

Economic Benefits

A selection of facts and resources supported by research

2024

Overview

Trees, green spaces, and nature provide significant economic benefits to communities, including reduced healthcare expenses, increased economic opportunity, and reduced energy expenses.

Health Costs

- Tree planting is associated with the **reduction of cardiovascular deaths**. This reduction was even greater as trees aged and grew (Donovan et al., 2022).
- **Physical activity in parks** impacts health care savings - between \$4 and \$69.4 million per year (Trust for Public Land 2022).
- Access to natural elements (even passive views) impacts **faster surgical recovery**, patient healing and higher pain thresholds (Wolf et al., 2015).
- **Elderly** patients participating in nature therapy programs report pain reduction, improvement in attention, reduced stress, lowered need for medications, and reduction of falls (Detweiler et al. 2012).

Work Life Balance and Job Retention

- Nature views and indoor plants improve employee **morale/satisfaction**, decrease absenteeism, and increase efficiency (Wolf et al., 2015).
- Green spaces help employees **handle stress and recharge** (Wolf et al., 2015).

Tourism

- Urban forests and parks may play a significant role in **attracting tourism** and associated revenue (Deng et al., 2010).

Job Creation

- Tree planting initiatives provide employment opportunities, from the **initial planting to ongoing maintenance**. The Detroit Tree Equity Partnership is creating 300 jobs through its program to plant 75,000 trees (Greening of Detroit, 2022).
- The 2007-2015 MillionTrees NYC Campaign offered **training, wraparound social services, and assistance with job placement** in urban forestry for young adults who were previously disconnected from the workforce (Campbell, 2022).
- The Nature Conservancy and American Forests have national programs focused on educating and growing the **green workforce** (Campbell, 2022).

Energy Savings

- Trees offer **shade, improve air quality, and provide natural cooling**, reducing the need for air conditioning and lowering energy consumption (Wolf et al., 2015).
- **Parks can be up to 2°F cooler** than the surrounding urban area in the day, large numbers of trees and expansive green spaces across a city can reduce local air temperatures by up to 9°F (Wolf et al., 2015).
- Evergreens that block winter winds can save 3% on **heating** (The Morton Arboretum, n.d.).

Market and Non-market Values

- Trees **produce products** (market value) like wood furniture, paper, and lumber (Cavendar-Barres et.al, 2022).
- Trees produce **non-market value** from services such as **carbon storage** and **air pollution** filtration—far exceeding their commercial value (Cavendar-Barres et.al, 2022).
- Experts have determined that every dollar invested in tree planting and management brings **returns of up to 500%**. (The Morton Arboretum, n.d.).
- A **single tree** can provide **\$20,000 worth of benefits** over its lifetime (*The Social Benefits of Trees: How Trees Provide Value for Our Economy, Health, and Environment*, n.d.).

Property Values

- Nearby trees, particularly large ones, can **boost the price of a home** from 2% to 15%. Local governments capture those price effects in sales or property taxes across neighborhoods. (Goodwin, 2014).
- Trees and shrubs can significantly **reduce noise** and have a positive impact on property values (Nowak et al. 2010).

Storm Water Run Off

- Trees and soil improve **water quality** by removing harmful substances washed off roads, parking lots, and roofs during rain or snow events (Wolf et al, 2015).
- Vegetation can **reduce the need for costly stormwater treatment** by retaining or slowing the flow of precipitation reaching the ground (Wolf et al, 2015).

Shopping Districts

- Shoppers respond to the overall aesthetics of their shopping experience, will **travel farther** to shop in tree-lined business districts and **spend more time and money** once they are there. They report more frequent shopping and willingness to spend 12% more on goods (Goodwin, 2014).

References

Campbell, L. K., Svendsen, E. S., Johnson, M. L., & Plitt, S. (2022). Not by trees alone: Centering community in urban forestry. *Landscape and Urban Planning*, 224, 104445.
<https://doi.org/10.1016/j.landurbplan.2022.104445>

Cavender-Bares, J., Nelson, E., Meireles, J. E., Lasky, J. R., Miteva, D. A., Nowak, D. J., Pearse, W. D., Helmus, M. R., Zanne, A. E., Fagan, W. F., Mihlar, C., Muller, N. Z., Kraft, N. J. B., & Polasky, S. (2022). The hidden value of trees: Quantifying the ecosystem services of tree lineages and their major threats across the contiguous US. *PLOS Sustainability and Transformation*, 1(4), e0000010.

<https://doi.org/10.1371/journal.pstr.0000010>

Deng, J., Arano, K. G., Pierskalla, C., & McNeel, J. F. (2010). Linking urban forests and urban tourism: a case of Savannah, Georgia. *Tourism Analysis*, 15(2), 167–181.

<https://doi.org/10.3727/108354210x12724863327641>

Detweiler, M. B., Sharma, T. R., Detweiler, J. G., Murphy, P. F., Lane, S. D., Carman, J., Chudhary, A. S., Halling, M. H., & Kim, K. Y. (2012). What is the evidence to support the use of therapeutic gardens for the elderly? *Psychiatry Investigation*, 9(2), 100. <https://doi.org/10.4306/pi.2012.9.2.100>

Donovan, G. H., Prestemon, J. P., & Kaminski, A. R. (2022). The natural environment and social cohesion: Tree planting is associated with increased voter turnout in Portland, Oregon. *Trees, Forests and People*, 7, 100215. <https://doi.org/10.1016/j.tfp.2022.100215>

Goodwin, M. (2014, February 4). *City trees for beauty, health and Economic value - Dr Kathleen Wolf* The Institute of Chartered Foresters. The Institute of Chartered Foresters. <https://www.charteredforesters.org/economic-value-trees->

Nowak, D. J., Crane, D. E., & Stevens, J. C. (2006). Air pollution removal by urban trees and shrubs in the United States. *Urban Forestry & Urban Greening (Internet)*, 4(3–4), 115–123.

<https://doi.org/10.1016/j.ufug.2006.01.007>

Nowak, D. J., Stein, S., Randler, P. B., Greenfield, E. J., Comas, S. J., Carr, M. A., & Alig, R. J. (2010). *Sustaining America's urban trees and forests: a Forests on the Edge report*. <https://doi.org/10.2737/nrs-gtr-62>

The Greening of Detroit (2022, November 9). *Green Your Life*. www.greeningofdetroit.com

The Morton Arboretum (n.d.). *Plant and Protect/Benefit of Trees*. www.mortonarb.org

The Social benefits of trees: How trees provide value for our economy, health, and environment. (n.d.). <https://www.carma.earth/blog-posts/social-benefits-of-trees>

Trees are Good for Business. Technical Publication of the Pacific Northwest Chapter of the International Society of Arboriculture, Portland OR. June 2005. (pdf 14.7 MB)

Trust for Public Land. (2022, October 26). *Measuring the economic value of a city park system*. <https://www.tpl.org/resource/measuring-economic-value-city-park-system>

Wolf, K. L., & Robbins, A. (2015). Metro Nature, environmental health, and economic value *Environmental Health Perspectives*, 123(5), 390–398. <https://doi.org/10.1289/ehp.1408216>