

The Providence Neighborhood Planting Program (PNPP)



***Partnering to plant, steward, & advocate for
trees in Providence since 1988!***

SPRING 2022 TREE LEADER TRAINING

AGENDA

5:30-5:45 → Intros & icebreaker:

- Name, where you live (or where you are working on a planting), and whether you have been a PNPP Tree leader before?
- Is there a tree that is important to you, or a particular favorite tree memory you have?

5:45-6:15 → Slideshow/presentation

6:15-6:30 → Q&A



PNPP → A COLLABORATION BETWEEN THE MARY ELIZABETH SHARPE PNPP FUND AND THE PROVIDENCE PARKS DEPARTMENT

- Peggy Sharpe founded the Mary Elizabeth Sharpe Street Tree Endowment in 1988 in honor of her late mother-in-law, to form a partnership between the fund, the City, and the residents of Providence. The first plantings took place in 1989.



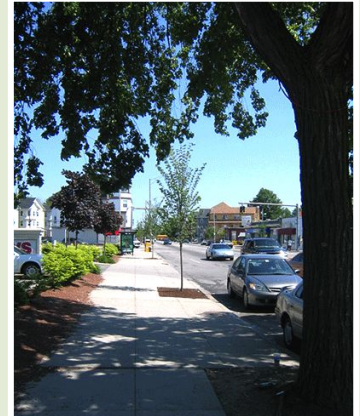
- The endowment funds PNPP and matches the City dollar-for-dollar on the cost of all street tree plantings. PNPP and the City Forestry Division collaborate to run the program.
- Together with residents & community groups we plant an average of 500-550 trees each year. For the last 10 years we have prioritized plantings in our lowest canopy neighborhoods. In total we have planted over 13,500 street trees together since 1989!

WHAT IS THE “URBAN FOREST”?

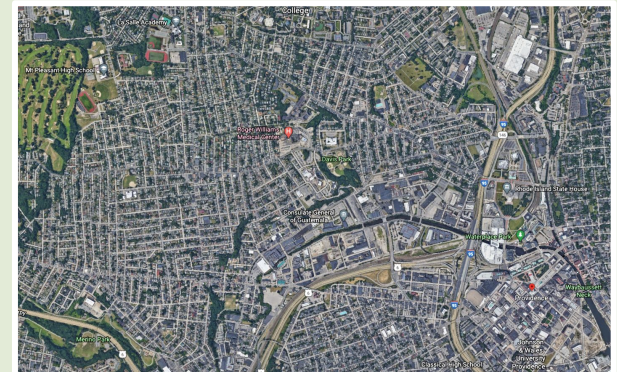
The Urban Forest is what we call *all of the trees*, and the other living/growing things around and underneath them, found throughout an entire city!

For instance:

- *The trees on our streets and in our parks and cemeteries.*
- *Trees and shrubs in our backyards, commercial parking lots, and on school yards and college campuses.*
- *Volunteer “weed trees” growing up through chain link fences in empty lots.*
- *The wooded areas along rivers or highways.*



All of us are the creatures of the urban forest and all of this together makes up one connected **urban forest** ecosystem!



URBAN FORESTS → CONNECTION TO CLIMATE & HEALTH

Urban trees can play a key role in helping us *slow* climate change and *adapt* to it, and address the public health impacts of climate change:

- Removing pollution from the air
- Reducing flooding and stormwater pollution
- Capturing and storing CO₂
- Energy savings (through shading & wind-blocking buildings)
- Combating “Urban Heat Island Effect” (trees can lower summer temperatures in dense urban areas by up to 20°F!)
- Increased community resilience

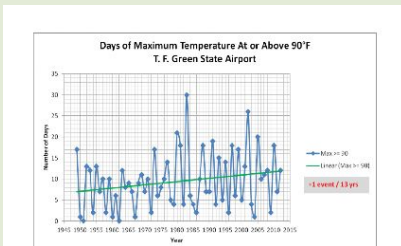


Figure 1b. They're experiencing maximum temperatures of 90 degrees or greater. In the period 1980-2012 as recorded at the National Weather Service office T. F. Green State Airport. Analysis provided by the No Coast River Basin Center.

