

An Analysis of Street Tree Benefits for Bucyrus, Ohio

By

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EXECUTIVE SUMMARY

A full inventory of public street trees was undertaken by Steve Prochaska of the OSU Extension Office and Crawford County Master Gardeners in 2005. A total of 1,797 street trees were inventoried. A common bid price for this service is \$3.00 per tree and thus the inventory represents a savings of \$5,391 for Bucyrus taxpayers. Most importantly however, is that the City of Bucyrus now has a tree inventory that can be used to better manage the public tree resource of Bucyrus OH. Benefits mentioned above do not include the subsequent analysis which represents additional savings.

Analysis of the inventory data was done using iTree, a software suite distributed by the USDA Forest Service. The specific program in the iTree suite used to identify benefits was Shade Tree Resource Analysis Tool for Urban forest Managers (STRATUM) and is available at no charge. This program allows individuals interested in making informed decisions about the community tree resource and to explore many aspects including biodiversity.

A long standing rule of thumb for biodiversity is the 10–20–30 guideline which suggests that no more than ten percent of trees should be from the same species, no more than 20 percent should be from the same genera, and no more than 30 percent should be from the same family. In Bucyrus, silver, Norway and sugar maples exceed the limit for specie at 16-28%, while maples greatly exceed both the genera and family limits at 61% (Table 1). We recommend that no maples be included in future Bucyrus plantings until maple species drop below 10% each and collectively maples do not exceed 30% of the street tree population. If a serious problem such as Emerald Ash Borer on ash were to develop on maple, the impact on Bucyrus would be huge. The only cost effective tool available to combat this eventuality is increased biodiversity.

Normally a community should, at least, plant more trees than they lose from all causes including transplanting. Tree numbers among larger size classes should decline over time as tree size increases, trees age, and then die. This is not seen in Bucyrus, in part, because this report does not reflect the recent tree planting efforts (Table 2 and 3). Maple numbers in the community are skewed toward larger sizes suggesting a senescent maple population and a future management concern. Bucyrus can select from a variety of plant families including elms, oaks, and legumes for future plantings. Stated differently, anything but maple should work.

Larger broadleaved deciduous trees such as silver maples (24-inch caliper or larger) have importance values greater than their respective percentages in the inventory because of their size. For example silver maple represents 28 percent of the trees but constitutes 50% of the leaf area, 45% of the canopy cover, and has an importance value of 41% (Table 4). This demonstrates a community's need for larger trees.

A major benefit of urban trees is their ability to intercept rainfall and reduce storm water runoff (Table 5). Storm water runoff is a major expense for many communities. Columbus is about to embark on a multi-billion dollar sewer and storm water upgrade for the community. Trees in Bucyrus intercept nearly 5 million gallons of storm water annually at a savings to the community of 131,019 dollars per year.

Carbon sequestration, as reported in Table 6, represents the carbon removed from the air and stored in Bucyrus' trees (Table 6). Nearly 18 million pounds or 9,000 tons of carbon have been stored by Bucyrus' 1,797 trees over time. Bucyrus' trees currently sequester and avoid more than 1.2 million lbs of CO₂ (Table 8) annually and could represent carbon credits worth \$13,618 per year if a carbon trading system were in place and if a system for accounting for them were available for community trees. These are net gain figures and include deductions for tree losses and maintenance. Annual CO₂ benefits vary by species but are confounded by size as larger trees would produce more benefits. Larger, longer lived species and species requiring less maintenance such as pin oak also produce greater benefits (Table 8).

Annual air quality savings (reduced ozone, nitrous, and sulfur oxides as well as particulate matter) for Bucyrus' trees is \$15,394 (Table 9). This includes both direct savings (\$4,537) from the trees and avoided pollution which is even greater (\$12,526). Avoided pollution is pollution not generated at power source because energy was not required by the community. The total annual air quality benefits are discounted by \$1,669 for the volatile emissions from the trees themselves.

