

# Minneapolis Tree Advisory Commission

# ANNUAL REPORT

Presented to Minneapolis City Council  
Committee on Health, Environment & Community Engagement  
April 28, 2014



Minneapolis  
Tree Advisory  
Commission

# Minneapolis Tree Advisory Commission

Created in March 2004

by the Minneapolis Park & Recreation Board



## MISSION:

To enhance the  
Minneapolis urban forest  
and improve its  
long-term health.

# Minneapolis Tree Advisory Commission members

- Scott Vreeland, MPRB
- Ralph Sievert, MPRB
- Philip Potyondy, MPRB
- Kit Richardson, developer
- Peter MacDonagh, UMN
- Lorrie Stromme, MnSTAC
- Karen Zumach, Tree Trust
- Robin Garwood, City Council designee
- Don Willeke, citizen
- Peggy Booth, citizen
- Charley Underwood, citizen
- Jeanne LaBore, citizen
- Clyde Kane, Mpls Public Schools
- Lois Eberhart, Mpls Public Works
- Steve Collin, Mpls Public Works
- John Stack, Mayor's designee



**Minneapolis is in the top 10  
U.S. cities for urban forests**



# Minneapolis Urban Forest QUICK FACTS

- **1 million trees** – including 200,000 street trees & 50,000 park trees\*  
\* not counting woodlands
- **31% tree canopy cover citywide**
- **In 2013: 6368 public trees lost\*\* & 5282 trees planted**  
\*\* included 1800 trees lost from June storm to be replaced in 2014



# Report Topics

- Why trees are important
- What's killing our trees
- What we can do about It
- RECOMMENDATIONS





# WHY TREES ARE IMPORTANT



The trees of Minneapolis  
are THE growing capital asset that  
benefits everyone in the City.



# Why Trees are Important

Trees are part of the City's infrastructure

– as much as streets & storm sewers

Trees improve ...

- the environment
- human health & well-being
- community quality
- the economy

**Trees are the “Swiss army knives”  
of environmental benefits**



Trees filter pollutants from the air we breathe and release oxygen.

Trees provide habitat for wildlife and food for people

Trees shade buildings, reducing the need for air conditioning.

Trees intercept and store rain water, relieving stress on municipal storm-water systems and reducing flooding.

Trees increase property values and improve mental health.

Trees act as a windbreak.

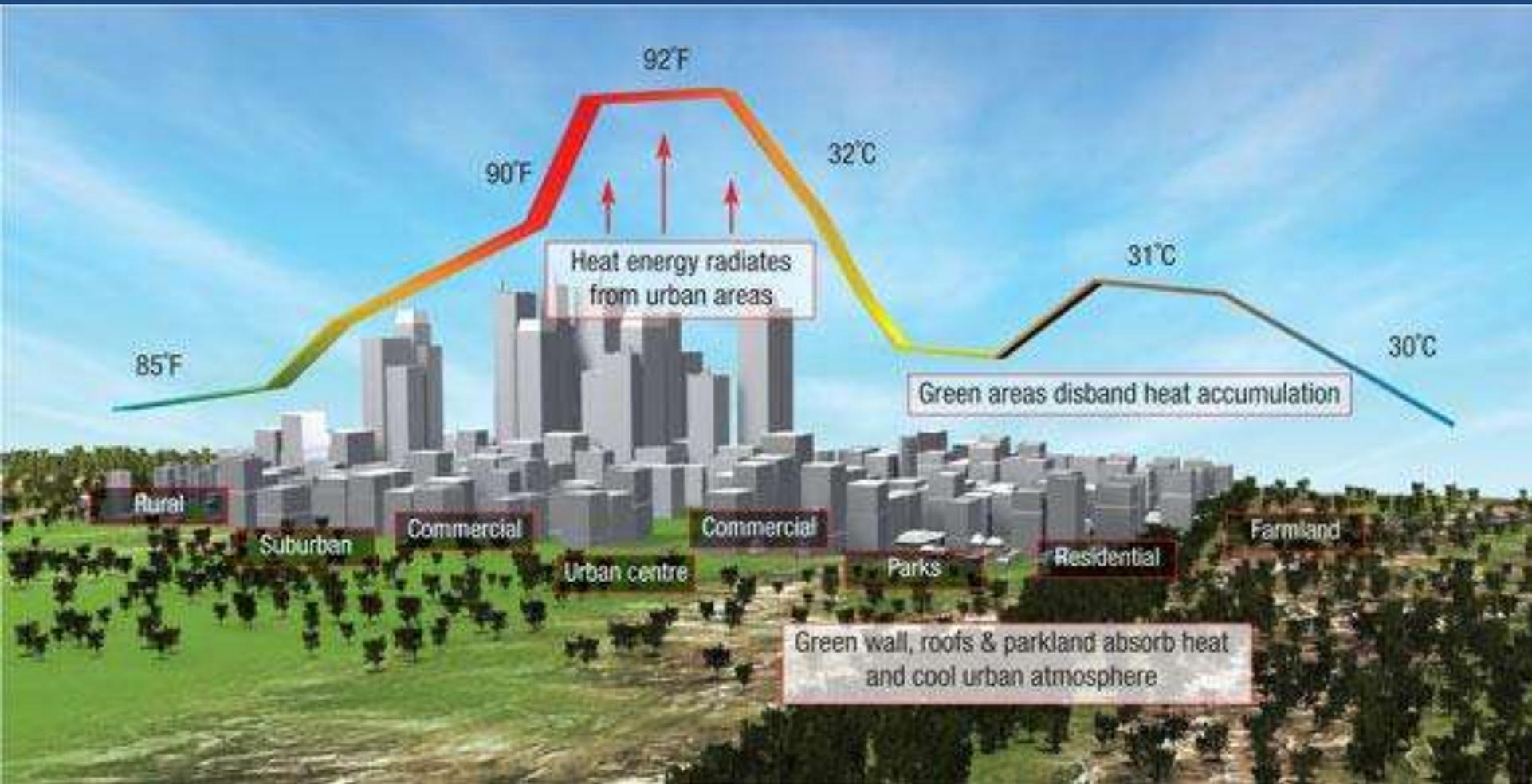
Trees remove carbon dioxide from the air and store it in their wood, leaves and roots.

Trees cool outdoor temperatures and protect us from UV rays.

Trees provide a barrier to noisy traffic.



# Why Trees are Important

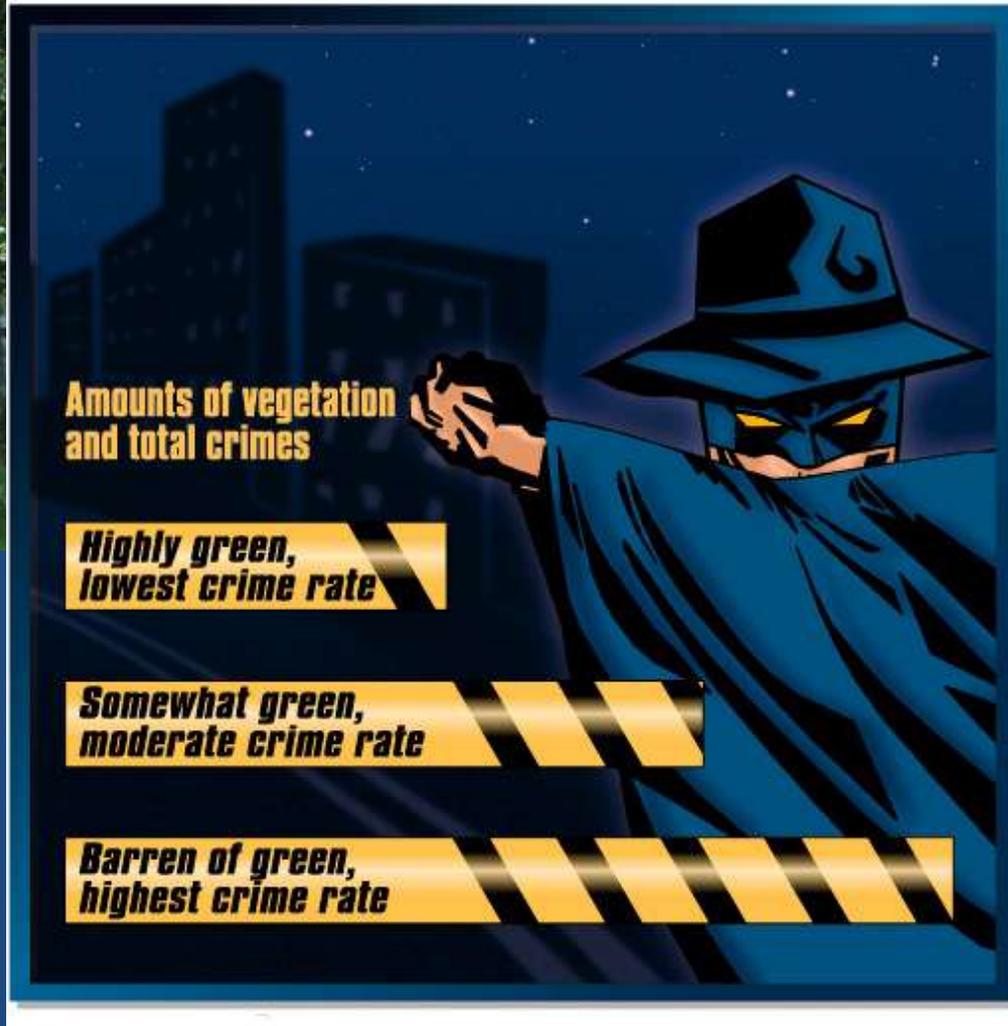


**The more trees, the greater the heat island reduction and the fewer days with heat-related, unhealthy air pollution.**

# Why Trees are Important

## **Green Streets, Not Mean Streets**

*In an inner city neighborhood, the greener the residence, the lower the crime rate.*



