees inventoried.

- 120 trees (14.10%) were given a rating of High Priority Prune and 135 a rating of Consult Needed (15.86%). It must be stressed that neither one of these ratings constitutes a "hazard" designation. This inventory did not make hazard tree evaluations. These ratings do signify, however, that, in the case of the High Priority Prune, maintenance of the tree is highly recommended, and, in the case of the Consult Needed, the tree should be inspected by a competent arborist. Both tasks should be performed in a timely manner.

- Finally, a street tree inventory is a snapshot in time, a useful tool in maintaining a healthy urban forest and planning for a future sustainable one. Its usefulness depends greatly, however, on keeping the information current. Having made the commitment to conduct an inventory, the village should now strongly consider making the additional commitment to update inventory data as trees are pruned, removed, or planted.

## Appendix 1 – Cazenovia Species Distribution of Inventoried Trees

<b>Botanic Name</b>	<b>Number Trees</b>		<b>Botanic Name</b>	<b>Number Trees</b>	
Acer saccharum	287	33.73%	Carpinus betula	3	0.35%
Acer platanoides	194	22.80%	Fraxinus pennsylvanica	3	0.35%
Malus species	77	9.05%	Ginkgo biloba	3	0.35%
Thuja occidentalis	39	4.58%	Picea species	3	0.35%
Picea abies	34	4.00%	Platanus hybrida	3	0.35%
Quercus rubra	20	2.35%	Acer pseudoplatanus	2	0.24%
Acer saccharinum	19	2.23%	Cornus mas	2	0.24%
Gleditsia triacanthos	19	2.23%	Nyssa sylvatica	2	0.24%
Acer rubrum	18	2.12%	Rhamnus cathartica	2	0.24%
Syringa reticulata	17	2.00%	Sorbus aucuparia	2	0.24%
Juglans nigra	10	1.18%	Acer campestre	1	0.12%
Tilia cordata	10	1.18%	Acer ginnala	1	0.12%
Pyrus calleryana	9	1.06%	Acer griseum	1	0.12%
Robinia pseudoacacia	7	0.82%	Catalpa speciosa	1	0.12%
Carya ovata	6	0.71%	Cercidiphyllum japonicum	1	0.12%
Picea glauca	6	0.71%	Cornus florida	1	0.12%
Salix species	6	0.71%	Picea pungens 'glauca'	1	0.12%
Fraxinus americana	5	0.59%	Populus deltoides	1	0.12%
Pinus strobus	5	0.59%	Prunus serotina	1	0.12%
Pseudotsuga menziesii	5	0.59%	Prunus species	1	0.12%
Amelanchier species	4	0.47%	Prunus virginiana	1	0.12%
Crataegus crus-galli	4	0.47%	Quercus alba	1	0.12%
Quercus robur	4	0.47%	Tilia americana	1	0.12%
Acer negundo	3	0.35%	Ulmus parvifolia	1	0.12%
Aesculus hippocastanum	3	0.35%	Ulmus species	1	0.12%

## Appendix 2 -- Stocking Levels and Planting Spaces Without Wires by Street

On Street	Number of Existing Trees	Available Planting Spaces	Stocking Percentage	Planting Sites w/o Wires	Percentage of Available Spaces
ALBANY ST	85	7	92.39%	7	100.00%
BURR ST	17	8	68.00%	2	25.00%
BURTON ST	33	14	70.21%	8	57.14%
CARRIAGE LN	3	28	9.68%	27	96.43%
CENTER ST	13	5	72.22%	1	20.00%
CLARK ST	8	3	72.73%	3	100.00%
CORWIN ST	29	6	82.86%	5	83.33%
DEANE LN	8	0	100.00%	0	0.00%
EMORY AVE	13	7	65.00%	7	100.00%
EVERGREEN LN	6	4	60.00%	0	0.00%
FARNHAM ST	51	6	89.47%	5	83.33%
FENNER ST	42	3	93.33%	1	33.33%
FORMAN ST	89	26	77.39%	9	34.62%
GREEN ST	5	8	38.46%	8	100.00%
HICKORY LN	14	18	43.75%	10	55.56%
HOTEL LN	1	0	100.00%	0	0.00%
HURD ST	21	12	63.64%	7	58.33%
LEDYARD AVE	9	0	100.00%	0	0.00%
LIBERTY ST	14	3	82.35%	3	100.00%
LINCKLAEN DR	1	0	100.00%	0	0.00%
LINCKLAEN ST	96	17	84.96%	10	58.82%
LINCKLAEN TER	10	9	52.63%	3	33.33%
LYMAN ST	5	0	100.00%	0	0.00%
MEMORIAL PARK	13	5	72.22%	5	100.00%
MILL ST	8	7	53.33%	7	100.00%
MYRTLE ST	2	0	100.00%	0	0.00%
NAOMI LN	4	0	100.00%	0	0.00%
NELSON ST	11	8	57.89%	6	75.00%
NICKERSON ST	11	6	64.71%	1	16.67%
S TEN EYCK AVE	0	4	0.00%	0	0.00%
SEMINARY ST	11	2	84.62%	2	100.00%
SIMS LN	9	1	90.00%	0	0.00%
SULLIVAN ST	69	39	63.89%	23	58.97%
UNION ST	10	2	83.33%	2	100.00%
WILLIAM ST	5	12	29.41%	9	75.00%
WILLOW PL	14	2	87.50%	2	100.00%

