



MEETING MINUTES

Jersey City Environmental Commission
City Hall – 280 Grove Street, Jersey City NJ 07302
Gerald F. Nicholls, Chair
Sara K. Schultzer, Vice Chair

Meeting: Jersey City Environmental Commission Public Meeting

Date / Location: 3 March 2015 – 6:30 p.m.
Council Chambers, 2nd Floor, City Hall, 280 Grove Street, Jersey City, NJ 07302

Attendees:

Commissioners/City Representatives	Public Participants
Gerry Nicholls	Neslihan Czyz (Resident)
Sara Schultzer	Amanda Khan (JC DPW)
Mario Verdibello	Nick Caballero (WPA)
Michelle Luebke	Marc Wesson (JCPC)
Gabriel Ristorucci	Elizabeth Reynoso (Resident)
	Mory Thomas (JCPC/WPA)
	Trish Kostzly (Resident)
	Eric Rouse (DPWA)

Prepared By: Karen Firehock and Gerry Nicholls

Date Prepared: 23 March 2015

ROLL CALL

Five of eight commissioners were present; four constitutes quorum. Commissioners Latham and Solowsky were absent, and two commissioner positions remain unfilled.

NEW BUSINESS

This meeting is a special meeting that was rescheduled from the 17 February 2015; no new business was discussed because the meeting focused on the Tree Canopy Study:

JERSEY CITY SHADE TREE/GREEN INFRASTRUCTURE STRATEGY

by Karen Firehock of the Green Infrastructure Center (GIC)

a. Canopy Goals

- i. Modeling tree potential results: how much canopy might be achievable (range)
- ii. Charge to the Group: Adopt canopy goal (no net loss, increase by __ percent) Consider what is possible, desirable and whether/how it can be achieved.
- iii. Example results of benefits based on current canopy percentage and potential future benefits (e.g. stormwater retained, heat reductions, etc.).

Presentation and Discussion:

The GIC presented the findings from modeling tree planting potentials. The canopy is currently at 17% citywide and is 16% if Liberty Park is deducted.

To help Jersey City set realistic canopy goals, the GIC conducted an analysis based on the newly created canopy/land cover data. The goal of the analysis was to determine how much land is potentially available for planting trees. To determine this “Possible Planting Area,” GIS was used to come up with a “best guess” – that is, the analysis is not ground verified and is limited by the data available to refine it. In this case “Possible Planting Area” is defined as any area in which it is potentially feasible to plant a tree (grass, bare earth, impervious surfaces that aren’t buildings or streets).

The **Possible Planting Area (PPA) Map 1** was created to show areas in which it is possible to plant a tree. Three types of land cover were included: non-tree vegetation, bare earth and non-building Impervious.

Note that this map does not represent areas of potential tree canopy, but rather estimates areas in which a tree could actually be planted (as tree canopy can overhang a street or building). See Figure 2 for a graphic illustration of the difference.

Thus, the PPA estimates areas that are feasible to plant trees – it is not a suitability map. For example, a wide sidewalk may get identified as a feasible place to plant a tree, but it may not be very suitable if there are low power lines and an abundance of underground utilities. This would still need to be field checked and compared with other unseen barriers, such as underground utilities.

The **Possible Planting Area by Type Map 2** is very similar to Map 1, except it separates the PPA into two types for a more nuanced view. The first type is PPA that is currently grass or bare earth. The second type is PPA that is currently an impervious surface, such as a parking lot or sidewalk. While impervious PPA is typically more difficult to plant in, to abate stormwater, converting some impervious areas to pervious would be desirable, even though it may cost more to do.

The **Possible Planting Area by Size of Plantable Area Map 3** estimates the approximate size of tree that would be appropriate to plant in a given location in the PPA. For example, a large oak would not be appropriate to plant on a small sidewalk that is constrained by buildings.