*research shows*

**Trees help ...**

- ✓ reduce crime rates
- ✓ calm people with ADHD
- ✓ speed up recovery of hospital patients

# With tree loss ... we lose

According to a study in *American Journal of Preventative Medicine*  
using 1990-2007 data for counties in 15 midwestern states

## Deaths increased in counties with EAB

- 15,080 additional cardiovascular-related deaths
- 6,113 additional deaths related to lower respiratory disease

Toledo BEFORE

Toledo DURING

# Why Trees are Important

Each year Minneapolis street trees provide:

- \$6.8 million in energy savings
- \$9.1 million in reduced storm water runoff
- \$7.1 million increased property value
- Plus improvements to air quality

**\$24.9 million TOTAL**  
**value each year!**





For all these ways **Trees** are **Important**

The value is determined by  
how much leaf volume we have.

Amount of benefits =  
amount of tree canopy cover

# For all these ways **Trees** are **Important**

## Urban Tree Canopy (UTC) Matters

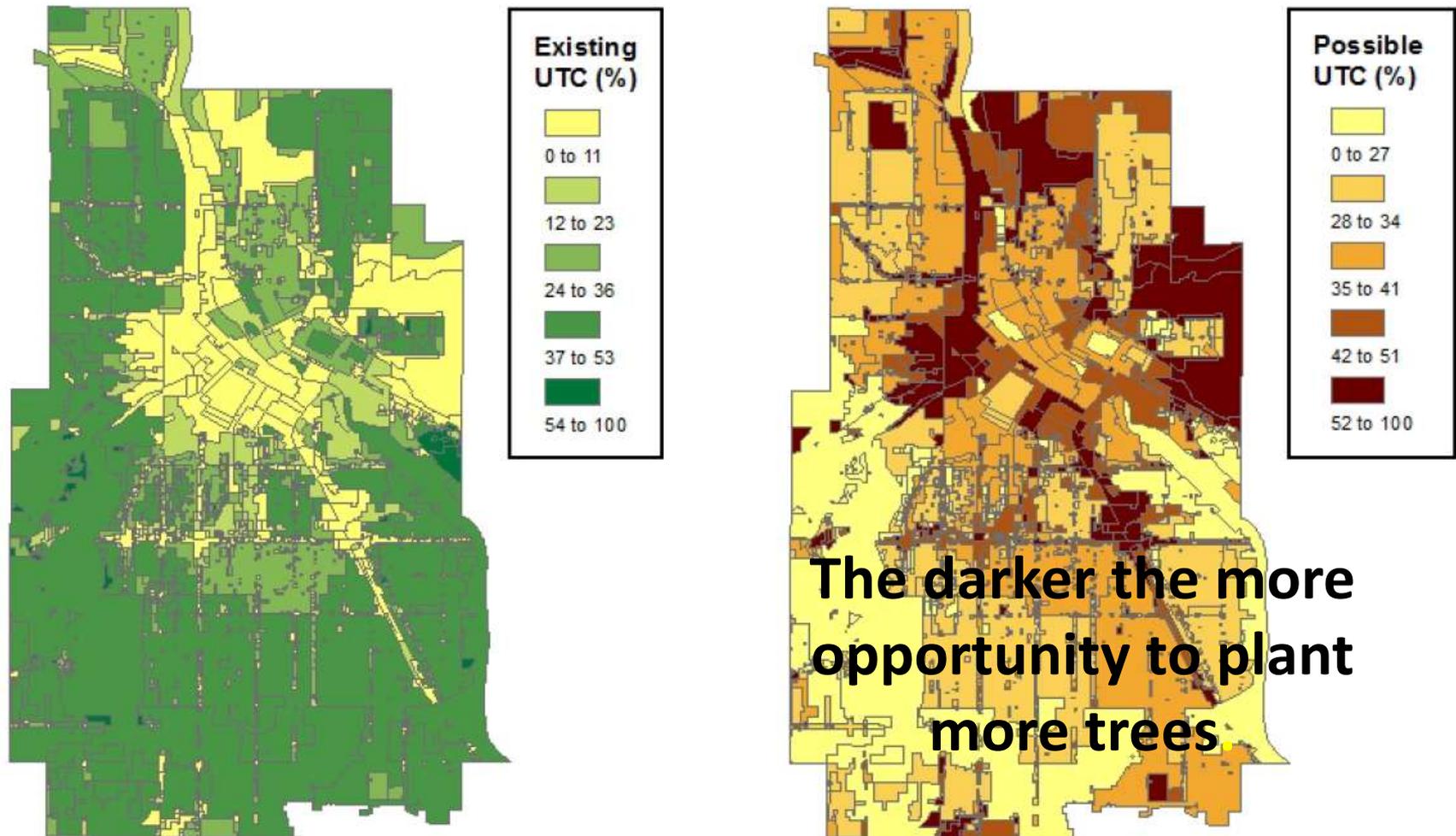


Figure 4. Distribution of Existing and Possible urban tree canopy in Minneapolis land use zoning districts.



WHAT'S KILLING  
OUR TREES

# What's Killing our Trees

## **Emerald Ash Borer (EAB)**

Emerald Ash Borer  
has already spread  
across the city

Soon ...

it will spread  
**EXPONENTIALLY**

- ALL ash are at risk
- ALL infested trees will die



# What's Killing our Trees

## **Emerald Ash Borer (EAB)**

Ash are major part  
of Minneapolis

- ~38,000 public ash
- ~175,000 ash in yards

We'll lose all their  
benefits ... leading to:

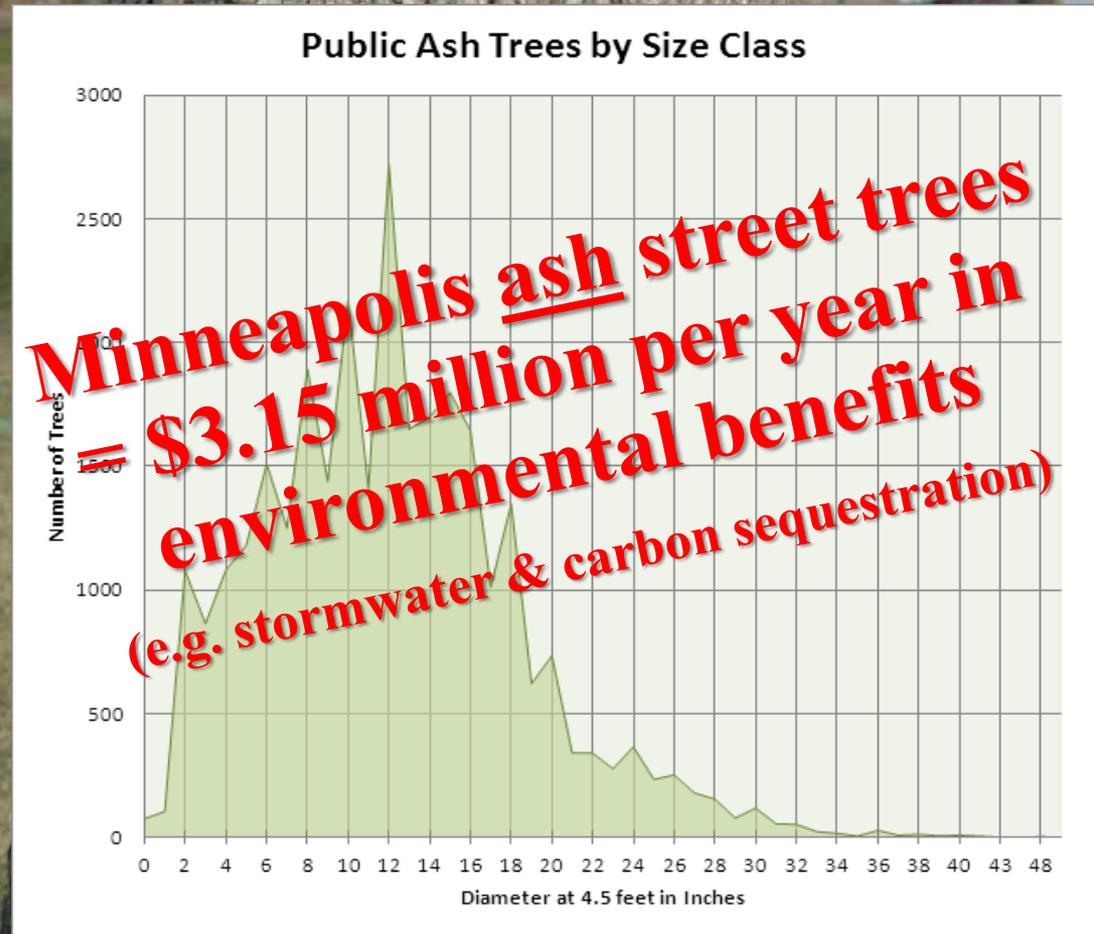
- Worse water quality
- Impacts on human health

