Benefits of Trees and Urban Forests: A Research List
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**Green Infrastructure Benefits**

**Economic Benefits**

- Urban forests in the United States contain about 3.8 billion trees, with an estimated structural asset value of $2.4 trillion. 10
- Urban forests in the U.S. provide essential services to more than 220 million people (supporting 79 percent of the population). 1
- Trees in New York City provide $5.60 in benefits for every dollar spent on tree planting and care. 120
- For every dollar spent on tree planting and maintenance, the city of Providence, RI reaps $3.33 in benefits. 81
- Street trees in Washington, DC, produce annual benefits of $10.7 million. 13
- Trees in Glendale, AZ, produce total annual benefits of $665,856 or $31 per tree. 2
- Trees in Berkeley, CA, produce total annual benefits of $3.25 million or $89 per tree. 2
- Trees in Minneapolis, MN, produce total annual net benefits of $15.7 million or $79 per tree. 36
- Trees in Mecklenburg Country, NC, produce annual ecological benefits (stormwater management and air pollution mitigation) of over $200 million per year. 3
- The average annual net benefit of a mature large tree is $85 in a yard and $113 on public land. 4
- New York’s state parks and open space provide a $2.7 billion annual economic benefit to local governments and taxpayers. 5
- The value from urban forestry in Chicago totals $2.3 billion. 13
- Portland invested $8 million in green infrastructure to save $250 million in hard infrastructure costs.
  - The value of green infrastructure on urban climate adaptation
- Net benefits for a yard and public tree summed over 40-year period 76:
  - Large Tree: $4,320 (yard) and $3,880 (public)
  - Medium Tree: $1,040 (yard) and $760 (public)
  - Small Tree: $280 (yard) and $40 (public)
  - Conifer: $2,040 (yard) and $1,640 (public)

**Reducing Stormwater Run Off and Maintenance Costs**

- Urban forest can reduce annual stormwater runoff by 2–7 percent, and a mature tree can store 50 to 100 gallons of water during large storms. 10
- Green streets, rain barrels, and tree planting are estimated to be 3-6 times more effective in managing stormwater per $1,000 invested than conventional methods. 13
- Implementing green infrastructure practices in Detroit’s sewage and water department will reduce combined sewer overflow volumes by 10-20% and reduce annual costs by $159 million a year. 6
- Portland, OR, is saving 43% ($64 million) by integrating green infrastructure--including planting 4,000 trees--into a combined gray-green stormwater management solution rather than the standard gray infrastructure approach. 79
Street trees in Minneapolis save $9.1 million in stormwater treatments annually.  
Philadelphia’s $1.5 billion stormwater management plan focuses almost exclusively on eco-friendly solutions—bioswales, permeable pavement, street trees—as a way of reducing the city’s 15 billion gallons of annual water overflow. 
Trees on UC San Diego’s 1,200-acre campus trap and filter nearly 140 million gallons of stormwater runoff each year at a value of $250,000. 
The stormwater management value of Philadelphia’s parkland and trees is $5.9 million annually. 
Urban greening in Washington, DC, prevents over 1.2 billion gallons of stormwater from entering the sewer system, 10% of the total volume. This represents a savings of $4.74 billion in gray infrastructure costs per 30-year construction cycle. 
Trees in Houston, TX, provide $1.3 billion in stormwater benefits (based on $0.66/cubic foot of storage). 
Each urban tree in Modesto, CA, reduces stormwater runoff by 845 gallons annually, with a benefit valued at $7 per tree. 
Street trees in New York City intercept 890 million gallons of stormwater annually: 1,525 gallons per tree on average, with a total value of over $35 million each year.