



# STREET TREES, YARD TREES, AND CANOPIES

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COMMUNITY FORESTER, TREE PITTSBURGH

PRESENTATION FOR DORMONT STORMWATER AUTHORITY

7/15/20

# WHAT IS TREE PITTSBURGH?

- A science based organization that manages the urban forest based on best practices.
- Advocate for the protection, planting, and maintenance of trees in Allegheny County

# OUTLINE

- Types of tree plantings
- Tree canopy cover in Allegheny County and Dormont
- The benefits of trees
- Importance of trees in stormwater systems
- How you can use trees to manage stormwater

# TREES: THE ORIGINAL GREEN INFRASTRUCTURE

- Trees were here before any other big infrastructure systems.
- Trouble with stormwater runoff began long ago when large scale land clearing started

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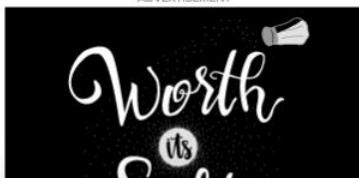
## Flooding around turnpike construction hits McDonald area again



**ED BLAZINA** ✓  
Pittsburgh Post-Gazette  
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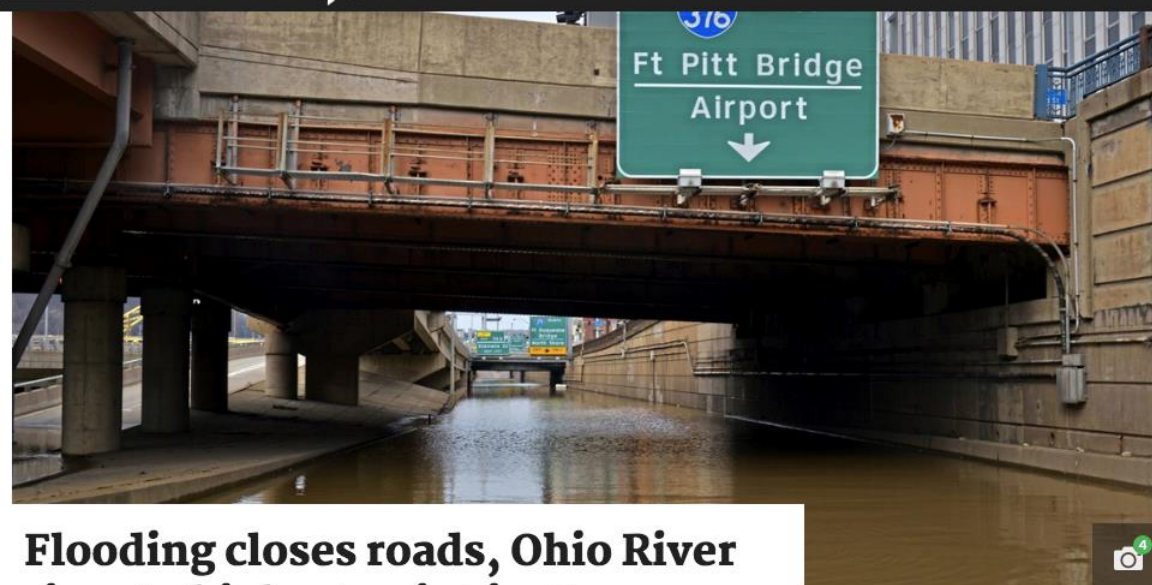
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Pam Panchak/Post-Gazette

