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THE URBAN FOREST

Although the usual justification for urban forestry investment is the benefit to the environment, we now know that trees serve other functions, particularly for local economies and public health.

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Most people, whether they live in affluent or low-income neighborhoods, respond well to trees in cities, to what environmental scientists call the *urban forest*. There is considerable evidence of the health benefits of tree-lined sidewalks and shady parks, especially for low-income people without time or money for exercise clubs.[1] Perhaps less understood is the ability of trees and landscaping to energize downtowns and the small businesses that city dwellers often rely on for jobs.

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City trees create vibrancy by improving the overall shopping experience, making commercial areas more interesting, and offering a pleasant alternative to Internet shopping and big-box stores and malls set in the middle of hot, windy parking lots.

The role that trees play in making the shopping experience positive is subtle, but trees and the urban forest can ultimately boost the economic strength of downtowns by providing pleasant walks, cleaner air, improved storm-water management, and reduced heat-island effects. Recent research has identified some specific benefits that support local businesses.[2]

Psychological Aspects of Streetscapes

Although marketing research has shown that people's shopping behaviors are affected by environmental cues such as light, sound, and color, studies about such atmospherics have been focused primarily on shop interiors.[3] Generally overlooked is the fact that streetscape impressions are shoppers' first encounters with the atmospherics and can affect buying behavior.

New studies have assessed how trees influence shoppers' perceptions. Separate surveys focused on (a) central business districts of large cities (populations greater than 250,000), (b) one downtown in a midsize city (Athens, Georgia), and (c) Main Street shopping districts in smaller cities (with populations of up to 20,000).[4]

Each survey started off asking respondents to rate sets of images of streetscapes having varying forest characteristics. Each survey included a scenario about a shopping place and asked respondents to project their shopping behavior using rating scales and related methods.[5] Scenarios differed as to whether the shopping area was "with trees" or having "no trees." Places with trees showed a high-quality, well-managed urban forest throughout a shopping district.[6]

Visual Quality

Across all three studies, visual preference scores were lower for places without trees and much higher for places with trees. (See "Sample Survey Images.") Images of business districts having tidy sidewalks and quality buildings—but no trees—were at the low end of the scores. Images of districts with well-tended, large trees received the highest preference ratings, particularly when large trees formed a leafy canopy over the sidewalk and street.

Photos Kathleen L. Wolf

Place Perceptions

Trees were associated with positive inferences in retail settings. Even when images showed the same level of building care and street tidiness, participants gave more positive scores for maintenance to districts with trees than to those without. Most interesting, judgments of product value, product quality, and merchant responsiveness were more positive in forested places.

Patronage Behavior

Study participants weighed the streetscape scenarios and indicated their probable patronage behavior. They claimed they were willing to travel more often, for more time, and over greater distance to a retail district having trees, and once arrived, would spend more time.[7]

Demographic Differences

Despite demographic differences among participants, the consistency of responses

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across all studies was remarkable. Whether the studies compared the size of the city where people lived or their household income, research subjects consistently preferred green shopping districts.

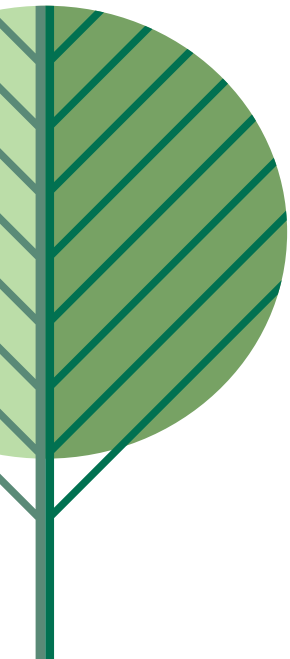
Harvesting the Benefits of Urban Forests

The researchers used a method called *contingent valuation* to quantify the impact of streetscape trees on local economies.[8] Trees were consistently associated with higher price points for products in shopping areas. Consumers in small cities claimed they were willing to pay 9 percent more—in large cities, 12 percent more—for equivalent goods and services in business districts having trees. They also indicated willingness to pay more for parking on streets with trees.

Interestingly, some businesspeople do not understand this. They rate tree benefits lower than shoppers do, suggesting they are unaware of how trees affect consumer behavior. Results suggest that investing in trees across a central business district, including areas undergoing revitalization, can bring more people to shop and that they may spend more during their visits.

Since the recession, many consumers continue to struggle, but they still shop. And what shopping means to them is more complex than simply bringing home a pair of shoes. When people bring along friends and family, for example, their search for the right goods and services also can be an important socializing time. The physical qualities of a shopping setting can support such outings. That's why merchants who want to create shopping places that welcome customers and provide pleasurable experiences would be well advised to consider trees.[9]

A comprehensive plan should not be overlooked, however. Good planning is more likely to lead to landscaping that can create positive experiences—in part because a plan helps garner support from community members, boosts fundraising, and ensures that details are thought through. Following planning and planting, ongoing maintenance will ensure maximum benefit and cost control. Community-spirited businesspeople, such as local bankers, could be champions for trees. As leaders in their communities, banks can help organize merchants to plant trees and can act as role models with their own landscape efforts.



Although the usual justification for urban forestry investment is the benefit to the environment, we now know that trees serve other functions, particularly for local economies and public health. The new studies, whether they looked at business-district revitalization in large cities or tested perceptions in smaller communities, show remarkably consistent results. Trees positively affect judgments of visual quality, but more significantly, they appear to influence responses such as purchasing behavior. At the same time, the spaces trees define have health benefits for urban residents.

Trees tap the deep appreciation that many people feel for nature and provide unexpected benefits even for those who may not notice the trees over their head.