# Complete Population of Public Trees

11/11/2008

Species	DBH Class (in)									Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	
<b>Broadleaf Deciduous Large (BDL)</b>										
Sugar maple	11	23	24	52	53	49	49	20	6	287
Norway maple	3	11	67	66	29	11	4	2	1	194
Northern red oak	2	7	4	2	0	0	0	1	4	20
Silver maple	0	1	0	1	1	3	5	3	5	19
Honeylocust	0	3	4	8	2	2	0	0	0	19
Black walnut	0	0	0	2	3	1	1	2	1	10
Black locust	0	0	2	1	1	0	1	1	1	7
Shagbark hickory	0	0	2	0	2	2	0	0	0	6
White ash	0	0	1	1	0	0	1	1	1	5
English oak	0	1	3	0	0	0	0	0	0	4
Horsechestnut	0	1	0	0	0	2	0	0	0	3
Green ash	0	2	0	1	0	0	0	0	0	3
Ginkgo	3	0	0	0	0	0	0	0	0	3
London planetree	0	2	1	0	0	0	0	0	0	3
Sycamore maple	0	0	2	0	0	0	0	0	0	2
Eastern cottonwood	0	0	0	0	0	0	0	1	0	1
Black cherry	0	0	0	0	1	0	0	0	0	1
White oak	0	0	0	0	0	0	1	0	0	1
American basswood	0	0	0	0	0	0	1	0	0	1
Chinese elm	0	0	0	0	0	0	0	1	0	1
Elm	0	1	0	0	0	0	0	0	0	1
<b>Total</b>	<b>19</b>	<b>52</b>	<b>110</b>	<b>134</b>	<b>92</b>	<b>70</b>	<b>63</b>	<b>32</b>	<b>19</b>	<b>591</b>
<b>Broadleaf Deciduous Medium (BDM)</b>										
Red maple	2	7	3	2	0	1	2	1	0	18
Littleleaf linden	0	3	0	1	4	1	1	0	0	10
Willow	0	0	1	2	2	0	0	0	1	6
Boxelder	0	0	0	1	1	0	1	0	0	3
European hornbeam	0	3	0	0	0	0	0	0	0	3
Black tupelo	1	1	0	0	0	0	0	0	0	2
Maple	0	1	0	0	0	0	0	0	0	1
Hedge maple	0	0	0	1	0	0	0	0	0	1
Northern catalpa	0	0	0	0	0	0	0	0	1	1
Katsura tree	1	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>4</b>	<b>15</b>	<b>4</b>	<b>7</b>	<b>7</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>46</b>
<b>Broadleaf Deciduous Small (BDS)</b>										
Apple	5	32	28	11	1	0	0	0	0	77
Japanese tree lilac	6	8	1	1	0	1	0	0	0	17
Callery pear	1	0	8	0	0	0	0	0	0	9
Serviceberry	2	1	0	0	1	0	0	0	0	4
Cockspur hawthorn	0	0	4	0	0	0	0	0	0	4
Cornelian cherry	2	0	0	0	0	0	0	0	0	2
European mountain ash	0	0	1	1	0	0	0	0	0	2
Amur maple	0	0	0	1	0	0	0	0	0	1
Flowering dogwood	0	1	0	0	0	0	0	0	0	1
Plum	1	0	0	0	0	0	0	0	0	1
Common chokecherry	0	0	0	1	0	0	0	0	0	1
BDS OTHER	0	0	1	1	0	0	0	0	0	2
<b>Total</b>	<b>17</b>	<b>42</b>	<b>43</b>	<b>16</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>121</b>
<b>Broadleaf Evergreen Large (BEL)</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Broadleaf Evergreen Medium (BEM)</b>										

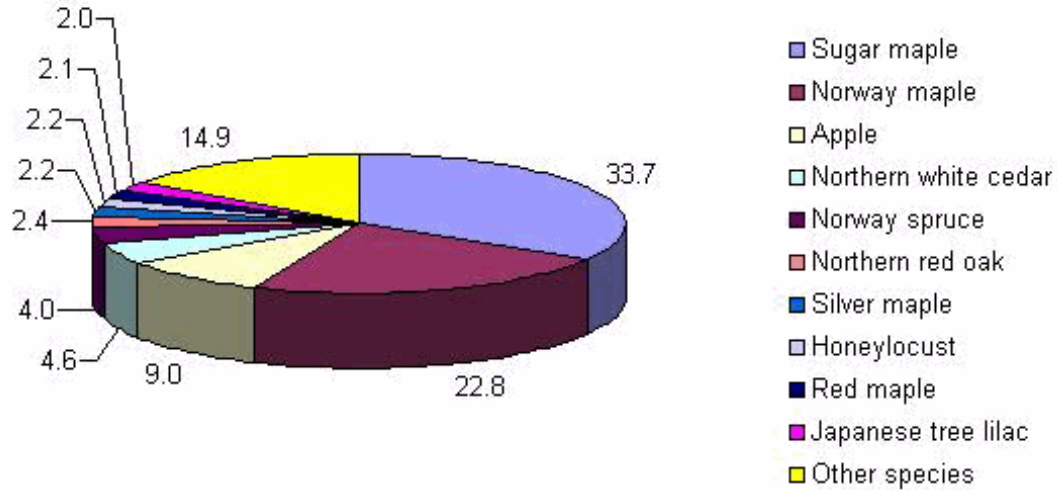
<b>Complete Population of Public Trees</b>
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11/11/2008