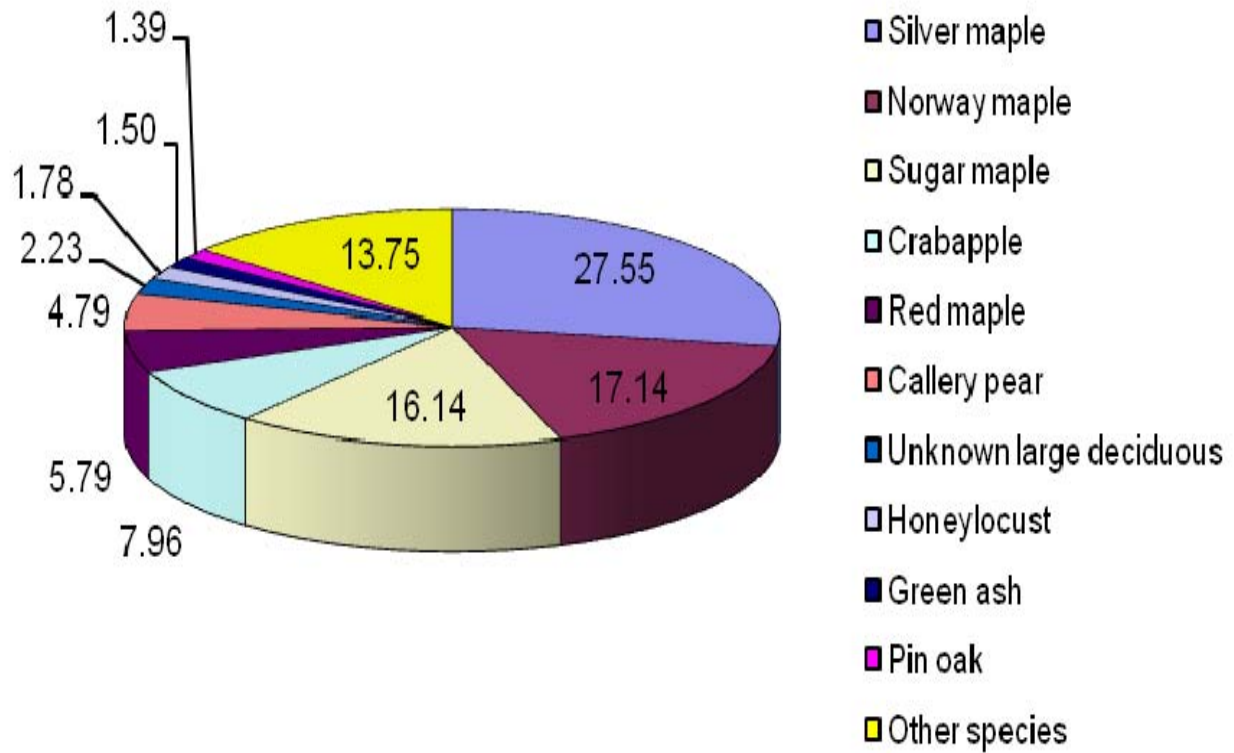
Energy savings by trees are exceptionally important in view of the citizenry's increasing concern over the nation's energy dependency. Planting trees in our communities may well be more cost effective than building power plants to as an alternative to meeting our energy needs. Energy is saved by shading structures, evaporating water (evapotranspiration) and reducing wind speed around structures (Table 7). Citywide Bucyrus saves \$32,066 in electricity and \$55,888 in natural gas for a total savings in excess of \$87,900 or an average of \$49 per tree with larger trees resulting in greater savings per tree.

Aesthetic and miscellaneous benefits from trees contribute \$106,593 annually to the community in the form of increased property values and enhanced community identity among other things (Table 10). Research in public housing has shown that areas with trees facilitate interaction among residents and lead to reduced domestic violence and more sociable environments. Customer surveys suggest that customers prefer to spend their money and time in commercial streetscapes with trees and are willing to spend up to 11% more in such settings.

When all benefits are included the average tree in Bucyrus contributes \$197 per tree annually to the community (Table 11). Species vary in their annual benefits but mature size, longevity, and maintenance costs are but some of the factors determining annual benefits. Thus Bucyrus' 1,797 trees contribute more than \$354,579 in aggregate. This would be well in excess of their maintenance and planting costs.