# What's Killing our Trees

## **Emerald Ash Borer (EAB)**

**We're losing big trees & their big benefits.**

**Our typical street tree ash is 12-14" in diameter & about 40 feet tall.**



# What's Killing our Trees

## **Emerald Ash Borer (EAB)**

- EAB is NOT controllable like Dutch elm disease
- Unlike our elms, ALL ash are doomed



# What's Killing our Trees

## **Emerald Ash Borer (EAB)**

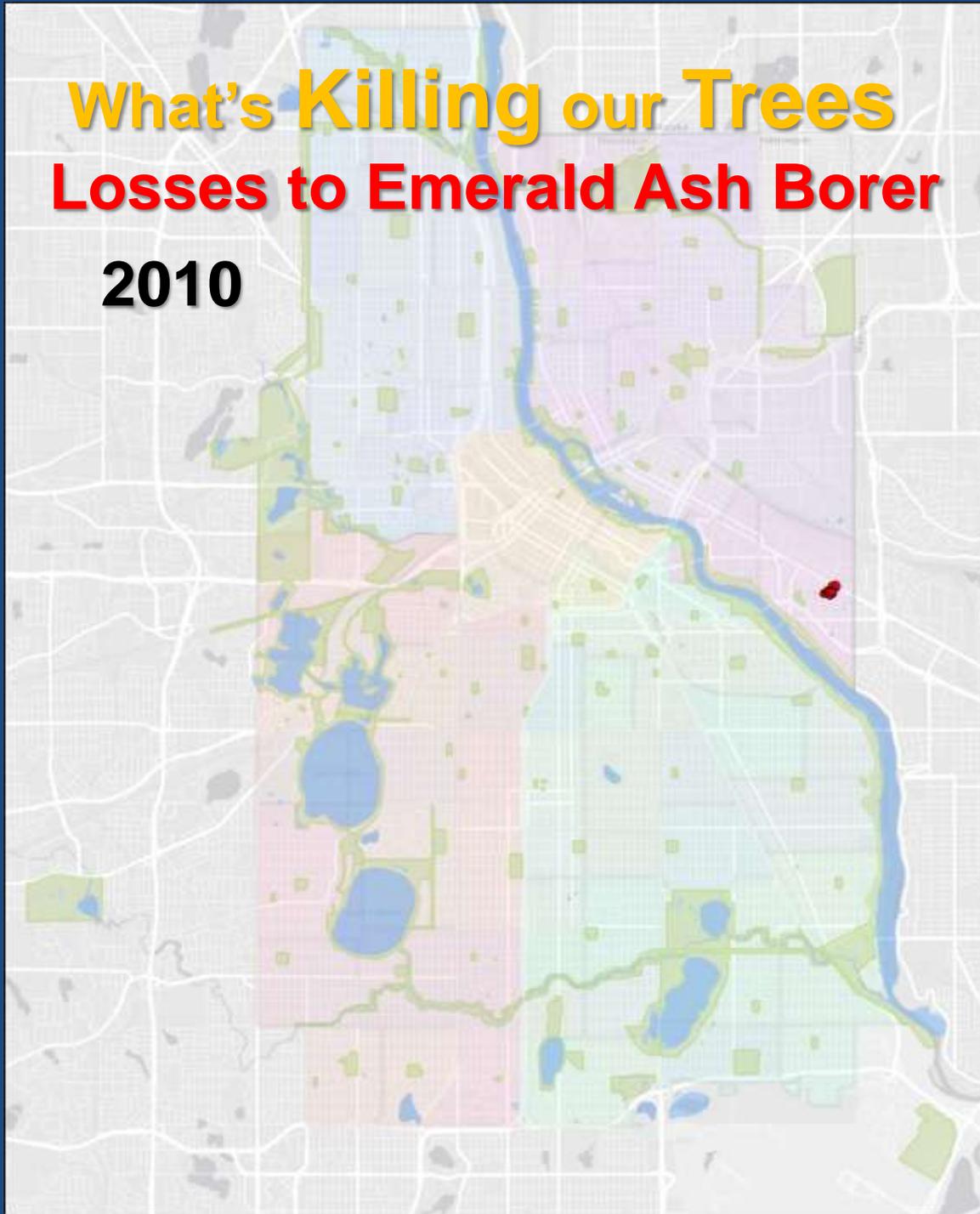
**Dead ash are hazards!**  
**They fall down sooner ...**  
**taking powerlines as they fall**