Species	DBH Class (in)									Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Broadleaf Evergreen Small (BES)</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Conifer Evergreen Large (CEL)</b>										
Norway spruce	0	1	5	10	8	8	1	0	1	34
White spruce	0	1	0	4	1	0	0	0	0	6
Eastern white pine	0	0	0	3	0	1	1	0	0	5
Douglas fir	0	0	5	0	0	0	0	0	0	5
Spruce	0	0	2	1	0	0	0	0	0	3
Blue spruce	0	0	0	1	0	0	0	0	0	1
<b>Total</b>	<b>0</b>	<b>2</b>	<b>12</b>	<b>19</b>	<b>9</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>54</b>
<b>Conifer Evergreen Medium (CEM)</b>										
Northern white cedar	0	1	6	23	7	2	0	0	0	39
<b>Total</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>23</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>39</b>
<b>Conifer Evergreen Small (CES)</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Palm Evergreen Large (PEL)</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Palm Evergreen Medium (PEM)</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Palm Evergreen Small (PES)</b>										
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Grand Total:</b>	<b>40</b>	<b>112</b>	<b>175</b>	<b>199</b>	<b>117</b>	<b>84</b>	<b>69</b>	<b>33</b>	<b>22</b>	<b>851</b>

# Species Distribution of Public Trees (%)

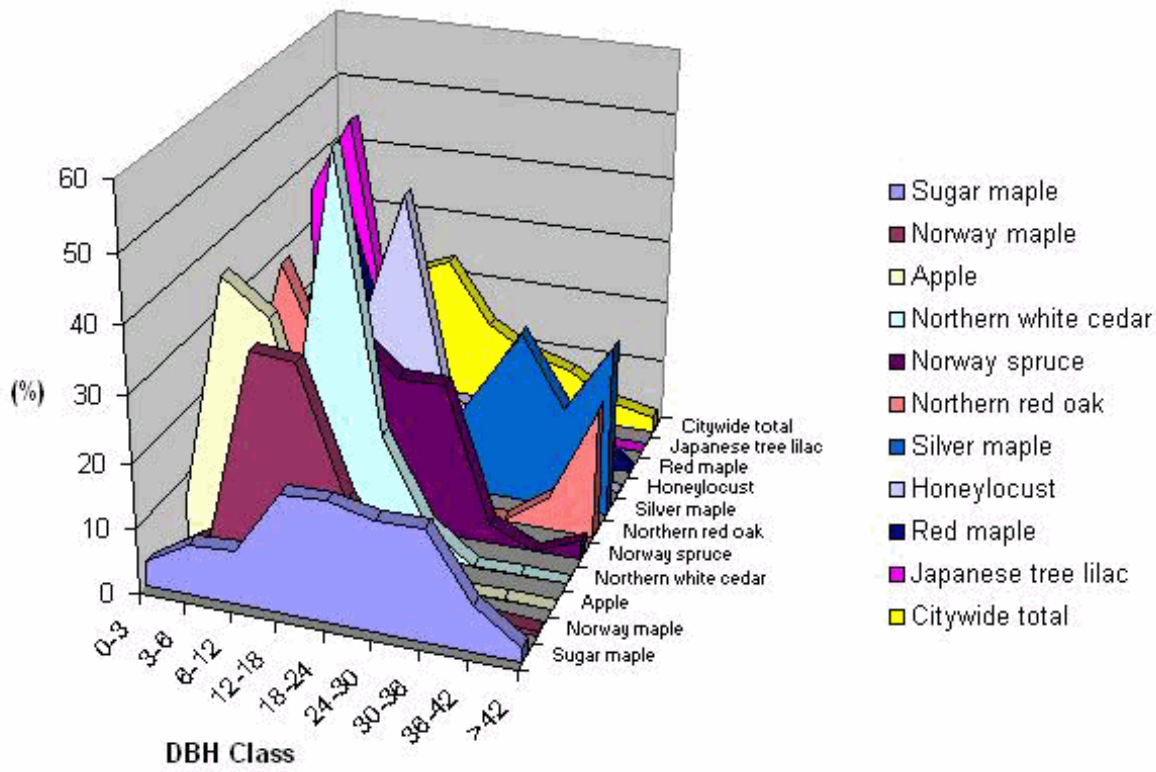
11/11/2008



Species	Percent
Sugar maple	33.7
Norway maple	22.8
Apple	9.0
Northern white cedar	4.6
Norway spruce	4.0
Northern red oak	2.4
Silver maple	2.2
Honeylocust	2.2
Red maple	2.1
Japanese tree lilac	2.0
Other species	14.9
<b>Total</b>	<b>100.0</b>

