

# City of Lafayette Inventory Summary Report

Lafayette, Indiana is a thriving city located in northwest Indiana. The City of Lafayette has created an attractive community and a great place to live, work, and play. The health of Lafayette, as with many communities, is closely related to the ability of the municipal government to supply its citizens with efficient services, safe public spaces, and properly maintained infrastructure. Trees are an integral component of the city's infrastructure and urban environment.

When properly maintained, trees return overall environmental and economic benefits to a community far in excess of the time and money invested in them for planting, pruning, protection, and removal. Environmentally, trees provide shade and act as windbreaks, helping to decrease residential energy consumption. They are mini-reservoirs, helping to slow and reduce the amount of stormwater runoff that reaches storm drains, rivers, and lakes. They help reduce noise levels, cleanse atmospheric pollutants, produce oxygen, and absorb carbon dioxide. Trees stabilize soil and provide habitat for wildlife. Trees also provide significant economic benefits and values, including increased property values as reflected in real estate sales, and more attractive settings in which to locate commercial businesses. A tree's shade and beauty contributes to the community's quality of life as well as softens the often hard appearance of urban landscapes and streetscapes.

Lafayette's City Forester has continued to play an instrumental role in advocating the benefits of a complete public tree inventory to better manage the city's tree population. The purpose of the inventory is to identify and locate publically managed trees and assess their current condition, size, and maintenance needs. Davey Resource Group performed the inventory using GIS-based collection methods. The data gathered about trees were cataloged into Davey's TreeKeeper® 7.7 tree management software. The City utilizes this software to keep inventory data accurate as existing trees are managed and new trees planted. Ultimately, a complete public tree inventory will establish a means of which the City of Lafayette can efficiently and effectively plan, budget, and proactively manage their green infrastructure.



***Trees provide abundant environmental and economic benefits and soften the hard appearance of urban landscapes.***

## City of Lafayette, Indiana Summary Report (Continued)

### Phase Three of Public Tree Inventory

Davey Resource Group completed Phase Three of Lafayette's public tree inventory in June, 2012 and recorded 5,367 trees, stumps, and planting sites. Tree data collected included information on species composition, relative size, health, and maintenance needs of public trees. The numbers in Phase Three reflect trees inventoried in the neighborhoods Hanna, Highland Park, Jesco Hills, and Murdock and much of the city south of Kossuth Street. Categorized into eight groupings, the inventoried streets south of Kossuth were described by South 1 to South 8.

The major findings for Phase Three included:

- 🌳 There were 2,323 (43%) trees, 139 (3%) stumps, and 2,905 (54%) vacant planting spaces.
- 🌳 Of the 2,905 vacant planting sites, 943 (32%) were identified for large-growing trees, 554 (19%) were identified for medium-growing trees, and 1,408 (49%) were identified for small-growing trees.
- 🌳 Of the 2,323 trees, the genus *Acer* (maple) comprised 37% of the tree population, followed by *Fraxinus* (ash) 9%, *Pyrus* (pear) 6%, *Ulmus* (*elm*) 5%, and *Liquidambar* (sweetgum) 4%.
- 🌳 There were 198 ash trees inventoried. Of these, 9 trees were positively identified as being infested with *Agrilus planipennis* Fairmaire (emerald ash borer). Although 9 trees were positively identified by signs of the beetle's presence, there were also 84 trees that need further inspection because they were beginning to show symptoms of possible infestation. Further inspection of ash with symptoms of emerald ash borer simply means these trees should be monitored for positive signs of infestation.
- 🌳 There were 15 trees (1%) in Very Good condition, 540 trees (23%) in Good condition, 1,236 trees (53%) in Fair condition, 459 trees (20%) in Poor condition, and 57 trees (2%) in Critical condition. There were 16 Dead trees (1%).
- 🌳 Maintenance recommendations indicate that 215 trees (9%) needed removed, 1,444 large- and medium-growing trees (62%) needed cleaned, 322 small-growing trees (14%) need cleaned, and 342 young trees (15%) needed trained. Generally, young trees are less than 6 inches in diameter or 25 foot in height.
- 🌳 Of the 2,323 inventoried trees, 821 (35%) trees have a Low level of risk (Risk Rating of 3 or 4), 1,284 (55%) have a Moderate level of risk (Risk Rating of 5 or 6), 207 (9%) have a High level of risk (Risk Rating of 7 or 8), and 11 (1%) have a Severe level of risk (Risk Rating of 9 or 10).