## Flooding closes roads, Ohio River rises to highest point in 13 years Downtown



**PATRICIA SABATINI AND ANYA SOSTEK**  
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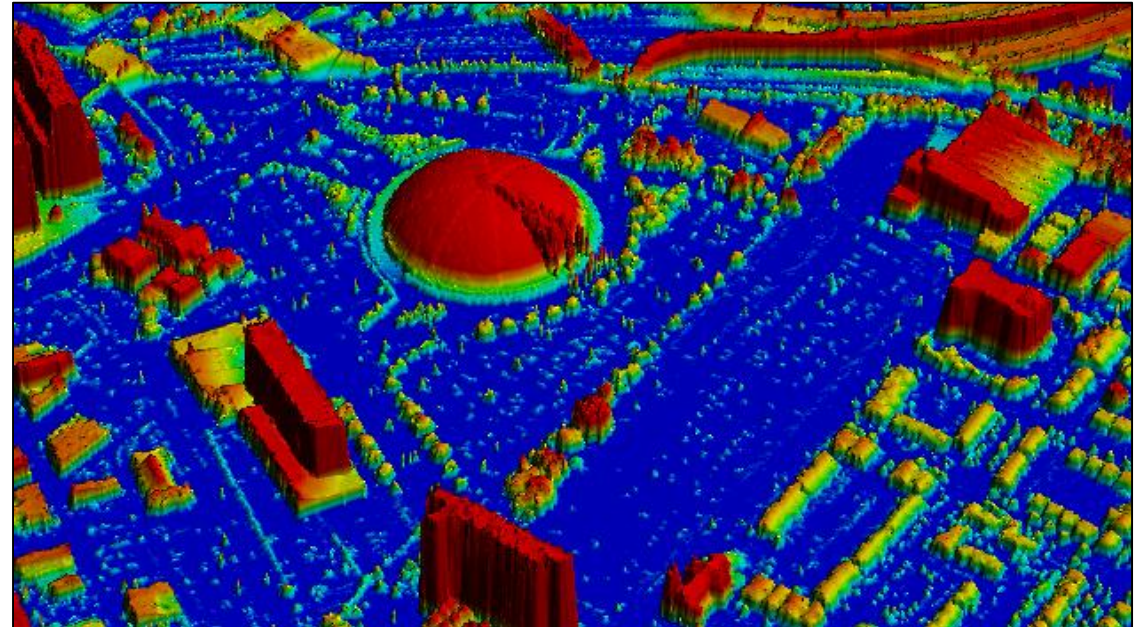
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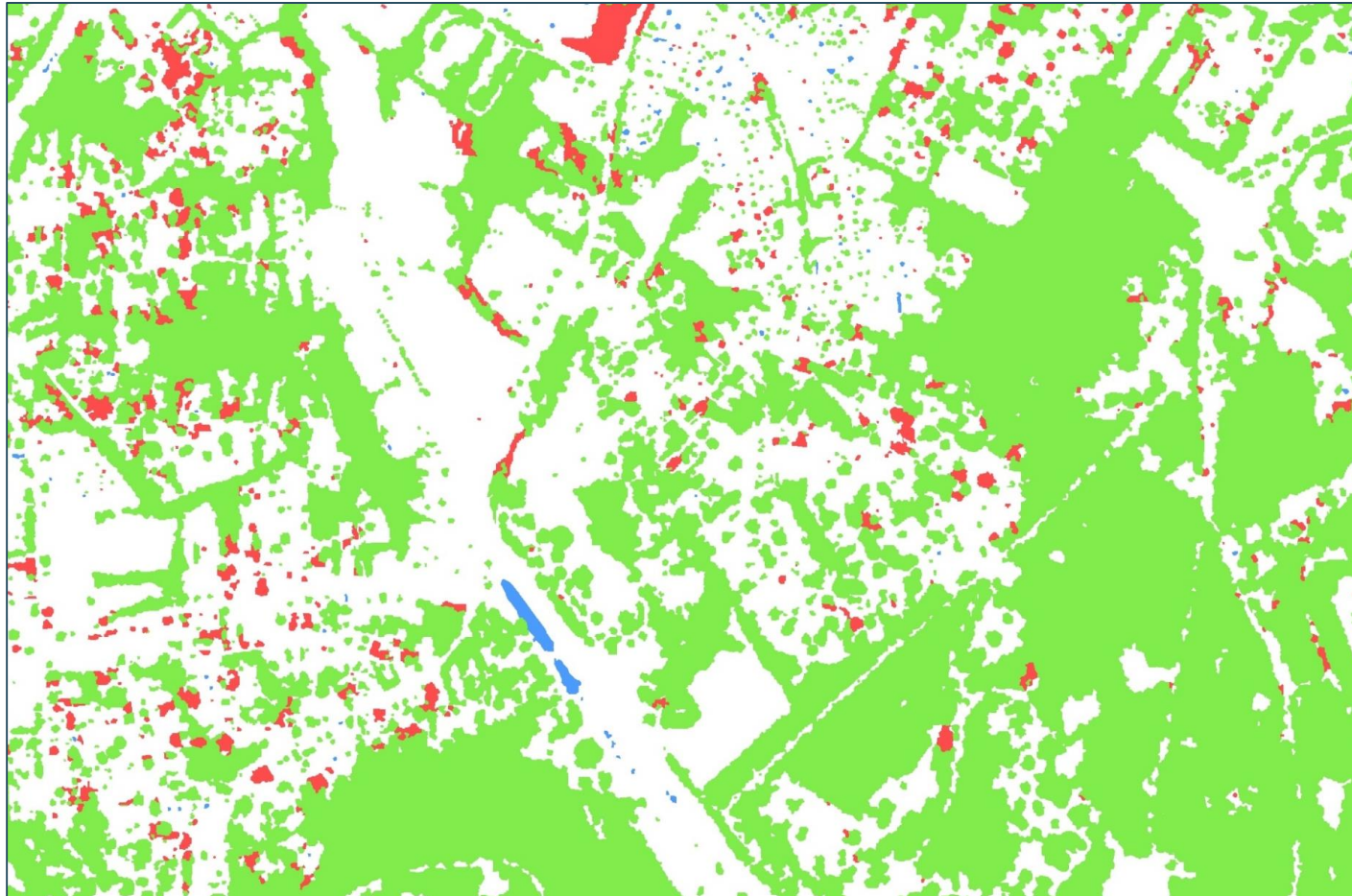
# TREE CANOPY ASSESSMENT