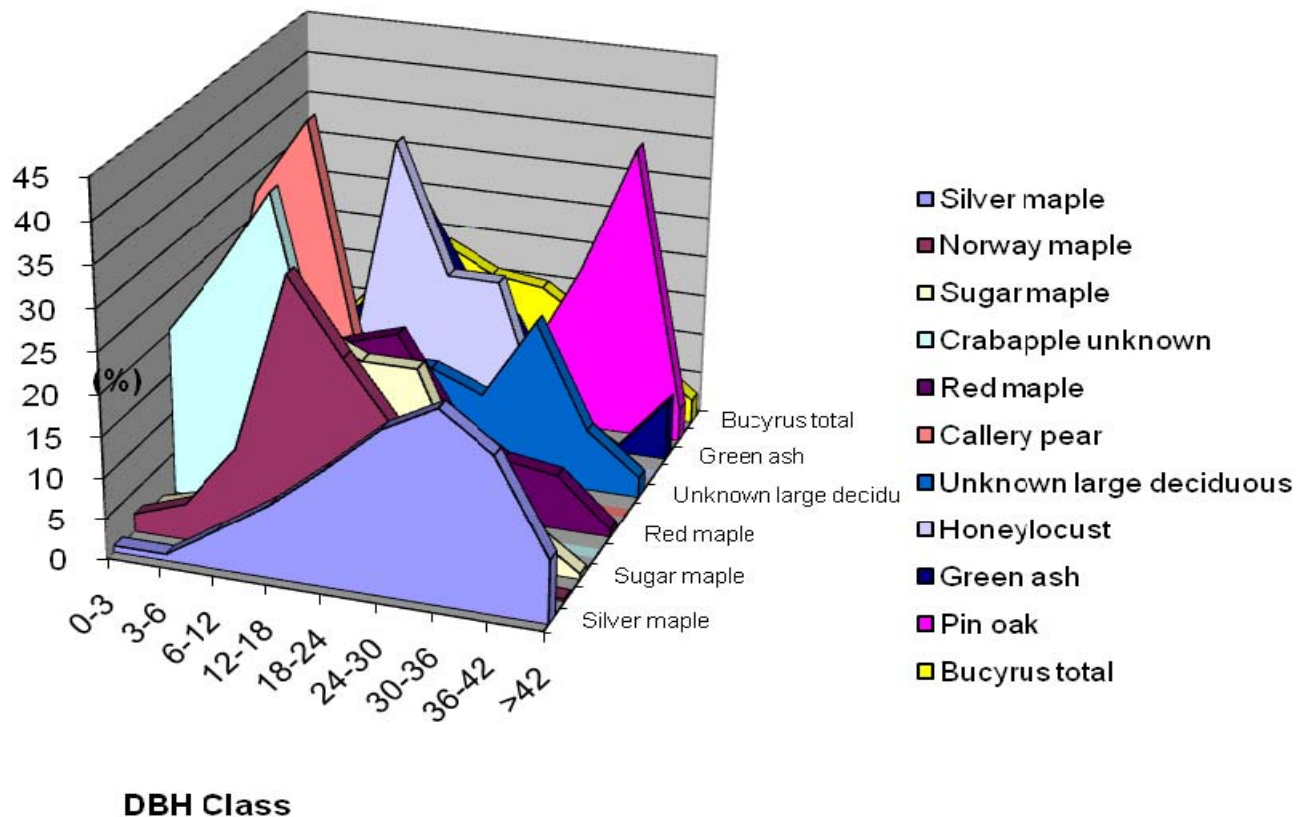
Bucyrus does not currently track tree maintenance and planting costs such as picking up brush following a storm as tree maintenance. Assuming that Bucyrus had tree administration and maintenance costs of \$2 per capita (as suggested for Tree City USA status) then Bucyrus with a population of 13,224 (2000 census) would have a tree budget of approximately \$26,500 with a return on investment of an astounding 1338%. Stated differently the City of Bucyrus was estimated to have spent \$26,500 to plant and maintain trees in public areas last year yet receive \$354,579 in benefits including storm water abatement, CO₂ avoidance and storage, energy savings, air quality, and aesthetic benefits. Trees are truly a contributing part of Bucyrus Ohio's infrastructure. Unlike most community infrastructure, tree benefits per tree continue to increase over a tree's lifetime.

