Tree Canopy Management Strategy Report

Metropolitan Washington Council of Governments

Presentation to

AIR AND CLIMATE PUBLIC ADVISORY COMMITTEE

September 17, 2018

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Chairperson
Metropolitan Washington Regional Tree Canopy Workgroup

Regional Tree Canopy Workgroup

An ad-hoc committee formed to develop strategies, tactics and recommendations to conserve and manage tree and forest resources in support of regional environmental, land use planning, regulatory and socio-economic goals.

Convened in 2011 to implement strategies of the "*Urban Heat Island Mitigation/Tree Planting/Canopy Conservation and Management*" measure included in the 2007 Metropolitan Washington State Implementation Plan for the 8-Hour Ozone Standard.

Local, State, Federal and Community Representation:

Michael P. Knapp, Chair – Montgomery County
CJ Lammers: MNCPPC - Prince George's County
Todd Bolton: City of Takoma Park
Katherine Nelson, MNCPPC - Montgomery County
Laura Miller – DEP - Montgomery County
Jim McGlone: Virginia Department of Forestry
Anne Hairston Strang: MDNR-Forest Service
Marian Honeczy: MDNR-Forest Service
Vincent Verweij: Arlington County
Gary Allen: Chesapeake Communities
Steve Saari, District of Columbia
Monica Lear: District of Columbia
Keith Cline: USDA Forest Service and Fairfax County

Council of Government Staff Support:

Brian Le Couteur
Amanda Campbell
Jeffery King

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https://www.mwcog.org/committees/regional-tree-canopy-workgroup/

Hyper-functionality

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- **Air pollution reduction**
- **Carbon sequestration & storage**
- **Moderating energy use**
- **Mitigating Heat Island**
- **Water quality improvement**
- **Stormwater reduction**

- **Stress reduction**
- **Increases to property values**
- **Attracts customers to business districts**
- **Crime reduction**
- **Wildlife habitat**
- **Wood products**
- **Food products**
- **Noise attenuation**

For more information on tree benefits/functionality see pages 14 through 17 in report

Purpose

Provide a framework of policies, recommendations and resources that:

1. address challenges and threats

2. maximize benefits while minimizing associated risks

3. encourage jurisdictions to adopt consistent programs, policies, and practices

https://www.mwcog.org/documents/tree-canopy-management-strategy/

TREE CANOPY MANAGEMENT STRATEGY
The Regional Tree Canopy Workgroup's Assessment of the Region's Tree and Forest Resources

May 2018

Metropolitan Washington
Council of Governments

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Overarching Goals

1. Protect, manage & expand urban forest assets to maximize regional environmental health and quality of life

2. Optimize the impact of local urban forestry programs through inter-jurisdictional dialogue, support and collaboration

3. Develop a regional **urban forest action plan** & **canopy goals**

4. Inspire the community to take ownership of efforts to protect and expand urban forests

5. Integrate urban forests into land use planning

Strategies

1. Utilize the full potential of urban forests to mitigate climate change and to address regulatory concerns

2. Encourage COG jurisdictions to adopt effective and consistent programs, policies, and practices

3. Establish a forest policy and planning committee to support and guide regional collaboration

4. Keep forested lands forested, intact and ecologically functional

5. Increase the extent & vitality of urban tree canopy while minimizing potential risks and conflicts

6. Develop quantitative and qualitative metrics

7. Encourage public participation in the development of goals, strategies and a common vision

8. Lead by example

9. Build synergistic partnerships with Key Stakeholders

10. Take steps to integrate urban forestry goals and metrics into Region Forward

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Recommendations to CEEPC
May 2018

1. **Encourage COG jurisdictions to conserve and expand their urban forests**

2. **Establish an on-going forest policy committee** to provide advice on issues and trends related to trees and forests; develop a *regional tree action plan* and *tree canopy goals*; and, promote, monitor, and realign policies and recommendations as new conditions emerge

3. **Align regional urban forestry initiatives and metrics with the Region Forward** in support of broader land use planning goals

For more information on the
Tree Canopy Management Strategy Report

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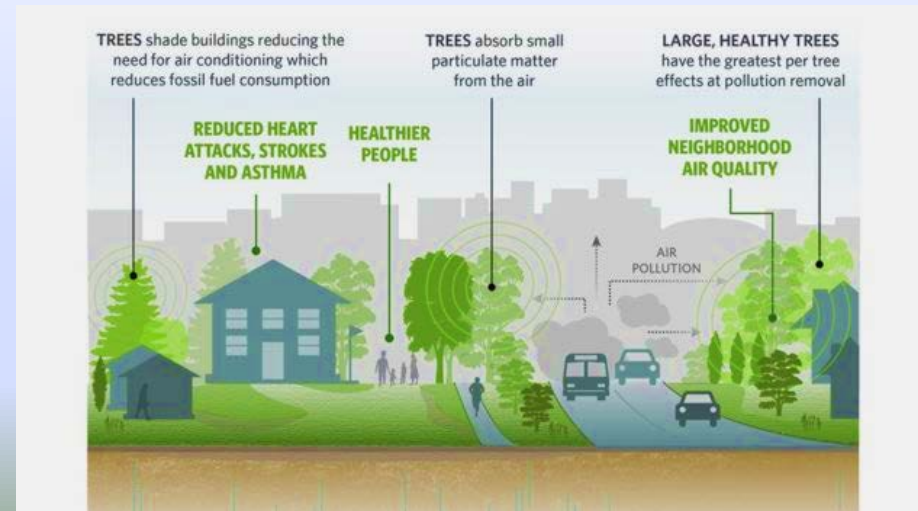
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Trees and Air Quality