- Measures the area covered by tree canopy as seen from above
- Can help decision makers plan and manage urban forestry goals
  - See what kinds of changes, if any, have occurred among urban trees

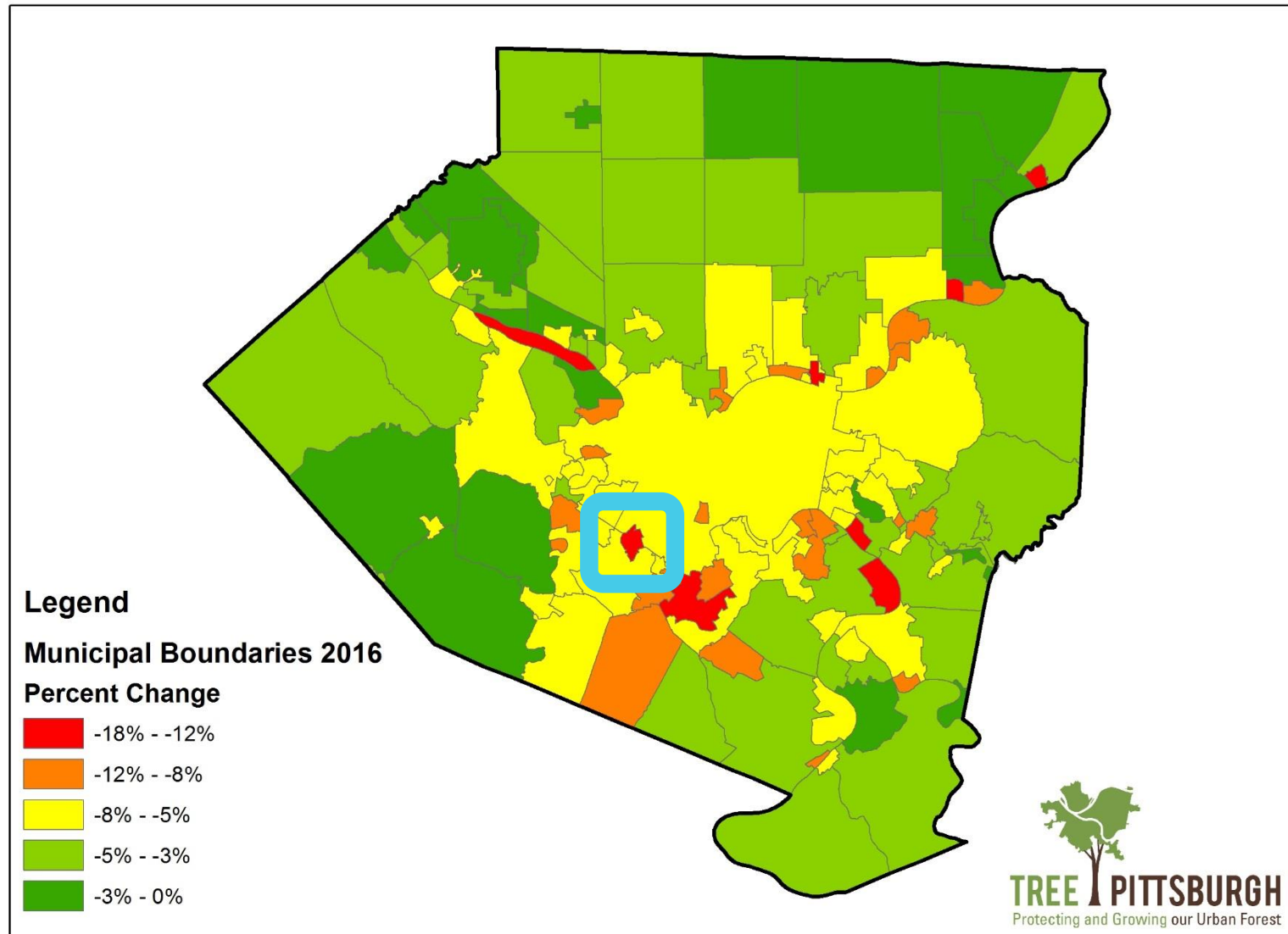




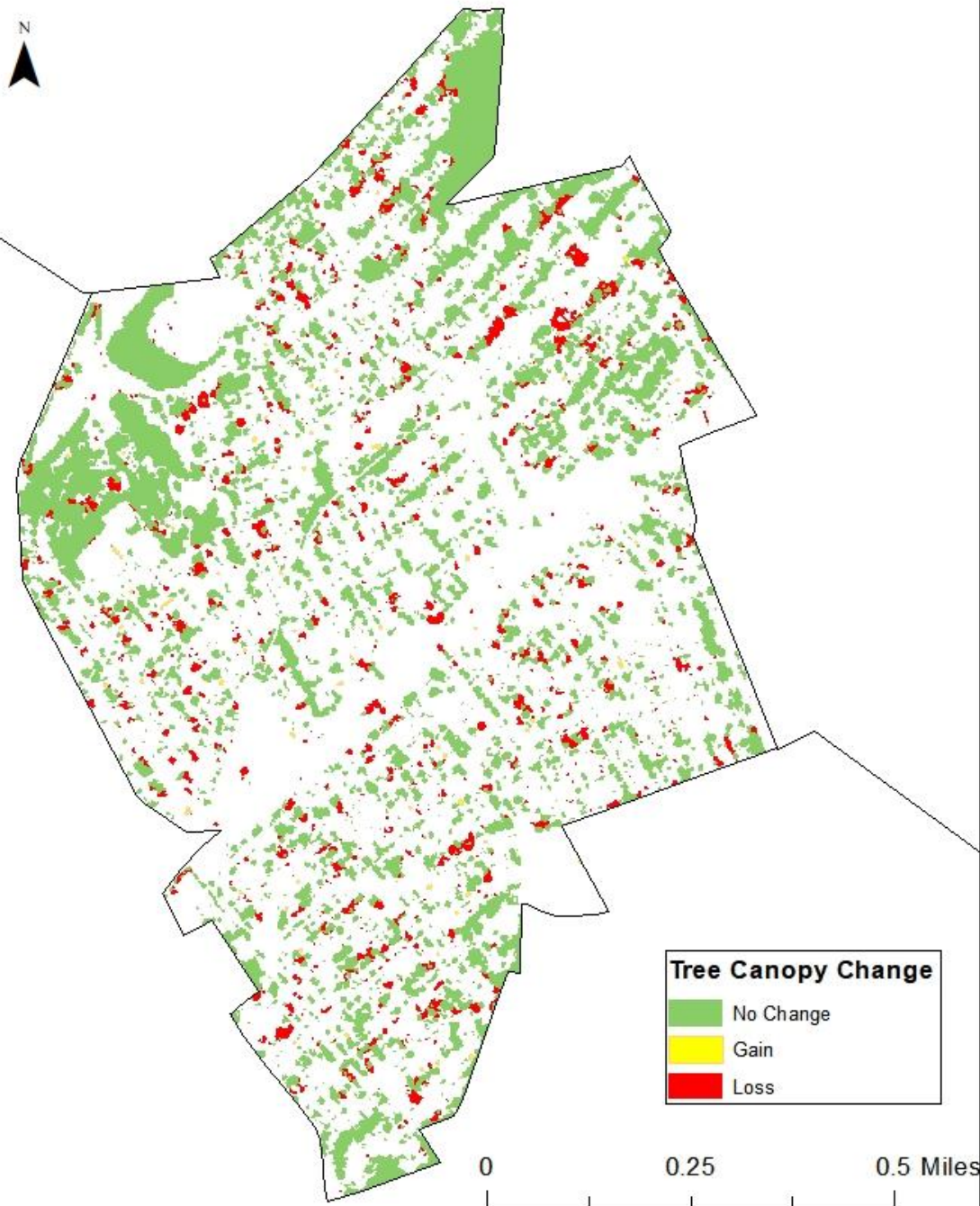
# CANOPY CHANGE 2010-2015



## Allegheny County Tree Canopy Percent Change







- 18 acres lost between 2010 and 2015 (almost 14 football fields!)
