INNER CITY PREFERENCES FOR TREES AND URBAN FORESTRY PROGRAMS[1]

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Abstract. A survey questionnaire of 250 residents of the city of Detroit was taken in 1979. Its purpose was to identify inner city attitudes regarding urban forestry and tree programs. The respondents demonstrate a high regard for tree programs as compared to other municipal services. Within parks, the specific attributes which respondents would like to see more of, show preference to more passive activities associated with trees and shade. Differences do exist across several characteristics such as age and race. Tree lined streets rank highest as important places for government to provide trees. Providing trees in parking lots, in industrial areas and in downtown areas ranked surprisingly low. Respondents state that trees would influence their choice of a place to live. When viewing color pictures and several scenes, responses to bipolar word pairs indicate strong positive feelings to trees. Specific tree programs favored most, are to plant more trees in their neighborhood.

The scarcity of municipal resources poses significant challenges for the management of urban trees. Tightening budgets and rapidly rising operating costs put strains on existing programs and necessitate a careful re-evaluation of current efforts. At the same time, urbanites faced with rising costs of gasoline and other goods and services are spending an increasing share of their leisure time close to home. This has brought mounting calls for increased enhancement of the urban environment —including trees and forests. Managers are subsequently faced with "doing more with less" and must be certain their programs are on target with the highest priority public needs. If programs are not properly targeted, inefficiency will follow, public support will erode, and the programs will fail.

Studies of urban preferences and priorities can help target urban tree programs in relation to high priority urban needs. However, past studies have focused primarily on the needs of suburbanites and residents of small towns, rather than the residents of inner portions of large cities where critical urban tree and forest issues are to be faced in the years ahead. To start to fill that void, this study focuses on residents of inner city areas of Detroit; a random sample was drawn from the area within the Detroit city boundary.

A survey questionnaire was designed in cooperation with urban forest managers. After extensive pretesting, a market research firm conducted face to face interviews with 250 Detroit residents. The socio-demographic characteristics of respondents are summarized in Table 1. The sample is roughly comparable to the Detroit population, although there is some over-sampling of individuals who were middle age, had a higher than average educational attainment, and were female. The heavy female component may be explained by the fact that surveys were taken during the day and early evening hours when males are more often away. The questionnaire elicited information on (1) the importance of trees and tree care programs to urbanites, (2) the values and benefits that urbanites attribute to trees, and (3) recommendations for urban forestry programs.

The Importance of Trees and Tree Care Programs

In the municipal budgeting process, important tradeoffs must be made between tree programs and other urban services. Within the tree programs there are important tradeoffs to be made between activities, as well as the locations where

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they will be concentrated. This section summarizes the relative importance of tree programs in general, as well as particular tree care activities and locations within the urban forest, as rated by the respondents to the survey.

Table 1. Socio-demographic characteristics of Detroit respondents.

Characteristic	*Number*	*Percent*
Age		
20	9	3.6
20-30	69	27.6
31-45	92	36.8
46-60	60	24.0
>60	19	7.6
Education		
Grade		
<9	17	6.8
9-12	118	47.2
College	92	36.8
Grad level	23	9.2
Income		
<8,000	48	19.2
8,000-13,500	60	24.0
13,501-19,000	54	21.6
19,001-27,000	42	16.8
>27,000	44	17.6
Sex		
Male	94	37.6
Female	156	62.4
Race		
White	75	30.0
Black	175	70.0
TOTAL	250	

Municipal services. Park and street trees ranked high among municipal services. When presented with a list of six typical municipal services and asked to indicate whether, under present tax levels, each service should be given more tax dollars, the same tax dollars, or less tax dollars, respondents ranked park and street trees second only to education programs in terms of receiving more funds, and substantially above other services (Table 2). Nearly two-thirds indicated that more funds should be spent on park and street trees, and less than six percent indicated that less should be spent on trees. This also demonstrates that respondents, when given a free choice, usually disregard the fact that with constant budget, any increase must be accompanied by a decrease. Much more is preferred than the amount willing to be sacrificed.

Interest in trees and forests in the city. When asked how interested they were in the management, care and use of trees and forests in the city, respondents generally ranked their interest midway between somewhat interested and very interested. Fifty percent are very interested or very much interested. Eight percent are not at all interested. Even though overall interest is high, interest intensifies with higher income and education levels.

Table 2. Public preferences for redistribution of tax dollars for specific municipal services Detroit, 1979

	Preferred spending percent		
Service	*more*	*same*	*less*
Education programs	78.3	16.1	5.6
Park and street trees	64.7	30.1	5.2
Law enforcement	52.6	41.0	5.6
Recreational programs & services	51.6	44.0	4.4
Road construction and repair	44.7	42.7	12.6
Waste water treatment	43.4	50.6	6.0

When responses were analyzed in terms of the subgroups indicated on Table 1 (age, income, education, sex, race), a clear majority of each group favored increased spending on park and street trees, with the highest levels of support among high income individuals and whites.