# What's Killing our Trees

## Losses to Emerald Ash Borer

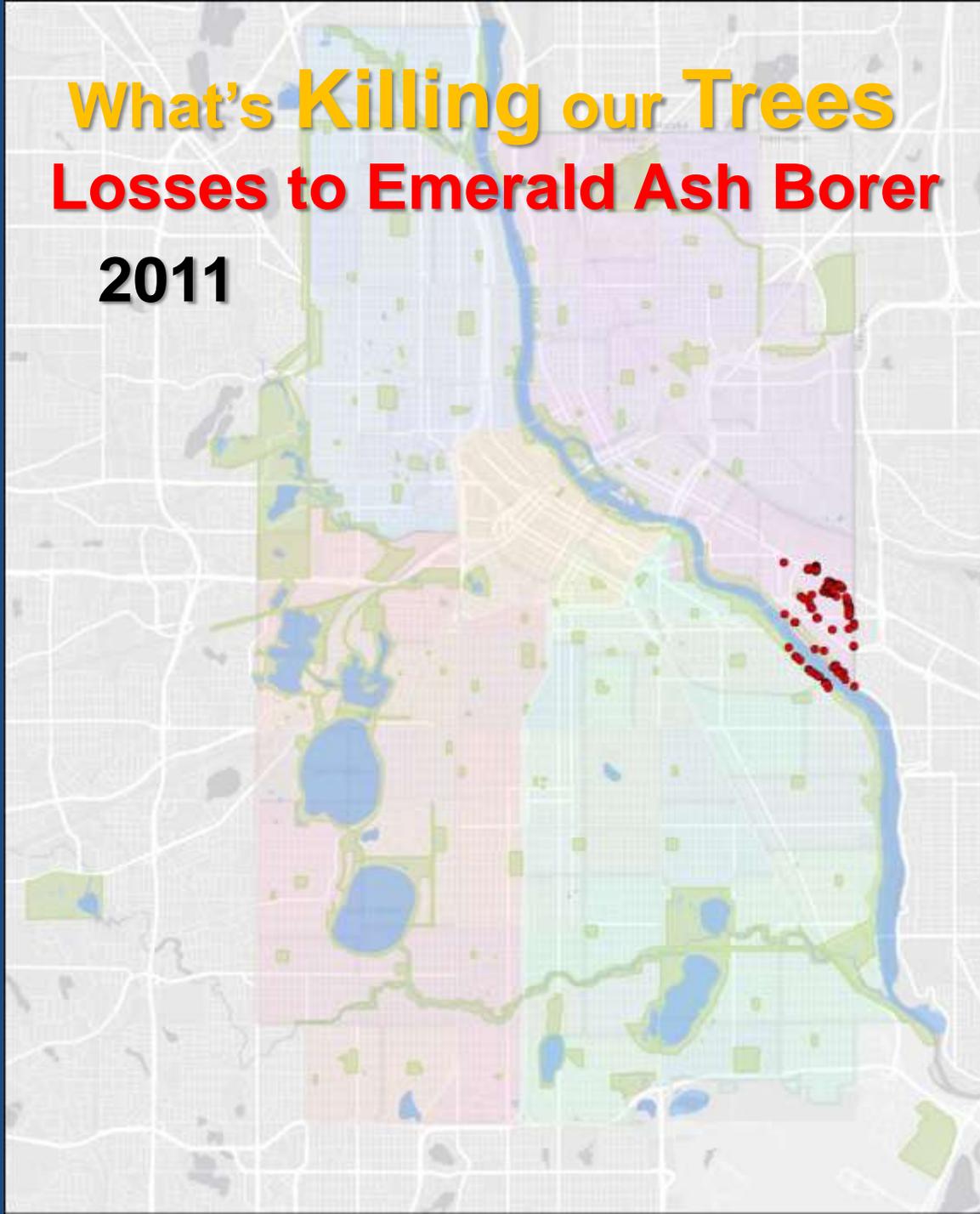
2010



# What's Killing our Trees

## Losses to Emerald Ash Borer

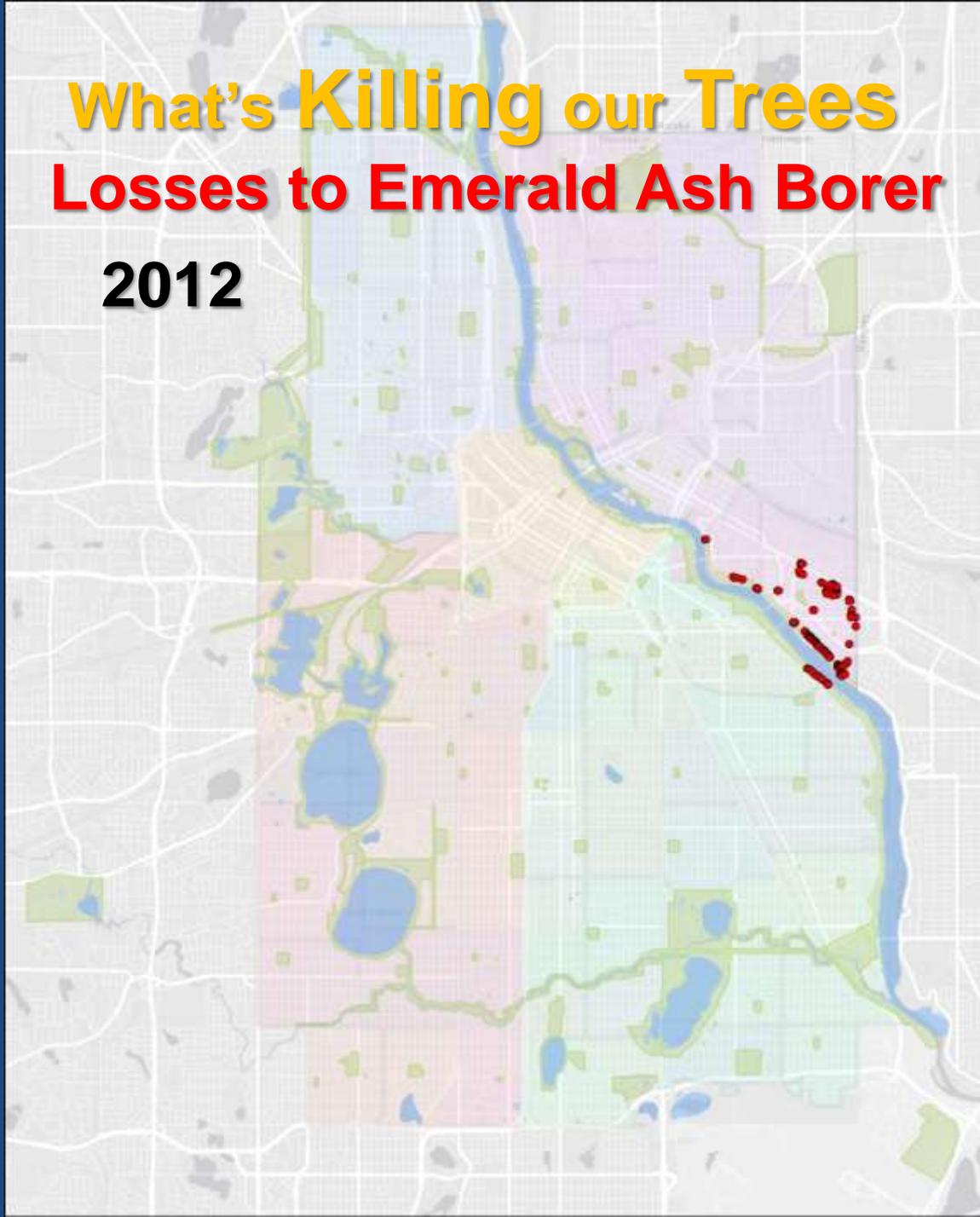
2011



# What's Killing our Trees

## Losses to Emerald Ash Borer

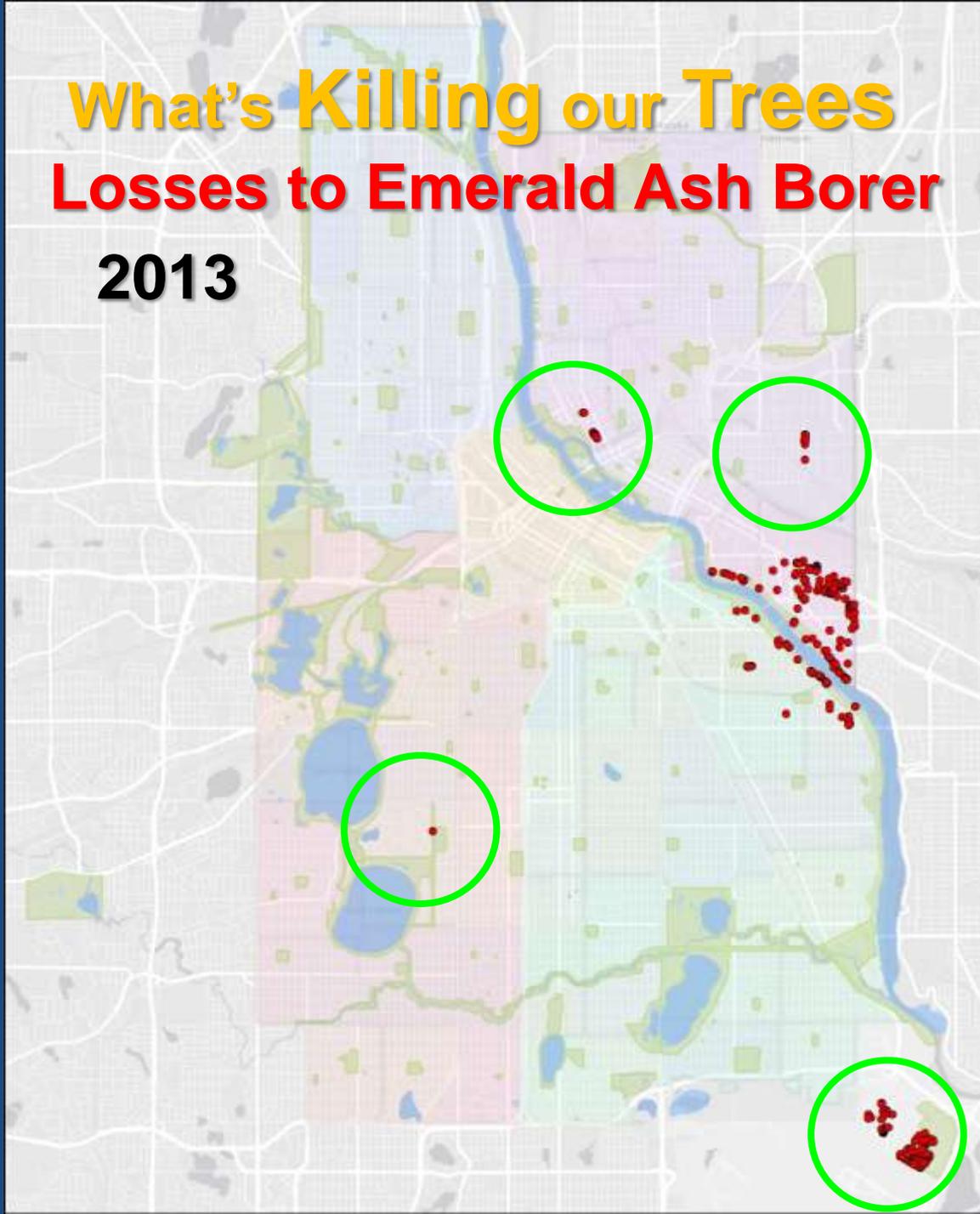
2012



# What's Killing our Trees

## Losses to Emerald Ash Borer

### 2013

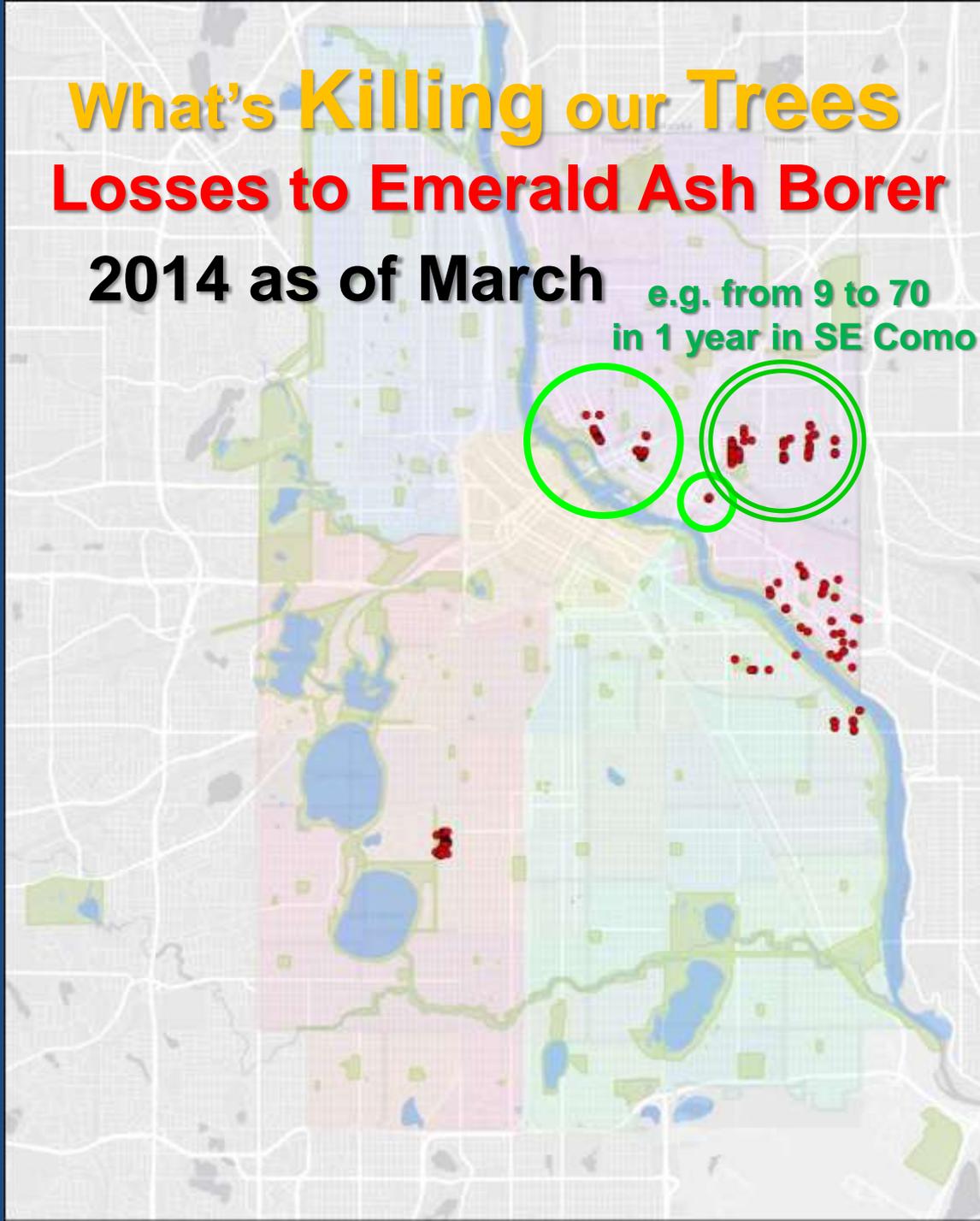


# What's Killing our Trees

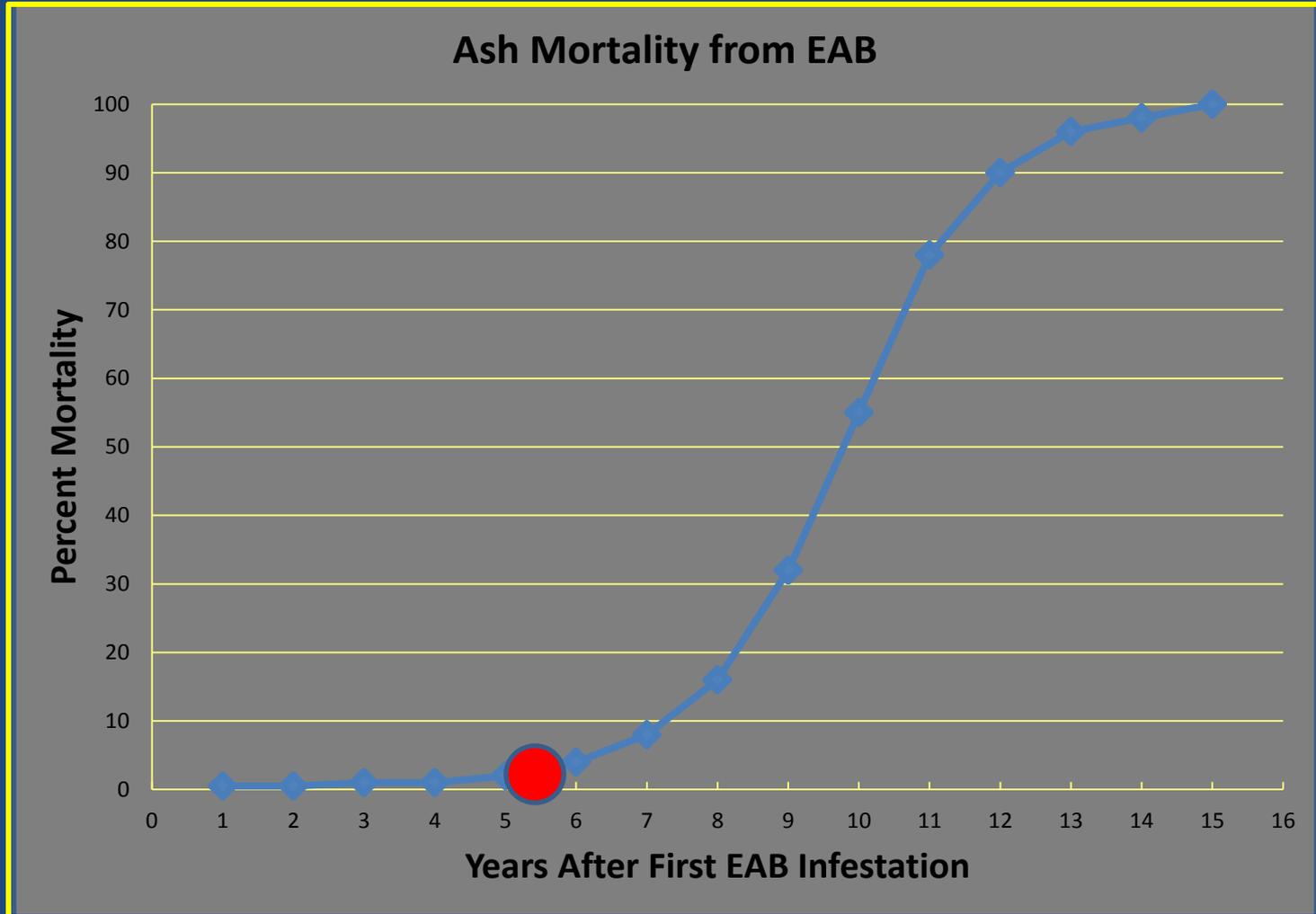
## Losses to Emerald Ash Borer

2014 as of March

e.g. from 9 to 70  
in 1 year in SE Como



# A Predictable Pattern of Losses



Based on data from Dr. Dan Herms, The Ohio State University



# What's Killing our Trees

## Emerald Ash Borer (EAB)

Did the brutal winter make a difference?

- 40% of larvae in test logs died at minus 18 degrees F
- **AT BEST, it will slow down the spread**
- **Giving us more time to do planned removals and replacements**



**What's Killing our Trees**

**The Invisible Killers:**  
challenges with infrastructure development



# What's Killing our Trees

## The Invisible Killers: challenges with infrastructure development

- Undersized tree pits
- De-icing salt
- Monocultures



# What's Killing our Trees

## The Invisible Killers:

challenges with infrastructure development

- Undersized tree pits
- Strangling wires



# What's Killing our Trees

## The Invisible Killers:

challenges with infrastructure development

- Root impacts



# What's Killing our Trees

## The Invisible Killers: challenges with infrastructure development

- Construction damage

**June 2013 Storm – results coming from the  
Minneapolis Tree Failure Research Project**



# What's Killing our Trees

## The Invisible Killers:

challenges with infrastructure development

- Soil compaction



# What's Killing our Trees

## The Invisible Killers: drought & not watering our trees



Drought stressed maple



WHAT CAN WE  
DO ABOUT IT

# What can We Do about It

Amount of benefits = amount of tree canopy cover

= healthy growing trees

= good planting places  
+ care + water

What can **We Do** about It

Replant what we're losing!

Proactively replace  
ash with other  
species

- ✓ achieve a mix of older and new trees
- ✓ use diversity of species on each block



What can **We Do** about It

Replant what we're losing!

Encourage private tree replacement

- ✓ neighborhood projects
- ✓ business association projects
- ✓ City Trees Program

What can **We Do** about It

Care for what we've got!

