City of Lafayette Inventory Summary Report

Lafayette is a thriving city located in northwest Indiana. The City 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 benefits and value to the community far in excess of the time and money invested in them for planting, pruning, protection, and removal. They provide shade and act as windbreaks, helping to decrease residential energy consumption. They act as reservoirs, helping to slow and reduce the amount of stormwater that reaches storm drains, rivers, and lakes. They help reduce noise levels, cleanse atmospheric pollutants, produce oxygen and absorb carbon dioxide, stabilize the soil by controlling wind and water erosion, and provide habitat for wildlife. Trees also provide significant economic benefits, including increased real estate values and more attractive settings in which to locate commercial businesses. Their shade and beauty contribute to the community's quality of life and soften the hard appearance of concrete and brick structures and streets. Unlike other components of the City's infrastructure, the tree population, with proper care, will actually continue to increase in value with each passing year.

Managing natural resources in urban areas is challenging. For many communities, finding suitable space for trees among roads, buildings, sewers, utility, and gas lines is difficult. Frequently, a greater concern is providing adequate maintenance within budget constraints. A combination of organized leadership coupled with comprehensive information about the City's public tree population, dedicated personnel, and effective public relations will lead to a successful urban forestry program.

Lafayette's City Forester and Tree Lafayette played instrumental roles in advocating the benefits of a public tree inventory and inventory management software to help better manage the City's public tree population. Phase One of Lafayette's public tree inventory was completed in October, 2010 and the City received Davey's TreeKeeper™ inventory management software in November, 2010. The purpose of an inventory is to study and evaluate the current condition of public trees, and inventory management software provides the City a way in which to manage the inventory over time. Ultimately, these tools will establish a means of which Lafayette can efficiently and effectively plan and manage the City's green infrastructure.

Lafayette's Public Tree Inventory

Davey Resource Group recorded 5,058 trees, stumps, and planting sites. Tree data were collected and analyzed, providing information on species composition, relative size, and health of the urban forest. The numbers in this inventory summary reflect 10 of the downtown neighborhoods. Those neighborhoods include: Centennial; Center; Ellsworth Romig; Hanna; Historic Jefferson; Lincoln; Ninth Street Hill; Perrin; St. Mary's; and Wabash. Bordering neighborhoods include: Columbian Park; Downtown; Highland Park; Monon; Oakland Triangle; St. Lawrence McAllister; and Wallace Triangle.

The major findings of Lafayette's public tree inventory include the following:

- There are 5,058 sites located within the right-of-way of inventoried streets. Of these sites, 3,806 (75%) are trees, 201 (4%) are stumps, and 1,051 (21%) are vacant planting spaces. Phase One of Lafayette's inventory captures a 75% stocking level. Stocking level is the percentage of potential sites filled with trees.

- i-Tree Streets estimates the street tree canopy cover in the 10 neighborhoods inventoried to be 56 acres.

- The tree inventory is comprised of 98 species representing 49 genera. The genus *Acer* (maple) comprises 31% of the tree population, followed by *Fraxinus* (ash) 16%, *Tilia* (linden) 7%, *Malus* (apple) 6%, *Gleditsia* (honeylocust) 6%, *Pyrus* (pear) 5%, *Quercus* (oak) 3%, *Ulmus* (elm) 3%, *Thuja* (cedar) 2%, and *Liquidambar* (sweetgum) 2%. These ten genera make up 81% of the City's inventoried street tree population.

- The inventoried tree population has high percentages of immature (35%) and young (32%) trees and a size distribution of 32:35:24:9 (percentages of young: immature: maturing: mature trees). Young trees are 6 inches and less in diameter at breast height (DBH), immature trees are 7 to 12 inches DBH; maturing trees are 13 to 24 inches DBH, and mature trees are 25 inches and greater DBH.

- Of the 3,806 inventoried trees, there are 25 (1%) trees in Very Good condition, 534 (14%) trees in Good condition, 2,464 (65%) trees in Fair condition, 627 (16%) trees in Poor condition, 136 (4%) trees in Critical condition, and there are 20 (less than 1%) Dead trees.

- Of the 1,051 vacant planting sites, 146 (14%) are Vacant Large Sites, 196 (19%) are Vacant Medium Sites, and 709 (67%) are Vacant Small Sites.