### Current Public Tree Inventory

Combining information from Lafayette's Phase One, Phase Two, and Phase Three inventories, the following provides a summary of Lafayette's inventoried public tree population:

- 🌳 Lafayette's potential tree population totals 15,523 sites. There were 8,632 trees, 593 stumps, and 6,298 vacant planting spaces. The stocking level along city-managed streets was 56%. Stocking level is the percentage of potential sites filled with trees.
- 🌳 There were 3,331 small, 1,008 medium, and 1,951 large vacant sites available for planting.
- 🌳 There were 135 species representing 59 genera. The top 5 inventoried genus were *Acer* (maple) 35%, *Fraxinus* (ash) 11%, *Pyrus* (pear) 6%, *Malus* (apple) 5%, and *Tilia* (*linden*) 5%. The species silver maple comprised most of population (13%).

## City of Lafayette, Indiana Summary Report (Continued)

- ✿ The majority (62%) of the inventoried tree population was in Fair condition. Inventoried trees in Very Good condition composed 2% of the population, trees in Good condition composed 15%, trees in Poor condition composed 18%, and trees in Critical condition composed 2% of the population. There were 39 Dead trees (less than 1%).
- ✿ Small-sized trees (6-inch and less in diameter at breast height [DBH]) represent 27% of the inventoried tree population, medium-sized trees, (7- to 24-inch DBH) represent a dominant 59%, and large-sized trees (25-inch and greater DBH) represent 14% of the inventoried tree population.
- ✿ Maintenance recommendations indicate that of the tree population, 72% are mature trees and needed corrective or structural pruning, 18% were young trees and needed training pruning, and 10% needed removal.
- ✿ Risk Ratings indicate that the majority (85%) of the population was Moderate to Low. High Risk trees composed 14% of the population and Severe Risk trees composed 1% of the population.

### Lafayette's i-Tree Streets Analysis

Trees provide abundant environmental and economic benefits. In order to identify how much benefit is provided and returned to the community, a benefit-cost analysis of Lafayette's inventoried tree population was performed. The entire tree inventory, including information from Phases 1, 2, and 3, were formatted for use in the i-Tree Streets (Version 4.1.7) benefit-cost assessment tool. i-Tree Streets is a free software application released by the United States Forest Service and is used to analyze the inventoried tree population's structure and its environmental and economic functional benefits and monetary values. Quantified benefits include energy conservation, air quality improvement, stormwater interception, carbon dioxide (CO<sub>2</sub>) removal, and property value increases. Using i-Tree Streets, these benefits were quantified to determine the environmental and economic value of Lafayette's inventoried trees to date. With this tool, the City has accurately quantified the benefits of their inventoried resource.

Lafayette's inventoried tree population, approximately three-fourths the estimated population, provides the community the following annual benefits:

- ✿ Intercept of 12.5 million gallons of stormwater valued at \$337,952 per year, for an average benefit of \$39.15 per tree.
- ✿ Reduced energy and natural gas use from shading and climate effects equal to 1,359 megawatt-hours and 184,601 therms, respectively, valued at \$284,049 per year, for an average of \$32.91 per tree.
- ✿ Net air quality improvement from the removal and avoidance of 8.3 tons of air pollutants valued at \$46,884 per year, for an average of \$5.43 per tree.



***Trees in Lafayette mitigate stormwater, conserve energy, improve air quality, sequester carbon dioxide, and increase property values. When properly maintained, trees return overall environmental and economic benefits and values to a community far in excess of the time and money invested in them for planting, pruning, protection, and removal.***

## ***City of Lafayette, Indiana Summary Report (Continued)***

- ✿ Reduction of atmospheric CO<sub>2</sub> by a net of 2,625 tons per year valued at \$39,379, for an average of \$4.56 per tree.
- ✿ Increased property values, aesthetics, and other less tangible improvements valued at \$325,742 per year, for an average of \$37.74 per tree.
- ✿ The total annual benefit received from the City's inventoried public trees was \$1,034,006, for an average of \$119.79 per tree.