Park attributes. Trees ranked high among park attributes. Respondents were asked to indicate from a list of eleven items, the ones they would like to see more of in their parks (Table 3). Trees and the shade they provide ranked at the top of the list, with two-thirds of the respondents indicating that they wanted more. This high level of support for trees was unchanged across population subgroups. The relative importance of the more passive attributes should be noted since the top four are decidedly more passive than the lower-rated items.

Urban forest areas. The respondents indicated that urban forest areas, particularly tree-lined streets, were important to them. When asked to assess the importance of government providing wooded areas, tree-lined streets, and open park areas, respondents rated tree-lined streets

highest, followed by open park lands, and then wooded areas. Note in Table 4 that the mean ratings ranged from somewhat important to almost greatly important. The categories greatly important and very greatly important show substantial differences in support of the options, at high levels.

Table 3. Percent of respondents preferring more of specific attributes in urban parks.

Attributes	*Percent*
Shady walks w/benches	70.4
Trees & shrubs	64.8
Gardens and flower beds	63.2
Picnic areas	63.2
Playground equipment	61.6
Nature/hiking trails	61.2
Swimming pools	49.2
Tennis courts	42.4
Softball fields	40.4
Ice skating rinks	38.8
Cross country ski trails	24.0

Importance of trees in particular areas. Of prime importance to managers of urban trees and forests is knowledge of those areas where residents believe that trees are particularly important. With this information, efforts can be chaneled in appropriate directions. Respondents rated the relative importance of trees in seven parts of the city on the basis of a five-point scale from "not important (1)," to "very greatly important (5)." The response frequencies and means are presented, by location, in Table 5.

Residential streets and city parks had the highest mean importance ratings as locations for trees. This was not surprising, as these are areas where urbanites spend a great deal of their time. More than three-quarters of the respondents consider trees in these areas to be either greatly important or of very great importance. However, the quite low importance ratings of trees in parking

Table 4. Relative importance of local government provision of three types of tree areas.

Option	*Mean rating*	*(1) Not important*	*(2) Slightly important*	*(3) Somewhat important*	*(4) Greatly important*	*(5) Very Great importance*
				Percent		
Tree lined streets	3.8	4	10	16	36	34
Open park areas	3.5	8	14	25	30	23
Wooded areas	3.0	17	19	25	24	15

Table 5. Relative importance of trees in various location

Tree location	*Mean*	*(1) Not important*	*(2) Slightly important*	*(3) Somewhat important*	*(4) Greatly important*	*(5) Very Great importance*
				Percent		
Along residential streets	4.12	1.2	4.8	15.2	38.0	40.8
City parks	4.09	5.2	3.6	14.4	30.8	46.0
Front yards	3.88	2.4	4.6	19.2	35.6	33.2
Back yards	3.58	5.2	13.6	25.2	30.4	25.6
Downtown areas	3.24	4.6	18.8	28.8	23.2	19.6
Industrial areas	2.47	34.8	21.6	18.4	12.0	13.2
Parking lots	2.14	42.8	22.4	19.2	9.3	6.4

lots and industrial areas are somewhat surprising. These traditionally treeless areas have been targets of municipal planting programs to improve the monotonous landscapes and screen out unpleasant sights. Respondents ranked such efforts as the lowest priority among the choices presented.

Different population groups generally ranked the same areas in the top five. Whites, more educated, and higher income persons placed higher values on trees in parking lots and industrial areas than did others. The importance of trees in backyard situations is generally higher for upper income and more educated persons.

Summary. Detroit residents indicated strong support for programs aimed at providing street and park trees in their neighborhoods. These programs compared favorably with other municipal services. Trees ranked very high among the attributes of urban parks that respondents would like to see increased. While the highest priority for public tree programs was for street trees, substantial support was also indicated for open park areas, and moderate support for wooded areas. From a different perspective, there was surprisingly limited support for tree programs in industrial areas and parking lots. Support for urban tree programs was generally greater among the higher educated, the higher income, and white respondents although still strong among the other groups.

The Value of Trees

Respondents indicated that they place high values on trees in terms of (1) the influence of trees on their choice of a place to live, (2) the influence that they perceive trees to have on property values, and (3) the advantages that they attribute to having trees.

Choice of residence. Eight out of ten respondents indicated that trees would have an influence on the choice of a place to live. More than half of those indicated that the effect would be great or very great. Individuals with high levels of income and education were the most likely to report that trees would have a strong influence on their choice of a place to live.

Contribution to property values. Nearly ninety percent of the respondents indicated that trees increased property values in excess of ten percent, with twenty-five percent attributing a property value increase in excess of twenty-five percent to trees. Respondents with a high level of education were most likely to attribute high increases in property values to trees.

Attributes. Respondents placed considerable importance on the esthetic attributes of trees. When asked to rate the importance of thirteen attributes of trees on a scale of 1 to 5 (no advantage to very great advantage), esthetic attributes received high ratings (pleasing to the eye, fall color, flowers in spring, and screens unpleasant sights), as did shade, increased property values, and increased privacy and reduced noise (Table 6).

Table 6. Mean ratings of selected attributes of trees.