Trees provide abundant environmental and economic benefits. In order to learn how much benefit is provided to the community, a benefit analysis of Lafayette's inventoried street tree resource was performed. Davey Resource Group formatted the City's street tree inventory for use in the i-Tree benefit-cost assessment tool, i-Tree Streets (Version 3.0.19). i-Tree Streets is a free software application released by the United States Forest Service and is used to analyze the structure of an inventoried tree population to calculate the population's quantified functional benefit and value. Quantified benefits include the tree population's role in energy conservation, air quality improvement, stormwater interception, carbon dioxide removal, and property value increases. i-Tree Streets quantified the benefits and value of Lafayette's inventoried street trees to produce accurate gross benefit values and average benefits per tree. Benefits were not compared to the costs of Lafayette's urban forest management program because the entire street tree population is not inventoried. Once the entire city-managed area is inventoried, Lafayette can accurately assess their return of investment in urban forest management. The i-Tree Street's analysis is a statistically valid, financially sound, and defensible benefit-cost assessment tool. With this tool, the City's urban forest managers have accurately quantified the benefits of their inventoried street tree resource.

Lafayette's i-Tree Streets Analysis

The City's street trees mitigate stormwater runoff, conserve and reduce energy consumption, improve air quality, reduce carbon dioxide levels, and provide other benefits associated with aesthetics, increased property values, and quality of life. Lafayette's street trees are providing the community substantial annual benefits such as:

- The interception of 4.5 million gallons of stormwater valued at $123,011 per year, for an average benefit of $32.32 per tree.
- Reduction of energy and natural gas use from shading and climate effects equal to 551.5 Megawatt-hours, and 75,657.8 therms are valued at $42,103 per year, for an average of $11.06 per tree.
- Net air quality improvements from the removal and avoidance of 3 tons of air pollutants are valued at $18,635 per year, for an average of $4.90 per tree.
- Reduction of atmospheric carbon dioxide (CO_2) by a net of 1,029 tons per year is valued at $15,440, for an average of $4.06 per tree.
- Increased property values, aesthetics, and other less tangible improvements are valued at $73,331 per year, for an average of $19.27 per tree.
- The total annual benefit received from the City's street trees is $272,520. The average benefit per tree is $71.60 per year.

The street tree inventory provides comprehensive information about Lafayette's urban forest resource. The above overview refers to the complete data set which is provided digitally on a CD-ROM along with this summary. The following frequency reports further illustrate species distribution, age distribution, tree condition, and benefits. With Phase One of Lafayette's street tree inventory and i-Tree Streets analysis, Lafayette has shown a strong commitment to building an efficient, effective, and successful urban forestry program.