The inventory and i-Tree Streets analysis has provided the City of Lafayette comprehensive information about the public tree resource. Attachments further illustrate Phase Three's species distribution, tree condition, maintenance needs, risk rating, and i-Tree's assessment of the entire population's species distribution, general size, and gross annual benefits. With completing the third phase of Lafayette's public tree inventory, the City of Lafayette has shown a strong commitment to building a more efficient, effective, and successful urban forestry program.

## ***Frequency Reports***

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**Lafayette, IN**  
Quantity Report: Genus

<i>Genus</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Acer	861	37.06%
Fraxinus	198	8.52%
Pyrus	146	6.28%
Ulmus	106	4.56%
Liquidambar	96	4.13%
Malus	90	3.87%
Cercis	89	3.83%
Picea	86	3.70%
Quercus	74	3.19%
Liriodendron	58	2.50%
Thuja	45	1.94%
Tilia	44	1.89%
Gleditsia	42	1.81%
Prunus	40	1.72%
Celtis	30	1.29%
Pinus	29	1.25%
Platanus	27	1.16%
Crataegus	25	1.08%
Betula	25	1.08%
Juglans	24	1.03%
Magnolia	19	0.82%
Juniperus	19	0.82%
Morus	16	0.69%
Cornus	16	0.69%
Amelanchier	16	0.69%
Ginkgo	15	0.65%
Syringa	13	0.56%
Robinia	12	0.52%
Populus	9	0.39%
Ailanthus	7	0.30%
Catalpa	6	0.26%
Carpinus	6	0.26%
Tsuga	5	0.22%
Fagus	4	0.17%
Cotinus	4	0.17%

<i>Genus</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Salix	3	0.13%
Sassafras	2	0.09%
Ostrya	2	0.09%
Nyssa	2	0.09%
Aesculus	2	0.09%
unknown	1	0.04%
Taxodium	1	0.04%
Sorbus	1	0.04%
Ilex	1	0.04%
Heptacodium	1	0.04%
Diospyros	1	0.04%
Cladrastis	1	0.04%
Carya	1	0.04%
Albizia	1	0.04%
Abies	1	0.04%
<b>Grand Total</b>	2323	100%



**Lafayette, IN**  
**Quantity Report: Common**

<i>Common</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
maple, silver ( <i>Acer saccharinum</i> )	462	19.89%
maple, sugar ( <i>Acer saccharum</i> )	172	7.40%
pear, Callery ( <i>Pyrus calleryana</i> )	143	6.16%
ash, green ( <i>Fraxinus pennsylvanica</i> )	137	5.90%
maple, red ( <i>Acer rubrum</i> )	118	5.08%
sweetgum, American ( <i>Liquidambar styraciflua</i> )	96	4.13%
redbud, eastern ( <i>Cercis canadensis</i> )	89	3.83%
crabapple, flowering ( <i>Malus</i> spp.)	84	3.62%
maple, Norway ( <i>Acer platanoides</i> )	75	3.23%
elm, Siberian ( <i>Ulmus pumila</i> )	73	3.14%
ash, white ( <i>Fraxinus americana</i> )	61	2.63%
tuliptree ( <i>Liriodendron tulipifera</i> )	58	2.50%
spruce, Colorado ( <i>Picea pungens</i> )	47	2.02%
honeylocust, thornless ( <i>Gleditsia triacanthos inermis</i> )	42	1.81%
arborvitae spp. ( <i>Thuja</i> spp.)	40	1.72%
linden, littleleaf ( <i>Tilia cordata</i> )	34	1.46%
spruce, Norway ( <i>Picea abies</i> )	33	1.42%
oak, northern red ( <i>Quercus rubra</i> )	30	1.29%
hackberry, common ( <i>Celtis occidentalis</i> )	30	1.29%
walnut, black ( <i>Juglans nigra</i> )	24	1.03%
hawthorn, spp. ( <i>Crataegus</i> spp.)	23	0.99%
cherry/plum, spp. ( <i>Prunus</i> spp.)	23	0.99%
pine, eastern white ( <i>Pinus strobus</i> )	20	0.86%
birch, river ( <i>Betula nigra</i> )	20	0.86%
redcedar, eastern ( <i>Juniperus virginiana</i> )	17	0.73%
serviceberry, spp. ( <i>Amelanchier</i> spp.)	16	0.69%
mulberry, white ( <i>Morus alba</i> )	16	0.69%
magnolia, saucer ( <i>Magnolia x soulangiana</i> )	16	0.69%
elm, hybrid ( <i>Ulmus</i> x)	16	0.69%
ginkgo ( <i>Ginkgo biloba</i> )	15	0.65%
dogwood, flowering ( <i>Cornus florida</i> )	15	0.65%
sycamore, American ( <i>Platanus occidentalis</i> )	14	0.60%
oak, pin ( <i>Quercus palustris</i> )	14	0.60%
maple, Japanese ( <i>Acer palmatum</i> )	14	0.60%
elm, slippery ( <i>Ulmus rubra</i> )	14	0.60%