Table 1 Species distribution of Bucyrus’ ten most commonly planted street trees represented as a percent of all trees



Species	Percent
Silver maple	27.55
Norway maple	17.14
Sugar maple	16.14
Crabapple	7.96
Red maple	5.79
Callery pear	4.79
Unknown large deciduous	2.23
Honeylocust	1.78
Green ash	1.50
Pin oak	1.39
Other species	13.75
Bucyrus Total	100.00

Table 2. Relative age distribution of the top 10 most commonly planted public tree taxa in Bucyrus (%)



Common Name	Percent of a specific tree in each DBH class (in)								
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42
Silver maple	0.81	0.81	4.85	9.09	14.34	20.00	23.43	18.99	7.68
Norway maple	2.27	4.55	12.34	33.77	25.00	16.88	4.22	0.65	0.32
Sugar maple	1.03	2.76	12.07	25.17	22.41	22.41	8.28	5.17	0.69
Crabapple unknown	20.28	28.67	38.46	11.89	0.70	0.00	0.00	0.00	0.00
Red maple	5.77	10.58	16.35	19.23	21.15	11.54	7.69	6.73	0.96
Callery pear	5.81	33.72	43.02	12.79	4.65	0.00	0.00	0.00	0.00
Unknown large deciduous	5.00	12.50	17.50	12.50	12.50	10.00	20.00	7.50	2.50
Honeylocust	6.25	3.13	6.25	37.50	21.88	21.88	3.13	0.00	0.00
Green ash	3.70	7.41	14.81	29.63	18.52	14.81	3.70	0.00	7.41
Pin oak	4.00	4.00	4.00	16.00	4.00	8.00	20.00	36.00	4.00
Bucyrus Totals	5.45	8.46	15.19	18.86	15.75	14.91	10.74	7.74	2.89

Table 3. Complete population of street trees in Bucyrus, Ohio by scientific name and size class.

Species	DBH Class (in)									Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	
Broadleaf Deciduous Large (BDL)										
Acer rubrum	6	11	17	20	22	12	8	7	1	104
Acer saccharinum	4	4	24	45	71	99	116	94	38	495
Acer saccharum	3	8	35	73	65	65	24	15	2	290
Acer species	0	0	1	2	1	0	1	0	0	5
Betula papyrifera	1	0	2	0	0	0	0	0	0	3
Catalpa species	0	0	2	0	1	1	0	1	0	5
Fagus sylvatica	0	0	0	0	0	0	0	0	1	1
Fraxinus americana	0	0	2	5	4	2	2	3	2	20
Fraxinus pennsylvanica	1	2	4	8	5	4	1	0	2	27
Juglans nigra	0	1	6	6	2	3	0	0	0	18
Liquidambar styraciflua	0	0	2	1	0	0	0	0	0	3
Liriodendron tulipifera	0	1	0	0	1	1	0	0	0	3
Platanus occidentalis	0	0	0	1	0	2	2	1	1	7
Populus species	0	0	1	2	0	1	0	0	0	4
Populus tremuloides	0	0	0	0	1	0	0	0	0	1
Quercus species	0	0	0	1	2	3	0	0	0	6
Quercus palustris	1	1	1	4	1	2	5	9	1	25
Quercus rubra	0	0	0	2	0	1	1	2	0	6
Taxodium distichum	0	0	1	0	0	0	0	0	0	1
Tilia americana	0	0	0	2	2	2	3	1	0	10
Ulmus parvifolia	0	0	0	1	0	0	2	0	0	3
Total	16	28	98	173	178	198	165	133	48	1,037
Broadleaf Deciduous Medium (BDM)										
Acer negundo	0	0	1	0	0	0	0	0	0	1
Acer platanoides	7	14	38	104	77	52	13	2	1	308
Aesculus glabra	0	0	0	3	1	0	1	0	0	5
Aesculus hippocastanum	0	0	0	0	1	1	1	0	0	3
Betula species	0	1	2	2	0	0	0	0	0	5
Carpinus betulus	0	0	1	1	1	0	0	0	0	3
Ginkgo biloba	0	0	0	1	1	0	0	0	0	2
Gleditsia triacanthos	2	1	2	12	7	7	1	0	0	32
Pyrus calleryana	5	29	37	11	4	0	0	0	0	86
Quercus bicolor	0	0	0	0	1	0	0	0	1	2
Quercus imbricaria	0	0	0	0	0	0	2	1	0	3
Quercus robur	1	0	0	0	0	0	0	0	0	1
Tilia cordata	0	0	11	1	0	2	2	0	0	16
Ulmus pumila	0	0	0	1	1	2	0	0	0	4
UNKNOWN	2	5	7	5	5	4	8	3	1	40
Total	17	50	99	141	99	68	28	6	3	511