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

11/11/2008

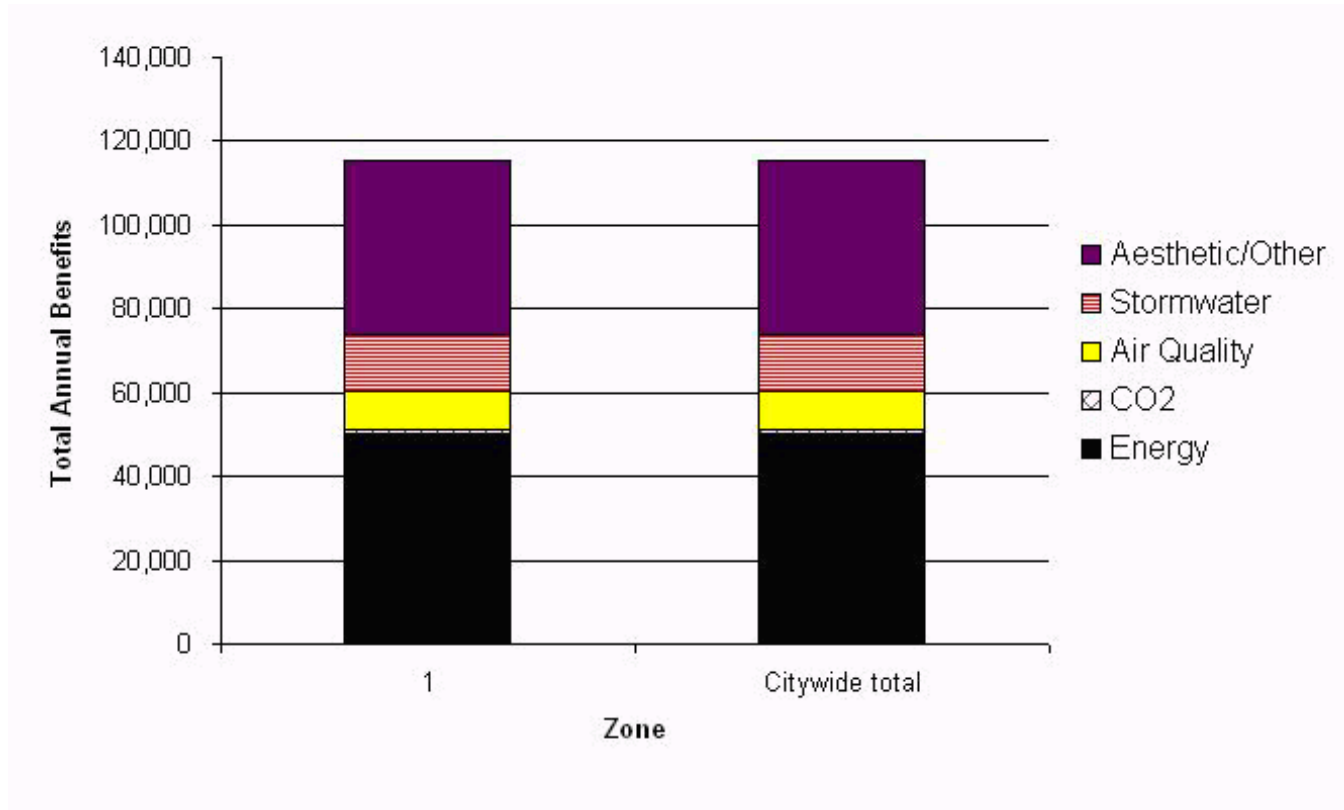


Species	DBH class (in)								
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42
Sugar maple	3.83	8.01	8.36	18.12	18.47	17.07	17.07	6.97	2.09
Norway maple	1.55	5.67	34.54	34.02	14.95	5.67	2.06	1.03	0.52
Apple	6.49	41.56	36.36	14.29	1.30	0.00	0.00	0.00	0.00
Northern white cedar	0.00	2.56	15.38	58.97	17.95	5.13	0.00	0.00	0.00
Norway spruce	0.00	2.94	14.71	29.41	23.53	23.53	2.94	0.00	2.94
Northern red oak	10.00	35.00	20.00	10.00	0.00	0.00	0.00	5.00	20.00
Silver maple	0.00	5.26	0.00	5.26	5.26	15.79	26.32	15.79	26.32
Honeylocust	0.00	15.79	21.05	42.11	10.53	10.53	0.00	0.00	0.00
Red maple	11.11	38.89	16.67	11.11	0.00	5.56	11.11	5.56	0.00
Japanese tree lilac	35.29	47.06	5.88	5.88	0.00	5.88	0.00	0.00	0.00
Citywide total	4.70	13.16	20.56	23.38	13.75	9.87	8.11	3.88	2.59