<i>Common</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
planetree, London ( <i>Platanus x acerifolia</i> )	13	0.56%
maple, black ( <i>Acer nigrum</i> )	13	0.56%
lilac, Japanese tree ( <i>Syringa reticulata</i> )	13	0.56%
locust, black ( <i>Robinia pseudoacacia</i> )	12	0.52%
oak, bur ( <i>Quercus macrocarpa</i> )	11	0.47%
linden, American ( <i>Tilia americana</i> )	8	0.34%
cottonwood, eastern ( <i>Populus deltoides</i> )	8	0.34%
cherry, black ( <i>Prunus serotina</i> )	8	0.34%
tree of heaven ( <i>Ailanthus altissima</i> )	7	0.30%
pine, Austrian ( <i>Pinus nigra</i> )	7	0.30%
oak, white ( <i>Quercus alba</i> )	7	0.30%
cherry, Japanese flowering ( <i>Prunus serrulata</i> )	7	0.30%
boxelder ( <i>Acer negundo</i> )	7	0.30%
spruce, Serbian ( <i>Picea omorika</i> )	6	0.26%
oak, shingle ( <i>Quercus imbricaria</i> )	6	0.26%
hornbeam, American ( <i>Carpinus caroliniana</i> )	6	0.26%
catalpa, northern ( <i>Catalpa speciosa</i> )	6	0.26%
apple, common ( <i>Malus pumila</i> )	6	0.26%
hemlock, eastern ( <i>Tsuga canadensis</i> )	5	0.22%
arborvitae, eastern ( <i>Thuja occidentalis</i> )	5	0.22%
smoketree, American ( <i>Cotinus coggygria</i> )	4	0.17%
pear, common ( <i>Pyrus communis</i> )	3	0.13%
oak, swamp white ( <i>Quercus bicolor</i> )	3	0.13%
magnolia, star ( <i>Magnolia stellata</i> )	3	0.13%
birch, paper ( <i>Betula papyrifera</i> )	3	0.13%
beech, American ( <i>Fagus grandifolia</i> )	3	0.13%
willow, spp. ( <i>Salix</i> spp.)	2	0.09%
sassafras ( <i>Sassafras albidum</i> )	2	0.09%
plum, cherry ( <i>Prunus cerasifera</i> )	2	0.09%
oak, sawtooth ( <i>Quercus acutissima</i> )	2	0.09%
linden, silver ( <i>Tilia tomentosa</i> )	2	0.09%
juniper, spp. ( <i>Juniperus</i> spp.)	2	0.09%
hophornbeam, American ( <i>Ostrya virginiana</i> )	2	0.09%
hawthorn, cockspur ( <i>Crataegus crusgalli</i> )	2	0.09%
elm, American ( <i>Ulmus americana</i> )	2	0.09%
blackgum ( <i>Nyssa sylvatica</i> )	2	0.09%
birch, gray ( <i>Betula populifolia</i> )	2	0.09%
yellowwood ( <i>Cladrastis kentukea</i> )	1	0.04%