## Water trees

- ✓ keep trees watered all summer long
- ✓ guarantee watering for newer trees
- ✓ engage volunteers
- ✓ send watering reminders



What can **We Do** about It

Care for what we've got!

Keep trees in shape

- ✓ do young tree pruning
- ✓ monitor their health



What can **We Do** about It

Care for what we've got!

Give roots more breathing room & space

- ✓ use air spade on compacted soils
- ✓ incorporate bio-char



What can **We Do** about It

Care for what we've got!

Give roots more breathing room & space

✓ urban planting rehab

BEFORE



DURING



AFTER

What can **We Do** about It

Care for what we've got!

Give roots more breathing room & space

✓ modify sidewalks to save roots & tree

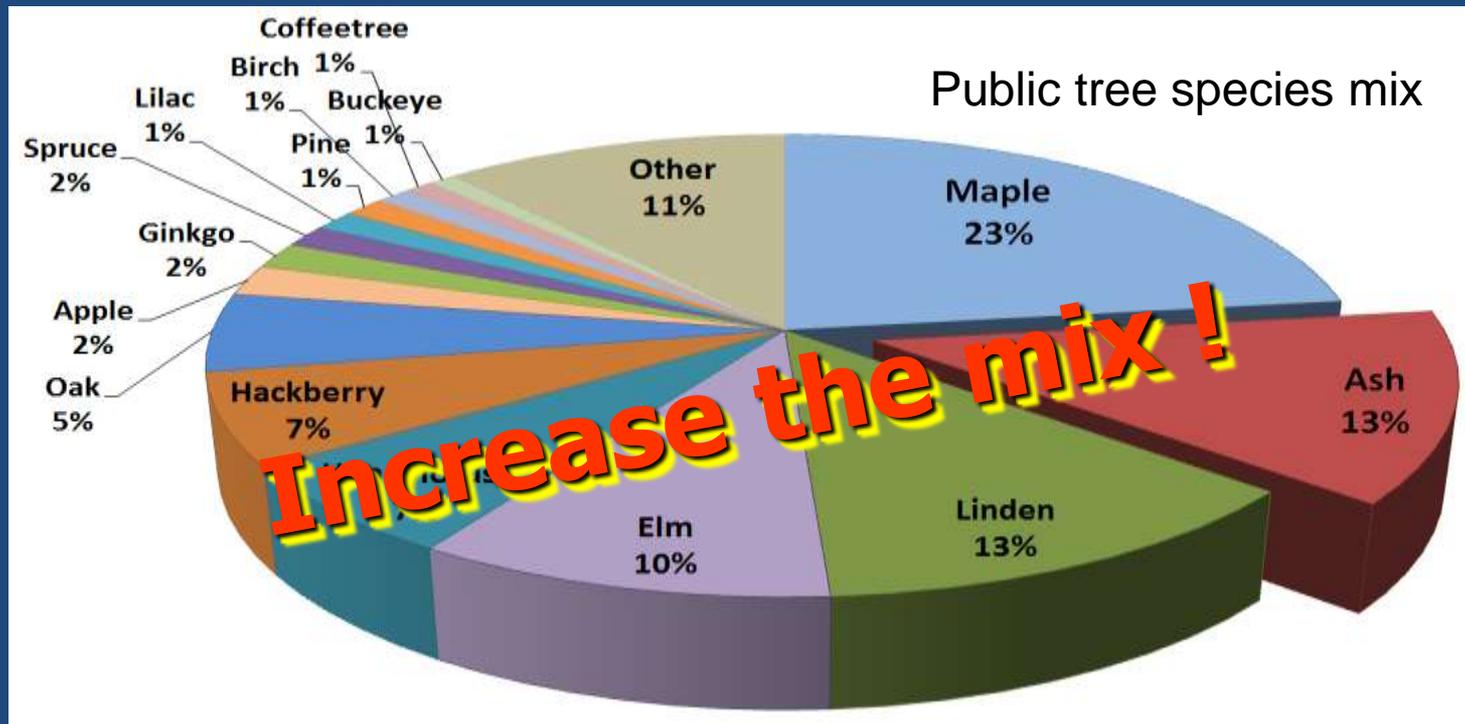


# What can We Do about It

## Plant smart!

Plant the right tree in the right place

- ✓ Use large-canopied trees
- ✓ Increase our diversity of trees



What can **We Do** about It

# Plant smart!

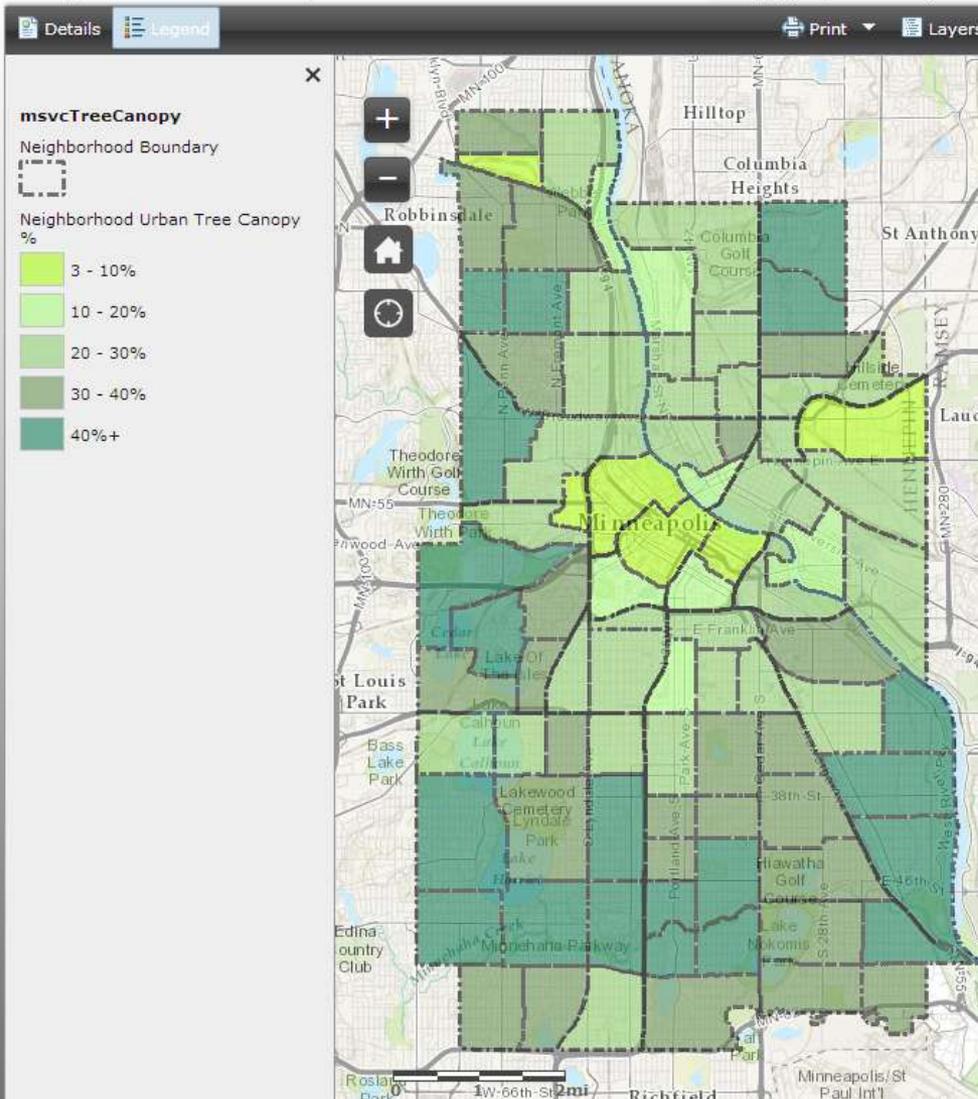
Think before planting

- ✓ identify strategic planting opportunities
- ✓ use the City's Tree Canopy tool