**Total Annual Benefits of Public Trees by Zone (\$)**

11/11/200



Zone	Energy	CO <sub>2</sub>	Air Quality	Stormwater	Aesthetic/Other	Total Standard (\$)	% of Total \$
1	50,101	1,271	9,150	13,524	41,323	115,369 (N/A)	100.0
Citywide total	50,101	1,271	9,150	13,524	41,323	115,369 (N/A)	100.0

<b>Total Annual Benefits of Public Trees by Species (\$)</b>
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11/11/200

Species	Energy	CO <sub>2</sub>	Air Quality	Stormwater	Aesthetic/Other	Total (\$)	Standard Error	% of Total \$
Sugar maple	21,683	563	3,814	6,723	19,221	52,003	(±0)	45.1
Norway maple	10,485	315	1,883	2,103	9,943	24,729	(±0)	21.4
Apple	1,704	31	276	266	1,166	3,443	(±0)	3.0
Northern white cedar	1,574	46	380	327	1,014	3,341	(±0)	2.9
Norway spruce	1,864	32	363	546	540	3,345	(±0)	2.9
Northern red oak	1,237	37	238	399	982	2,893	(±0)	2.5
Silver maple	2,163	49	442	755	841	4,251	(±0)	3.7
Honeylocust	1,432	28	253	300	1,181	3,194	(±0)	2.8
Red maple	765	15	139	205	760	1,884	(±0)	1.6
Japanese tree lilac	236	4	37	33	154	463	(±0)	0.4
Black walnut	1,102	21	227	346	707	2,403	(±0)	2.1
Littleleaf linden	537	9	91	112	248	996	(±0)	0.9
Callery pear	237	7	44	52	695	1,036	(±0)	0.9
Other street trees	5,080	115	964	1,358	3,870	11,388	(±0)	9.9
<b>Citywide Total</b>	<b>50,101</b>	<b>1,271</b>	<b>9,150</b>	<b>13,524</b>	<b>41,323</b>	<b>115,369</b>	<b>(±0)</b>	<b>100.0</b>

<b>Annual Aesthetic/Other Benefits of Public Trees by Species</b>
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11/11/2008

Species	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Sugar maple	19,221	(N/A)	33.7	46.5	66.97
Norway maple	9,943	(N/A)	22.8	24.1	51.25
Apple	1,166	(N/A)	9.1	2.8	15.15
Northern white cedar	1,015	(N/A)	4.6	2.5	26.01
Norway spruce	540	(N/A)	4.0	1.3	15.90
Northern red oak	982	(N/A)	2.4	2.4	49.08
Silver maple	841	(N/A)	2.2	2.0	44.27
Honeylocust	1,181	(N/A)	2.2	2.9	62.17
Red maple	760	(N/A)	2.1	1.8	42.22
Japanese tree lilac	154	(N/A)	2.0	0.4	9.06
Black walnut	707	(N/A)	1.2	1.7	70.69
Littleleaf linden	248	(N/A)	1.2	0.6	24.81
Callery pear	695	(N/A)	1.1	1.7	77.24
Other street trees	3,870	(N/A)	11.5	9.4	39.49
Citywide total	41,323	(N/A)	100.0	100.0	48.56

<b>Annual Air Quality Benefits of Public Trees by Species</b>
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11/11/2008

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 <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>							
Sugar maple	190.4	82.3	93.5	31.3	2,138	281.3	18.2	10.8	143.1	1,966	-125.5	-290	725.5	3,814 (N/A)	33.7	13.29
Norway maple	85.7	37.1	42.1	14.1	962	136.0	8.8	5.2	69.1	950	-12.8	-30	385.3	1,883 (N/A)	22.8	9.71
Apple	12.1	5.3	5.9	2.1	136	20.5	1.3	0.8	9.5	140	-0.1	0	57.4	276 (N/A)	9.0	3.58
Northern white cedar	17.8	8.5	11.3	4.8	232	21.7	1.4	0.8	11.9	155	-2.7	-6	75.6	380 (N/A)	4.6	9.75
Norway spruce	22.2	10.6	14.1	6.0	289	24.9	1.6	0.9	13.1	175	-43.9	-101	49.6	363 (N/A)	4.0	10.67
Northern red oak	13.4	5.8	6.7	2.2	151	16.9	1.1	0.6	9.1	120	-14.1	-33	41.7	238 (N/A)	2.4	11.91
Silver maple	22.9	9.9	11.2	3.8	257	29.1	1.9	1.1	15.4	205	-8.6	-20	86.6	442 (N/A)	2.2	23.27
Honeylocust	12.0	4.9	5.7	1.8	132	19.0	1.2	0.7	10.0	134	-5.5	-13	50.0	253 (N/A)	2.2	13.31
Red maple	6.5	2.8	3.2	1.1	73	9.9	0.6	0.4	5.1	70	-1.8	-4	27.9	139 (N/A)	2.1	7.72
Japanese tree lilac	1.5	0.7	0.8	0.3	17	2.8	0.2	0.1	1.3	19	0.0	0	7.6	37 (N/A)	2.0	2.15
Black walnut	11.1	4.7	5.3	1.7	123	14.8	1.0	0.6	7.9	105	0.0	0	47.0	227 (N/A)	1.2	22.74
Littleleaf linden	4.3	1.8	2.1	0.7	48	6.9	0.4	0.3	3.5	48	-2.2	-5	17.8	91 (N/A)	1.2	9.09
Callery pear	2.1	0.9	1.0	0.4	23	3.0	0.2	0.1	1.5	21	0.0	0	9.1	44 (N/A)	1.1	4.89
Other street trees	47.8	20.8	24.7	8.6	550	67.1	4.3	2.6	34.9	471	-24.8	-57	186.0	964 (N/A)	11.5	9.84
Citywide total	450.0	196.0	227.6	78.7	5,130	654.0	42.4	25.1	335.3	4,579	-242.0	-559	1,767.2	9,150 (N/A)	100.0	10.75