As can be seen, over 90 percent of the PPA would have to be covered in tree canopy to achieve the 40 percent Arbor Day Foundation recommendations, which is probably not realistic. Based on this table, a city wide goal of 20 to 25 percent is probably most realistic (which equates to between 12 and 32 percent of the PPA covered in tree canopy).

The GIC also calculated environmental benefits of the current tree canopy (see attached memo) and will calculate the benefits of the expanded canopy based on the goal recommended by the commission. Staff noted that the figures for stormwater management benefits were more conservative than for a normal tree’s capture rate because the ground surface around most city trees is paved so GIC did not include uptake of surface water when calculating how much stormwater is absorbed. The GIC only included the amount intercepted by the canopy from rainwater capture.

Outcome: Draft canopy goals. The group reviewed the area of trees possible to plant and the number of trees various percentages would require. They determined that a goal of 20% canopy would be realistic. They discussed how fast this was achievable. The idea for 20% by 2020 was recommended but they also agreed that this should be reality tested and perhaps a longer timeframe will be needed.

The GIC will obtain the number of tree mortality (loss per year) from DPW removed from public lands and city right of way and attempt to guess how many other trees may be lost on private lands in order to



derive an annual loss number. GIC will recommend a few different scenarios and the EC will then choose the appropriate timeframe to recommend to the city.

b. Programmatic Needs

- i. What is the capacity to carry out a program?
- ii. How will we maintain current or increase canopy?
- iii. Options to build a stepwise program (phasing) – what can we do at a minimum? Maximum? Timing? Who?

Outcome: Program goals and homework to research options

Amanda Kahn, Supervising Administrative Analyst from the Department of Public Works (DPW) provided an overview of both the challenges and the opportunities for urban tree management. She explained that the DPW hired a contractor to recommend a five year urban forest management plan for the city. This will position the city to better manage its trees and make it eligible for various new grants and funding sources. This report will coincide with the EC's work very well since it is due in April. She noted that she has asked the EC for its shade tree inventory data and she is very excited to be able to include this information in the city's management plan. She then discussed some of the city's challenges in maintaining or expanding its current tree inventory.

The city has a very limited budget for urban forest management. The DPW's cost to purchase and install a tree is \$500 per tree. They currently provide trees to residents who request them at a subsidized rate of \$200.

The city does not have funds for on-going tree care (watering, pruning etc.) and this responsibility is left up to residents.

Inadequate tree sites are another problem. Many current tree planting cut outs are too small for mature, larger trees. The current system of adding pavers on top presents problems in the long term, as trees roots push up the blocks as the trees grow.

Some residents are resistant to having trees in front of their houses and the city needs them to agree to a tree before it can be planted there. A tree-benefits education campaign is needed.

The utility company PSE&G cuts out the trees to make room for overhead power lines – this results in a V-shaped wedge cut out in trees all along a street which can be very detrimental to the trees' survival.

Each year the city plants 200 new trees on average. It is not known how many survive. One participant from the Jersey City Parks Coalition noted that the trees planted are not necessarily the species on the city's revised tree planting list that was adopted into the city's tree ordinance, so the wrong trees may be planted. One hypothesis offered was that half of the planted trees do not survive due to poor location, lack of care or wrong species selection for the site's conditions. The city will supply its known tree removals and GIC will compare that to try to develop a number for how new trees planted may be offset by tree mortality in order to derive a net tree number per annum. It is possible that net tree increase per year is negligible.

Any program to increase tree canopy will require a new budget and likely grant funding. Nonprofit groups can also help to fill the gap. The key will be to use the new shade tree inventory to direct where



trees are most strategic to plant – where are they most lacking, most needed? Are there areas where trees are an important strategic investment such as areas undergoing planned economic revitalization?

While there are impressive programs in New York City with its one million tree planting goals, Jersey City has a long way to go to get to this level. However, many groups are ready to begin helping immediately. All agreed that it is important to target efforts using the maps and data that the EC has created for this project.