# What can We Do about It

## City of Minneapolis Urban Tree Canopy (UTC)



Think before planting

✓ use the City's Tree Canopy tool

Available  
to everyone  
on line

# City of Minneapolis Urban Tree Canopy (UTC)

Details Legend

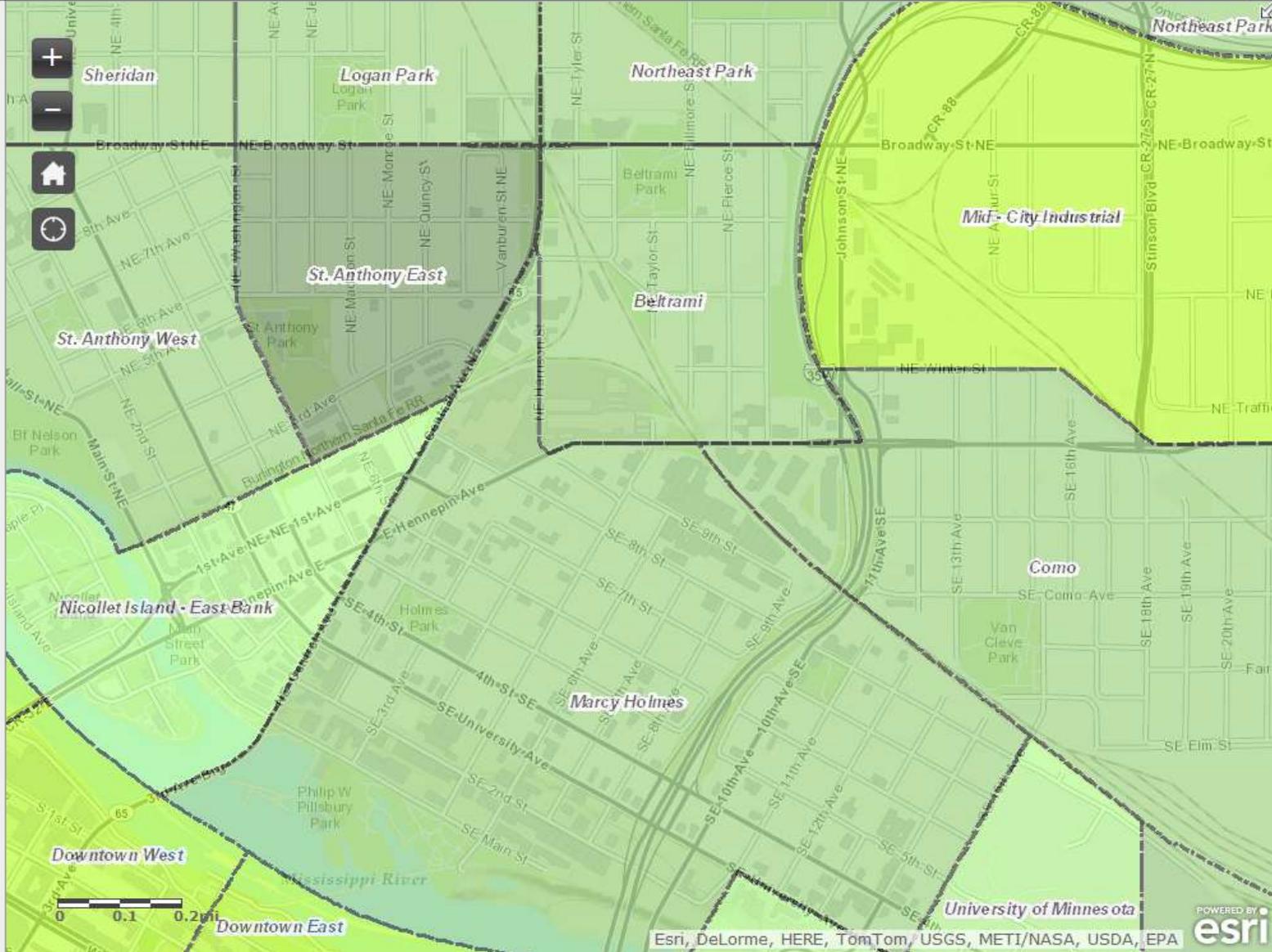
Print Layers Basemap Measure Share Find address or place

**msvcTreeCanopy**

Neighborhood Boundary

Neighborhood Urban Tree Canopy %

- 3 - 10%
- 10 - 20%
- 20 - 30%
- 30 - 40%
- 40%+



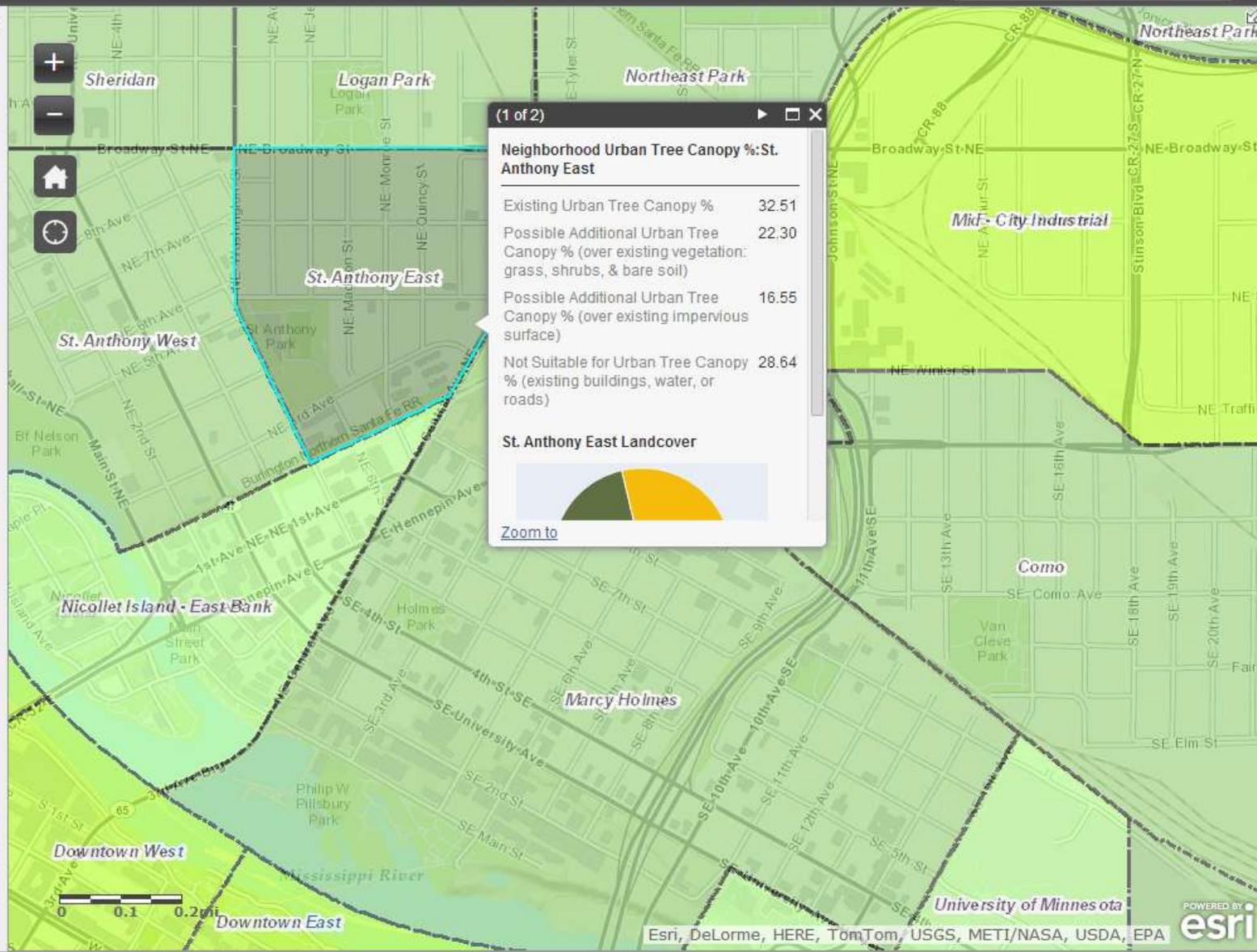
# City of Minneapolis Urban Tree Canopy (UTC)

**msvcTreeCanopy**

Neighborhood Boundary

Neighborhood Urban Tree Canopy %

- 3 - 10%
- 10 - 20%
- 20 - 30%
- 30 - 40%
- 40%+



(1 of 2)