<b>Annual CO Benefits of Public Trees by Species</b>
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11/11/2008

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
Sugar maple	94,458	315	-19,494	-4,736	-81	98,206	328	168,435	563 (N/A)	33.7	44.3	1.96
Norway maple	58,697	196	-9,769	-2,138	-40	47,432	158	94,221	315 (N/A)	22.8	24.8	1.62
Apple	4,018	13	-882	-449	-4	6,485	22	9,172	31 (N/A)	9.1	2.4	0.40
Northern white cedar	8,248	28	-2,118	-460	-9	8,174	27	13,844	46 (N/A)	4.6	3.6	1.19
Norway spruce	1,682	6	-637	-504	-4	8,975	30	9,516	32 (N/A)	4.0	2.5	0.93
Northern red oak	6,363	21	-1,429	-243	-6	6,266	21	10,956	37 (N/A)	2.4	2.9	1.83
Silver maple	6,895	23	-2,370	-479	-10	10,599	35	14,646	49 (N/A)	2.2	3.9	2.57
Honeylocust	2,846	10	-1,051	-202	-4	6,838	23	8,431	28 (N/A)	2.2	2.2	1.48
Red maple	1,524	5	-412	-170	-2	3,479	12	4,420	15 (N/A)	2.1	1.2	0.82
Japanese tree lilac	676	2	-193	-69	-1	879	3	1,293	4 (N/A)	2.0	0.3	0.25
Black walnut	1,994	7	-980	-192	-4	5,421	18	6,243	21 (N/A)	1.2	1.6	2.09
Littleleaf linden	988	3	-664	-127	-3	2,407	8	2,604	9 (N/A)	1.2	0.7	0.87
Callery pear	1,270	4	-33	-10	0	1,007	3	2,233	7 (N/A)	1.1	0.6	0.83
Other street trees	15,612	52	-3,913	-1,098	-17	23,958	80	34,559	115 (N/A)	11.5	9.1	1.18
Citywide total	205,270	686	-43,946	-10,877	-183	230,126	769	380,573	1,271 (N/A)	100.0	100.0	1.49

## Cazenovia NY

### Annual Energy Benefits of Public Trees by Species

11/11/2008

Species	Total Electricity (MWh)	Electricity (\$)	Total Natural Gas (Therms)	Natural Gas (\$)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Sugar maple	32.6	4,568	12,155.8	17,115	21,683	(N/A)	33.7	43.3	75.55
Norway maple	15.7	2,206	5,880.1	8,279	10,485	(N/A)	22.8	20.9	54.05
Apple	2.2	302	996.1	1,402	1,704	(N/A)	9.1	3.4	22.13
Northern white cedar	2.7	380	847.8	1,194	1,574	(N/A)	4.6	3.1	40.36
Norway spruce	3.0	417	1,027.4	1,447	1,864	(N/A)	4.0	3.7	54.83
Northern red oak	2.1	291	671.5	946	1,237	(N/A)	2.4	2.5	61.85
Silver maple	3.5	493	1,186.4	1,670	2,163	(N/A)	2.2	4.3	113.87
Honeylocust	2.3	318	790.9	1,114	1,432	(N/A)	2.2	2.9	75.35
Red maple	1.2	162	428.6	603	765	(N/A)	2.1	1.5	42.51
Japanese tree lilac	0.3	41	138.3	195	236	(N/A)	2.0	0.5	13.86
Black walnut	1.8	252	603.7	850	1,102	(N/A)	1.2	2.2	110.21
Littleleaf linden	0.8	112	301.7	425	537	(N/A)	1.2	1.1	53.67
Callery pear	0.3	47	135.2	190	237	(N/A)	1.1	0.5	26.36
Other street trees	8.0	1,114	2,816.8	3,966	5,080	(N/A)	11.5	10.1	51.84
Citywide total	76.4	10,704	27,980.4	39,396	50,101	(N/A)	100.0	100.0	58.87