Attachment A
Species

Lafayette

Complete Population of Public Trees

11/22/2010

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error
Broadleaf Deciduous Large (BDL)											
Red maple	16	69	210	87	11	3	0	0	0	396	
White ash	3	62	164	58	18	7	4	1	1	318	
Sugar maple	11	35	96	47	45	43	7	1	0	285	
Green ash	1	55	131	64	21	6	1	0	0	279	
Silver maple	9	7	21	45	76	49	25	9	6	247	
American basswood	0	4	17	14	24	31	22	10	2	124	
Northern red oak	0	15	21	23	9	3	1	1	0	73	
Sweetgum	1	3	33	21	13	0	0	0	0	71	
Northern hackberry	6	9	11	9	2	5	12	6	1	61	
Tulip tree	1	3	9	8	7	8	1	3	0	40	
Tree of heaven	3	9	8	4	4	0	5	2	1	36	
Black maple	0	2	6	4	8	5	4	1	1	31	
Black walnut	0	5	8	10	5	2	1	0	0	31	
American sycamore	1	1	6	4	6	5	2	1	2	28	
Northern catalpa	2	1	4	2	6	5	4	2	0	26	
Shingle oak	0	0	7	6	1	1	0	0	1	16	
London planetree	0	0	0	4	7	2	1	0	0	14	
American elm	0	6	4	1	0	0	1	0	0	12	
European ash	0	1	7	1	0	0	0	0	0	9	
Silver linden	0	7	0	0	0	0	0	0	0	7	
Eastern cottonwood	1	0	0	1	2	1	1	0	0	6	
Black cherry	0	2	3	1	0	0	0	0	0	6	
Bur oak	1	1	3	1	0	0	0	0	0	6	
English oak	0	0	0	1	2	1	0	0	0	4	
Sawtooth oak	1	0	0	2	0	0	0	0	0	3	
Blue ash	0	0	0	1	0	1	0	0	0	2	
Pin oak	0	0	0	1	1	0	0	0	0	2	
Horsechestnut	0	0	0	0	1	0	0	0	0	1	
Bitternut hickory	0	0	0	1	0	0	0	0	0	1	
European beech	0	0	0	0	1	0	0	0	0	1	
White oak	0	0	1	0	0	0	0	0	0	1	
Chinkapin oak	0	0	0	0	0	1	0	0	0	1	
Oak,spp.	1	0	0	0	0	0	0	0	0	1	
Common baldcypress	1	0	0	0	0	0	0	0	0	1	
Total	**59**	**297**	**770**	**421**	**270**	**179**	**92**	**37**	**15**	**2,140 (±NaN)**	
Broadleaf Deciduous Medium (BDM)											
Thornless honeylocust	14	46	102	54	7	2	0	0	0	225	
Callery pear	14	27	90	59	9	0	0	0	0	199	
Norway maple	4	21	88	53	13	6	1	0	0	186	
Littleleaf linden	1	25	77	30	14	1	1	0	0	149	
Siberian elm	5	9	17	8	11	13	6	6	1	76	
Ginkgo	1	12	14	10	1	0	0	0	0	38	
Black locust	2	2	5	12	3	7	3	2	1	37	
Hedge maple	1	0	6	3	1	0	0	0	0	11	
Slippery elm	4	1	2	0	0	1	0	0	0	8	
River birch	1	2	2	1	0	0	0	0	0	6	
American hornbeam	0	5	0	0	0	0	0	0	0	5	
European hornbeam	0	0	2	1	0	0	0	0	0	3	
Boxelder	0	0	0	1	0	0	0	0	1	2	
Ohio buckeye	0	0	1	1	0	0	0	0	0	2	
Gray birch	0	2	0	0	0	0	0	0	0	2	
Maple	0	0	1	0	0	0	0	0	0	1	
Chinese chestnut	0	0	1	0	0	0	0	0	0	1	
Black ash	0	0	0	1	0	0	0	0	0	1	
Honeylocust	0	0	0	0	0	0	0	1	0	1	
Castor aralia	0	1	0	0	0	0	0	0	0	1	
Osage-orange	0	0	0	0	0	0	1	0	0	1	

Lafayette

Complete Population of Public Trees

11/22/2010

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error
Blackgum	1	0	0	0	0	0	0	0	0	1	
Willow	0	0	1	0	0	0	0	0	0	1	
Sassafras	0	0	1	0	0	0	0	0	0	1	
Corkscrew willow	0	0	1	0	0	0	0	0	0	1	
Total	**48**	**153**	**411**	**234**	**59**	**30**	**12**	**9**	**3**	**959**	**(±NaN)**
Broadleaf Deciduous Small (BDS)											
Apple	23	58	131	17	7	0	0	0	0	236	
Serviceberry spp.	6	37	0	0	0	0	0	0	0	43	
Eastern redbud	8	8	19	7	1	0	0	0	0	43	
White mulberry	6	7	10	6	2	5	0	2	2	40	
Plum	12	9	13	1	0	0	0	0	0	35	
Hawthorn spp.	3	22	6	0	0	0	0	0	0	31	
Amur maple	0	3	6	0	0	0	0	0	0	9	
Common apple	1	0	5	0	0	0	0	0	0	6	
Eastern hophornbeam	0	4	1	1	0	0	0	0	0	6	
Common chokecherry	0	4	0	1	0	0	0	0	0	5	
Japanese tree lilac	5	0	0	0	0	0	0	0	0	5	
Flowering dogwood	2	1	1	0	0	0	0	0	0	4	
Cherry plum	0	0	4	0	0	0	0	0	0	4	
Saucer magnolia	0	2	1	0	0	0	0	0	0	3	
Paperbark maple	0	2	0	0	0	0	0	0	0	2	
Japanese maple	0	0	2	0	0	0	0	0	0	2	
Smoketree	1	0	1	0	0	0	0	0	0	2	
Star magnolia	2	0	0	0	0	0	0	0	0	2	
American plum	1	0	1	0	0	0	0	0	0	2	
Common peach	0	0	2	0	0	0	0	0	0	2	
European mountainash	1	0	1	0	0	0	0	0	0	2	
Common pear	0	0	1	0	0	0	0	0	0	1	
Blackhaw	0	1	0	0	0	0	0	0	0	1	
Total	**71**	**158**	**205**	**33**	**10**	**5**	**0**	**2**	**2**	**486**	**(±NaN)**
Broadleaf Evergreen Large (BEL)											
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**(±NaN)**
Broadleaf Evergreen Medium (BEM)											
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**(±NaN)**
Broadleaf Evergreen Small (BES)											
Sweetbay	0	0	0	1	0	0	0	0	0	1	
Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**(±NaN)**
Conifer Evergreen Large (CEL)											
Douglas-fir	0	15	8	0	0	0	0	0	0	23	
Eastern white pine	0	5	14	0	0	0	0	0	0	19	
Norway spruce	0	2	3	1	6	0	0	0	0	12	
White fir	0	7	1	0	0	0	0	0	0	8	
Red pine	0	4	2	0	0	0	0	0	0	6	
Eastern hemlock	0	1	1	1	0	0	0	0	0	3	
Scotch pine	0	0	1	0	0	0	0	0	0	1	
Total	**0**	**34**	**30**	**2**	**6**	**0**	**0**	**0**	**0**	**72**	**(±NaN)**
Conifer Evergreen Medium (CEM)											
Arborvitae spp.	84	5	4	0	0	0	0	0	0	93	
Eastern red cedar	14	8	5	0	0	0	0	0	0	27	
Blue spruce	0	2	3	2	0	0	0	0	0	7	
Austrian pine	4	0	0	0	0	0	0	0	0	4	
Rocky Mountain juniper	1	0	0	0	0	0	0	0	0	1	
Pine spp.	1	0	0	0	0	0	0	0	0	1	
Total	**104**	**15**	**12**	**2**	**0**	**0**	**0**	**0**	**0**	**133**	**(±NaN)**