Species	DBH Class (in)									Total
	0-3	3-6	6-12	12-18	18-24	24-30	30-36	36-42	>42	
Broadleaf Deciduous Small (BDS)										
Acer palmatum	2	1	2	0	0	0	0	0	0	5
Amelanchier species	7	0	0	0	0	0	0	0	0	7
Cercis canadensis	2	2	6	2	1	0	0	0	0	13
Cornus florida	7	7	1	0	0	0	0	0	0	15
Crataegus phaenopyrum	1	1	1	0	0	0	0	0	0	3
Hibiscus syriacus	0	7	1	0	0	0	0	0	0	8
Malus species	29	41	55	17	1	0	0	0	0	143
Morus species	0	1	1	0	0	0	0	0	0	2
Ostrya virginiana	0	1	0	0	0	0	0	0	0	1
Prunus species	2	1	0	0	0	0	0	0	0	3
Prunus serrulata	6	8	3	1	0	0	0	0	1	19
Sorbus species	0	3	2	0	0	0	0	0	0	5
Syringa species	2	0	0	0	0	0	0	0	0	2
Syringa reticulata	6	1	0	0	0	0	0	0	0	7
Total	64	74	72	20	2	0	0	0	1	233
Conifer Evergreen Large (CEL)										
Picea abies	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	1	0	0	0	0	0	1
Conifer Evergreen Medium (CEM)										
Picea pungens	1	0	3	1	2	1	0	0	0	8
Total	1	0	3	1	2	1	0	0	0	8
Conifer Evergreen Small (CES)										
Juniperus virginiana	0	0	1	3	2	1	0	0	0	7
Total	0	0	1	3	2	1	0	0	0	7
Bucyrus Totals	98	152	273	339	283	268	193	139	52	1,797

Table 4. Importance values for Bucyrus' most abundant street trees listed by importance value ordered by decreasing importance values

Species	Number of Trees	% Total Trees	% of Total Leaf Area	% Total Canopy Cover	Importance Value
Silver maple	495	27.55	50.13	45.23	40.97
Sugar maple	290	16.14	18.09	16.67	16.97
Norway maple	308	17.14	11.57	14.07	14.26
Other trees	190	10.57	5.26	5.74	7.19
Red maple	104	5.79	3.72	4.66	4.72
Crabapple	143	7.96	0.36	1.57	3.30
Callery pear	86	4.79	0.90	1.75	2.48
Pin oak	25	1.39	2.59	2.16	2.05
Honeylocust	32	1.78	1.97	1.98	1.91
Unknown large deciduous	40	2.23	1.65	1.82	1.90
White ash	20	1.11	1.75	1.99	1.62
Green ash	27	1.50	1.45	1.37	1.44
Black walnut	18	1.00	0.50	0.83	0.78
Kwanzan cherry	19	1.06	0.04	0.16	0.42
Bucyrus Total	1,797	100.00	100.00	100.00	100.00

Table 5. Annual storm water benefits of Bucyrus street trees by common name arranged by decreasing average contribution per tree