The City has an ordinance prohibiting the removal of trees without a permit; however, this is not enforced. The city lacks the staff to do the enforcement and it is thought that many people do not know about this regulation.

More education is needed to encourage people to plant and care for trees and to avoid removing them. Education should focus on tree benefits, the preferred tree list and the rules for tree planting or removal.

The Jersey City Parks Coalition (JCPC) provided some ideas based on the agenda for tonight's meeting (see meeting handout for more). BIG DIG 2016 Program: 2,016 trees in 2016 - (2015 is planning year....fundraising and strategic planning, align with all municipal departments and community groups for greatest success). Divide the City up by major neighborhoods with all Wards represented. JCPC recommended that the city or private groups plant trees on both high ground and low ground. Tree planning could also target public spaces (must partner with DPW to make sure they can be watered, maintained and protected from: dog waste, salt, damage or contract this out) and host tree planting, watering and pruning workshops for residents and DPW staff.

c. Other Map Needs:

- i. Other green maps, e.g. city gardens, open space access etc.

Outcome: GIC to complete these maps and share on drop box before next meeting.

The group discussed the maps briefly such as community gardens, green features such as green rooftops. One new idea was to represent the tree canopy percentage for city parks so that park and non-park areas can be compared.

d. Next Meeting:

Develop proposed strategy to meet canopy goals and determine how final report/materials will be packaged and shared. Discuss related commission work.

The GIC proposed that the final meeting GIC would facilitate could be structured more as an open house format to help engage more stakeholders and partners. An interim conference call would be needed to hear the results of the timing for achieving the potential 20% tree canopy and to plan this event. The group suggested an open format with maps and data for the public to become familiar, a possible presentation and then public input. The gazebo at Van Vorst Park was recommended as a good location. It was recommended the open house event be held on a Saturday morning to make it easier for the public to attend, in early April before the farmers market begins. GIC will send out a doodle poll to determine the best date.



Following the public meeting GIC will package the results and help the EC incorporate them into a final report for the city. This report will also include example funding ideas as well as programmatic recommendations.

GENERAL PUBLIC PARTICIPATION

The public was invited to comment throughout the meeting and there was ongoing feedback throughout the meeting.

APPROVAL OF PREVIOUS MEETING MINUTES

Agenda for upcoming meeting and Minutes from previous meeting are posted on the website.

The 17 February 2015 Meeting Minutes were accepted.

CLOSING REMARKS AND OTHER BUSINESS BY COMMISSIONERS

None.

ADJOURNMENT

The meeting was adjourned at 8:30 p.m.

NEXT MEETING

The next Environmental Commission is scheduled for 17 March 2015 at 6:30 p.m. in Council Chambers, 2nd Floor, City Hall, 280 Grove Street, Jersey City, NJ 07302.