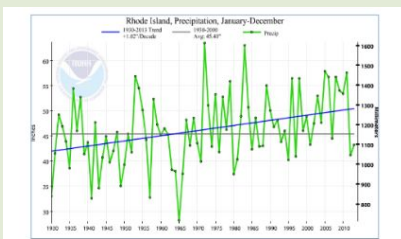
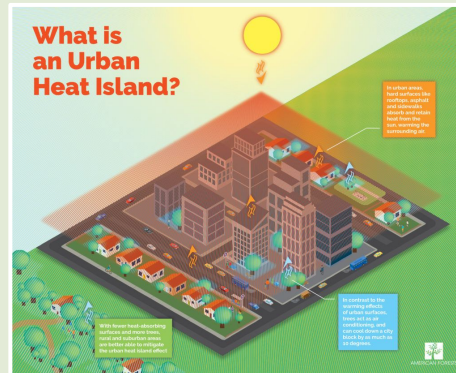


Figure 2. Average annual precipitation for Rhode Island for the period 1930 to 2013. Data provided by the National Climatic Data Center at <http://www.ncdc.noaa.gov>



Why Trees Are So Cool

Experts say trees should be considered urban infrastructure, every bit as important and useful as sewage, drinking water and transportation systems. They are an important tool for cities to reduce urban heat island effects. Here are a few ways trees benefit our urban environments:

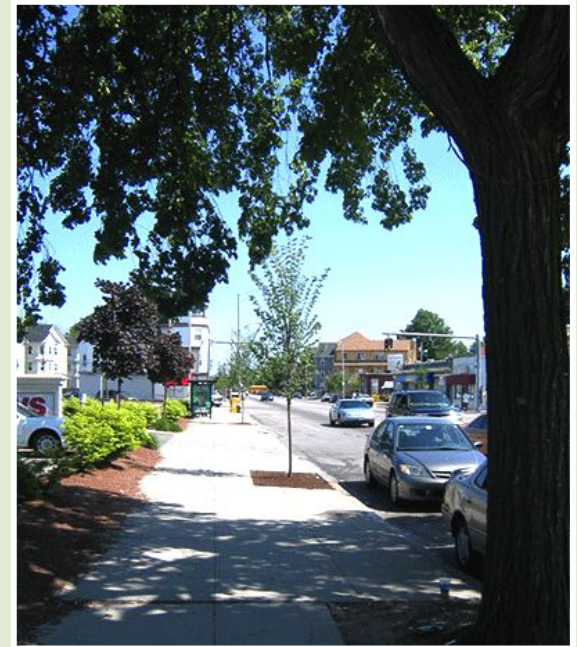
- By intercepting and absorbing rain, they reduce stormwater runoff.
- They absorb and store carbon dioxide.
- In a process known as **evapotranspiration**, trees take up water from the ground and release it through the surface of their leaves, cooling the surrounding air.
- By creating shade for buildings, they can reduce energy demand, which also reduces waste heat from air conditioners.
- They can help clean the air by taking in air pollutants.
- They block sunlight, helping to keep the ground below cool.

SOURCES: EPA; North Carolina State University; U.S. Forest Service PAUL HORN / InsideClimate News

IN RI, CLIMATE CHANGE IS RESULTING IN MORE INTENSE RAIN AND MORE HIGH HEAT DAYS

TO MAXIMIZE IMPACT, PLANT LARGE TREES!

- Research shows that a mature shade tree provides far more ecosystem services than a small-stature tree, and most significantly impacts:
 - Reduction of stormwater runoff
 - Reduction of heating and cooling costs
 - Mitigation of CO and CO₂



We can't afford *not* to plant large trees!