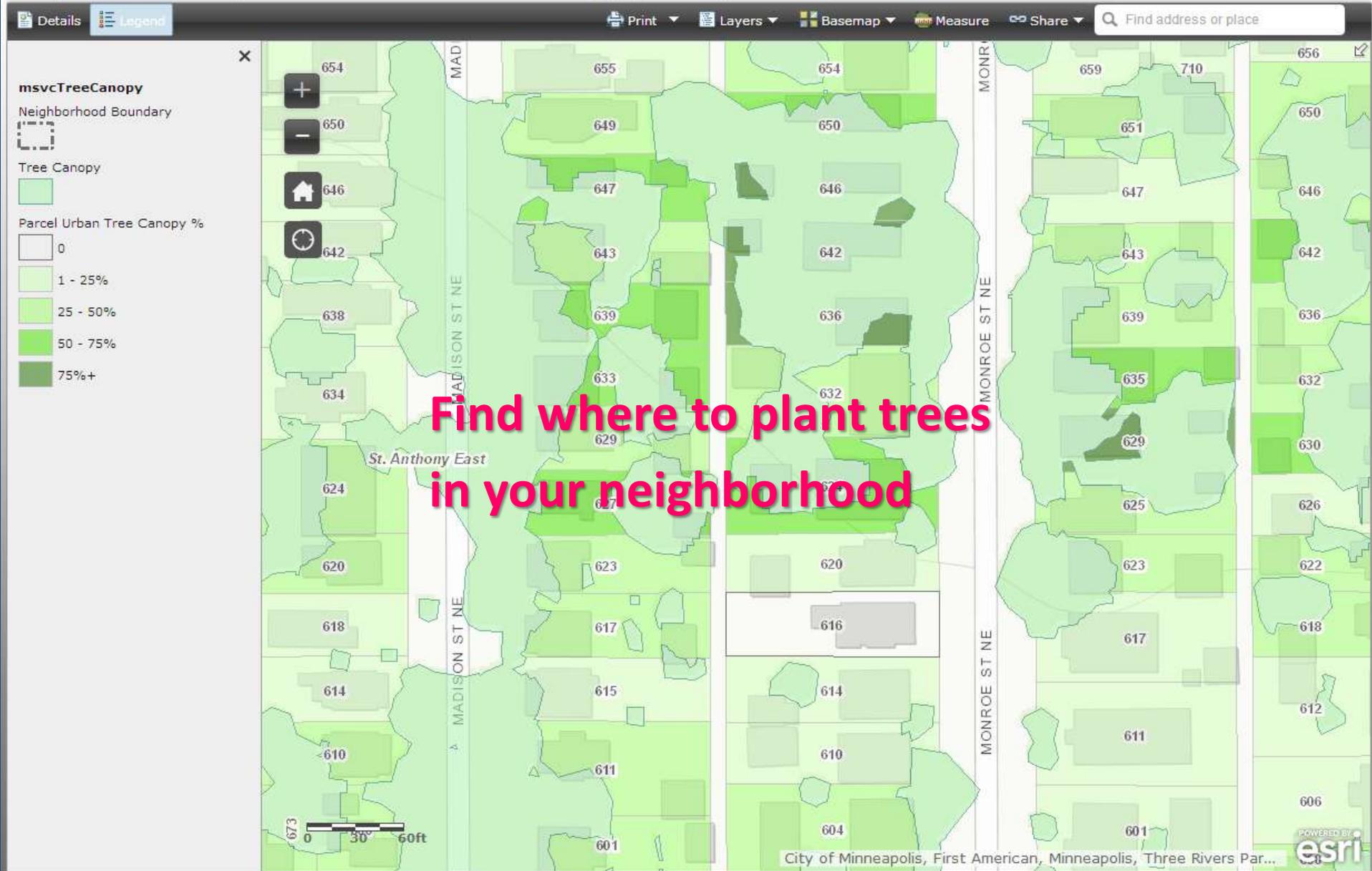
**Neighborhood Urban Tree Canopy %: St. Anthony East**

Existing Urban Tree Canopy %	32.51
Possible Additional Urban Tree Canopy % (over existing vegetation: grass, shrubs, & bare soil)	22.30
Possible Additional Urban Tree Canopy % (over existing impervious surface)	16.55
Not Suitable for Urban Tree Canopy % (existing buildings, water, or roads)	28.64

**St. Anthony East Landcover**

[Zoom to](#)

# City of Minneapolis Urban Tree Canopy (UTC)



# City of Minneapolis Urban Tree Canopy (UTC)

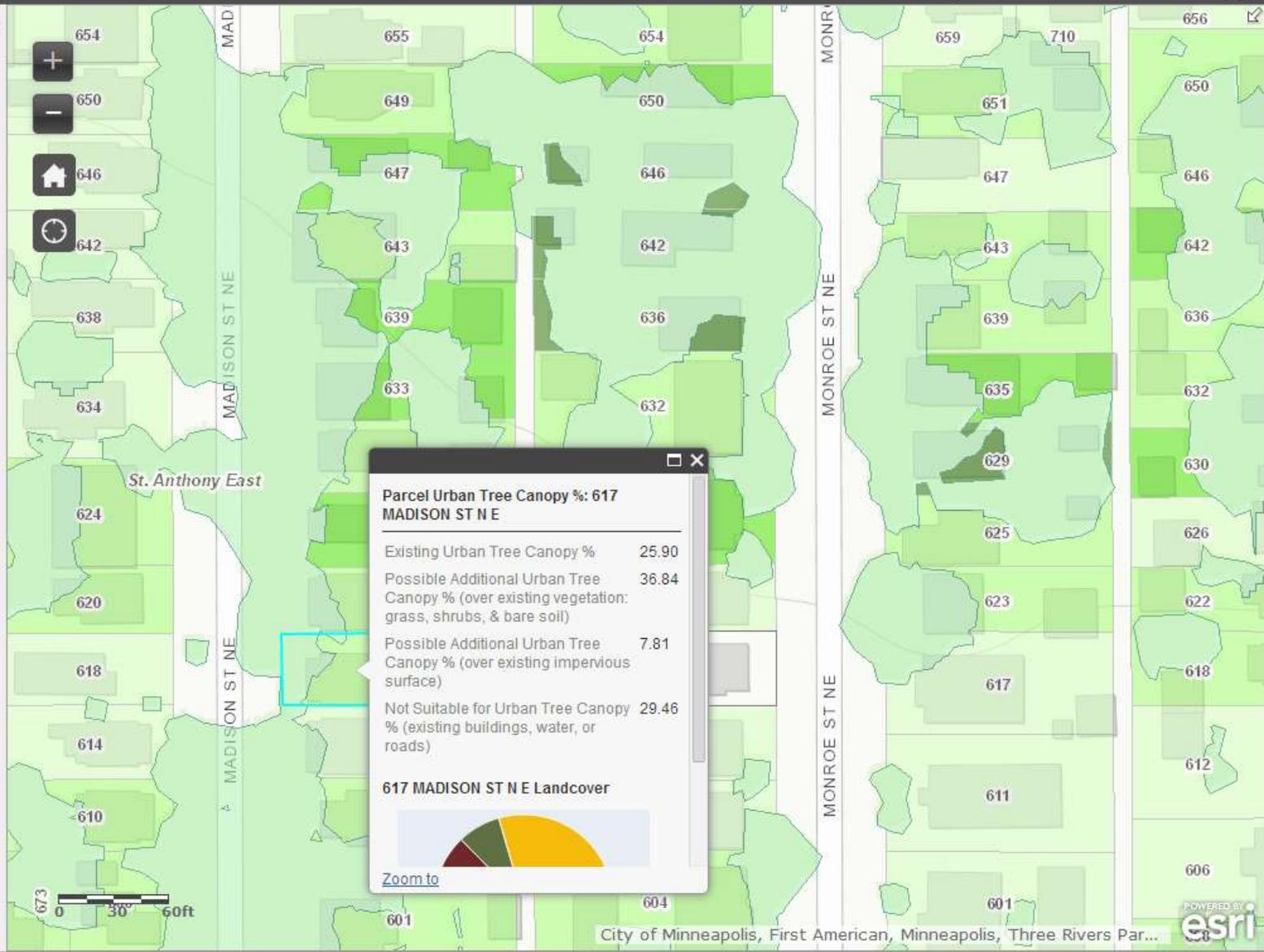
**msvcTreeCanopy**

Neighborhood Boundary

Tree Canopy

Parcel Urban Tree Canopy %

- 0
- 1 - 25%
- 25 - 50%
- 50 - 75%
- 75%+



What can **We Do** about It

Plant smart!

- ✓ Plenty of soil volume that breathes
- ✓ Tree diversity

Smart tree infrastructure is  
our civic responsibility!

What can **We Do** about It

Plant smart!

- ✓ Use state of art planting technologies



Swedish soil technique  
with under sidewalk places  
designed for roots to grow

# RECOMMENDATIONS

A photograph of a residential street in winter. The trees lining both sides of the road are heavily laden with snow, creating a white canopy over the street. The ground is covered in a layer of snow, and several cars are parked along the right side of the road. The overall scene is bright and serene, with a clear blue sky visible through the branches.

# Recommendations

- **Implement the MPRB Ash Canopy Replacement Plan**
  - ✓ remove 40,000 public ash & replant diverse species over 8 years
  - ✓ fund Tree Preservation & Reforestation levy at \$1,215,400 annually
- **Fund & hire MPRB Tree Preservation Coordinator**
  - ✓ protect existing trees from construction loss or failure
  - ✓ give trees a seat at the table in capital projects & Project Development Review
- **Increase young tree care & watering**
  - ✓ increase public watering  
(MPRB, Fire Dept., Public Works, Conservation Corps, etc)
  - ✓ use govdelivery to email drought watering reminders to residents
  - ✓ implement timely young tree pruning to improve health & save future \$s
  - ✓ create volunteer tree steward networks to water & monitor young trees
- **Increase City funding for the popular City Trees Program**
  - ✓ continue increasing #s of large shade trees & fruit trees
  - ✓ encourage replacement of private ash trees

# Minneapolis Tree Advisory Commission

# THANK YOU

## Any questions?



Minneapolis  
Tree Advisory  
Commission