Virginia's Street Trees: Ambassadors of the Urban Forest

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Virginia Cooperative Extension
A partnership of Virginia Tech and Virginia State University www.ext.vt.edu

Forest Resources & Environmental Conservation at Virginia Tech

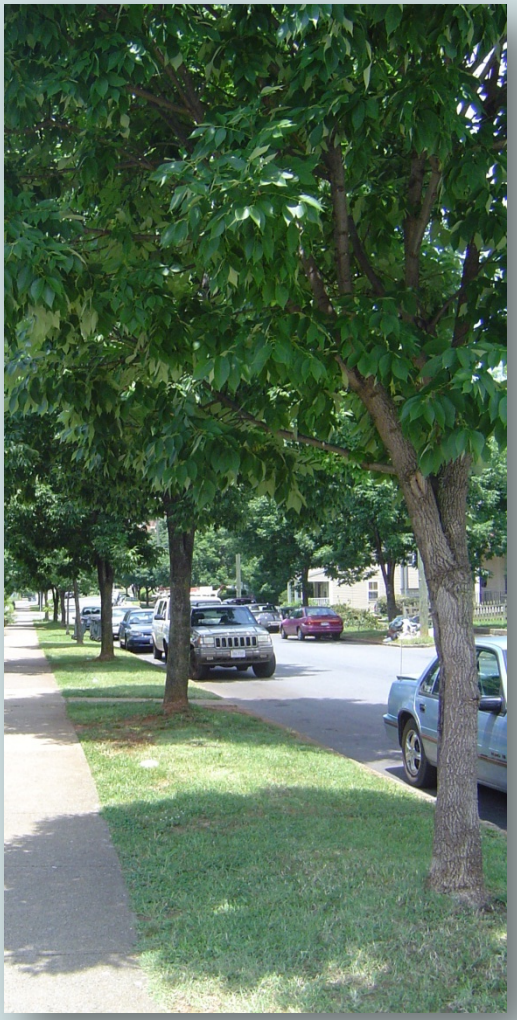
TREES VIRGINIA
Virginia Urban Forest Council

August 15th 2012

Street Trees in Virginia ~ What We Have, What We Want, & How We Get There

Presentation Overview

- Workshop context
- Workshop objectives
- Brief history of street trees
- Tour of Virginia Street Tree Assessment Project website



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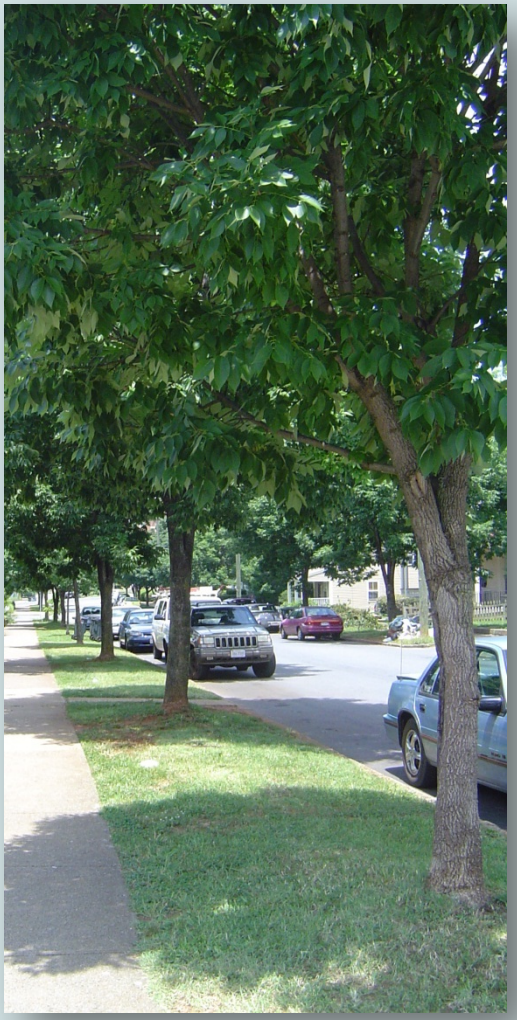


Workshop context

Why are street trees ambassadors of the urban forest?

- Street trees are immersed in the built environment
- Citizens have a high level of interaction with them
- Their assets and liabilities are readily noticed by the public
- Citizens form their opinions and values of urban forests based on their experiences with street trees

WORKSHOP CONTEXT

Where are we right now?

59% Say Creating New Jobs More Important Than Protecting Environment

in Politics

Email this ShareThis

Tuesday, January 24, 2012

Despite President Obama's decision last week to delay the Keystone XL pipeline from Canada to Texas for environmental reasons, most voters think creating jobs trumps the environment.

A new Rasmussen Reports national telephone survey finds that 59% of Likely U.S. Voters say, generally speaking, that creating new jobs is more important than environmental protection. Twenty-nine percent (29%) disagree and say protecting the environment is more important. Another 12% are not sure. (To see survey question wording, click here.)

RASMUSSEN REPORTS

www.rasmussenreports.com

WORKSHOP CONTEXT

Where are we right now?

Two National Surveys of 1,000 Likely Voters
June 27-28 and July 1-2, 2012

ISSUE	VERY IMPORTANT
Economy	74%
Health Care	67%
Gov't Ethics and Corruption	64%
Taxes	55%
Energy Policy	44%
Education	55%
Social Security	60%
Immigration	47%
National Security/War on Terror	46%
Afghanistan	30%

RASMUSSEN REPORTS

Thursday, July 05, 2012

www.rasmussenreports.com

WORKSHOP CONTEXT

Where are we right now?

Save Urban & Community Forestry Program from Being Repealed!

Tweet 31 +1 1 Like 202

Washington, DC (June 18, 2012)- Help save the U.S. Forest Service Urban and Community Forestry Program! Among the hundreds of Farm Bill amendments filed in the Senate is Amendment 2292 from Sen. Tom Coburn (R-OK) that would repeal the U.S. Forest Service Urban and Community Forestry (U&CF) Program. This amendment has been identified as one of 40 priority amendments by Senate Republicans. ACTrees believes U&CF is a vital program. We strongly encourage you to reach out to your Senators and ask that they oppose Amendment 2292. Votes are expected as early as today, Monday June 18.

ACTrees fully supports the U&CF Program, which provides assistance to over 7,000 communities in all states and territories. Many state forestry agencies rely on funds from the federal U&CF program to provide assistance and cost-share grants to communities. If you have ever received training, technical assistance, or funding from your state urban and community forestry program, you have benefited from the federal investment in the U.S. Forest Service U&CF program.

The flawed reasoning behind Amendment 2292 suggests that local and national nonprofits can do the work of the U&CF program, without U&CF assistance. Tell your Senators that's not true-U&CF is vital for supporting, enhancing, and innovating the community forestry work that nonprofits are doing in cities and towns all across the country.

actrees.org/news/media-center/actrees-news

WORKSHOP CONTEXT

Where are we right now?

Eastern U.S. storms kill 13, cut power to millions

35 Like 83 Tweet 19 Share 5 Short URL Email Print

By ASSOCIATED PRESS | 6/30/12 8:00 AM EDT Updated: 6/30/12 9:54 PM EDT

WASHINGTON — Millions across the mid-Atlantic region sweltered Saturday in the aftermath of violent storms that pummeled the eastern U.S. with high winds and downed trees, killing at least 13 people and leaving 3 million without power during a heat wave.

www.politico.com/news/stories/0612/78046.html

WORKSHOP CONTEXT

Where are we right now?

High winds and mature trees prove to be a dangerous mix

Summer's storms highlight need for inspections

COMMENTS (1) SIZE: + / - PRINT

By Meredith Somers - The Washington Times Monday, July 30, 2012

Follow @meredithsomers

Enlarge Photo

Erin Hodges and her fiance John Hopewell of Falls Church get around ... more >

PHOTO GALLERY:

3 Photos

Violent storms last month and a deadly incident two weeks ago are amplifying the danger presented by falling trees and tree limbs, which can be a hazard to houses, cars, people and power lines.

On July 17, a 64-year-old Reston man was crushed to death by a 100-foot oak tree that fell on his car in Great Falls. An arborist with the Virginia Department of the Environment said the tree was rotten on the inside, but no one had called to complain about the ivy-covered behemoth in the many years it stood along Georgetown Pike.

Dying trees are a hazard in themselves, but experts said people need to watch out even for the healthiest trees, especially after severe weather — something the D.C.-area has had no shortage of this year.

At the end of June, a rare derecho storm tore through the mid-Atlantic region, bringing with it 60 mph winds that ripped roofs from homes and knocked over thousands of trees and pulled down electrical lines. Nearly 30 deaths nationally were attributed to the storm, including one 90-year-old woman in Virginia who died when a tree fell through her roof, and a tree-trimmer working in Garrett County, Md., who fell to his death trying to remove debris. A D.C. woman was paralyzed after a tree landed on her while she was riding her motorcycle during the storm.

www.washingtontimes.com/news/2012/jul/30

WORKSHOP CONTEXT

Where are we right now?

Monday, August 06, 2012

Restoring power post-storm cost $37 million, Appalachian Power reports

By Laurence Hammack | The Roanoke Times

More than a month after a windstorm caused record power outages, Appalachian Power Co. has put a price tag on restoring electricity to its Virginia customers – $37 million.