A SNAPSHOT OF PROVIDENCE'S URBAN FOREST

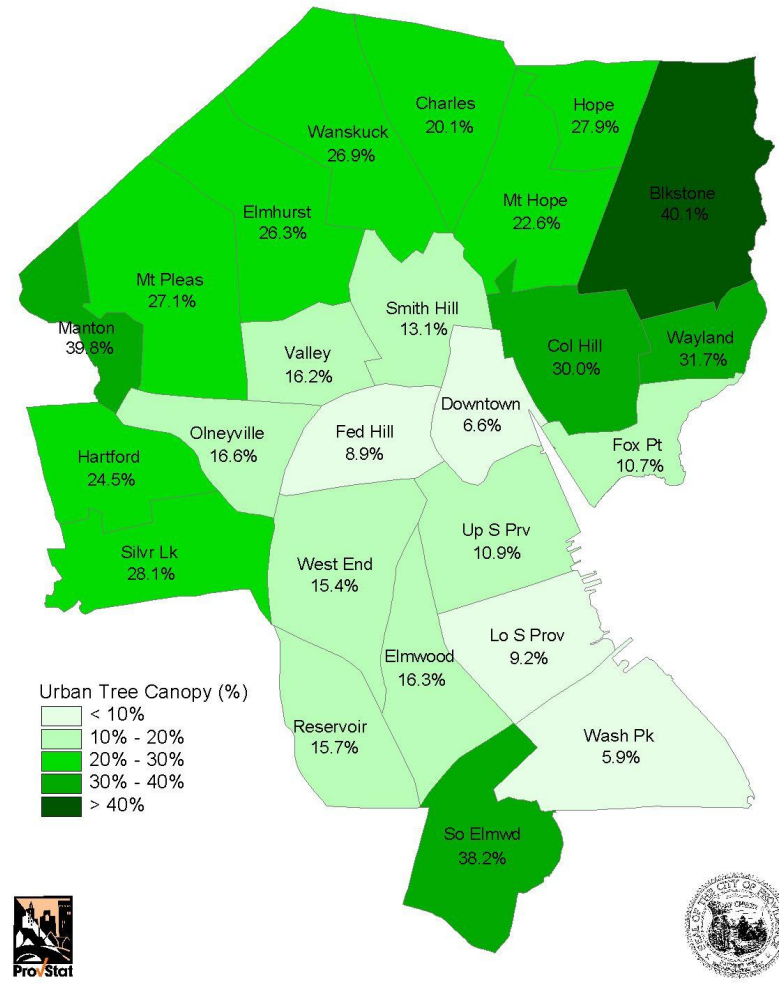
We've conducted two inventories of our street trees: in 2006 and in 2017, volunteers counted every single street tree in Providence.

Using flyover imagery, we are able to see how much of our city is covered by tree canopy, including trees on streets, private property, and in parks. This is called an *Urban Tree Canopy Study*.

Knowing *where trees are* lets us identify our priority tree planting neighborhoods: Tree canopy density in Providence (like in most cities) varies significantly across the city.

Distribution of the urban forest mirrors other patterns of environmental and social inequity...

Providence Urban Tree Canopy by Neighborhood

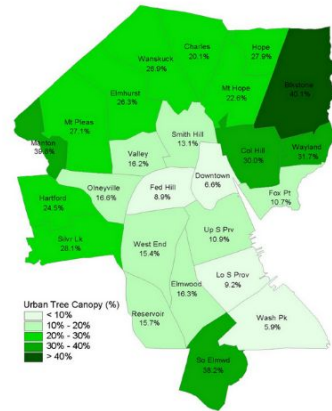


PROVIDENCE TREE EQUITY

Distribution of tree canopy cover varies widely across the city, and mirrors other environmental, social, racial and health disparities.

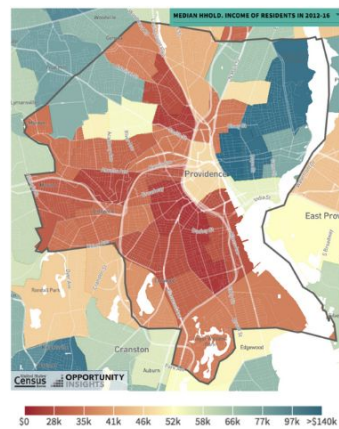
Neighborhoods with fewer trees have lower income levels, more residents of color, higher rates of illnesses linked to poor air quality, and are in general disproportionately burdened by environmental injustice and the impacts of climate change.

PROVIDENCE'S 2007 TREE CANOPY COVER, BY NEIGHBORHOOD



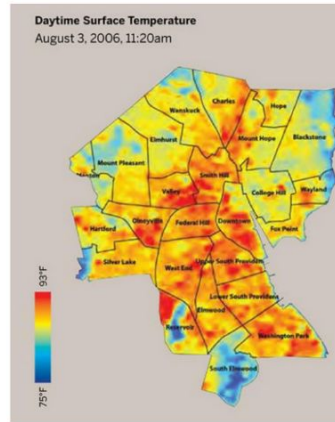
Urban Tree Canopy Percentage by Neighborhood: "State of Providence's Urban Forest" Report. April, 2008. Providence Parks Department, Forestry Division