Vegetation affects local and regional air quality by altering the atmospheric environment directly and indirectly.

1. Removal of air pollutants   (CO, NO2, O3, PM10, PM 2.5, SO2)
2. Ambient temperature reduction and other microclimatic effects
3. Effects on energy use in buildings
4. Reduction of evaporative emissions
5. Emission of volatile organic compounds
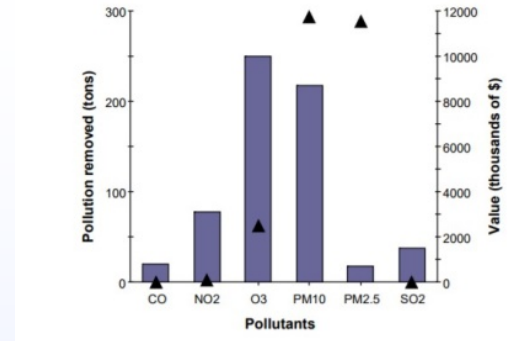6. Tree maintenance emissions

TREES shade buildings reducing the need for air conditioning which reduces fossil fuel consumption

TREES absorb small particulate matter from the air

LARGE, HEALTHY TREES have the greatest per tree effects at pollution removal

REDUCED HEART ATTACKS, STROKES AND ASTHMA

HEALTHIER PEOPLE

IMPROVED NEIGHBORHOOD AIR QUALITY

AIR POLLUTION

Trees and Air Quality

Washington D.C. (2015)

2,431,000 trees

Pollution removal: 619 tons/year

Fairfax County, Virginia (2010)

20,900,000 trees
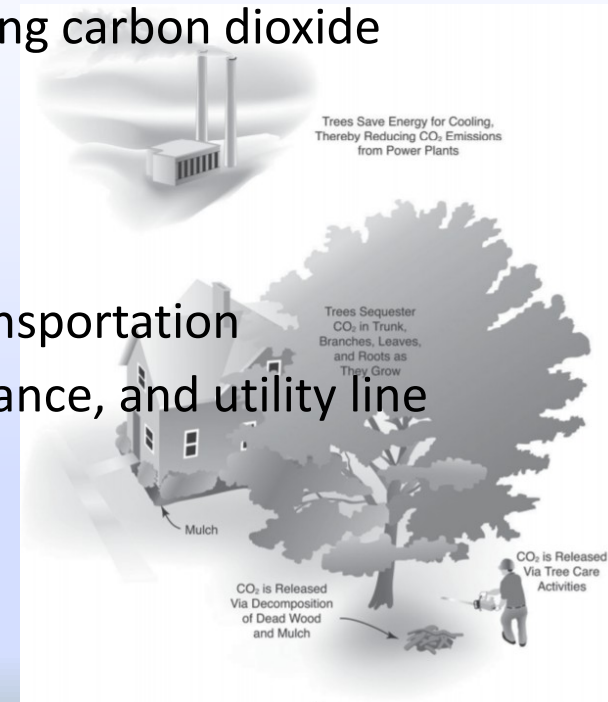
Pollution removal: 4,670 tons/year

Trees and Carbon Dioxide

Trees help mitigate climate change directly and indirectly by:

1. Sequestering atmospheric carbon (from carbon dioxide) in wood tissue
2. Storing carbon over lifetime of wood tissue
3. Altering energy use in buildings, thereby reducing carbon dioxide emissions from fossil-fuel based power plants

Factors that can influence tree effects:

1. Carbon footprint of nursery production and transportation
2. Carbon footprint of tree removal, tree maintenance, and utility line clearance activities
3. Waste wood utilization

Trees Save Energy for Cooling, Thereby Reducing CO_2 Emissions from Power Plants

Trees Sequester CO_2 in Trunk, Branches, Leaves, and Roots as They Grow

Mulch

CO_2 is Released Via Decomposition of Dead Wood and Mulch

CO_2 is Released Via Tree Care Activities

Trees and Carbon Dioxide

Washington D.C. (2015)

Carbon sequestration: 26,700 tons/year ($1.90 million/year)

Carbon storage: 649,000 tons ($46.2 million)

Avoided carbon emissions: 2,360 tons ($168 thousand/year)

Source: http://caseytrees.epicenter1.com/wp-content/uploads/2017/03/iTree-2015-Report_English.pdf