Species	Total Rainfall Interception (Gal)	Totals (\$)	% of Total Tree Numbers	% of Total Dollars	Avg. \$/tree
Silver maple	2458431	\$66,628.10	27.55	50.85	\$134.60
White ash	88211	\$2,390.69	1.11	1.82	\$119.53
Pin oak	104669	\$2,836.72	1.39	2.17	\$113.47
Sugar maple	775397	\$21,014.73	16.14	16.04	\$72.46
Honeylocust	77966	\$2,113.03	1.78	1.61	\$66.03
Green ash	63206	\$1,713.01	1.50	1.31	\$63.44
Unknown large deciduous	84605	\$2,292.96	2.23	1.75	\$57.32
Norway maple	618013	\$16,749.33	17.14	12.78	\$54.38
Red maple	187623	\$5,084.95	5.79	3.88	\$48.89
Black walnut	28164	\$763.29	1.00	0.58	\$42.41
Other street trees	258461	\$7,004.77	10.57	5.35	\$36.87
Callery pear	56282	\$1,525.34	4.79	1.16	\$17.74
Crabapple	30081	\$815.25	7.96	0.62	\$5.70
Kwanzan cherry	3228	\$87.48	1.06	0.07	\$4.60
Bucyrus totals	4,834,337	\$131,019.60	100.00	100.00	\$72.91

Table 6. Stored CO₂ benefits of Bucyrus' public trees by species listed by decreasing value of stored carbon

Species	Total stored CO ₂ (lbs)	Total (\$)	%Total Tree Numbers	% of Total \$	Avg. \$/tree
Pin oak	555217	\$4,164	1.39	3.09	\$166.57
Silver maple	9765918	\$73,244	27.55	54.33	\$147.97
White ash	267407	\$2,006	1.11	1.49	\$100.28
Green ash	277182	\$2,079	1.50	1.54	\$77.00
Sugar maple	2896033	\$21,720	16.14	16.11	\$74.90
Unknown large deciduous	295160	\$2,214	2.23	1.64	\$55.34
Norway maple	2004752	\$15,036	17.14	11.15	\$48.82
Honeylocust	183625	\$1,377	1.78	1.02	\$43.04
Other street trees	429149	\$7,096	10.57	5.26	\$37.35
Red maple	490963	\$3,682	5.79	2.73	\$35.41
Black walnut	45126	\$338	1.00	0.25	\$18.80
Callery pear	118791	\$891	4.79	0.66	\$10.36
Crabapple	115998	\$870	7.96	0.65	\$6.08
Kwanzan cherry	14009	\$105	1.06	0.08	\$5.53
Bucyrus total	17,976,288	\$134,822	100.00	100.00	\$75.03

Table 7. Annual energy benefits of Bucyrus' street trees by species in dollars/species arranged by decreasing percent of contribution

Species	Total Electricity (MWh)	Electricity (\$)	Total Natural Gas (Therms)	Natural Gas (\$)	Total Dollars	Percent Total Tree Numbers	Percent Total Dollars	Avg. \$/tree
Silver maple	166.66	\$12,649	21,873	\$21,435	\$34,085	27.55	38.75	\$68.86
Norway maple	71.08	\$5,395	10,071	\$9,869	\$15,264	17.14	17.35	\$49.56
Sugar maple	74.54	\$5,658	9,915	\$9,717	\$15,374	16.14	17.48	\$53.01
Crabapple	8.40	\$638	1,330	\$1,304	\$1,942	7.96	2.21	\$13.58
Red maple	21.66	\$1,644	2,939	\$2,880	\$4,524	5.79	5.14	\$43.5
Callery pear	9.12	\$692	1,256	\$1,231	\$1,923	4.79	2.19	\$22.36
Unknown large deciduous	8.56	\$650	1,254	\$1,229	\$1,879	2.23	2.14	\$46.98
Honeylocust	8.74	\$664	1,126	\$1,104	\$1,768	1.78	2.01	\$55.24
Green ash	6.30	\$478	837	\$820	\$1,298	1.5	1.48	\$48.08
Pin oak	8.35	\$634	1,086	\$1,065	\$1,699	1.39	1.93	\$67.95
White ash	7.30	\$554	885	\$867	\$1,421	1.11	1.62	\$71.03
Kwanzan cherry	0.80	\$61	129	\$126	\$187	1.06	0.21	\$9.86
Black walnut	4.08	\$310	574	\$562	\$872	1	0.99	\$48.45
Other street trees	26.88	\$2,040	3,754	\$3,679	\$5,719	10.57	6.5	\$30.1
Bucyrus total	422.48	\$32,066	57,029	\$55,888	\$87,954	100	100	\$48.94