MEDIAN HOUSEHOLD INCOME IN PROVIDENCE



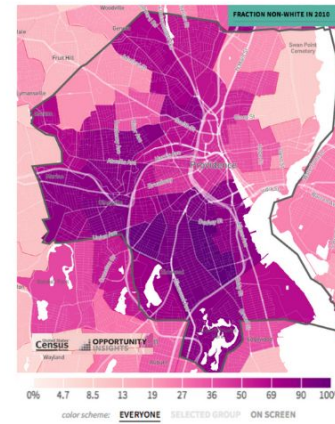
Map & data from Opportunity Insights and the US Census Bureau, <https://opportunityatlas.org/>

URBAN HEAT ISLAND EFFECT IN PROVIDENCE



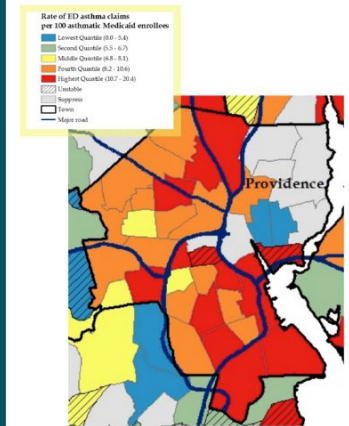
Daytime surface temperature and vegetation index images derived from Landsat 5 TM satellite data, available at <<http://glovis.usgs.gov>>.

COMMUNITIES OF COLOR IN PROVIDENCE (% OF POPULATION IDENTIFYING AS A RACE OTHER THAN WHITE)



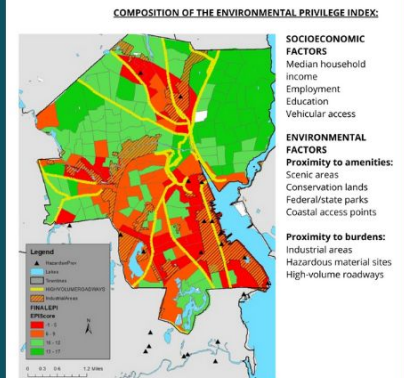
Map & data from Opportunity Insights and the US Census Bureau, <https://opportunityatlas.org/>

RATE OF ASTHMA-RELATED EMERGENCY ROOM VISITS BY CHILD MEDICAID ENROLLEES (2013-2017)



Map & data from RIDOH Asthma Program and Hassenfeld Child Health Innovation Center at Brown

ENVIRONMENTAL PRIVILEGE INDEX MAP OF PROVIDENCE



Michael W. Murphy, Environmental Justice Oct. 2016, 159-165. <http://doi.org/10.1089/env.2016.0010>

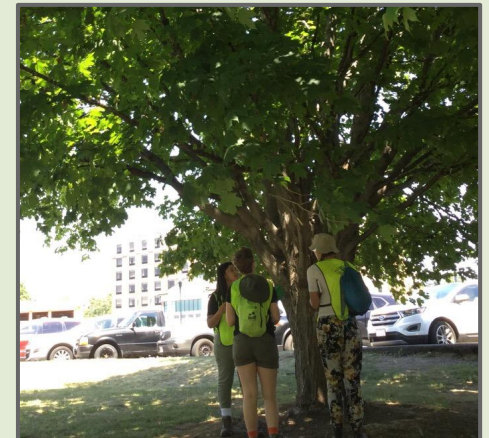
THE GOOD NEWS IS...OUR TREE CANOPY IS SLOWLY INCREASING!

- ❖ Overall canopy cover has increased from **25.8%** in 2011 to **27.2%** in 2018
- ❖ Street Tree #s are also increasing:
 - In 2006 we had **24,999** Street Trees.
 - In 2017 we had **27,396** Street Trees!
 - The majority of Providence's street trees are young (between 0-12" DBH)--so we're setting ourselves up for the future tree canopy!



We're constantly losing trees to disease, age, weather, development, etc, so net increases of any amount are a huge accomplishment!

(We're working now on a more zoomed-in analysis of where specifically in the city we've gained and lost trees, to help us more strategically plan and manage the urban forest.)



...thanks in part to NEIGHBORHOOD STREET TREE PLANTINGS!



PLANTING SEASON TIMELINE:

ASAP! - Finalize Your Requested Site List & send Tree Agreement Forms to PNPP

Now through early March - PNPP/Forestry will survey and mark all your requested planting sites and relay any questions or changes back to the Tree Leader (you!). During this time we will also work with you to select a planting date & meeting place for the Tree Planting Demo.