**Stored CO2 Benefits of Public Trees by Species**

11/11/2008

Species	Total Stored CO2 (lbs)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Sugar maple	3,413,948	11,403	(N/A)	33.7	56.6	39.73
Norway maple	908,466	3,034	(N/A)	22.8	15.1	15.64
Apple	71,331	238	(N/A)	9.1	1.2	3.09
Northern white cedar	94,548	316	(N/A)	4.6	1.6	8.10
Norway spruce	77,380	258	(N/A)	4.0	1.3	7.60
Northern red oak	264,098	882	(N/A)	2.4	4.4	44.10
Silver maple	504,773	1,686	(N/A)	2.2	8.4	88.73
Honeylocust	66,437	222	(N/A)	2.2	1.1	11.68
Red maple	57,629	192	(N/A)	2.1	1.0	10.69
Japanese tree lilac	16,456	55	(N/A)	2.0	0.3	3.23
Black walnut	97,702	326	(N/A)	1.2	1.6	32.63
Littleleaf linden	39,317	131	(N/A)	1.2	0.7	13.13
Callery pear	7,277	24	(N/A)	1.1	0.1	2.70
Other street trees	189,563	1,396	(N/A)	11.5	6.9	14.24
Citywide total	6,037,275	20,165	(N/A)	100.0	100.0	23.70

## Annual Stormwater Benefits of Public Trees by Species

11/11/2008

Species	Total rainfall interception (Gal)	Total (\$)	Standard Error	% of Total Trees	% of Total \$	Avg. \$/tree
Sugar maple	840,302	6,723	(N/A)	33.7	49.7	23.42
Norway maple	262,820	2,103	(N/A)	22.8	15.6	10.84
Apple	33,196	266	(N/A)	9.1	2.0	3.45
Northern white cedar	40,821	327	(N/A)	4.6	2.4	8.37
Norway spruce	68,213	546	(N/A)	4.0	4.0	16.05
Northern red oak	49,931	399	(N/A)	2.4	3.0	19.97
Silver maple	94,387	755	(N/A)	2.2	5.6	39.74
Honeylocust	37,509	300	(N/A)	2.2	2.2	15.79
Red maple	25,641	205	(N/A)	2.1	1.5	11.40
Japanese tree lilac	4,093	33	(N/A)	2.0	0.2	1.93
Black walnut	43,258	346	(N/A)	1.2	2.6	34.61
Littleleaf linden	13,947	112	(N/A)	1.2	0.8	11.16
Callery pear	6,495	52	(N/A)	1.1	0.4	5.77
Other street trees	169,753	1,358	(N/A)	11.5	10.0	13.86
Citywide total	1,690,366	13,524	(N/A)	100.0	100.0	15.89



**Replacement Value for Public Trees by Zone**

11/11/2008

Zone	DBH Class (in)									Total	Standard Error	% of Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42			
1	6,727	55,617.81	259,360.10	742,122.17	761,335.08	850,576.41	876,432.37	561,819.56	484,738.71	4,598,728.90	(±0)	100.00
Citywide total	6,727	55,617.81	259,360.10	742,122.17	761,335.08	850,576.41	876,432.37	561,819.56	484,738.71	4,598,728.90	(±0)	100.00