<i>Common</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
willow, corkscrew ( <i>Salix matsudana</i> )	1	0.04%
unknown tree (unknown tree)	1	0.04%
seven-son flower ( <i>Heptacodium miconioides</i> )	1	0.04%
poplar, white ( <i>Populus alba</i> )	1	0.04%
pine, Scotch ( <i>Pinus sylvestris</i> )	1	0.04%
pine, mugo ( <i>Pinus mugo</i> )	1	0.04%
persimmon, common ( <i>Diospyros virginiana</i> )	1	0.04%
oak, spp. ( <i>Quercus</i> spp.)	1	0.04%
mountainash, European ( <i>Sorbus aucuparia</i> )	1	0.04%
mimosa ( <i>Albizia julibrissin</i> )	1	0.04%
horsechestnut ( <i>Aesculus hippocastanum</i> )	1	0.04%
holly, spp. ( <i>Ilex</i> spp.)	1	0.04%
hickory, bitternut ( <i>Carya cordiformis</i> )	1	0.04%
fir, white ( <i>Abies concolor</i> )	1	0.04%
elm, spp. ( <i>Ulmus</i> spp.)	1	0.04%
dogwood, Kousa ( <i>Cornus kousa</i> )	1	0.04%
buckeye, Ohio ( <i>Aesculus glabra</i> )	1	0.04%
beech, European ( <i>Fagus sylvatica</i> )	1	0.04%
baldcypress, common ( <i>Taxodium distichum</i> )	1	0.04%
<b>Grand Total</b>	2323	100%



**Lafayette, IN**  
**Quantity Report: Common**

<i>Common</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
vacant site, small (vacant site small)	1408	46.25%
vacant site, large (vacant site large)	943	30.98%
vacant site, medium (vacant site medium)	554	18.20%
stump (stump)	139	4.57%
<b>Grand Total</b>	<b>3044</b>	<b>100%</b>



**Lafayette, IN**  
**Quantity Report: Condition**

<i>Condition</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Fair	1236	53.21%
Good	540	23.25%
Poor	459	19.76%
Critical	57	2.45%
Dead	16	0.69%
Very Good	15	0.65%
<b>Grand Total</b>	<b>2323</b>	<b>100%</b>



<i>Primary Maintenance</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
Large Tree Clean	1444	62.16%
Young Tree Train	342	14.72%
Small Tree Clean	322	13.86%
Removal	215	9.26%
<b>Grand Total</b>	<b>2323</b>	<b>100%</b>



**Lafayette, IN**  
**Quantity Report: Rating**

<i>Rating</i>	<i>Total</i>	<i>Percentage of Entire Population</i>
3	63	2.71%
4	758	32.63%
5	807	34.74%
6	477	20.53%
7	154	6.63%
8	53	2.28%
9	10	0.43%
10	1	0.04%
<b>Grand Total</b>	<b>2323</b>	<b>100%</b>