Table 8. Annual carbon dioxide benefits of Bucyrus' public trees by species and listed by decreasing average annual monetary contribution

Species	Sequestered	Sequestered	Decomp. Release	Maint. Release	Total Release	Avoided	Avoided	Net Total	Total	% Total Contrib.	Avg. \$/tree
	(lb)	(\$)	(lb)	(lb)	(\$)	(lb)	(\$)	(lb)	(\$)		(\$)
Pin oak	43165	\$324	-2665	-5	-\$20	14010	\$105	54505	\$409	3.00	\$16.35
Silver maple	709906	\$5,324	-46876	-97	-\$352	279550	\$2,097	942483	\$7,069	51.91	\$14.28
White ash	12688	\$95	-1284	-4	-\$10	12238	\$92	23638	\$177	1.30	\$8.86
Honeylocust	23115	\$173	-881	-6	-\$7	14668	\$110	36895	\$277	2.03	\$8.65
Sugar maple	158471	\$1,189	-13901	-57	-\$105	125035	\$938	269548	\$2,022	14.85	\$6.97
Green ash	13192	\$99	-1330	-5	-\$10	10571	\$79	22428	\$168	1.24	\$6.23
Norway maple	105451	\$791	-9623	-60	-\$73	119223	\$894	214991	\$1,612	11.84	\$5.24
Red maple	33230	\$249	-2357	-20	-\$18	36325	\$272	67178	\$504	3.70	\$4.84
Black walnut	3899	\$29	-217	-4	-\$2	6850	\$51	10529	\$79	0.58	\$4.39
Unknown large deciduous	7816	\$59	-1417	-8	-\$11	14361	\$108	20752	\$156	1.14	\$3.89
Other street trees	52469	\$394	-4541	-37	-\$34	45080	\$338	92971	\$697	5.12	\$3.67
Callery pear	16261	\$122	-570	-17	-\$4	15298	\$115	30972	\$232	1.71	\$2.70
Crabapple	13099	\$98	-557	-28	-\$4	14095	\$106	26609	\$200	1.47	\$1.40
Kwanzan cherry	965	\$7	-67	-4	-\$1	1347	\$10	2241	\$17	0.12	\$0.88
Bucyrus total	1,193,727	\$8,953	-86,286	-350	-\$650	70,8651	\$5,315	1,815,742	\$13,618	100.00	\$7.58

Table 9. Annual air quality benefits of Bucyrus' street trees by species listed by average dollars per tree

Species	Actual Deposition					Avoided Deposition					Plant Emissions		Total	Total	% Total Numbers	Avg. \$/tree
	O3	NO2	PM10	SO2	Total	NO2	PM10	VOC	SO2	Total	BVOC	BVOC				
	(lb)	(lb)	(lb)	(lb)	(\$)	(lb)	(lb)	(lb)	(lb)	(\$)	(lb)	(\$)	(lb)	(\$)	%	(\$)
White ash	17	3	8	1	\$91	34	5	5	33	\$213	0	\$0	105	\$304	1.1	\$15.21
Silver maple	429	73	210	19	\$2,313	785	115	110	754	\$4,913	-222	-\$831	2273	\$6,394	27.5	\$12.92
Honeylocust	15	2	7	1	\$77	41	6	6	40	\$257	-11	-\$40	106	\$295	1.8	\$9.21
Norway maple	122	21	60	5	\$658	343	50	47	323	\$2,129	-29	-\$108	942	\$2,679	17.1	\$8.70
Pin oak	20	4	10	1	\$109	39	6	6	38	\$246	-37	-\$138	86	\$217	1.4	\$8.70
Green ash	8	1	4	0	\$44	30	4	4	29	\$187	0	\$0	81	\$231	1.5	\$8.54
Sugar maple	100	17	51	4	\$546	353	52	49	338	\$2,205	-80	-\$298	885	\$2,453	16.1	\$8.46
Unknown large deciduous	18	3	9	1	\$96	42	6	6	39	\$258	-4	-\$15	118	\$338	2.2	\$8.46
Red maple	45	8	21	2	\$241	103	15	14	98	\$643	-15	-\$57	291	\$827	5.8	\$7.95
Black walnut	3	1	2	0	\$19	20	3	3	19	\$122	0	\$0	50	\$141	1.0	\$7.81
Other street trees	45	8	24	2	\$248	129	19	18	122	\$802	-44	-\$166	322	\$884	10.6	\$4.65
Callery pear	10	2	5	0	\$53	44	6	6	41	\$271	-4	-\$14	110	\$310	4.8	\$3.61
Crabapple	7	1	3	0	\$36	42	6	6	38	\$256	0	\$0	103	\$292	8.0	\$2.04
Kwanzan cherry	1	0	0	0	\$4	4	1	1	4	\$24	0	\$0	10	\$29	1.1	\$1.52
Bucyrus total	840	143	414	38	\$4,537	2008	293	279	1913	\$12,526	-445	\$1,669	5483	\$15,394	100.0	\$8.57