But it's still too soon to say whether the costs of repairing downed power lines will be passed on to customers in the form of a rate increase, a spokesmen for the utility said today.

Appalachian spent a total of $94 million repairing damage in Virginia and West Virginia caused by a derecho storm that hit the night of June 29, downing trees and power lines with wind gusts of 80 mph.

At the peak of the crisis, about 243,000 Appalachian customers in Virginia were powerless.

Appalachian will factor in the $37 million cost of restoring electricity in its next biennial proposal, due in March, to the State Corporation Commission, the agency that has the final say on rate increases.

Although the cost of the storm will be included in Appalachian's proposal, "we can't say with certainty that it will result in a rate increase," spokesman Todd Burns said.

www.roanoke.com/news/breaking/wb/312451

WORKSHOP CONTEXT

Where are we right now?

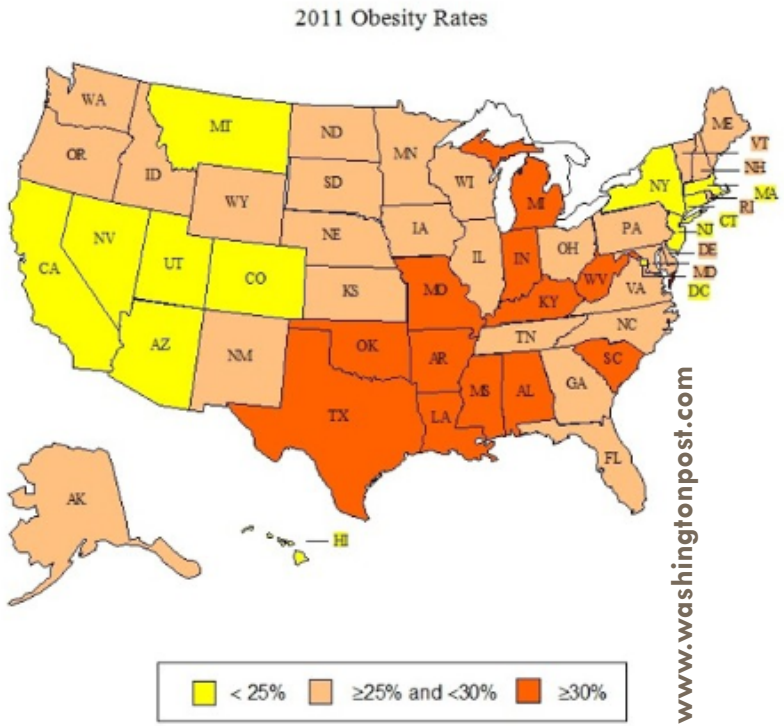
Workshop context

Where are we right now?

Posted at 12:40 PM ET, 08/13/2012

New analysis indicates America remains obese

By Tim Carman



A new analysis of U.S. obesity rates shows that, as a nation, we're still carrying a lot of extra pounds. Twelve states have obesity rates that top 30 percent, according an analysis released this morning by the Trust for America's Health and the Robert Wood Johnson Foundation.

blog.seattlepi.com/viewfromthebleachers/2010/04

WORKSHOP CONTEXT

Where are we right now?

Do Unsafe Streets Prevent Us From Walking and Biking?

by JOSEPH CUTRUFO on Tuesday, May 24, 2011 at 1:45 PM

Like 6 likes. Sign Up to see what your friends like.

A new study in the American Journal of Public Health says that Americans aren't walking or cycling as much as we think they are. Even though transit use is up, active transportation has mostly stagnated.

The research, which was conducted by Dr. John Pucher of Rutgers University's Bloustein School of Planning and Public Policy, shows that walking has increased (though not by much) among those who are well-educated, employed, and living without a car. It's also mostly men who are walking and cycling more. Despite programs designed to get women, children and seniors walking more for health and transportation, these segments of the population are actually walking less now than they were a decade ago.

alltransport.com/2011/05/

Workshop context

Where are we right now?

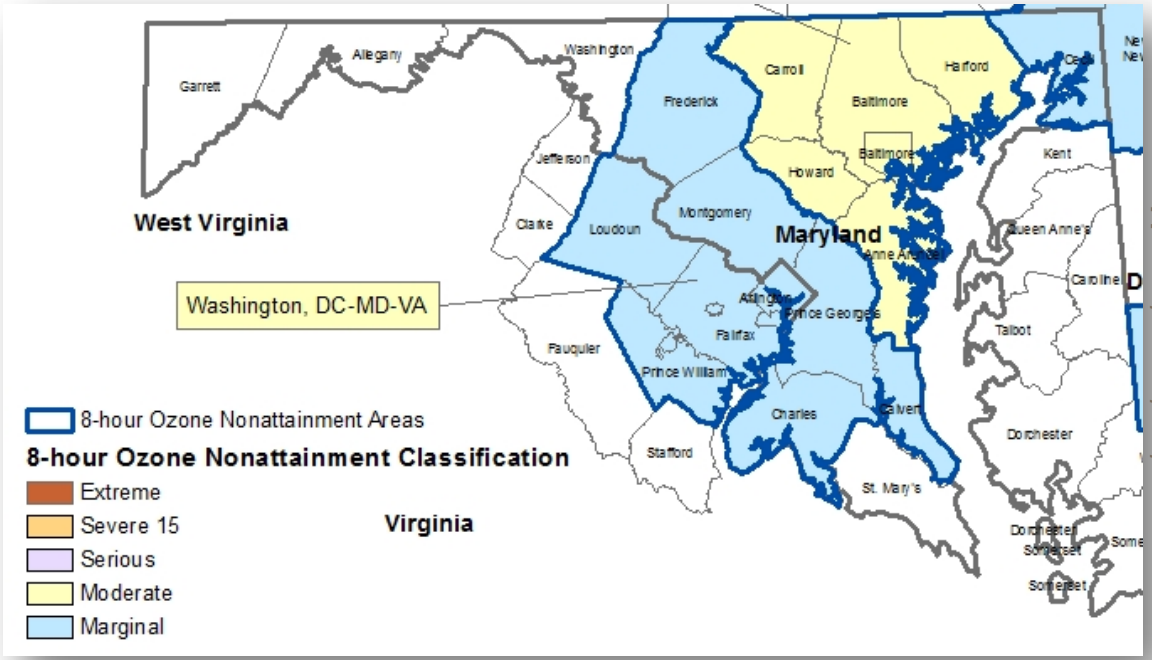
dcc-stpaul-mpls.org

Street Tree Functions

- Traffic calming
- Physical barrier
- Shade
- Stress relief

WORKSHOP CONTEXT

Where are we right now?



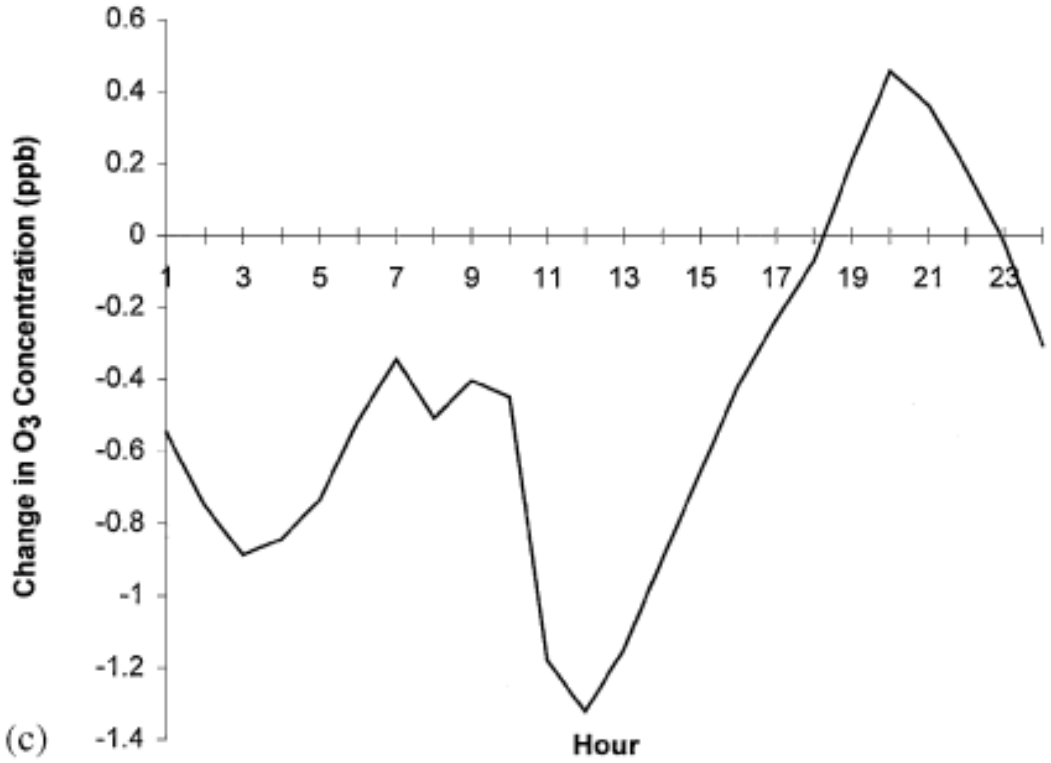
What Can Be Done

Federal, state, and local health officials can:

- Track asthma rates and the effectiveness of control measures so continuous improvements can be made in prevention efforts.
- Promote influenza and pneumonia vaccination for people with asthma.
- Promote improvements in indoor air quality for people with asthma through measures such as smoke-free air laws and policies, healthy schools and workplaces, and improvements in outdoor air quality.

