TREE EQUITY SCORE

2021 Findings: There is Much to Gain

Nationwide Findings

The findings from the first release of TES (in June 2021) illuminate what is to be gained by planting more trees in urbanized areas. By planting 522 million trees within urbanized areas, which is the number of trees that would be planted for every place to reach a score of 100, the U.S. would benefit in the following ways:

- About 3.8 million jobs would be supported
- 56,613 tons of particulate pollution in the atmosphere would be mitigated annually, as the trees mature. These forms of matter can originate from traffic, agriculture and industry, as well as organic root causes, like volcanic eruptions, soil erosions and sea salt
- Carbon would be sequestered (or absorbed) to the tune of almost 9.3 million tons annually, the equivalent of taking 92 million cars off the road
- Approximately 478 million cubic meters of stormwater runoff would be avoided annually
- An aggregate ecosystem services benefit of $5 billion would be created every year

Most-to-Gain

The 20 large-scale (500,000 people or more) places that would benefit the most from planting more trees and achieving Tree Equity are:

- Chicago, Illinois
- Columbus, Ohio
- Detroit, Michigan
- El Paso, Texas
- Fort Worth, Texas
- Fresno, California
- Jacksonville, Florida
- Los Angeles, California
- Hempstead, New York
- Houston, Texas
- Memphis, Tennessee
- Milwaukee, Wisconsin
- New York, New York
- Oklahoma City, Oklahoma
- Philadelphia, Pennsylvania
- Phoenix, Arizona
- Portland, Oregon
- Sacramento, San Diego, and San Jose, California.

These 20 large-scale cities would benefit in the following ways:

1. Los Angeles, California

Needs about **5.1 million more trees** to achieve Tree Equity. If that occurs:

- **37,757 jobs** would be supported
- **728.4 tons** of particle pollution would be mitigated
- **$77,964,556** in total ecosystem service benefits

2. San Diego, California:

Needs about **4 million more trees** to achieve Tree Equity. If that occurs:

- **29,540 jobs** would be supported
- **640.2 tons** of particle pollution would be mitigated
- **$47,333,817** in total ecosystem service benefits

3. Houston, Texas:

Needs about **2.4 million more trees** to achieve Tree Equity. If that occurs:

- **17,967 jobs** would be supported
- **372.6 tons** of particle pollution would be mitigated
- **$28,236,549** in total ecosystem service benefits

4. Columbus, Ohio:

Needs about 2.3 million more trees to achieve Tree Equity. If that occurs:

- **17,141 jobs** would be supported
- **386.8 tons** of particle pollution would be mitigated
- **$22,071,687** in total ecosystem service benefits

5. Chicago, Illinois:

Needs about **2.2 million more trees** to achieve Tree Equity. If that occurs:

- **16,503 jobs** would be supported
- **205.7 tons** of particle pollution would be mitigated
- **$38,485,078** in total ecosystem service benefits

6. Jacksonville, Florida:

Needs about **2.1 million more trees** to achieve Tree Equity. If that occurs:

- **15,988 jobs** would be supported
- **365.2 tons** of particle pollution would be mitigated
- **$26,726,697** in total ecosystem service benefits

7. Phoenix, Arizona:

Needs about **2 million more trees** to achieve Tree Equity. If that occurs:

- **15,046 jobs** would be supported
- **423.6 tons** of particle pollution would be mitigated
- **$16,300,027** in total ecosystem service benefits

8. Fresno, California:

Needs about **1.9 million more trees** to achieve Tree Equity. If that occurs:

- **13,982 jobs** would be supported
- **332.7 tons** of particle pollution would be mitigated
- **$22,189,031** in total ecosystem service benefits

9. San Jose, California:

Needs about 1.9 million more trees to achieve Tree Equity. If that occurs:

- **13,855** jobs would be supported
- **145.5** tons of particle pollution would be mitigated
- **$24,925,117** in total ecosystem service benefits

10. Memphis, Tennessee:

Needs about **1.8 million more trees** to achieve Tree Equity. If that occurs:

- **13,411** jobs would be supported
- **197.3** tons of particle pollution would be mitigated
- **$16,026,169** in total ecosystem service benefits