Mid March - We send the finalized Site List to the contractor to begin prep work prior to your planting day.

Leading up to Planting Day - Communicate with your neighbors/tree recipients to make sure they know what to expect on planting day & what's expected of them! (More on this later...)

PLANTING SEASON TIMELINE:

Now through Early Sept. - PNPP/Forestry will survey and mark all your requested planting sites and relay any questions or changes back to the Tree Leader (you!). During this time we will also work with you to select a planting date & meeting place for the Tree Planting Demo.

Early Sept. - We send the finalized Site List to the contractor to begin prep work prior to your planting day.

Leading up to Planting Day - Communicate with your neighbors/tree recipients to make sure they know what to expect on planting day & what's expected of them! (More on this later...)

WHAT PNPP and FORESTRY DO BEFORE PLANTING DAY...

February - March: We survey and mark each planting site (with a 'T' spray painted on the curb), determine the appropriate pit size (minimum 4'x6'), and choose the *Right Tree for the Right Place*. We send tree leaders a draft of the surveyed list to review, answer any questions/relay any changes to tree recipients, and make adjustments as needed.

March - April: Site lists are given to our contractor. They call each site into Dig Safe before they cut new or expanded tree pits in the sidewalk (when necessary), remove existing compacted dirt, and replace it with new soil! In the meantime we assign the appropriate tree species to each site, and share that finalized list with you the week of your planting.



WHAT PNPP and FORESTRY DO BEFORE PLANTING DAY...

August - Early September: We survey and mark each planting site (with a 'T' spray painted on the curb), determine the appropriate pit size (minimum 4'x6'), and choose the *Right Tree for the Right Place*. We send tree leaders a draft of the surveyed list to review, answer any questions/relay any changes to tree recipients, and make adjustments as needed.

September - October: Site lists are given to our contractor. They call each site into Dig Safe before they cut new or expanded tree pits in the sidewalk (when necessary), remove existing compacted dirt, and replace it with new soil! In the meantime we assign the appropriate tree species to each site, and share that finalized list with you the week of your planting.



TREE LEADER RESPONSIBILITIES...

OVERALL:

- Coordinate with us on the planting sites as well as details about planting day.
- Communicate all relevant info to tree recipients and volunteers, and identify who will be participating on planting day. (If a tree recipient is not able to help plant, see if they might be able to find someone to participate in their place!) – You'll get an email from PNPP with all the info to share w/ your neighbors!
- Report to us any trees in the planting that do not survive over the next 1-2 years so we can replace them if appropriate.



THE WEEK OF THE PLANTING:

- Do a ***walk-through of your planting area*** and make sure everything looks right according to the list we've sent you! (If it's a day or two before your planting and there are any sites that have not been prepped, let us know!)
- Coordinate with PNPP to go over the COVID-safe volunteer planting plan for your planting.
- **Communicate with participants:**
 - **Remind** them about the planting date, time and meeting spot, and confirm that they are planning to be there. (We will provide you digital flyers to distribute!)
 - **Make sure tree recipients understand** everyone should help plant ALL of the trees, not just the ones in front of their own houses, AND that they should not begin planting their tree prior to attending the planting demonstration!
 - **Email** the tree planting instructions, video & tree care guide.
- We'll send you the final species list the week of your planting, so if you like you can **let participants know what tree species they'll be receiving.**



COMMUNICATING COVID SAFETY GUIDELINES TO PARTICIPANTS

Remind planting participants to:

- **Maintain appropriate distance** from all planters who are not in their household.
- Wear a **face mask at all times while planting**
- **Bring a member of their household** to be their pod-planting buddy, if possible!
- **Bring their own gardening/work gloves & tools** (large shovel, push broom, garden rake) if they have them, to reduce the use of shared tools. (*PNPP will bring tools/gloves as well.*)
- **Bring their own water/snacks** if they would like. There will be no shared refreshments this season.

(These guidelines will also all be on a flyer that we will send to you to pass out to participants in advance of the planting!)