# Complete Population of Public Trees

7/7/2012

Species	DBH Class (in)									Total Standard Error
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	
<b>Broadleaf Deciduous Large (BDL)</b>										
maple, silver	25	24	62	176	285	281	136	60	29	1,078
maple, red	33	179	357	156	37	11	1	0	1	775
maple, sugar	30	83	182	148	134	90	27	2	1	697
ash, green	2	79	186	137	68	27	11	0	3	513
ash, white	6	68	194	88	42	18	14	6	5	441
sweetgum	10	4	78	69	46	9	2	0	0	218
tulip tree	15	10	28	34	44	39	8	6	2	186
basswood, American	8	5	19	13	22	34	25	11	2	139
hackberry, northern	42	13	11	19	11	15	13	8	5	137
oak, northern red	27	19	25	31	17	11	1	2	3	136
walnut, black	0	7	15	19	12	9	5	0	1	68
locust, black	2	3	5	21	7	10	6	2	1	57
tree of heaven	7	14	10	6	5	1	6	2	1	52
sycamore, American	1	1	8	5	11	9	8	5	3	51
maple, black	0	2	8	17	9	6	5	1	0	48
planetree, London	24	2	1	7	10	3	1	0	0	48
catalpa, northern	5	3	4	4	9	6	10	3	1	45
birch, rver	8	5	12	8	1	0	0	0	0	34
elm, American	11	10	6	1	1	0	1	1	1	32
oak, pin	2	2	4	8	7	0	2	0	2	27
oak, shingle	0	0	9	6	4	2	1	0	1	23
cottonwood, eastern	1	0	2	4	5	3	1	0	4	20
oak, white	1	3	6	0	4	1	1	1	3	20
oak, bur	1	5	3	1	2	3	1	0	3	19
elm, hybrid	1	17	1	0	0	0	0	0	0	19
cherry, black	1	2	4	6	1	2	0	1	0	17
maple, freeman	6	1	3	0	0	0	0	0	0	10
oak, scarlet	10	0	0	0	0	0	0	0	0	10
ash, European	0	1	7	1	0	0	0	0	0	9
birch, paper	0	2	3	0	0	0	0	0	0	5
beech, American	0	0	1	0	2	1	1	0	0	5
oak, sawtooth	1	1	0	2	0	0	0	0	1	5
oak, English	0	0	0	1	2	1	0	0	0	4
horsechestnut	0	0	1	0	1	0	1	0	0	3
oak, white swamp	0	0	0	1	0	0	1	1	0	3
hickory, bitternut	0	0	0	2	0	0	0	0	0	2
beech, European	0	1	0	0	1	0	0	0	0	2
ash, blue	0	0	0	1	0	1	0	0	0	2
poplar, white	0	0	0	0	1	1	0	0	0	2
oak	1	0	0	0	0	0	1	0	0	2
oak, chinkapin	0	0	0	0	0	1	0	0	1	2
willow, black	0	0	0	1	1	0	0	0	0	2
baldcypress, common	1	1	0	0	0	0	0	0	0	2
ash, black	0	0	0	1	0	0	0	0	0	1
ash, pumpkin	0	0	0	0	1	0	0	0	0	1
coffeetree, Kentucky	1	0	0	0	0	0	0	0	0	1
walnut, English	0	0	0	1	0	0	0	0	0	1
magnolia, cucumbertree	0	1	0	0	0	0	0	0	0	1
aspen, bigtooth	0	0	0	0	0	0	1	0	0	1
aspen, quaking	0	1	0	0	0	0	0	0	0	1
zelkova, Japanese	1	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>284</b>	<b>569</b>	<b>1,255</b>	<b>995</b>	<b>803</b>	<b>595</b>	<b>291</b>	<b>112</b>	<b>74</b>	<b>4,978 (±NaN)</b>

**Broadleaf Deciduous Medium (BDM)**

pear, callery	28	70	227	120	25	1	1	0	0	472
honeylocust	29	91	121	84	22	8	4	1	0	360
maple, Norway	10	44	128	120	40	11	4	0	0	357
linden, littleleaf	7	32	118	77	30	1	1	0	0	266