Amenity	*Mean Rating*
Pleasing to the eye	4.03
Gives shade	3.96
Increases property values	3.90
Fall color	3.87
Increases privacy	3.85
Flowers in spring	3.74
Reduces noise	3.28
Screens unpleasant sights	3.27
Slows wind speed	3.26
Place for children to play	3.12
Attracts birds	3.04
Attracts squirrels	2.59
Grows slowly	2.44

To more fully understand attitudes toward urban trees and forests, four 5″ × 7″ color photographs, either depicting a woodland, a single tree, a tree-lined residential street, or a treeless business district were shown to respondents. After viewing each scene, the respondent was asked to record his or her feelings on a five-point scale between bipolar word pairs (Table 7).

Nine of the polar adjectives can be directly interpreted as positive attributes of an urban setting (beautiful, interesting, pleasant, exhilarating, satisfying, peaceful, clean, inviting, and calming). In each of these instances, the tree standing alone on a lawn received the highest rating, generally followed by the woodland and tree-lined residen-

Table 7. Semantic differential comparing mean responses of a treeless business district, a tree-lined residential street, a tree growing alone in an open area, and a woodland scene.

Word pair	*Woodland*	*Treeless business district*	*Tree standing alone*	*Tree-lined residential street*
Unemotional (1)-Emotional (5)	3.49	2.80	3.78	3.20
Ugly (1)-Beautiful (5)	3.61	2.39	4.14	3.58
Boring (1)-Interesting (5)	3.64	2.44	3.87	3.47
Private (1)-Public (5)	2.90	4.03	2.89	3.02
Affluent (1)-Needy (5)	3.03	3.42	2.48	2.78
Pleasant (1)-Unpleasant (5)	2.31	3.40	1.77	2.10
Depressing (1)-Exhilarating (5)	3.39	2.52	3.72	3.34
Frustrating (1)-Satisfying (5)	3.63	2.67	4.02	3.58
Peaceful (1)-Disruptive (5)	2.08	3.27	1.69	2.02
Clean (1)-Dirty (5)	2.21	2.42	1.58	0.96
Inviting (1)-Threatening (5)	2.38	3.14	1.80	2.16
Obvious (1)-Mysterious (5)	3.23	2.57	2.41	2.42
Calming (1)-Exciting (5)	2.51	2.96	2.12	2.36
Wealth (1)-Poverty (5)	2.87	3.40	2.32	2.74

tial street (narrowly divided), with the treeless business district always last. The overall pattern of ratings across the adjective pairs was similar for the three scenes with trees, with the exception that the woodland scene was rated as more mysterious than the others, and the tree standing alone was rated as more public than the others.

Summary. Respondents placed high values on trees in urban environments. A very high proportion indicated that trees would influence their choice of a residence, and that trees make a significant contribution to property values. Esthetics ranked high among the value of urban trees, as did shade, increased property values, and increased privacy and fall color. Scenes depicting urban trees and forests were seen as beautiful, interesting, pleasant, exhilarating, satisfying, peaceful, clean, inviting, and calming.

Neighborhood Tree Management Programs

Respondents were most likely to select tree planting from a list of tree management programs they would most like to see done in their neighborhood in the next year, followed by removal of dead and dangerous trees, and trimming and maintaining existing trees.

Table 8. Respondent preferences for neighborhood tree programs.

Tree Management Activity	*Percent Choosing*
Plant more trees	37
Remove dead and dangerous trees	30
Trim and maintain existing trees	14
Make long range management programs	10
Help people learn about trees	9

When asked whether they would prefer to have their streets lined with large shade trees, small flowering trees, a combination of large shade trees and small flowering trees, or no trees, nearly 63% preferred a combination of large shade and smaller flowering trees. Only 11% preferred the small flowering trees, whereas 24% preferred large shade trees. This is consistent with the results of earlier research by Kalmbach and Kielbaso (1). Only two percent preferred no trees along their streets.

Conclusions

The study indicates strong public support for municipal tree programs in an inner city area, and particularly for programs aimed at residential street and park trees. Respondents ranked park

and street tree programs high in comparison with other city services. They also ranked trees and shrubs high among park attributes that they would like to see increased. Tree lined residential streets were ranked the highest among several urban forest environments.

Respondents indicated that trees were an important consideration in choosing a residence, and reported that trees contributed significantly to property values. Esthetic attributes ranked high among the attributes of urban trees, followed by shade, increased property values, and increased privacy. Scenes depicting trees were rated as beautiful, interesting, pleasant, exhilarating, satisfying, peaceful, clean, inviting and calming.

Respondents were most likely to select tree planting as the tree management program they would most like to see in their neighborhood next year, followed by removal of dead and dangerous trees, and trimming and maintaining existing trees. More preferred a combination of large shade and small flowering trees in their neighborhood, with their second choice being large shade trees.

Literature Cited

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ABSTRACT

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The success of a city forestry department depends on a team of arborists, landscape architects and horticulturists working together. A municipal tree program can mean more business for the private sector. A good forestry department spins off business that it cannot handle, so private business grows. Any city forestry program must be based on public support. Currently, many cities are failing to take advantage of trees. As trees grow older, they become more valuable. People like to plant trees. People need trees, and city trees can use the help of people.