PNPP WILL BRING TO EACH PLANTING:

- Extra Gloves & Tools
- Volunteer Check-in Sheets/Pens
- Printed tree care guides to leave with each tree recipient
- PNPP Tree tags



TOOLS

The most important tools are shovels and rakes, however each planting group (3-4 people per group) should ideally have:

- 2 or 3 shovels
- 1 pair of small bypass pruners
- 1 small hand saw (a cheap drywall saw works great!)
- 1 push broom/broom
- 1 metal rake



PNPP will provide tools, but we may not have enough of everything for large plantings with many volunteers. If you're worried about having enough tools on planting day, let us know!

Most tools look identical so it's a good idea to suggest you mark the tools you bring with tape or permanent marker so they don't get lost!

PLANTINGS & WEATHER:

- We plant trees in rain or shine! (*In the event of SEVERE weather or dangerous conditions, we may postpone plantings. In that case we will notify you by 3pm on the day before your planting.*)



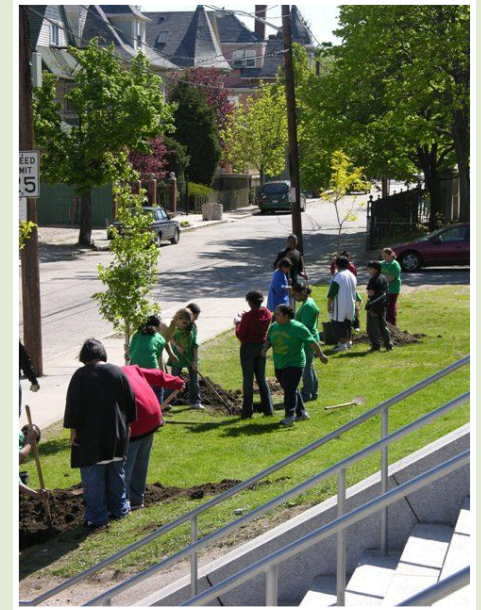
ON PLANTING DAY!

- **Gather everyone at the arranged meeting place for the planting demonstration.**
- The Forestry crew will be dropping off the trees and mulch at each planting site before the start of your planting.
Participants should NOT begin planting trees until AFTER the demo, even if the trees have arrived!



- **After the demonstration, we will break into small groups and begin to plant the trees**
 - *To ensure safe and effective planting for larger plantings (15 or more trees), it will be important to plan and assign planting groups and sites in advance--we will work with you on this in the week/s before the plantings!*

- **The PNPP / Forestry team** will be circulating during the planting to help out where needed.



Participants may begin digging a hole in each pit ahead of time...



...but don't dig too much! Holes should be 2 x 2 ft wide and 1 ft deep, in the center of the tree pit !

When we arrive, we'll kick things off with the *Tree Planting Demonstration*...



**The MOST important thing
to remember when planting a
tree is that we must plant it at
the right depth!**

To do this we will...

...cut away top roots & dirt to expose the root flare.



The root flare is where the trunk begins to widen and the first major roots begin:



The base of the root flare should be at the same level as the soil.



In order to find the right position, we must...

Measure the Root Ball...



**... and measure the
depth of the hole to
make sure it is the
same depth as the
root ball!**

After the tree is planted, mulch it!

The Forestry crew will leave a pile of mulch beside each tree pit.



Spread the mulch in the shape of a **DONUT!** (No volcanos!)

Then water...and keep watering!

Starting immediately following the planting, young trees need 10 to 20 gallons (2-4 of these buckets) each week, from planting day until about Halloween!



After the ground thaws the following spring, resume watering 10-20 gallons per week, through the summer!



REMIND TREE RECIPIENTS OF THE ONGOING AFTER CARE:

- **Continue watering the trees 10-20 gallons per week during the growing season (May-October -ish)**
- **Replace mulch when ground thaws in the spring**
- **Weed tree wells → weeds can rob young trees of water and nutrients!**
- **Call Forestry Division (680-7254) for pruning concerns, or use PVD 311**
- **Monitor the health of the new trees (let participants know they can get in touch with you or PNPP/Forestry if there is a problem with their tree)**

YOU & YOUR NEIGHBORS ARE KEY TO THESE STREET TREES LIVING LONG & HEALTHY LONG LIVES!

A few final tips and reminders for Tree Leaders...



Take photos throughout the day!
(or assign this task to someone!)