# Complete Population of Public Trees

7/7/2012

Species	DBH Class (in)									Total Standard Error
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	
<b>Total</b>	<b>226</b>	<b>371</b>	<b>435</b>	<b>101</b>	<b>17</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>1,161 (±NaN)</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 (±NaN)</b>
<b>Broadleaf Evergreen Medium (BEM)</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 (±NaN)</b>
<b>Broadleaf Evergreen Small (BES)</b>										
holly	0	0	0	1	0	0	0	0	0	1
sweetbay	0	0	0	1	0	0	0	0	0	1
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2 (±NaN)</b>
<b>Conifer Evergreen Large (CEL)</b>										
spruce, Norway	1	9	13	14	19	1	2	0	0	59
pine, eastern white	1	8	26	7	1	2	0	0	0	45
cedar, northern white	11	18	1	2	0	0	0	0	0	32
fir, douglas	0	15	8	0	0	0	0	0	0	23
fir, fraser	1	13	1	0	0	0	0	0	0	15
fir, white	1	7	1	0	0	0	0	0	0	9
fir, spp.	2	6	0	0	0	0	0	0	0	8
pine, red	0	4	2	0	0	0	0	0	0	6
pine, scotch	0	0	2	1	0	0	0	0	0	3
spruce, white	0	1	1	0	0	0	0	0	0	2
fir, balsam	0	0	1	0	0	0	0	0	0	1
redwood, dawn	0	1	0	0	0	0	0	0	0	1
<b>Total</b>	<b>17</b>	<b>82</b>	<b>56</b>	<b>24</b>	<b>20</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>204 (±NaN)</b>
<b>Conifer Evergreen Medium (CEM)</b>										
cedar, eastern red	53	72	10	10	5	1	0	0	0	151
arborvitae spp.	107	19	5	0	0	0	0	0	0	131
spruce, blue	4	18	22	22	6	0	0	0	0	72
pine, Austrian	4	2	3	1	4	0	0	0	0	14
hemlock, eastern	0	2	5	1	0	0	0	0	0	8
spruce, Serbian	6	0	0	0	0	0	0	0	0	6
pine, Japanese white	0	0	3	0	0	0	0	0	0	3
Rocky Mountain Juniper	1	0	0	0	0	0	0	0	0	1
pine species	1	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>176</b>	<b>113</b>	<b>48</b>	<b>34</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>387 (±NaN)</b>
<b>Conifer Evergreen Small (CES)</b>										
juniper	6	5	0	1	0	0	0	0	0	12
pine, mugo	0	1	0	0	0	0	0	0	0	1
yew species	1	0	0	0	0	0	0	0	0	1
<b>Total</b>	<b>7</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14 (±NaN)</b>
<b>Grand Total</b>	<b>866</b>	<b>1,450</b>	<b>2,470</b>	<b>1,620</b>	<b>1,009</b>	<b>680</b>	<b>328</b>	<b>130</b>	<b>79</b>	<b>8,632 (±0)</b>

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

7/7/2012

Species	Energy	CO <sub>2</sub>	Air Quality	Stormwater	Aesthetic/Other	Total Standard (\$) Error	% of Total \$
maple, silver	64,028	11,912	11,312	106,969	94,817	289,039 (±0)	28.0
maple, red	20,883	2,522	3,447	17,391	26,271	70,514 (±0)	6.8
maple, sugar	27,071	3,362	4,200	31,193	28,060	93,885 (±0)	9.1
ash, green	17,358	2,376	2,850	18,758	19,323	60,665 (±0)	5.9
pear, callery	13,437	1,613	2,107	10,389	12,738	40,284 (±0)	3.9
ash, white	15,416	2,174	2,779	19,093	22,086	61,548 (±0)	6.0
apple	6,910	702	1,030	2,921	2,622	14,185 (±0)	1.4
honeylocust	11,608	1,431	1,815	9,444	20,534	44,832 (±0)	4.3
maple, Norway	12,562	1,460	2,059	11,030	10,718	37,829 (±0)	3.7
linden, littleleaf	6,960	1,084	1,091	6,311	10,830	26,275 (±0)	2.5
sweetgum	8,130	1,116	1,323	8,538	8,880	27,987 (±0)	2.7
elm, Siberian	10,052	1,211	1,817	12,621	7,202	32,904 (±0)	3.2
redbud, eastern	2,715	279	414	1,187	1,029	5,624 (±0)	0.5
tulip tree	8,829	1,205	1,525	11,882	8,650	32,091 (±0)	3.1
cedar, eastern red	1,164	87	128	1,571	1,729	4,678 (±0)	0.5
basswood, American	7,483	1,194	1,144	10,295	8,015	28,131 (±0)	2.7
hackberry, northern	5,977	580	1,072	7,243	4,815	19,688 (±0)	1.9
oak, northern red	3,624	379	520	3,796	2,060	10,379 (±0)	1.0
arborvitae spp.	382	23	41	345	878	1,669 (±0)	0.2
OTHER STREET TR	39,458	4,668	6,210	46,976	34,485	131,797 (±0)	12.7
<b>Citywide Total</b>	<b>284,049</b>	<b>39,379</b>	<b>46,884</b>	<b>337,952</b>	<b>325,742</b>	<b>1,034,006 (±0)</b>	<b>100.0</b>