Lafayette

Complete Population of Public Trees

11/22/2010

Species	DBH Class (in) 0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	Total	Standard Error
Conifer Evergreen Small (CES)											
Fir spp.	2	6	0	0	0	0	0	0	0	8	
Juniper, spp.	6	1	0	0	0	0	0	0	0	7	
Total	**8**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**(±NaN)**
Grand Total	**290**	**664**	**1,428**	**693**	**345**	**214**	**104**	**48**	**20**	**3,806**	**(±0)**

Attachment B
Stocking Level

Lafayette

Summary of Available Planting Sites for Public Trees

11/22/2010

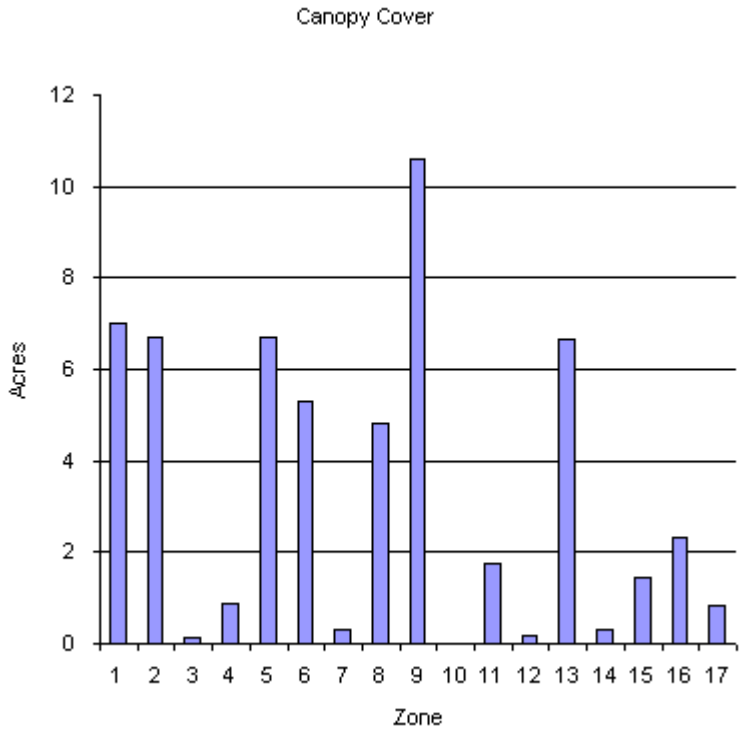
Zone	No. of Unplanted Sites	No. of Planted Sites	Total No. of Sites	Stocking (%)	No. of Unplanted Sites			
					Small	Medium	Large	Undefined
1	52	527	579	91	29	7	1	15
2	155	399	554	72	93	27	11	24
3	4	11	15	73	4	0	0	0
4	10	83	93	89	2	7	0	1
5	139	468	607	77	86	18	20	15
6	160	427	587	73	89	31	13	27
7	9	21	30	70	1	5	0	3
8	67	275	342	80	31	10	3	23
9	267	668	935	71	161	33	36	37
10	0	3	3	100	0	0	0	0
11	16	121	137	88	13	1	0	2
12	12	9	21	43	10	1	0	1
13	119	396	515	77	56	13	16	34
14	10	12	22	55	8	0	0	2
15	29	117	146	80	14	6	1	8
16	193	221	414	53	106	36	44	7
17	10	48	58	83	6	1	1	2
Citywide total	1,252	3,806	5,058	75	709	196	146	201