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Acknowledgments

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Endnotes

1 See, for example, Kathleen L. Wolf, "City Trees, Nature and Physical Activity: A Research Review," *Arborist News* 17, no. 1 (2008): 22-24.

2 Kathleen L. Wolf, "Trees in the Small City Retail Business District: Comparing Resident and Visitor Perceptions," Journal of Forestry 103, no. 8 (2005): 390-395; Kathleen L. Wolf, "Business District Streetscapes, Trees, and Consumer Response," *Journal of Forestry* 103, no. 8 (2005): 396-400.

3 L.W. Turley and Ronald E. Milliman, "Atmospheric Effects on Shopping Behavior: A Review of the Experimental Evidence," *Journal of Business Research* 49 (2000): 193–211.

4 Large cities studied were neighborhood districts of Los Angeles, Washington, Chicago, Portland, Pittsburgh, Austin, and Seattle. Athens was the only midsize city. There were also 14 small cities, distributed among seven states. For additional research, see www.naturewithin.info.

5 Participants were asked to respond to perceptual verbal items using rating scales and to indicate likely patronage behavior within categorical indicators of time and distance.

6 In each study, a sample frame of potential shoppers was identified within close geographic range of study sites, which included cities of the northern and central United States. Surveys were distributed by random sampling using commercial mailing lists or sidewalk intercepts. Response rates ranged from 10 percent to 80 percent across studies.

7 Paco Underhill, *Why We Buy: The Science of Shopping* (New York: Simon & Schuster, 1999).

8 The urban forest is a public good. As such, it rarely generates tangible products that can be bought and sold. Economists utilize several strategies, including contingent valuation methods (CVM), to value nonmarket goods and services provided by nature and ecosystems. CVM surveys have been used to assess public "willingness to pay" for use, conservation, or restoration of natural resources.

9 B.J. Pine and J.H. Gilmore, *The Experience Economy: Work Is Theatre and Every Business a Stage* (Boston: Harvard Business School Press, 1999).

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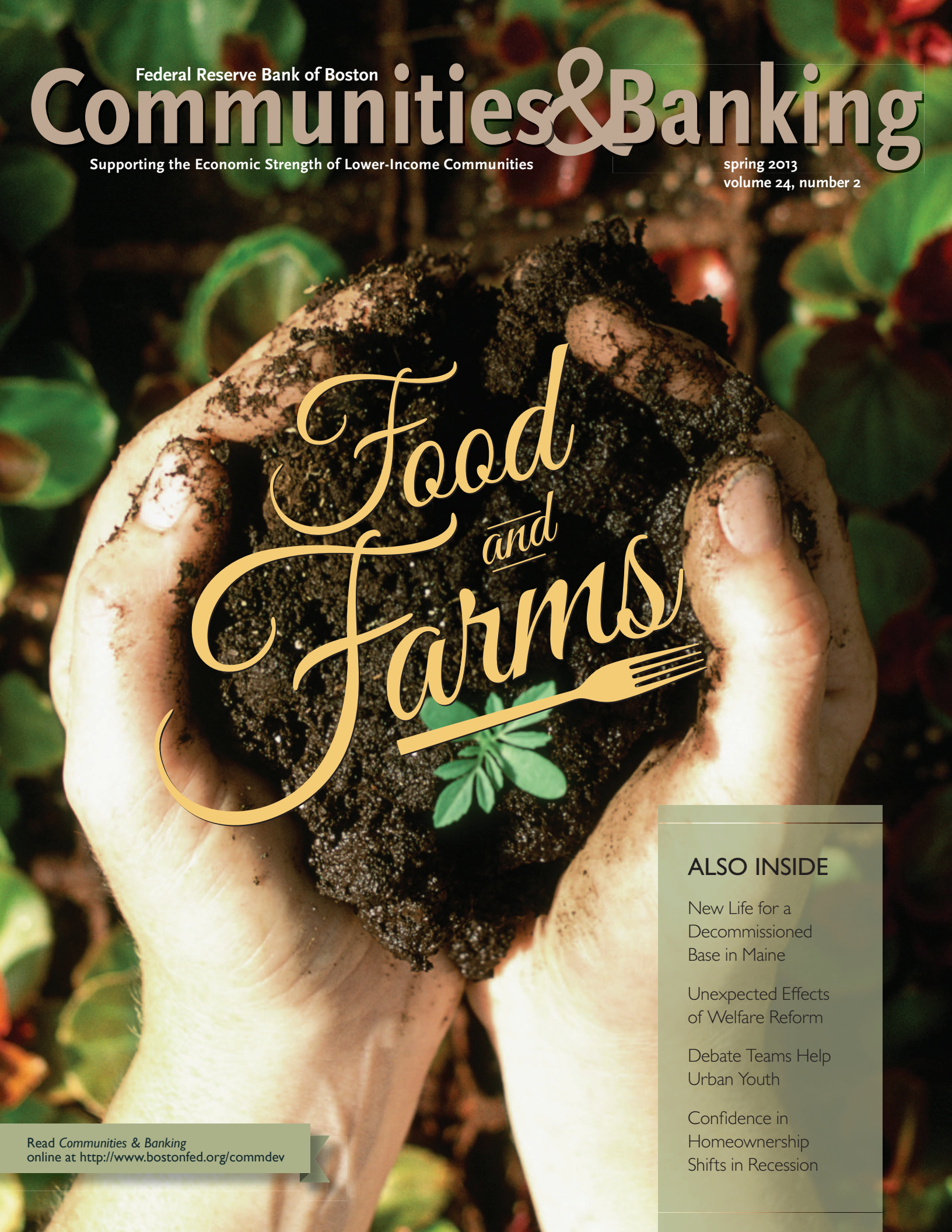

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