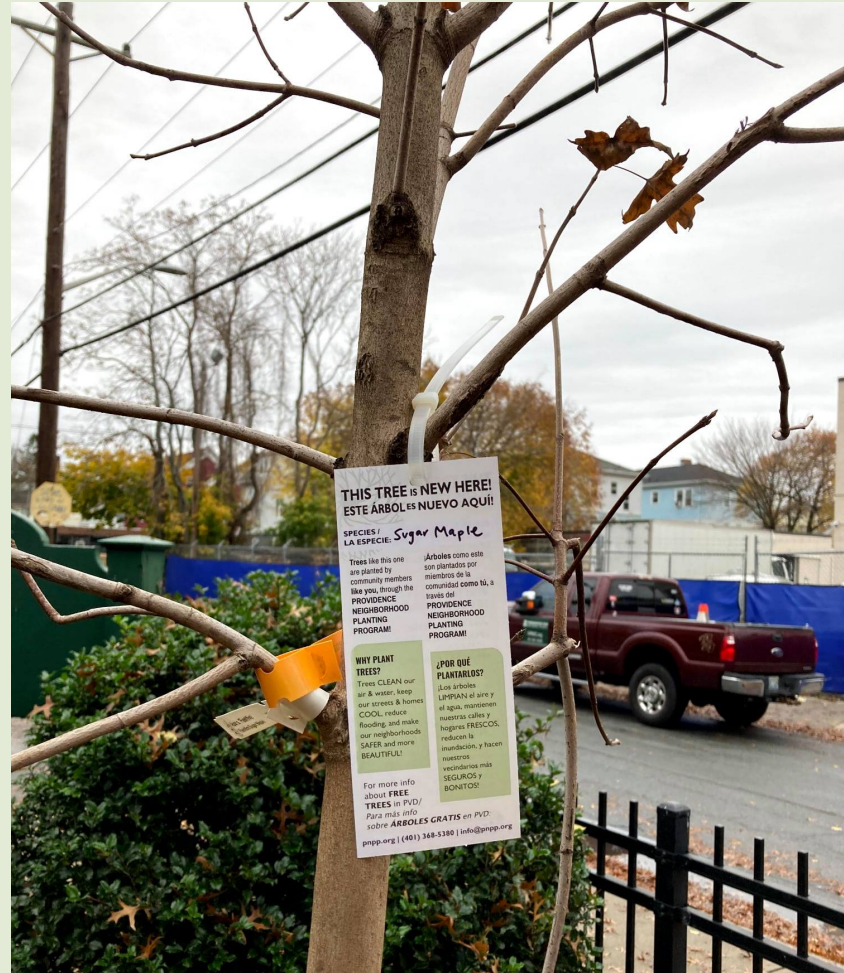


Everybody likes snacks!

(Just make sure refreshments can be easily/safely shared among volunteers...)



Check out the TREE TAG on each newly planted tree!



THIS TREE IS NEW HERE!
ESTE ÁRBOL ES NUEVO AQUÍ!

SPECIES / LA ESPECIE
Sugar Maple

Trees like this one are planted by community members like you, through the **PROVIDENCE NEIGHBORHOOD PLANTING PROGRAM!**

Árboles como este son plantados por miembros de la comunidad como tú, a través del **PROVIDENCE NEIGHBORHOOD PLANTING PROGRAM!**

WHY PLANT TREES?
Trees CLEAN our air & water, keep our streets & homes COOL, reduce flooding, and make our neighborhoods SAFER and more BEAUTIFUL!

¿POR QUÉ PLANTARLOS?
Los árboles LIMPIAN el aire y el agua, mantienen nuestras calles y hogares FRESCOS, reducen la inundación, y hacen nuestros vecindarios más SEGUROS y BONITOS!

For more info about **FREE TREES** in PVD/
Para más info sobre **ÁRBOLES GRATIS** en PVD:
pppp.org | (401) 348-5380 | info@pppp.org

Let participants know that they are welcome to protect their new trees with wooden bollards, fencing or other protection...



...or plant flowers around the new trees!



MORE WAYS TO SUPPORT TREES IN OUR CITY

- Become a Providence Community Tree Keeper
(more info at www.pnpp.org/pvdtreekeepers)
- Talk to the businesses, workplaces, institutions and community groups you engage with about the benefits of trees!
- Spread the word about PNPP, and encourage interested friends and neighbors to submit neighborhood planting applications--particularly in lower-canopy parts of the city
- Let your elected officials know that you a healthy & equitable urban forest in Providence is important to you!



THANK YOU!!!

STAY IN TOUCH!

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