- Loss from natural causes
  - Pests and disease
  - Storms
- Loss caused by humans
  - Development
  - Infrastructure
  - Residential



# WHY DOES IT MATTER?





# TREES PROVIDE BENEFITS



# COOLING AND COST SAVING





# FILTER AIR POLLUTANTS AND CARBON DIOXIDE





# BUILD COMMUNITY AND IMPROVE HEALTH



# STORMWATER





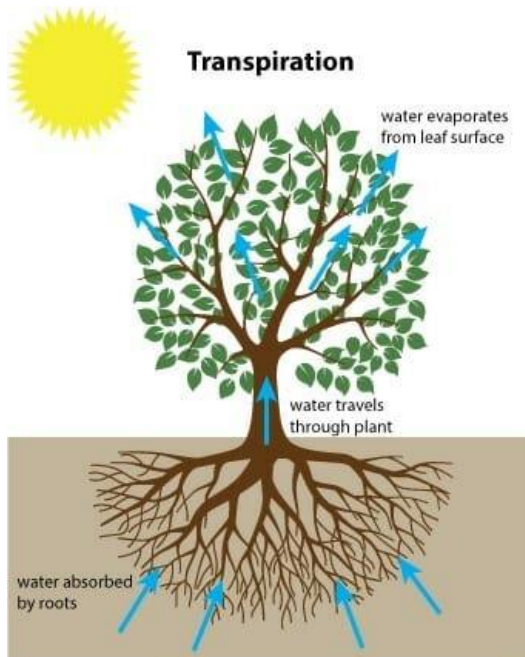