Table 10. Annual aesthetic or other benefits of Bucyrus' street trees by species and listed by average aesthetic benefits per tree

Species	Total (\$)	% of Total Numbers	% of Total \$	Avg. \$/tree
Honeylocust	\$5,388	1.78	5.06	\$168.39
Pin oak	\$3,175	1.39	2.98	\$126.99
Silver maple	\$54,464	27.55	51.10	\$110.03
White ash	\$1,413	1.11	1.33	\$70.64
Sugar maple	\$16,814	16.14	15.77	\$57.98
Green ash	\$1,190	1.50	1.12	\$44.09
Red maple	\$4,305	5.79	4.04	\$41.39
Black walnut	\$689	1.00	0.65	\$38.28
Norway maple	\$10,220	17.14	9.59	\$33.18
Callery pear	\$2,476	4.79	2.32	\$28.80
Other street trees	\$4,888	10.57	4.59	\$25.72
Unknown large deciduous	\$790	2.23	0.74	\$19.76
Crabapple	\$729	7.96	0.68	\$5.10
Kwanzan cherry	\$51	1.06	0.05	\$2.70
Bucyrus total	\$106,593	100.00	100.00	\$59.32

Table 11. Average annual benefits of Bucyrus' street trees by common name and ordered by total dollars per tree

Species	Energy	CO ₂	Air Quality	Storm water	Aesthetic /Other	Totals	% of Total
Silver maple	\$34,085	\$7,069	\$6,394	\$66,628	\$54,464	\$168,640	47.6
Sugar maple	\$15,374	\$2,022	\$2,453	\$21,015	\$16,814	\$57,678	16.3
Norway maple	\$15,264	\$1,612	\$2,679	\$16,749	\$10,220	\$46,524	13.1
Other street trees	\$5,719	\$697	\$884	\$7,005	\$4,888	\$19,192	5.4
Red maple	\$4,524	\$504	\$827	\$5,085	\$4,305	\$15,244	4.3
Honeylocust	\$1,768	\$277	\$295	\$2,113	\$5,388	\$9,840	2.8
Pin oak	\$1,699	\$409	\$217	\$2,837	\$3,175	\$8,336	2.4
Callery pear	\$1,923	\$232	\$310	\$1,525	\$2,476	\$6,468	1.8
White ash	\$1,421	\$177	\$304	\$2,391	\$1,413	\$5,706	1.6
Unknown large deciduous	\$1,879	\$156	\$338	\$2,293	\$790	\$5,456	1.5
Green ash	\$1,298	\$168	\$231	\$1,713	\$1,190	\$4,600	1.3
Crabapple	\$1,942	\$200	\$292	\$815	\$729	\$3,978	1.1
Black walnut	\$872	\$79	\$141	\$763	\$689	\$2,544	0.7
Kwanzan cherry	\$187	\$17	\$29	\$87	\$51	\$372	0.1
Bucyrus total	\$87,954	\$13,618	\$15,394	\$131,020	\$106,593	\$354,579	100.0