2021 Findings:
There is Much to Gain

11. Sacramento, California:
Needs about **1.7 million more trees** to achieve Tree Equity. If that occurs:

- **12,930** jobs would be supported
- **156.8** tons of particle pollution would be mitigated
- **$15,589,329** in total ecosystem service benefits

12. New York, New York:
Needs about **1.5 million more trees** to achieve Tree Equity. If that occurs:

- **11,482** jobs would be supported
- **241.1** tons of particle pollution would be mitigated
- **$58,315,475** in total ecosystem service benefits

13. Portland, Oregon:
Needs about **1.3 million more trees** to achieve Tree Equity. If that occurs:

- **9,716** jobs would be supported
- **138** tons of particle pollution would be mitigated
- **$30,771,390** in total ecosystem service benefits

14. Oklahoma City, Oklahoma:
Needs about **1.3 million more trees** to achieve Tree Equity. If that occurs:

- **9,585** jobs would be supported
- **135.5** tons of particle pollution would be mitigated
- **$9,193,702** in total ecosystem service benefits

15. Detroit, Michigan:
Needs about **1.2 million more trees** to achieve Tree Equity. If that occurs:

- **9,093** jobs would be supported
- **90.8** tons of particle pollution would be mitigated
- **$10,435,403** in total ecosystem service benefits

16. Philadelphia, Pennsylvania:
Needs about **1 million more trees** to achieve Tree Equity. If that occurs:

- **7,675** jobs would be supported
- **101.1** tons of particle pollution would be mitigated
- **$20,082,792** in total ecosystem service benefits

17. El Paso, Texas:
Needs about **1 million more trees** to achieve Tree Equity. If that occurs:

- **7,668** jobs would be supported
- **177.2** tons of particle pollution would be mitigated
- **$6,148,799** in total ecosystem service benefits

18. Hempstead, New York:
Needs about **1 million more trees** to achieve Tree Equity. If that occurs:

- **7,503** jobs would be supported
- **60.9** tons of particle pollution would be mitigated
- **$13,476,210** in total ecosystem service benefits

19. Milwaukee, Wisconsin:
Needs about **980,000 more trees** to achieve Tree Equity. If that occurs:

- **7,139** jobs would be supported
- **90.3** tons of particle pollution would be mitigated
- **$9,621,980** in total ecosystem service benefits

20. Fort Worth, Texas:
Needs about **900,000 more trees** to achieve Tree Equity. If that occurs:

- **6,575** jobs would be supported
- **67.8** tons of particle pollution would be mitigated
- **$6,816,060** in total ecosystem service benefits

2021 Findings:
There is Much to Gain

Income Disparities

TES highlights inequities within an urbanized area by examining tree canopy in one neighborhood compared to another. The findings show correlations between a neighborhood's racial or ethnic makeup, average income and the amount of tree canopy available. The large-scale cities with the largest discrepancies of tree canopy in high-income neighborhoods compared to low-income neighborhoods are:

1. Austin
   20 percent difference
2. Portland, OR
   15 percent difference
3. San Antonio
   12 percent difference
4. Los Angeles
   10 percent difference
5. Baltimore and Houston
   9 percent difference
6. Columbus, Raleigh and Dallas
   8 percent difference
7. Seattle, Denver, San Diego, San Francisco and Charlotte
   7 percent difference

Heat Disparities

Since trees play such a vital role in keeping neighborhoods cooler during heat season, urbanized areas are likely to have some neighborhoods with higher temperatures than others. Large-scale cities that feature the biggest disparity between the hottest neighborhood and the city-wide average (in degrees and percentage) include:

1. Memphis
   (10.6 degrees/12 percent)
2. Boston
   (10.5 degrees/12 percent)
3. Columbus
   (10.1 degrees/12 percent)
4. Charlotte
   (10.1 degrees/12 percent)
5. Hempstead NY
   (9.5 degrees/12 percent)
6. New York City
   (8.1 degrees/10 percent)
7. Atlanta
   (7.4 degrees/10 percent)
8. Houston
   (7.9 degrees/9 percent)
9. Baltimore
   (8.3 degrees/9 percent)
10. Detroit
    (7.1 degrees/8 percent)
11. Chicago
    (6.4 degrees/8 percent)