WORKSHOP CONTEXT

Where are we right now?



A modeling study of the impact of urban trees on ozone

David J. Nowak[a,*], Kevin L. Civerolo[b], S. Trivikrama Rao[b], Gopal Sistla[b], Christopher J. Luley[c], Daniel E. Crane[a]

Atmospheric Environment 34 (2000) 1601–1613

Increasing urban tree cover from 20 to 40% led to:

"Overall, 8-hour average ozone concentration in urban areas dropped by 0.5 ppb (1%) throughout the day."

"However, nighttime ozone concentrations increased due to reduced wind speeds and loss of NOx scavenging of ozone from increased deposition of NOx."

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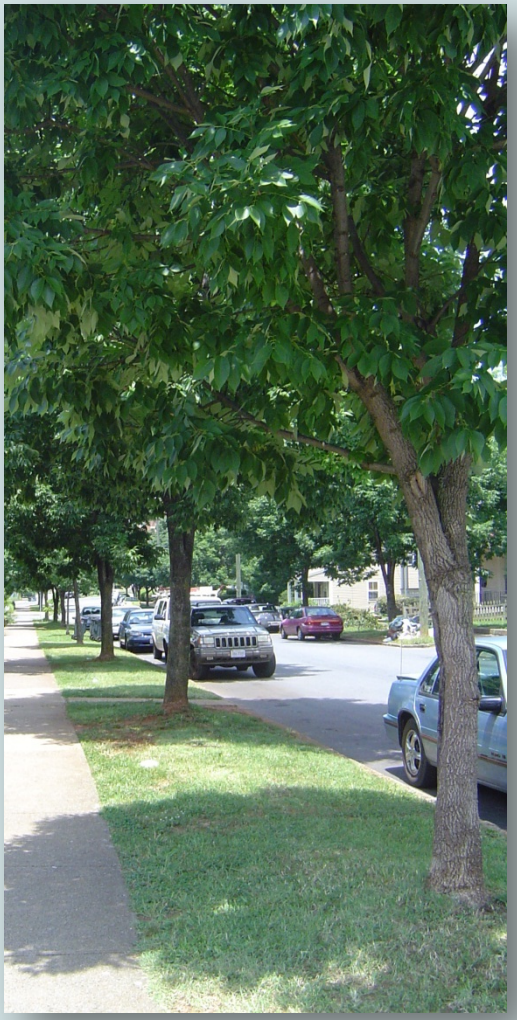

Workshop objectives

- Learn about the abundance, composition, and benefits of Virginia's street trees through an unprecidented i-Tree study
- Identify challenges and opportunities facing Virginia's street trees
- Improve the value and sustainability of our municipal street trees by applying basic principles and leveraging our collective resources

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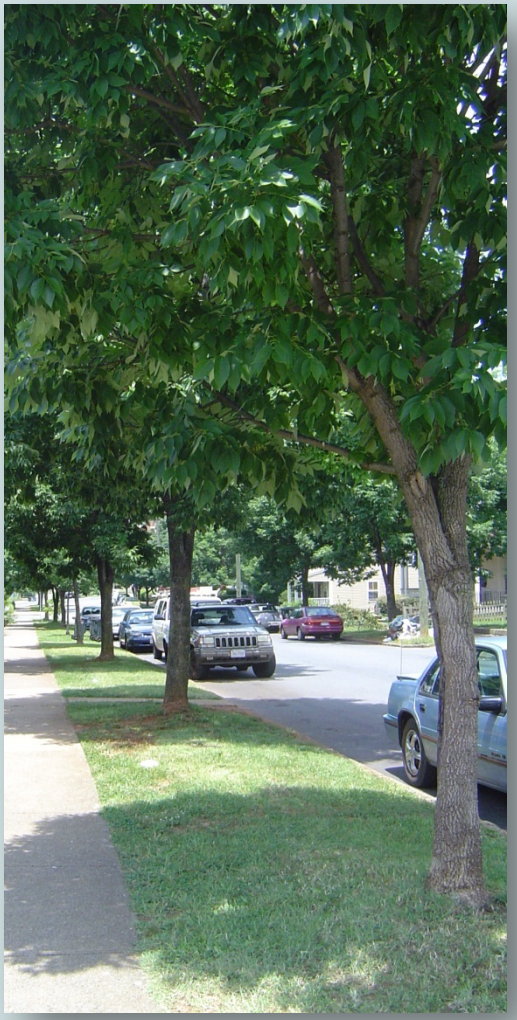
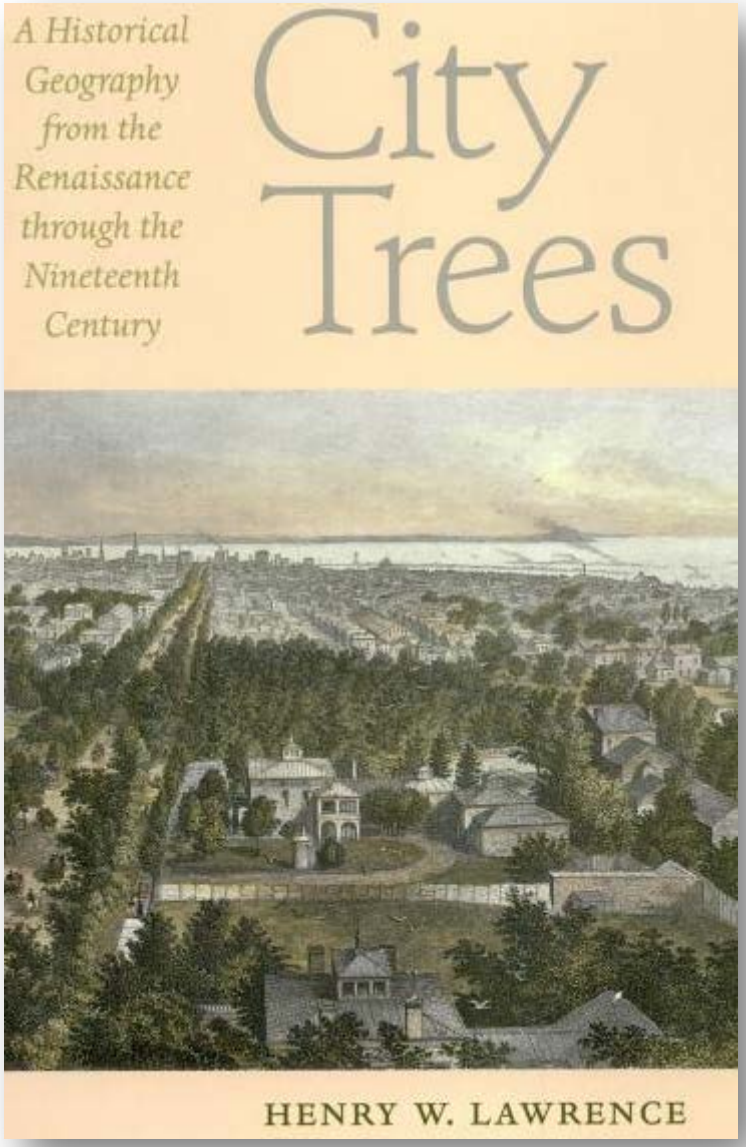


Brief history of street trees



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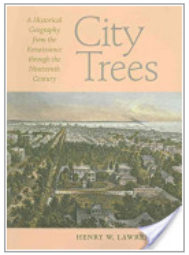
City Trees: A Historical Geography from the Renaissance Through



Henry W. Lawrence
0 Reviews
University of Virginia Press, Nov 30, 2008 - 336 pages
For those who have ever wondered why we have trees in cities Trees: A Historical Geography from the Renaissance through t guide to the history of trees in urban landscapes. Covering fou trees became integral to urban landscapes by looking at the h
More »

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Preview this book »

City Trees: A Historical Geography from the Renaissance
Books) [Paperback]
Henry W. Lawrence (Author)
(1 customer review) | Like (0)

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Brief history of street trees