# TREES AND STORMWATER





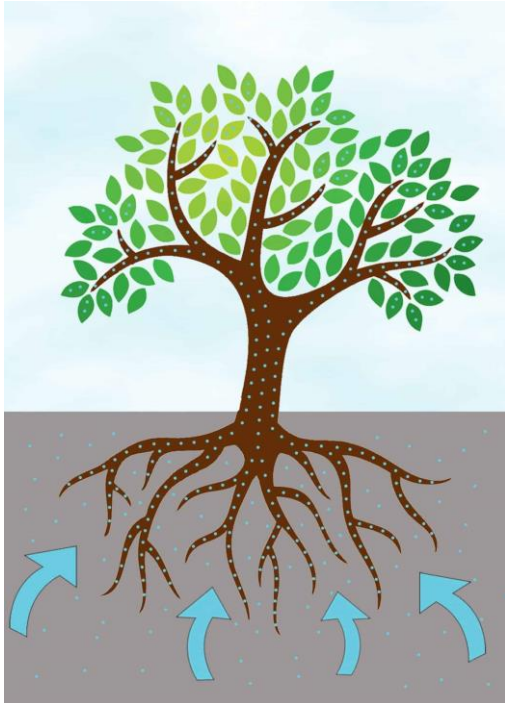
# REDUCE PEAK FLOW AND RUNOFF VOLUMES

- Leaves and branches intercept and store rainfall
- A deciduous tree retains ~20% of the rain that falls on its canopy



# INCREASE WATER QUALITY

- Trees and nutrients absorb excess nitrogen and phosphorus particles that can decrease water quality and cause damage to aquatic ecosystems





