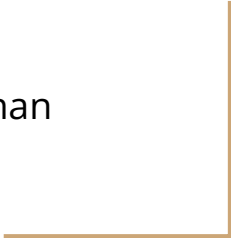




Benefits of Urban Trees

By: Sumaiya, Chanpera,
Elliott, Eric, Angus, Jonathan



Introduction

- An urban forest is all the trees in a city
- Trees in cities, including Cambridge, aren't evenly distributed
- There are less trees in areas:
 - That are lower income
 - Communities of non-native English speakers
 - Communities of color
 - The elderly



Cambridge Tree Loss (Elliott and Chanpera)

- Cambridge has lost almost 86 soccer field worth of trees which is equivalent to 150 acres of tree canopy since 2009
- If Cambridge continues at this rate Cambridge could potentially lose 107 fields of tree canopy by 2030
- Most trees that are being cut down are on private property

(Healthy Forest Healthy City)



Consequences of Not Having Enough Trees (Eric)

- Not having enough trees can lead to extreme drought (BBC News)
- Habitats for other living things would be destroyed (BBC News)



- There wouldn't be enough shade in neighborhoods (BBC News)
- Not having clean air to breath (BBC News)

Main Benefits

- Cooling the area
- Creating habitats for wildlife
- Improve air quality in a city
- They have economic benefits
 - They can increase property value
 - They help decrease energy use



Cool Down Area (Elliott & Jonathan)

- Trees create shade and break up heat islands
 - Trees provide shade by blocking the sun with leaves/branches. This is called tree canopy (Jonathan)
- They provide shade which encourages walking and biking
- Soak up water from the soil and releases vapor through leaves which makes a cooling effect.

(Healthy Forest Healthy City)



Habitats for wildlife (Angus)

- They create homes for birds, squirrels, all sorts of insects
- More than 20,000 bugs can live in one tree
- Makes a healthy ecosystem by supporting biodiversity
- Tree canopy creates pathways and connects urban wildlife (Healthy Forest Healthy City)



Improves Air Quality (sumaiya yusuf)

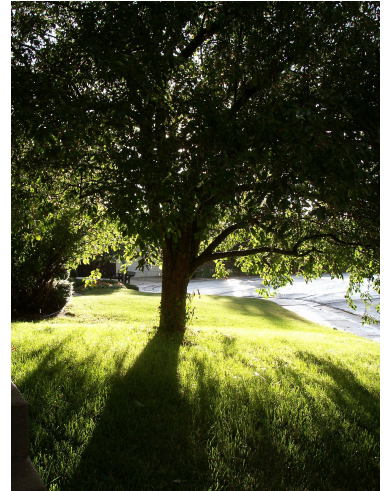
- The trees remove pollutants such as NO_2 , SO_2 , and O_3
- One tree can absorb 48 pounds of CO_2 a year
- They absorb gaseous air pollution through the leaf stomata
- “Stomata are composed of a pair of specialized epidermal cells referred to as guard cells”



Improves Air Quality cont.-Jonathan Yihdego

trees clean the air:

- Trees produce oxygen and take in Co2. (arborday.org)
- Humans produce 35 billion metric tons CO2 per year. (climate.gov)



Economic Benefits (Elliott)

- Large trees in yards increase property value 3-15% (Wolf, Kathleen L, PhD, University of Washington)
- In Portland, Oregon trees in yards add a total of \$1.1 billion in property value (Pacific Northwest Research Center)
- Urban Forests create 250,000 jobs in the Northeast and Midwest (Science Direct)



Reduces energy usage (Sumaiya Yusuf

- Trees reduce your heating and cooling costs
- Trees save energy through cooling in the hotter months
- They provide a wind break during winter
- Trees result in burning less fossil fuels to generate electricity for cooling and heating
- “When burned, trees generate more CO₂ emissions per unit of energy generated than fossil fuels.” (INSIDERS)



Figure 2. An air conditioning unit on a south or west wall should be protected from the sun.

More Tree Benefits (Eric)

- **Reduces Noise/Unwanted Views:** Trees can be used to block out unwanted views or the noise from busy highways. (www.bgky.org)
- **Create Safe Traffic:** Tree lined roads create a traffic calming effect by which will make traffic move more safe and smoothly. (www.bgky.org)
- **Used As Scenery:** Trees can be used to complement the architecture or design of buildings or entire neighborhoods. (www.bgky.org)
- **Help Prevent Floods:** Their roots can help absorb water and they stop soil erosion



Green Cambridge's Solution

- Green Cambridge created Canopy Crew to plant more trees
- Canopy Crew is also an opportunity for young people to explore careers in urban forestry
- Their goal is to plant 300 trees a year, 150 in the spring and 150 in the fall
- It's a plan to plant trees on private property
- Residents can sign up to get a tree for free



<https://www.si.edu/spotlight/buginfo/bugnos#:~:text=From%20studies%20conducted%20by%20Terry.estimated%20to%20be%2030%20million>

[The Importance of a Tree Canopy - YouTube](#)

<https://www.bgky.org/tree/benefits>

<https://theconversation.com/amp/how-would-planting-8-billion-trees-every-year-for-20-years-affect-earths-climate-165284>

<https://www.bbc.com/future/article/20190911-what-would-happen-if-all-the-worlds-trees-disappeared#:~:text=Without%20trees%2C%20formerly%20forested%20areas,reefs%20and%20other%20marine%20habitats.>

https://www.cambridgema.gov/digital/Stories/cityviewspringsummer2022/cambridgeplants1.000treesandestablishesmiyawakimicroforest?utm_campaign=sproutsocial&utm_content=1653413022&utm_medium=social&utm_source=twitter

<https://www.sciencedirect.com/science/article/abs/pii/S1618866722000334>

<https://www.sbnmass.org/blog/how-much-are-your-trees-really-worthmy>

<https://www.arboday.org/trees/benefits.cfm#:~:text=The%20Value%20of%20Trees%20to%20a%20Community&text=Having%20large%20trees%20in%20yards.3%20percent%20to%2015%20percent.>