Modern concepts of street trees traced to Renaissance Europe

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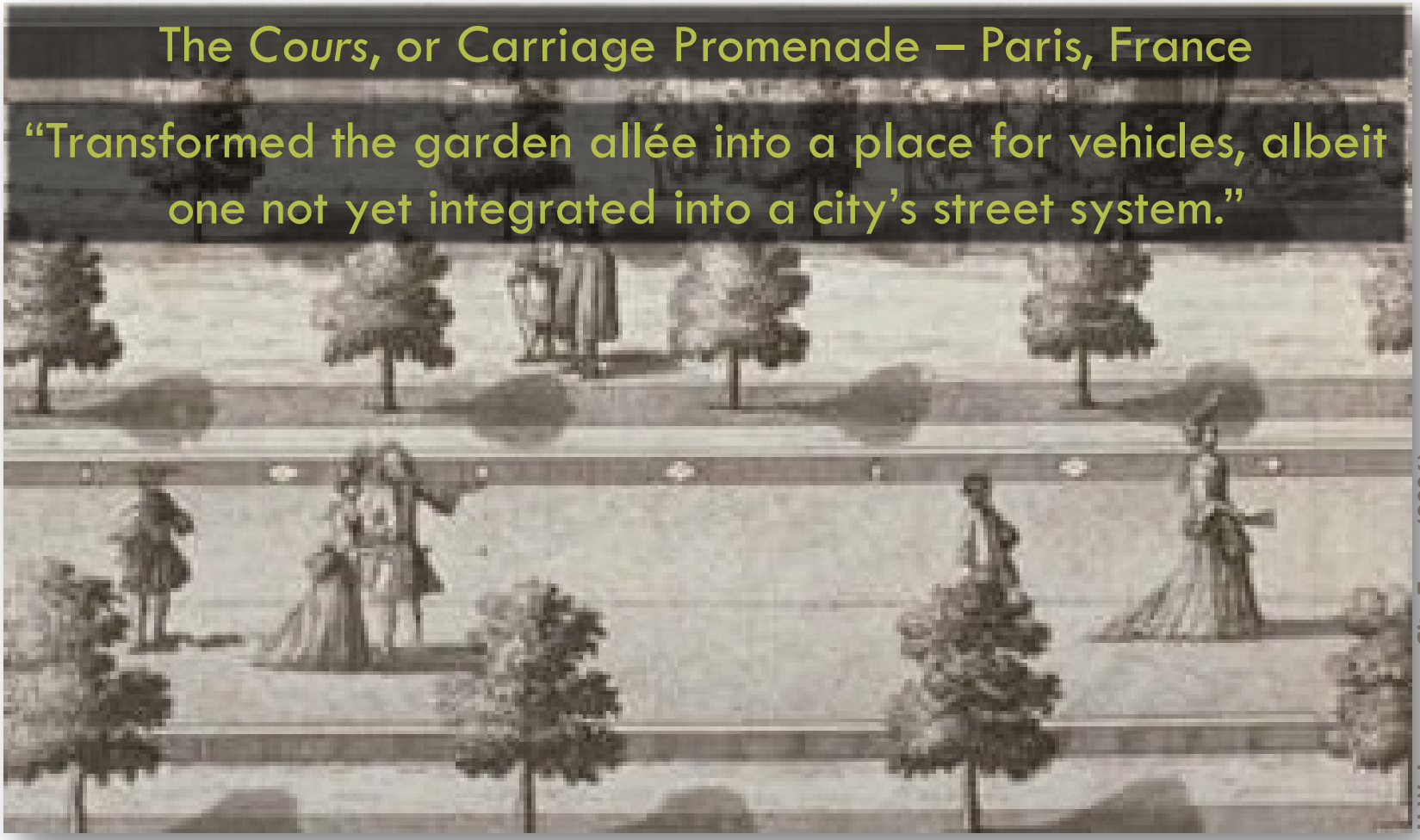
Modern concepts of street trees traced to Renaissance Europe



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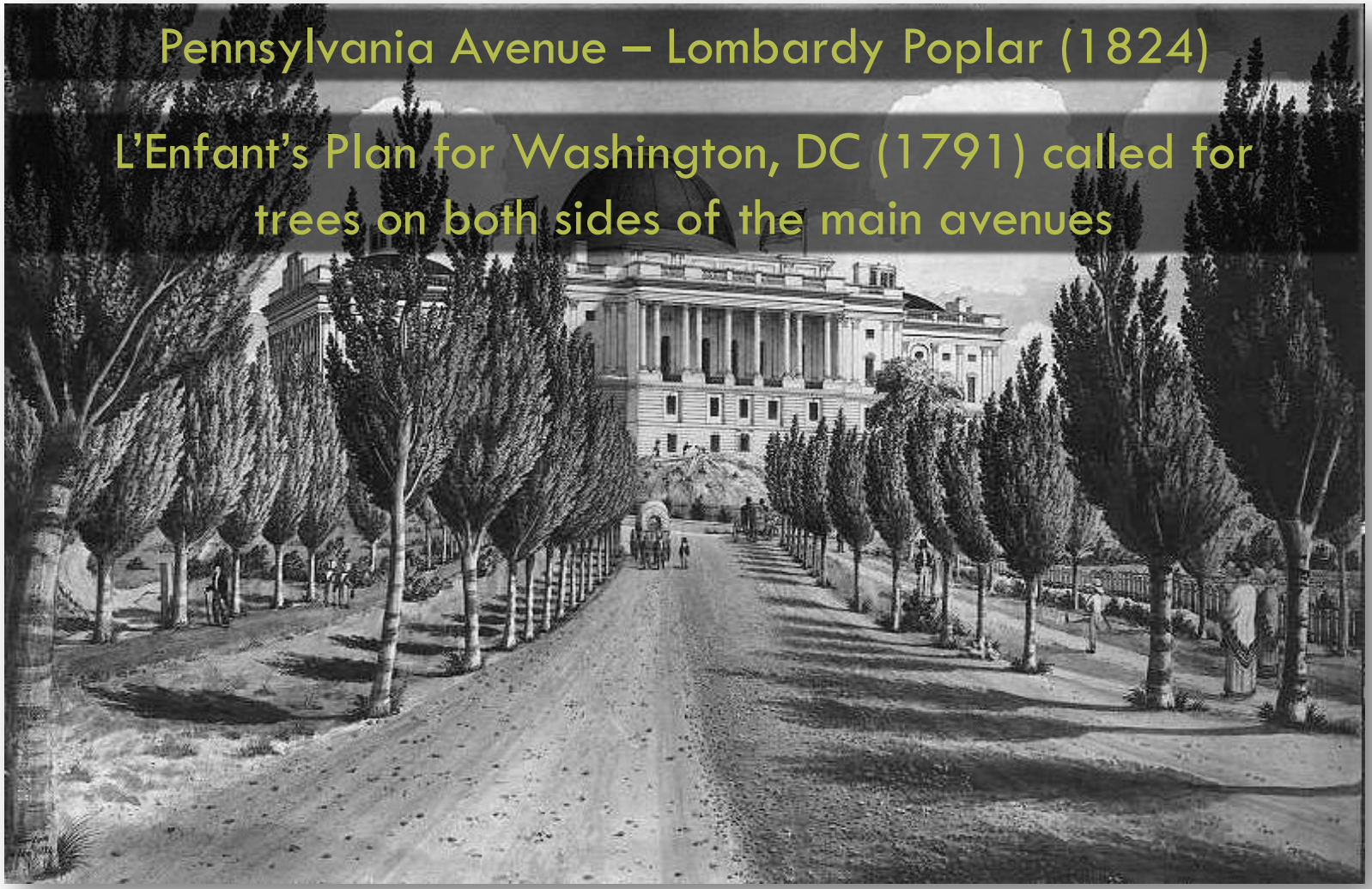

Brief history of street trees

Americans developed concepts of design and management

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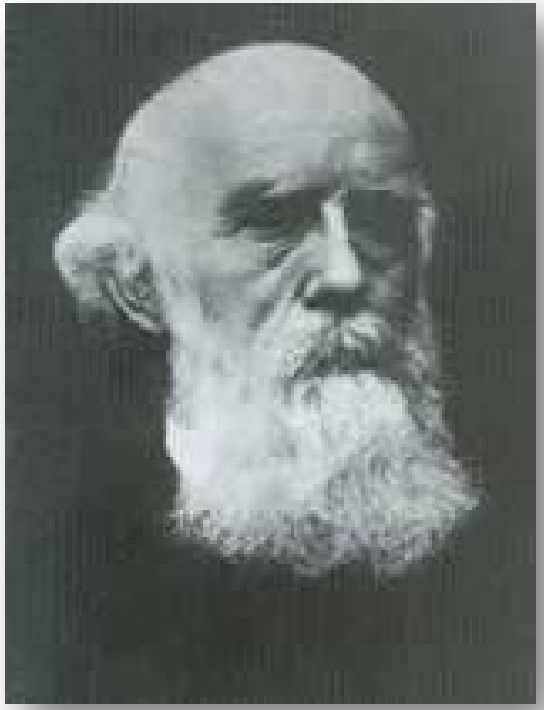
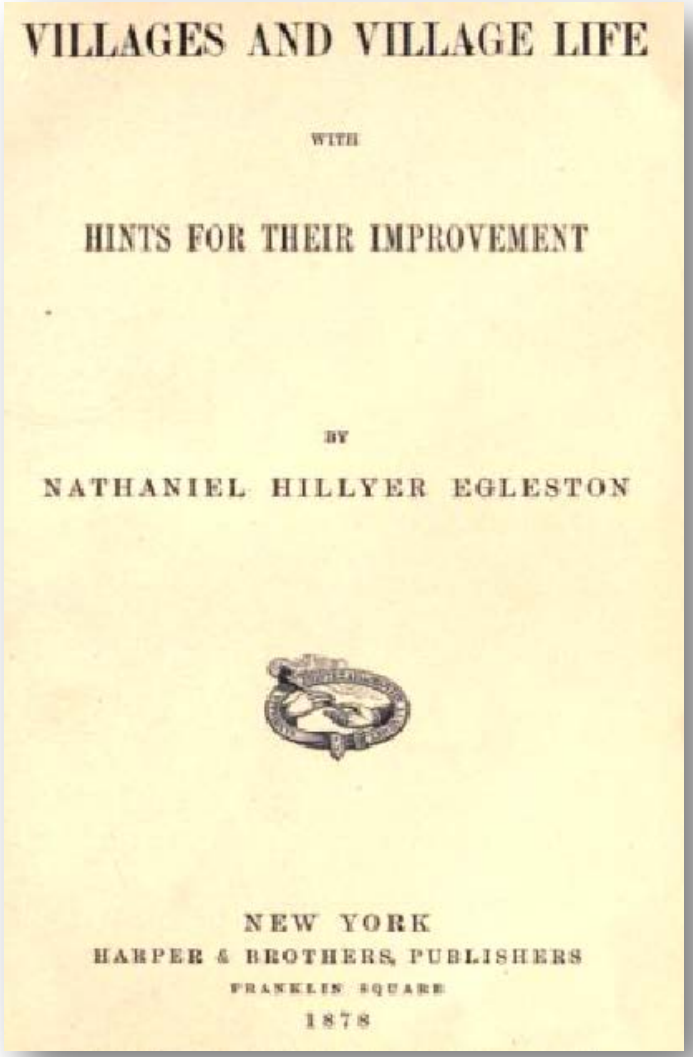
Americans developed concepts of design and management