Attachment C
Canopy Cover

Lafayette

Canopy Cover of Public Trees (Acres)

11/22/2010



Zone	Acres	% of Total Canopy Cover
1	7	12.5
2	7	11.9
3	0	0.3
4	1	1.5
5	7	12.0
6	5	9.5
7	0	0.6
8	5	8.6
9	11	19.0
10	0	0.0
11	2	3.2
12	0	0.3
13	7	11.9
14	0	0.5
15	1	2.6
16	2	4.1
17	1	1.5
Citywide total	56	100.0

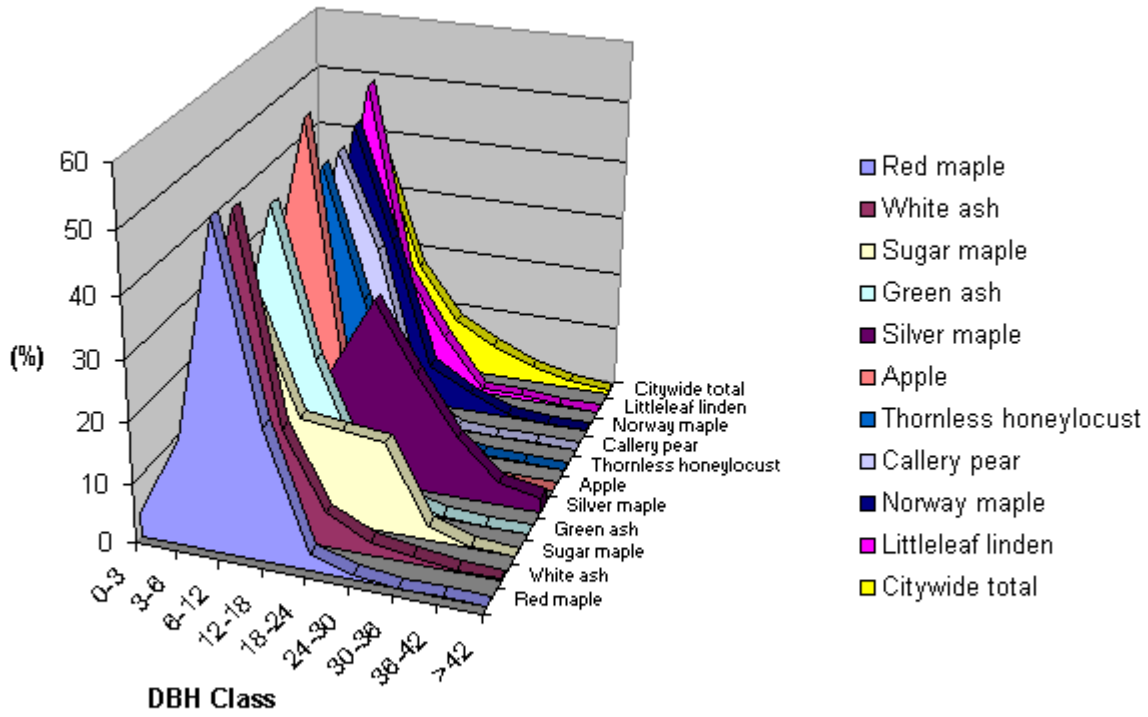
	Total Land Area	Total Street and Sidewalk Area	Total Canopy Cover	Canopy Cover as % of Total Land Area	Canopy Cover as % of Total Streets and Sidewalks
Citywide total	17,728	1,256	56	0.32	4.45