Fairfax County, Virginia (2010)

Carbon sequestration: 218,000 tons/year ($4.51 million/year)
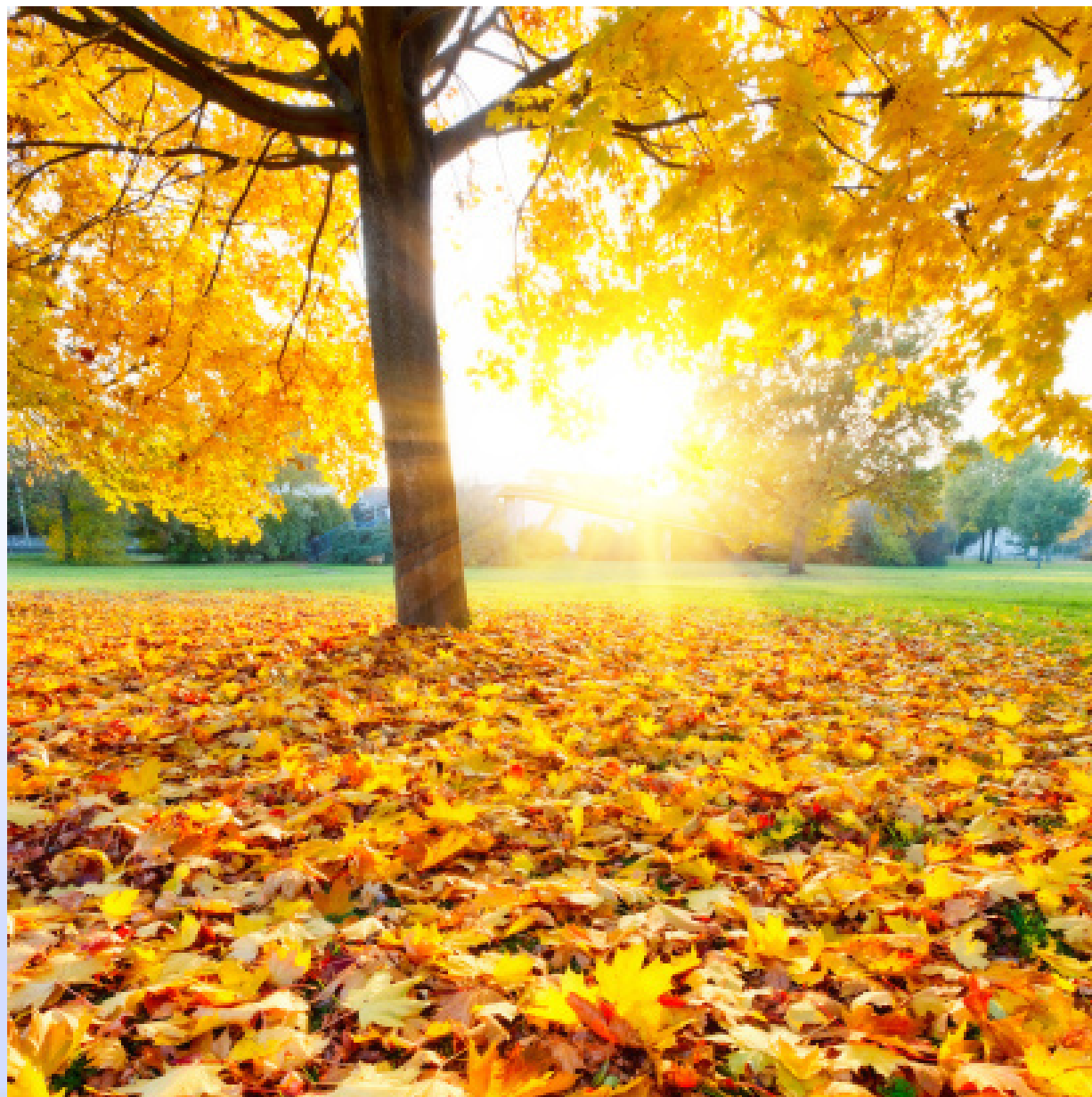
Carbon storage: 3,879,000 tons ($80.2 million)

Avoided carbon emissions: 22,900 tons ($421 thousand / year)

Source: http://www.fairfaxcounty.gov/dpwes/environmental/ffcounty_ecoreport.pdf

Ton: short ton (U.S.) (2,000 lbs)

Supporting Strategies, Policies and Programs to Improve Air Quality

- Setting local tree canopy goals and supporting metrics
- Adopting local urban forest management plans
- Tree preservation ordinances and specifications
- Land use planning guidance and development criteria specific to tree conservation
- Outreach programs that encourage proper tree care and planting practices
- Partnerships with non-profit and community-based tree planting groups
- Providing adequate staffing levels and fiscal support for public tree programs
- Demonstrating tree-related BMPs on public lands
- Adopting "right tree in the right place" programs
- Setting minimum canopy requirements for large surface parking facilities
- Encouraging alternative uses of waste wood

Questions?