Nathaniel Egleston

2nd Chief of USDA Forestry Division (1883-86)

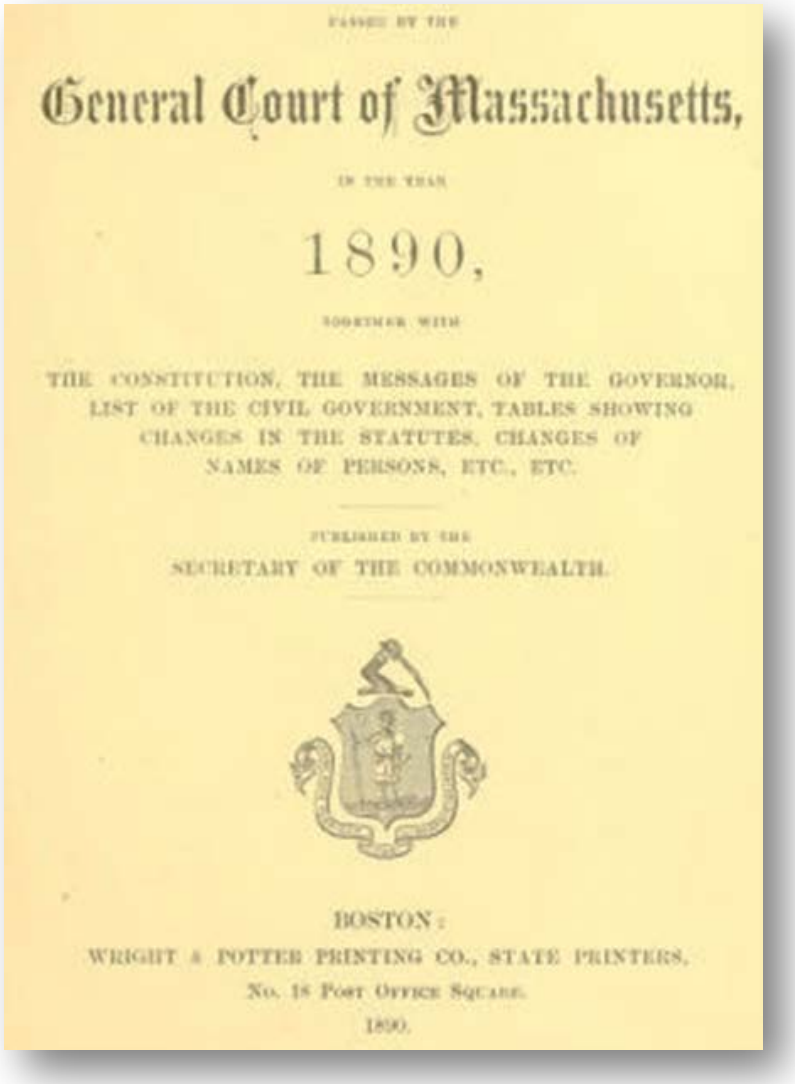




Brief history of street trees

Americans developed concepts of design and management

Nail Laws enabled towns to distinguish which shade trees were public; MA (1890)



PASSED BY THE

General Court of Massachusetts,

IN THE YEAR

1890,

TOGETHER WITH

THE CONSTITUTION, THE MESSAGES OF THE GOVERNOR, LIST OF THE CIVIL GOVERNMENT, TABLES SHOWING CHANGES IN THE STATUTES, CHANGES OF NAMES OF PERSONS, ETC., ETC.

PUBLISHED BY THE

SECRETARY OF THE COMMONWEALTH.

BOSTON:

WRIGHT & POTTER PRINTING CO., STATE PRINTERS,

No. 18 Post Office Square.

1890.

Brief history of street trees

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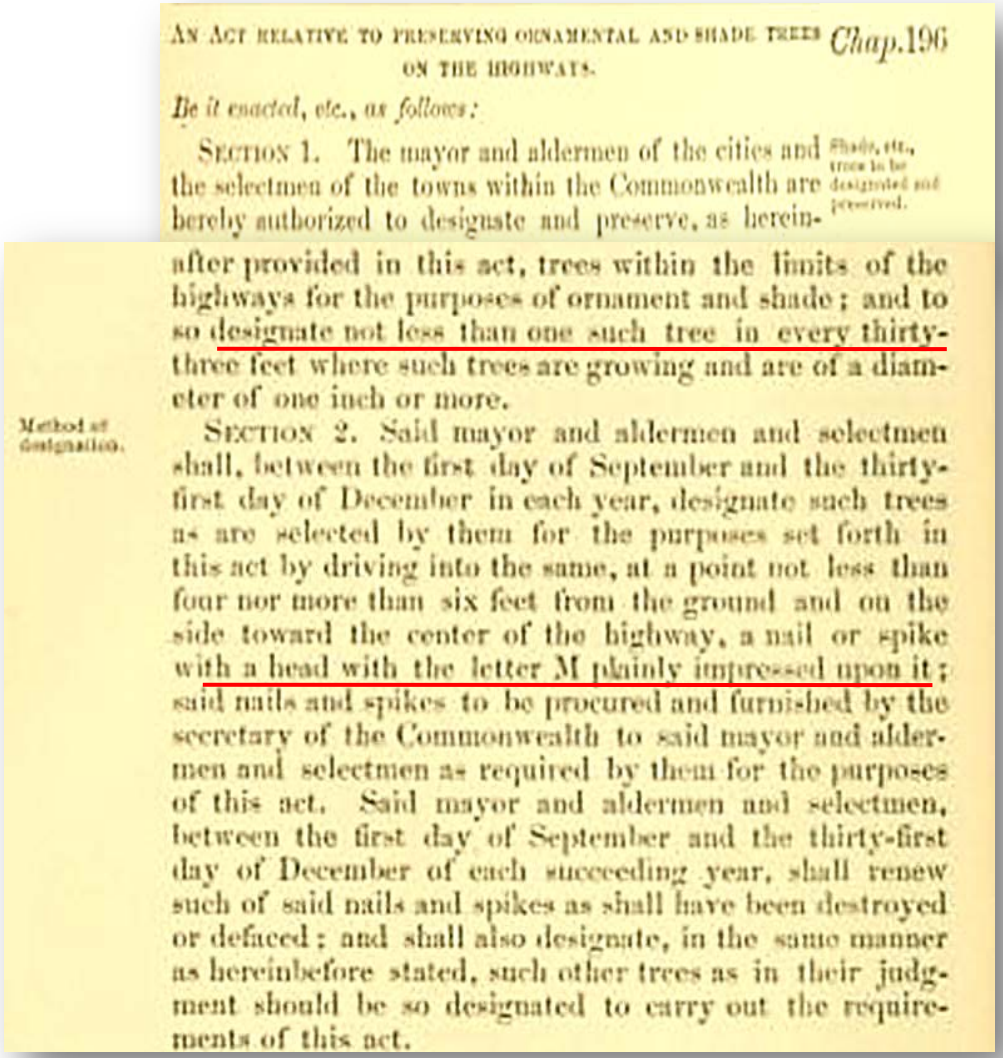


AN ACT RELATIVE TO PRESERVING ORNAMENTAL AND SHADE TREES ON THE HIGHWAYS. *Chap.* 196

Be it enacted, etc., as follows:

SECTION 1. The mayor and aldermen of the cities and the selectmen of the towns within the Commonwealth are hereby authorized to designate and preserve, as hereinafter provided in this act, trees within the limits of the highways for the purposes of ornament and shade; and to so designate not less than one such tree in every thirty-three feet where such trees are growing and are of a diameter of one inch or more.

Shade, etc., trees to be designated and preserved.

Method of designation.