Attachment D
Age Distribution

Lafayette

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

11/22/2010



	DBH class (in)								
Species	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42
Red maple	4.04	17.42	53.03	21.97	2.78	0.76	0.00	0.00	0.00
White ash	0.94	19.50	51.57	18.24	5.66	2.20	1.26	0.31	0.31
Sugar maple	3.86	12.28	33.68	16.49	15.79	15.09	2.46	0.35	0.00
Green ash	0.36	19.71	46.95	22.94	7.53	2.15	0.36	0.00	0.00
Silver maple	3.64	2.83	8.50	18.22	30.77	19.84	10.12	3.64	2.43
Apple	9.75	24.58	55.51	7.20	2.97	0.00	0.00	0.00	0.00
Thornless honeylocust	6.22	20.44	45.33	24.00	3.11	0.89	0.00	0.00	0.00
Callery pear	7.04	13.57	45.23	29.65	4.52	0.00	0.00	0.00	0.00
Norway maple	2.15	11.29	47.31	28.49	6.99	3.23	0.54	0.00	0.00
Littleleaf linden	0.67	16.78	51.68	20.13	9.40	0.67	0.67	0.00	0.00
Citywide total	7.62	17.45	37.52	18.21	9.06	5.62	2.73	1.26	0.53

Attachment E
Condition

Lafayette

Structural (Woody) Condition of Public Trees by Zone

11/22/2010

Zone	Condition	Tree Count	Standard Error	% of Zone	% of Public Trees
1	Dead or Dying	9	(N/A)	1.71	0.24
	Poor	68	(N/A)	12.90	1.79
	Fair	378	(N/A)	71.73	9.93
	Good	72	(N/A)	13.66	1.89
	Total	527	(N/A)	100.00	13.85
2	Dead or Dying	40	(N/A)	10.03	1.05
	Poor	91	(N/A)	22.81	2.39
	Fair	201	(N/A)	50.38	5.28
	Good	67	(N/A)	16.79	1.76
	Total	399	(N/A)	100.00	10.48
3	Dead or Dying	0	(N/A)	0.00	0.00
	Poor	1	(N/A)	9.09	0.03
	Fair	4	(N/A)	36.36	0.11
	Good	6	(N/A)	54.55	0.16
	Total	11	(N/A)	100.00	0.29
4	Dead or Dying	3	(N/A)	3.61	0.08
	Poor	13	(N/A)	15.66	0.34
	Fair	55	(N/A)	66.27	1.45
	Good	12	(N/A)	14.46	0.32
	Total	83	(N/A)	100.00	2.18
5	Dead or Dying	8	(N/A)	1.71	0.21
	Poor	83	(N/A)	17.74	2.18
	Fair	329	(N/A)	70.30	8.64
	Good	48	(N/A)	10.26	1.26
	Total	468	(N/A)	100.00	12.30
6	Dead or Dying	3	(N/A)	0.70	0.08
	Poor	48	(N/A)	11.24	1.26
	Fair	350	(N/A)	81.97	9.20
	Good	26	(N/A)	6.09	0.68
	Total	427	(N/A)	100.00	11.22
7	Dead or Dying	0	(N/A)	0.00	0.00
	Poor	4	(N/A)	19.05	0.11
	Fair	15	(N/A)	71.43	0.39
	Good	2	(N/A)	9.52	0.05
	Total	21	(N/A)	100.00	0.55
8	Dead or Dying	16	(N/A)	5.82	0.42
	Poor	64	(N/A)	23.27	1.68
	Fair	163	(N/A)	59.27	4.28
	Good	32	(N/A)	11.64	0.84
	Total	275	(N/A)	100.00	7.23
9	Dead or Dying	31	(N/A)	4.64	0.81
	Poor	121	(N/A)	18.11	3.18
	Fair	412	(N/A)	61.68	10.83
	Good	104	(N/A)	15.57	2.73
	Total	668	(N/A)	100.00	17.55
10	Dead or Dying	0	(N/A)	0.00	0.00
	Poor	0	(N/A)	0.00	0.00
	Fair	3	(N/A)	100.00	0.08
	Good	0	(N/A)	0.00	0.00
	Total	3	(N/A)	100.00	0.08
11	Dead or Dying	4	(N/A)	3.31	0.11
	Poor	15	(N/A)	12.40	0.39
	Fair	90	(N/A)	74.38	2.36
	Good	12	(N/A)	9.92	0.32
	Total	121	(N/A)	100.00	3.18