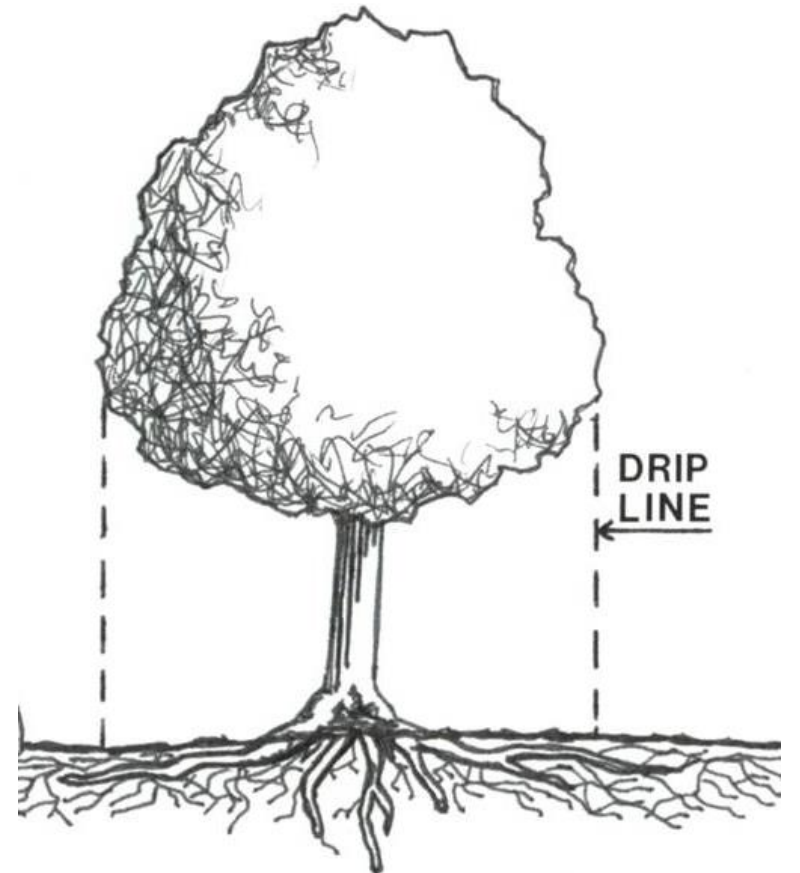
# INCREASED PERVIOUS SURFACES

- More tree lawns and street tree pits in sidewalks means less concrete and cement, and more soil for water to infiltrate



# INCREASED PERMEABILITY AND STABILITY OF SOIL

- Root growth and decomposition loosens soil and allows more water to infiltrate
  - Deciduous trees can increase infiltration rates up to 150% when compared to an unplanted space





# STORMWATER VALUE OF TREES



# VALUE OF TREES

- Pittsburgh's street trees prevent ~15 million gallons of stormwater from infiltrating into wastewater system.
  - \$134,848 in sewage treatment costs
  - Does not include cost of fixing potholes, landslides, erosion, and other problems caused by stormwater runoff and flooding
  - Does not include trees in parks and on private property
  - Average benefit of a tree: \$5 in sewage costs



## VALUE OF DORMONT'S TREES

- Dormont: 118.53 acres in 2015
- ~155 trees/acre → 18,372 trees
- $18.372 * 5 \rightarrow \$91,860$

2012 iTree report, \$7million , \$1million per

iTree hydro 18,000 gal/acre





WHAT CAN I DO?



## PROTECT EXISTING TREES

Older, larger trees provide greater stormwater benefits, so it is important to protect these trees while also planting new ones.

# PROTECT – FROM CONSTRUCTION

- Talk to your contractors about tree protection
- Advocate for a municipal tree protection ordinance

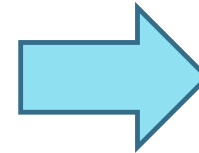


# PROTECT – BY MAINTENANCE

- Mulch tree properly



- Use proper pruning practices



## PLANT NEW TREES

Trees age just like all infrastructure, so it's important to plan for the future of “tree infrastructure” by planting new trees.



# PLANT – ON PRIVATE PROPERTY

- Plant trees on your private property!
  - Buy trees and install them, or pay a contractor to install them
  - Get trees through Tree Pittsburgh's free tree giveaways



# PLANT – ON PUBLIC PROPERTY

## Apply to Tree Vitalize

1. Identify possible planting locations.
2. Call Jeff Bergman, Director of TreeVitalize in Allegheny County
3. Schedule a site visit with a forester
4. Collect signed tree request forms from homeowners
5. Apply by deadline (applications due 6 months in advance of spring and fall planting seasons)

Next application round due by **AUGUST 7**. More info and instructions at **[waterlandlife.org](http://waterlandlife.org)**



# QUESTIONS?

VISIT  
[TREEPITTSBURGH.ORG](https://treepittsburgh.org)  
FOR MORE  
INFORMATION

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