SECTION 2. Said mayor and aldermen and selectmen shall, between the first day of September and the thirty-first day of December in each year, designate such trees as are selected by them for the purposes set forth in this act by driving into the same, at a point not less than four nor more than six feet from the ground and on the side toward the center of the highway, a nail or spike with a head with the letter M plainly impressed upon it; said nails and spikes to be procured and furnished by the secretary of the Commonwealth to said mayor and aldermen and selectmen as required by them for the purposes of this act. Said mayor and aldermen and selectmen, between the first day of September and the thirty-first day of December of each succeeding year, shall renew such of said nails and spikes as shall have been destroyed or defaced; and shall also designate, in the same manner as hereinbefore stated, such other trees as in their judgment should be so designated to carry out the requirements of this act.

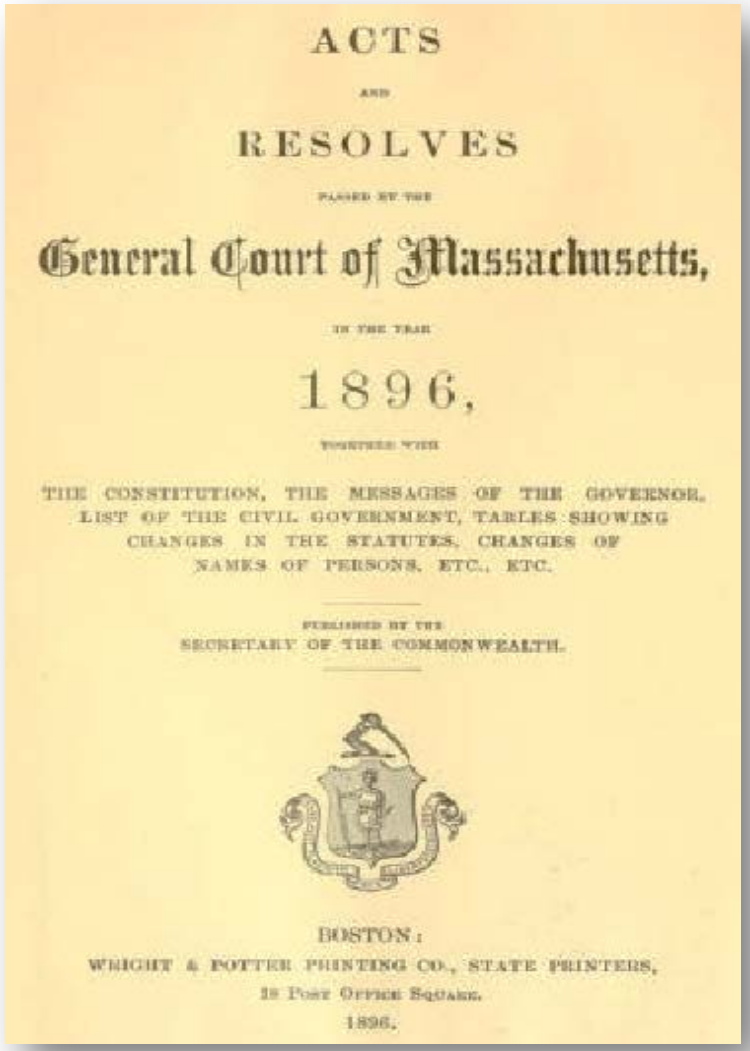
Brief history of street trees

Americans developed concepts of design and management

Nail Laws enabled towns to distinguish which shade trees were public; MA (1890)

Tree Warden Laws enabled towns to appoint a warden to care for and protect public trees

Philadelphia hired Chief Forester John C. Lewis – might be the first professional urban forester in America by title.


ACTS

AND

RESOLVES

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IN THE YEAR

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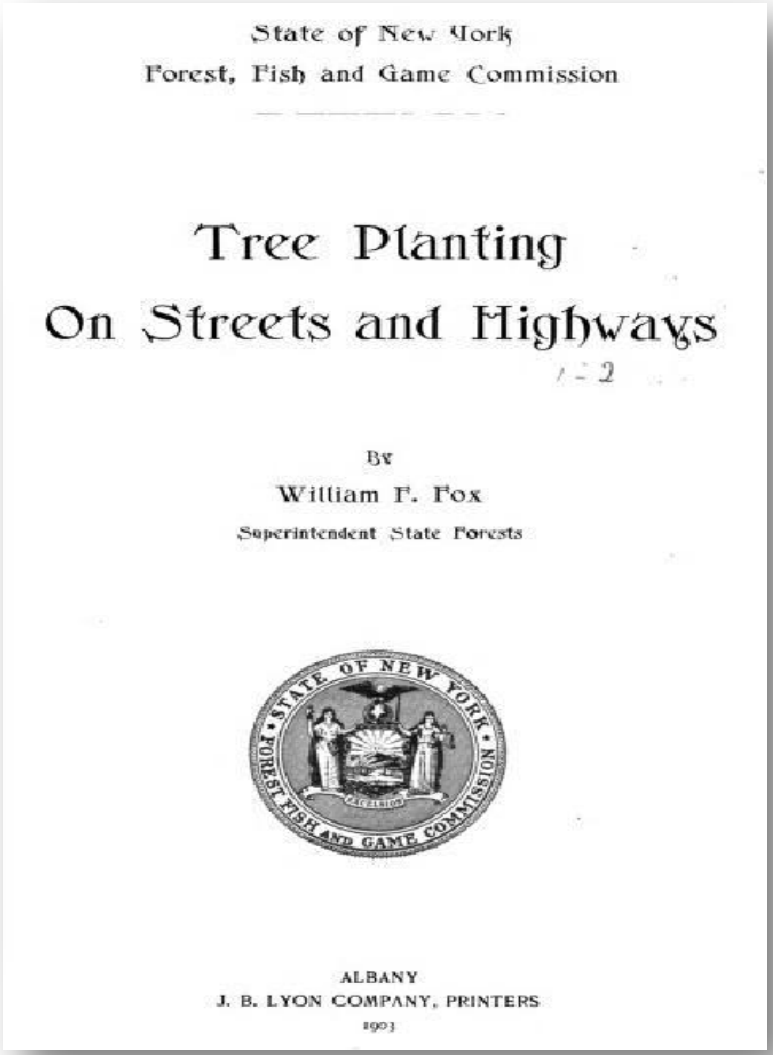
William Fox

NY Superintendent of State Forests



State of New York
Forest, Fish and Game Commission

Tree Planting
On Streets and Highways

By
William F. Fox
Superintendent State Forests

ALBANY
J. B. LYON COMPANY, PRINTERS
1903

Brief history of street trees

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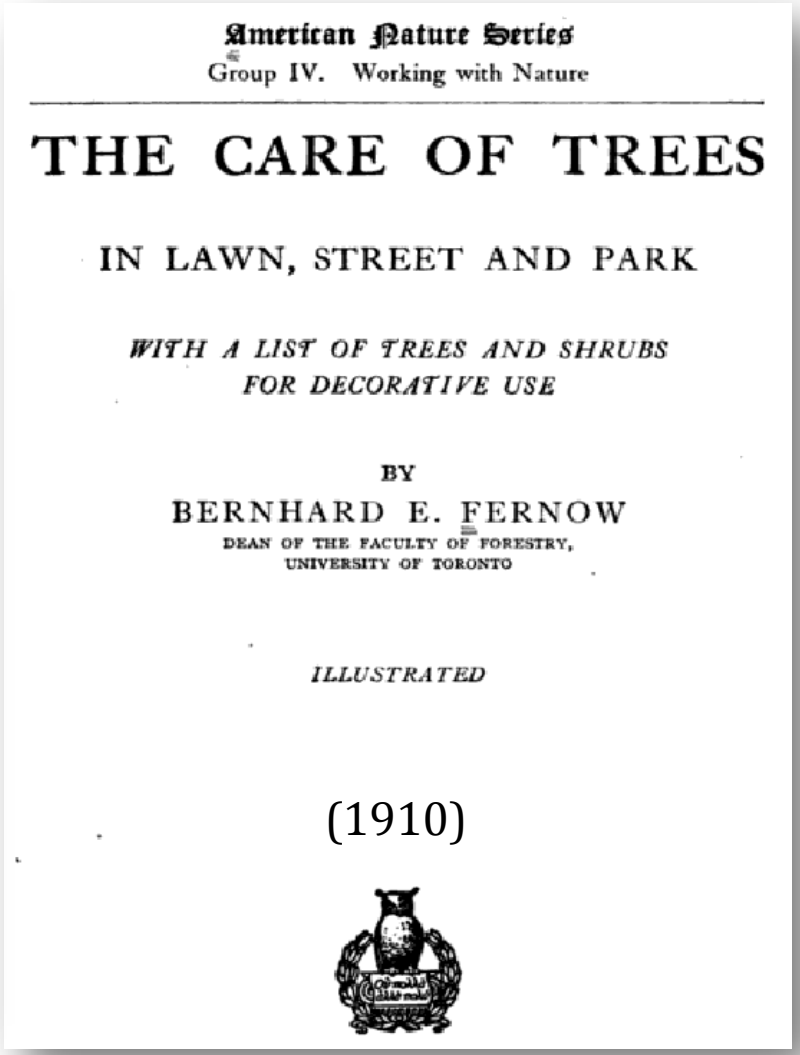
Bernhard Fernow

3rd Chief of USDA Forestry Division

en.wikipedia.org



American Nature Series

Group IV. Working with Nature

THE CARE OF TREES

IN LAWN, STREET AND PARK

WITH A LIST OF TREES AND SHRUBS FOR DECORATIVE USE

BY

BERNHARD E. FERNOW

DEAN OF THE FACULTY OF FORESTRY, UNIVERSITY OF TORONTO

ILLUSTRATED

(1910)

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Bernhard Fernow

3rd Chief of USDA Forestry Division

en.wikipedia.org

THE CARE OF TREES

CHAPTER I

INTRODUCTORY

THIS book is not a sentimental effusion on the beauty and need of trees, but a compilation of information such as the owner of trees may be in search of.