Lafayette

Structural (Woody) Condition of Public Trees by Zone

11/22/2010

Zone	Condition	Tree Count	Standard Error	% of Zone	% of Public Trees
12	Dead or Dying	0	(N/A)	0.00	0.00
	Poor	3	(N/A)	33.33	0.08
	Fair	5	(N/A)	55.56	0.13
	Good	1	(N/A)	11.11	0.03
	Total	9	(N/A)	100.00	0.24
13	Dead or Dying	24	(N/A)	6.06	0.63
	Poor	62	(N/A)	15.66	1.63
	Fair	190	(N/A)	47.98	4.99
	Good	120	(N/A)	30.30	3.15
	Total	396	(N/A)	100.00	10.40
14	Dead or Dying	0	(N/A)	0.00	0.00
	Poor	0	(N/A)	0.00	0.00
	Fair	12	(N/A)	100.00	0.32
	Good	0	(N/A)	0.00	0.00
	Total	12	(N/A)	100.00	0.32
15	Dead or Dying	4	(N/A)	3.42	0.11
	Poor	18	(N/A)	15.38	0.47
	Fair	68	(N/A)	58.12	1.79
	Good	27	(N/A)	23.08	0.71
	Total	117	(N/A)	100.00	3.07
16	Dead or Dying	11	(N/A)	4.98	0.29
	Poor	30	(N/A)	13.57	0.79
	Fair	151	(N/A)	68.33	3.97
	Good	29	(N/A)	13.12	0.76
	Total	221	(N/A)	100.00	5.81
17	Dead or Dying	3	(N/A)	6.25	0.08
	Poor	6	(N/A)	12.50	0.16
	Fair	38	(N/A)	79.17	1.00
	Good	1	(N/A)	2.08	0.03
	Total	48	(N/A)	100.00	1.26
Citywide	Dead or Dying	156	(N/A)	4.10	4.10
	Poor	627	(N/A)	16.47	16.47
	Fair	2,464	(N/A)	64.74	64.74
	Good	559	(N/A)	14.69	14.69
	Total	3,806	(N/A)	100.00	100.00

Attachment F
Total Annual Benefit

Lafayette

Total Annual Benefits of Public Trees by Species ($)