# Replacement Value for Public Trees by Species

11/11/2008

Species	DBH Class (in)									Total	Standard Error	% of Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42			
Sugar maple	2,286	9,663.71	26,455.50	136,989.66	265,252.03	384,180.50	533,541.06	265,768.44	94,693.58	1,718,830.13	(±0)	37.38
Norway maple	464	5,603.80	103,203.80	235,303.70	191,324.14	126,542.55	68,433.81	44,715.18	29,289.72	804,880.63	(±0)	17.50
Apple	799	16,421.63	42,569.86	44,611.82	4,195.11	0.00	0.00	0.00	0.00	108,596.98	(±0)	2.36
Northern white cedar	0	592.79	9,569.32	104,016.49	70,331.57	36,143.35	0.00	0.00	0.00	220,653.52	(±0)	4.80
Norway spruce	0	69.74	9,274.12	56,422.46	87,753.14	139,258.19	26,949.83	0.00	38,947.84	358,675.34	(±0)	7.80
Northern red oak	215	4,440.32	7,157.34	11,896.77	0.00	0.00	0.00	43,477.01	165,832.13	233,018.11	(±0)	5.07
Silver maple	0	320.52	0.00	2,978.80	5,642.25	27,580.54	55,479.00	52,740.04	69,287.98	214,029.13	(±0)	4.65
Honeylocust	0	1,674.34	7,476.11	39,811.08	19,274.84	31,704.27	0.00	0.00	0.00	99,940.63	(±0)	2.17
Red maple	218	3,499.08	5,632.68	9,053.99	0.00	8,832.65	43,155.17	39,160.84	0.00	109,552.90	(±0)	2.38
Japanese tree lilac	1,087	4,033.50	1,647.07	4,310.52	0.00	13,632.59	0.00	0.00	0.00	24,710.67	(±0)	0.54
Black walnut	0	0.00	0.00	8,621.05	20,226.81	13,632.59	19,825.16	44,715.18	29,289.72	136,310.52	(±0)	2.96
Littleleaf linden	0	1,094.92	0.00	5,642.25	34,456.02	12,756.48	11,460.61	0.00	0.00	65,410.27	(±0)	1.42
Callery pear	232	0.00	9,271.46	0.00	0.00	0.00	0.00	0.00	0.00	9,503.57	(±0)	0.21
Black locust	0	0.00	3,294.15	4,310.52	8,305.70	0.00	19,825.16	18,502.83	20,675.10	74,913.45	(±0)	1.63
Shagbark hickory	0	0.00	3,294.15	0.00	16,611.39	27,265.19	0.00	0.00	0.00	47,170.73	(±0)	1.03
White spruce	0	592.79	0.00	22,568.99	10,969.14	0.00	0.00	0.00	0.00	34,130.93	(±0)	0.74
Willow	0	0.00	523.73	5,957.60	11,284.49	0.00	0.00	0.00	8,545.52	26,311.34	(±0)	0.57
White ash	0	0.00	1,203.17	2,978.80	0.00	0.00	13,321.89	17,580.01	19,631.60	54,715.46	(±0)	1.19
Eastern white pine	0	0.00	0.00	14,929.15	0.00	15,852.13	23,620.52	0.00	0.00	54,401.81	(±0)	1.18
Douglas fir	0	0.00	7,305.26	0.00	0.00	0.00	0.00	0.00	0.00	7,305.26	(±0)	0.16
Serviceberry	298	592.79	0.00	0.00	7,742.93	0.00	0.00	0.00	0.00	8,633.49	(±0)	0.19
Cockspur hawthorn	0	0.00	4,689.32	0.00	0.00	0.00	0.00	0.00	0.00	4,689.32	(±0)	0.10
English oak	0	592.79	6,272.95	0.00	0.00	0.00	0.00	0.00	0.00	6,865.74	(±0)	0.15
Boxelder	0	0.00	0.00	2,102.68	3,982.76	0.00	9,403.69	0.00	0.00	15,489.13	(±0)	0.34
Horsechestnut	0	320.52	0.00	0.00	0.00	13,195.39	0.00	0.00	0.00	13,515.91	(±0)	0.29
European hornbeam	0	1,778.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,778.38	(±0)	0.04
Green ash	0	1,046.86	0.00	4,310.52	0.00	0.00	0.00	0.00	0.00	5,357.39	(±0)	0.12
Ginkgo	384	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	384.23	(±0)	0.01
Spruce	0	0.00	3,566.97	5,642.25	0.00	0.00	0.00	0.00	0.00	9,209.22	(±0)	0.20
London planetree	0	1,185.59	2,090.98	0.00	0.00	0.00	0.00	0.00	0.00	3,276.57	(±0)	0.07
Sycamore maple	0	0.00	2,809.71	0.00	0.00	0.00	0.00	0.00	0.00	2,809.71	(±0)	0.06
BDS OTHER	0	0.00	1,203.17	2,978.80	0.00	0.00	0.00	0.00	0.00	4,181.96	(±0)	0.09
Cornelian cherry	256	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	256.15	(±0)	0.01
Black tupelo	149	592.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	741.68	(±0)	0.02
European mountain ash	0	0.00	849.29	1,296.65	0.00	0.00	0.00	0.00	0.00	2,145.95	(±0)	0.05
Maple	0	523.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	523.43	(±0)	0.01

Species	DBH Class (in)									Total Standard Error	% of Total	
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42			
Hedge maple	0	0.00	0.00	5,642.25	0.00	0.00	0.00	0.00	0.00	0.00	5,642.25 (±0)	0.12
Amur maple	0	0.00	0.00	2,456.04	0.00	0.00	0.00	0.00	0.00	0.00	2,456.04 (±0)	0.05
Northern catalpa	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8,545.52	0.00	8,545.52 (±0)	0.19
Katsura tree	107	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	107.27 (±0)	0.00
Flowering dogwood	0	454.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	454.07 (±0)	0.01
Blue spruce	0	0.00	0.00	4,310.52	0.00	0.00	0.00	0.00	0.00	0.00	4,310.52 (±0)	0.09
Eastern cottonwood	0	0.00	0.00	0.00	0.00	0.00	0.00	8,947.68	0.00	0.00	8,947.68 (±0)	0.19
Plum	232	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	232.12 (±0)	0.01
Black cherry	0	0.00	0.00	0.00	3,982.76	0.00	0.00	0.00	0.00	0.00	3,982.76 (±0)	0.09
Common chokecherry	0	0.00	0.00	2,978.80	0.00	0.00	0.00	0.00	0.00	0.00	2,978.80 (±0)	0.06
White oak	0	0.00	0.00	0.00	0.00	0.00	32,831.70	0.00	0.00	0.00	32,831.70 (±0)	0.71
American basswood	0	0.00	0.00	0.00	0.00	0.00	18,584.77	0.00	0.00	0.00	18,584.77 (±0)	0.40
Chinese elm	0	0.00	0.00	0.00	0.00	0.00	0.00	26,212.35	0.00	0.00	26,212.35 (±0)	0.57
Elm	0	523.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	523.43 (±0)	0.01
Citywide total	6,727	55,617.81	259,360.10	742,122.17	761,335.08	850,576.41	876,432.37	561,819.56	484,738.71	4,598,728.90 (±0)	100.00	