Throughout our entire continent, especially in its more settled parts, and most of all in its cities, there has never before been such widespread interest as is now manifested in trees and tree-planting for shade and ornament. Although this kind of tree-planting has been quite assiduously practised in past generations, and although as a result we are the heirs of stately elms and oaks and maples, the necessity of greater care for this inheritance has only of late been fully realized. As a consequence, the "Tree Warden" and "City Forester" have become recognized institutions, and the statutes of several states for the protection of planted trees bear testimony to the popular sentiment, and to the conception that the care of public shade trees is a public duty.

Although with this awakened interest there has come forward a large amount of information regarding the care of trees, in the form of bulletins and essays, these generally confine themselves to some particular phase of the subject; a collective and more comprehensive manual, so far as the writer knows, is still lacking. It is to supply this gap that

1

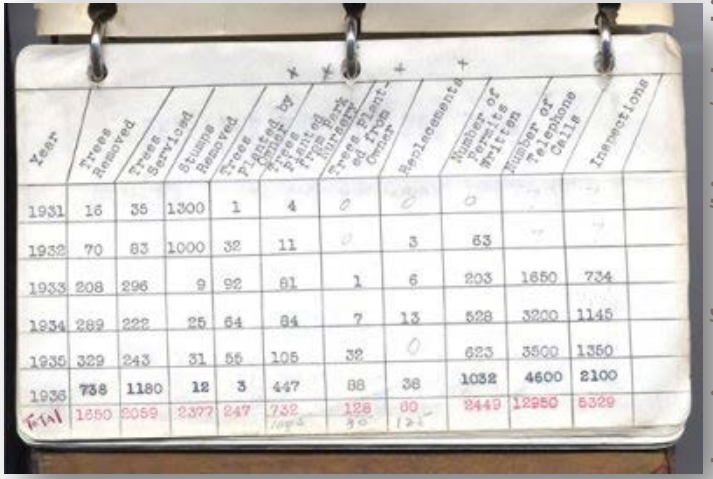
Brief history of street trees

Americans developed concepts of design and management

1918 – Milwaukee, WI forestry program begins when Otto W. Spidel is hired as city forester with a salary of $2,025 and a budget of $15,000

1925 – Green Bay, WI initiates first street tree planting program

1939 – Madison, WI street tree inventory conducted by Work Projects Administration (WPA)



Year	Trees Removed	Trees Serviced	Stumps Removed	Trees Planted by Owner	Trees Planted by Park Forestry	Trees Planted by Other	Replacements	Number of Permits Written	Number of Telephone Calls	Inspections
1931	16	35	1300	1	4	0	0	0		
1932	70	83	1000	32	11	0	3	63		
1933	208	296	9	92	81	1	6	203	1650	734
1934	289	222	25	64	84	7	13	528	3200	1145
1935	329	243	31	55	105	32	0	623	3500	1350
1936	738	1180	12	3	447	88	38	1032	4600	2100
Total	1650	2059	2377	247	732	128	60	2449	12950	5329

dnr.wi.gov/forestry/history/urbanhistory.html

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Brief history of street trees

Americans developed concepts of design and management

www.ontarioforesthistory.ca

Eric Jorgensen (l) and graduate student Bill Morsink (r)

"A specialized branch of forestry that has as its objectives the cultivation and management of trees for their present and potential contribution to the physiological, sociological and economic well-being of urban society." ~ Jorgensen (1967)

16 USC Chapter 41 - COOPERATIVE FORESTRY ASSISTANCE

(c) General authority

The Secretary is authorized to provide financial, technical, and related assistance to State foresters or equivalent State officials for the purpose of encouraging States to provide information and technical assistance to units of local government and others that will encourage cooperative efforts to plan urban forestry programs and to plant, protect, and maintain, and utilize wood from, trees in open spaces, greenbelts, roadside screens, parks, woodlands, curb areas, and residential developments in urban areas. In providing such assistance, the Secretary is authorized to cooperate with interested members of the public, including nonprofit private organizations. The Secretary is also authorized to cooperate directly with units of local government and others in implementing this section whenever the Secretary and the affected State forester or equivalent State official agree that direct cooperation would better achieve the purposes of this section.

(d) Program of education and technical assistance

The Secretary, in cooperation with State foresters and State extension directors or equivalent State officials and interested members of the public, including nonprofit private organizations, shall implement a program of education and technical assistance for urban and community forest resources. The program shall be designed to—

(1) assist urban areas and communities in conducting inventories of their forest resources, including inventories of the species, number, location, and health of trees in urban areas and communities, identifying opportunities for the establishment of plantings for the purposes of conserving energy, and determining the status of related resources (including fish and wildlife habitat, water resources, and trails);

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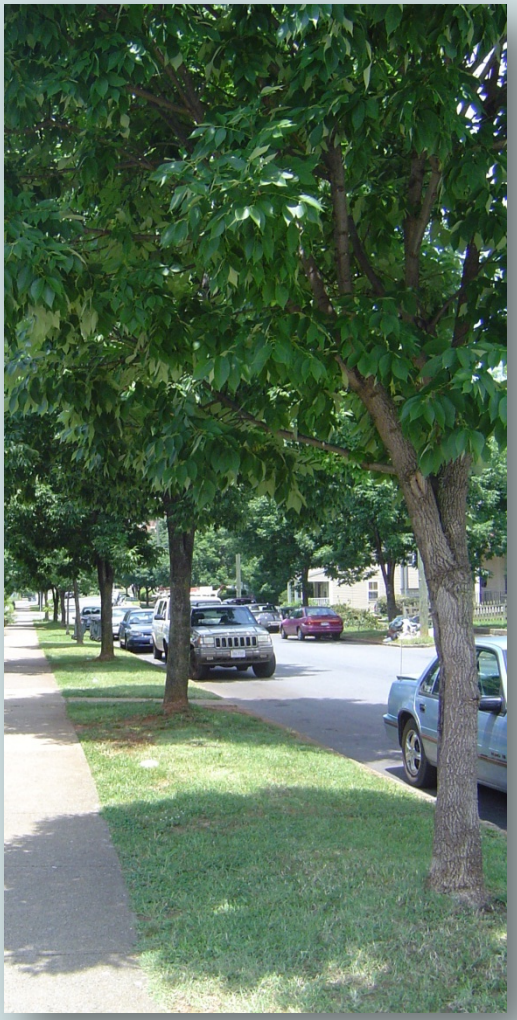


TOUR OF STREET TREE ASSESSMENT WEBSITE

urbanforestry.frec.vt.edu/streets/index.html

Virginia Street Tree Assessment Project

An application of i-Tree Streets

HOME | LOCALITY REPORTS | RESOURCES | ASSESS YOUR TREES | COLLABORATORS | ABOUT US

Welcome!

The Virginia Street Tree Assessment Project is collaboration between the Virginia Tech Department of Forest Resources & Environmental Conservation and the Virginia Department of Forestry. The goal of this project is to improve our understanding of the abundance, composition, and benefits of municipal street trees throughout the Commonwealth. Since 2008, project collaborators have partnered with over twenty Virginia municipalities to inventory and assess their street trees.

Why Street Trees?

Street trees are arguably the most vital component of the public urban forest. Typically situated in the public right-of-way between the edge of roadway pavement and adjacent private property, these trees can provide a range of important social, economic, and environmental benefits, including:

- Safer and more comfortable walking environments
- Reduced urban traffic speeds
- Greater shopping and tourism activity
- Increased real estate value
- Longer pavement life
- Less stormwater runoff
- Lower air temperatures and energy costs