11/22/20

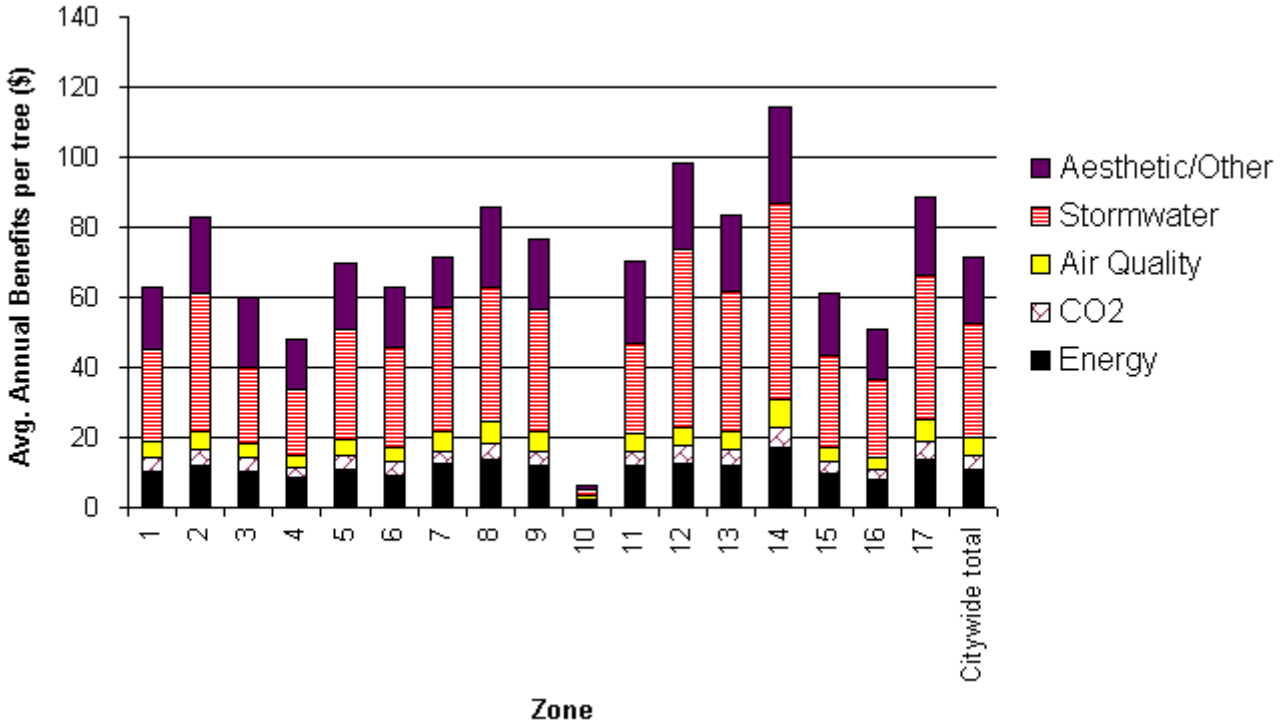
Species	Energy	CO_2	Air Quality	Stormwater	Aesthetic/Other	Total ($)	Standard Error	% of Total $
Red maple	3,942	1,300	1,767	8,689	7,479	23,177	(±0)	8.5
White ash	3,270	1,237	1,495	9,478	7,326	22,805	(±0)	8.4
Sugar maple	3,820	1,296	1,618	11,933	5,941	24,608	(±0)	9.0
Green ash	2,764	1,036	1,202	7,220	5,002	17,223	(±0)	6.3
Silver maple	4,990	2,481	2,370	21,768	10,904	42,514	(±0)	15.6
Apple	1,300	375	547	1,581	777	4,581	(±0)	1.7
Thornless honeylocus	2,580	846	1,092	5,050	6,143	15,711	(±0)	5.8
Callery pear	2,076	694	905	4,411	2,972	11,058	(±0)	4.1
Norway maple	2,194	713	978	5,103	2,955	11,943	(±0)	4.4
Littleleaf linden	1,280	542	547	3,150	3,039	8,557	(±0)	3.1
American basswood	2,540	1,118	1,079	9,605	4,085	18,427	(±0)	6.8
Arborvitae spp.	81	14	25	203	310	633	(±0)	0.2
Siberian elm	1,254	415	624	4,382	1,382	8,058	(±0)	3.0
Northern red oak	776	232	308	2,021	722	4,057	(±0)	1.5
Sweetgum	867	324	379	2,305	1,476	5,351	(±0)	2.0
Northern hackberry	1,170	314	585	4,054	1,413	7,536	(±0)	2.8
Serviceberry spp.	72	21	27	70	42	232	(±0)	0.1
Eastern redbud	252	74	109	311	150	896	(±0)	0.3
Tulip tree	684	255	327	2,564	1,006	4,836	(±0)	1.8
White mulberry	342	79	162	544	125	1,252	(±0)	0.5
OTHER STREET TR	5,851	2,073	2,490	18,568	10,081	39,063	(±0)	14.3
Citywide Total	42,103	15,440	18,635	123,011	73,331	272,519	(±0)	100.0

Attachment G
Benefit per Tree

Lafayette

Annual Benefits of Public Trees by Zone ($/tree)

11/22/2010



Zone	Energy	CO_2	Air Quality	Stormwater	Aesthetic/Other	Total ($)	Standard Error
1	10.51	3.63	4.55	26.28	17.93	62.90	(N/A)
2	11.90	4.50	5.39	39.37	21.50	82.65	(N/A)
3	10.52	3.48	4.37	21.69	19.77	59.83	(N/A)
4	8.44	2.86	3.53	18.93	14.21	47.97	(N/A)
5	10.76	3.98	4.78	31.60	18.37	69.48	(N/A)
6	9.33	3.54	4.18	28.82	17.04	62.91	(N/A)
7	12.30	3.90	5.41	35.34	14.28	71.23	(N/A)
8	13.45	4.95	5.94	38.32	22.81	85.47	(N/A)
9	11.89	4.36	5.26	35.00	19.87	76.38	(N/A)
10	1.89	0.55	0.71	1.86	1.12	6.14	(N/A)
11	11.81	4.04	5.15	26.10	23.15	70.25	(N/A)
12	12.76	4.94	5.09	50.92	24.83	98.53	(N/A)
13	12.05	4.58	5.37	39.66	21.53	83.18	(N/A)
14	17.03	5.89	7.89	56.16	27.56	114.53	(N/A)
15	9.62	3.51	4.17	26.10	17.57	60.97	(N/A)
16	8.04	2.96	3.54	21.98	14.35	50.87	(N/A)
17	13.67	5.10	6.20	41.12	22.57	88.66	(N/A)
Citywide total	11.06	4.06	4.90	32.32	19.27	71.60	(N/A)