Links

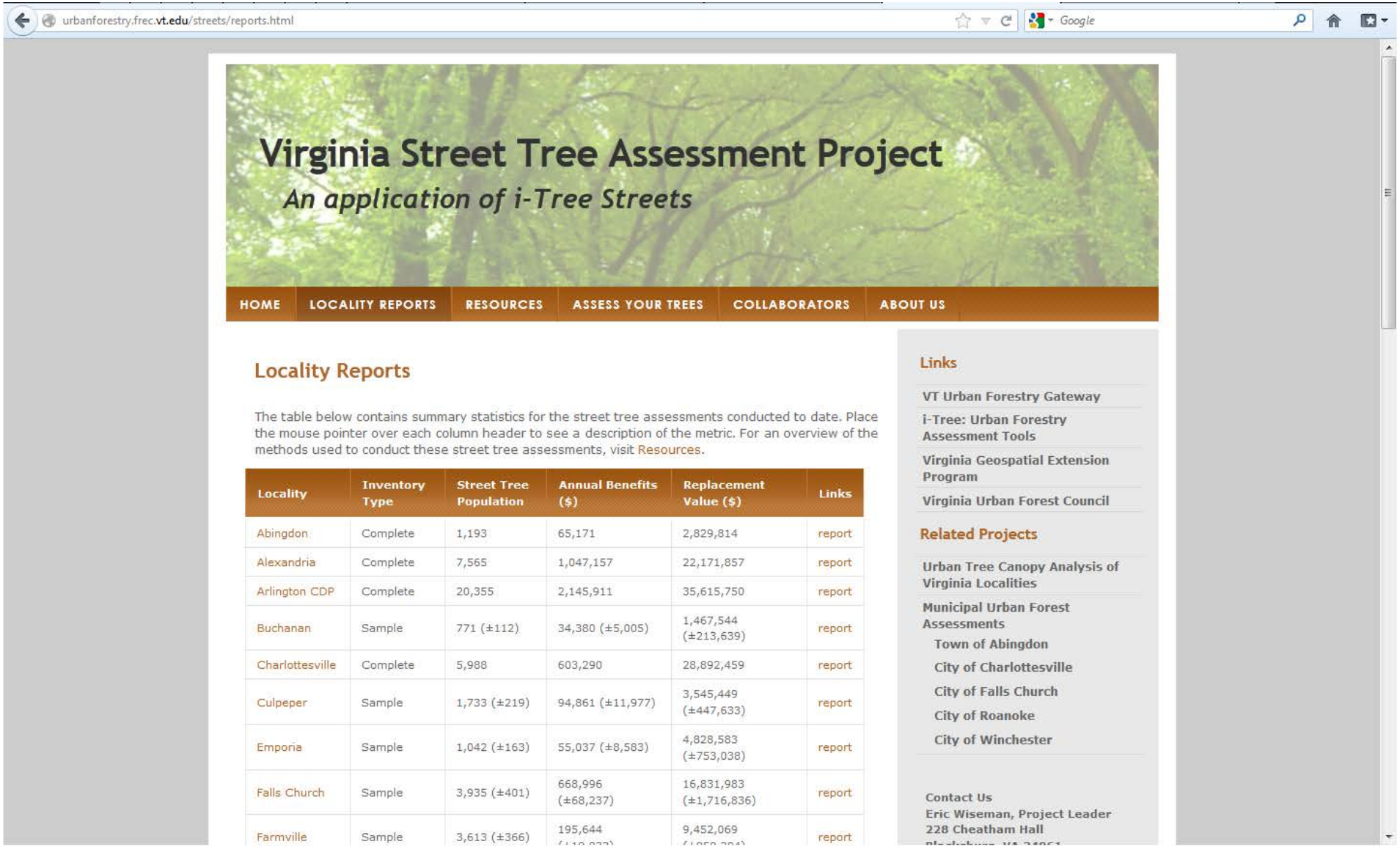
- VT Urban Forestry Gateway
- i-Tree: Urban Forestry Assessment Tools
- Virginia Geospatial Extension Program
- Virginia Urban Forest Council

Related Projects

- Urban Tree Canopy Analysis of Virginia Localities
- Municipal Urban Forest Assessments
  - Town of Abingdon
  - City of Charlottesville
  - City of Falls Church
  - City of Roanoke
  - City of Winchester

Contact Us
Eric Wiseman, Project Leader
228 Cheatham Hall

TOUR OF STREET TREE ASSESSMENT WEBSITE

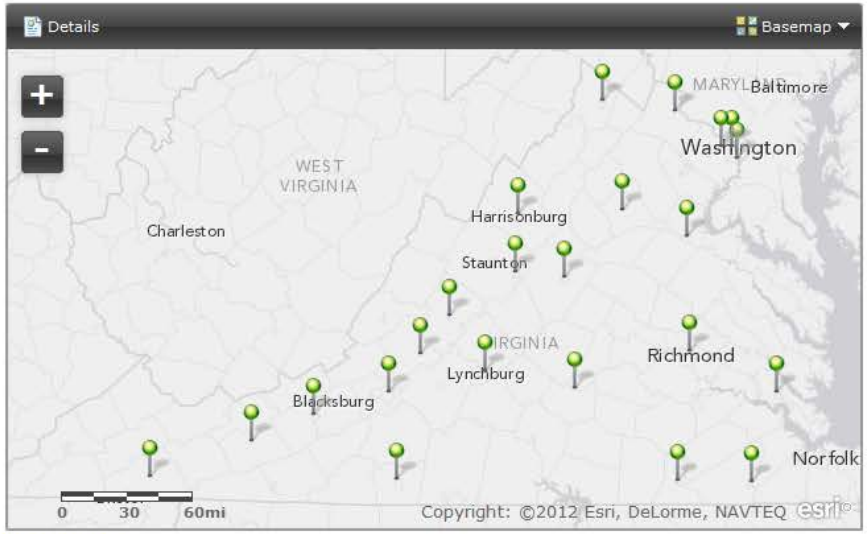


TOUR OF STREET TREE ASSESSMENT WEBSITE

urbanforestry.frec.vt.edu/streets/reports.html

Winchester	Sample	8,990 (±774)	980,731 (±84,400)	33,228,972 (±2,859,631)	report
Wytheville	Sample	6,159 (±674)	425,963 (±46,614)	17,487,620 (±1,913,702)	report

Click the place marks to learn more about that locality's urban forest



View Larger Map

Forest Resources & Environmental Conservation

Design by: **styleshout** and **S.B. Gugercin**

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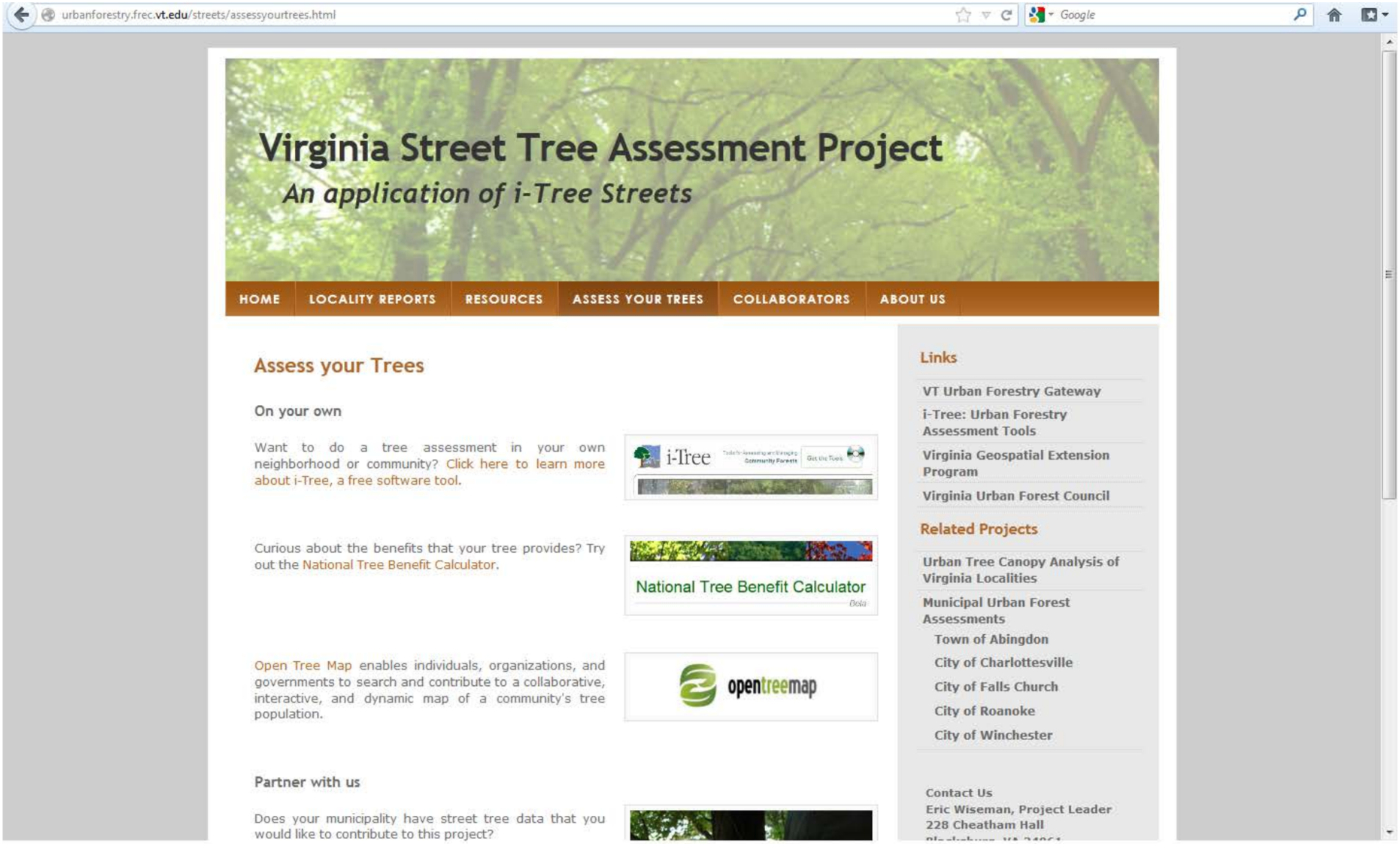

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