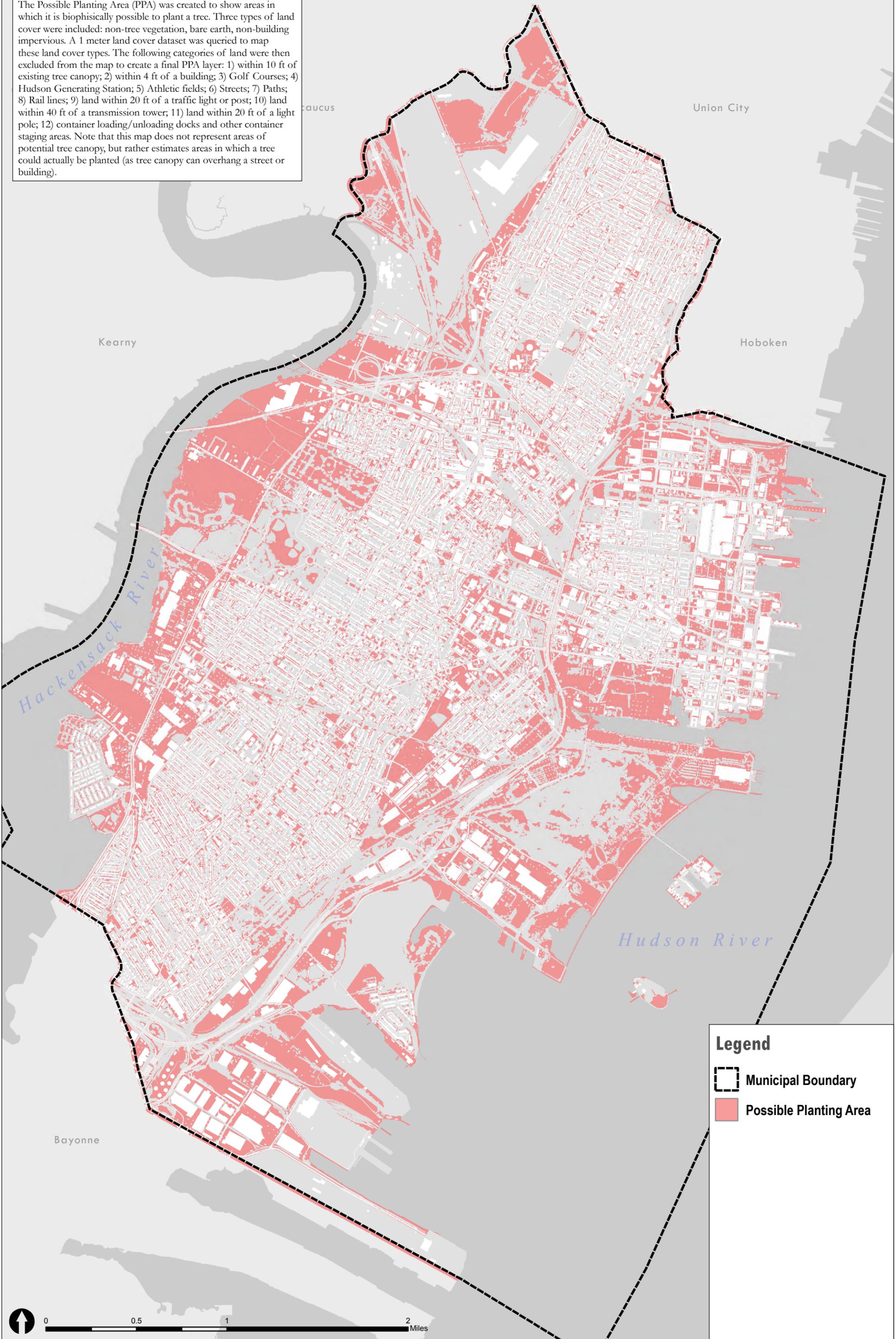
ATTACHMENTS:

- Maps 1, 2, 3 of Potential Planting Areas
- Memo from the Jersey City Parks Coalition
- Memo from GIC to JCEC on Next Steps for Shade Tree Inventory (dated Feb. 16, 2014)
- Graphics 1 and 2 showing shade tree plantable area and overhang
- Bubble diagram of parks relative sizes and tree densities



Map 1: Possible Planting Area

The Possible Planting Area (PPA) was created to show areas in which it is biophysically possible to plant a tree. Three types of land cover were included: non-tree vegetation, bare earth, non-building impervious. A 1 meter land cover dataset was queried to map these land cover types. The following categories of land were then excluded from the map to create a final PPA layer: 1) within 10 ft of existing tree canopy; 2) within 4 ft of a building; 3) Golf Courses; 4) Hudson Generating Station; 5) Athletic fields; 6) Streets; 7) Paths; 8) Rail lines; 9) land within 20 ft of a traffic light or post; 10) land within 40 ft of a transmission tower; 11) land within 20 ft of a light pole; 12) container loading/unloading docks and other container staging areas. Note that this map does not represent areas of potential tree canopy, but rather estimates areas in which a tree could actually be planted (as tree canopy can overhang a street or building).



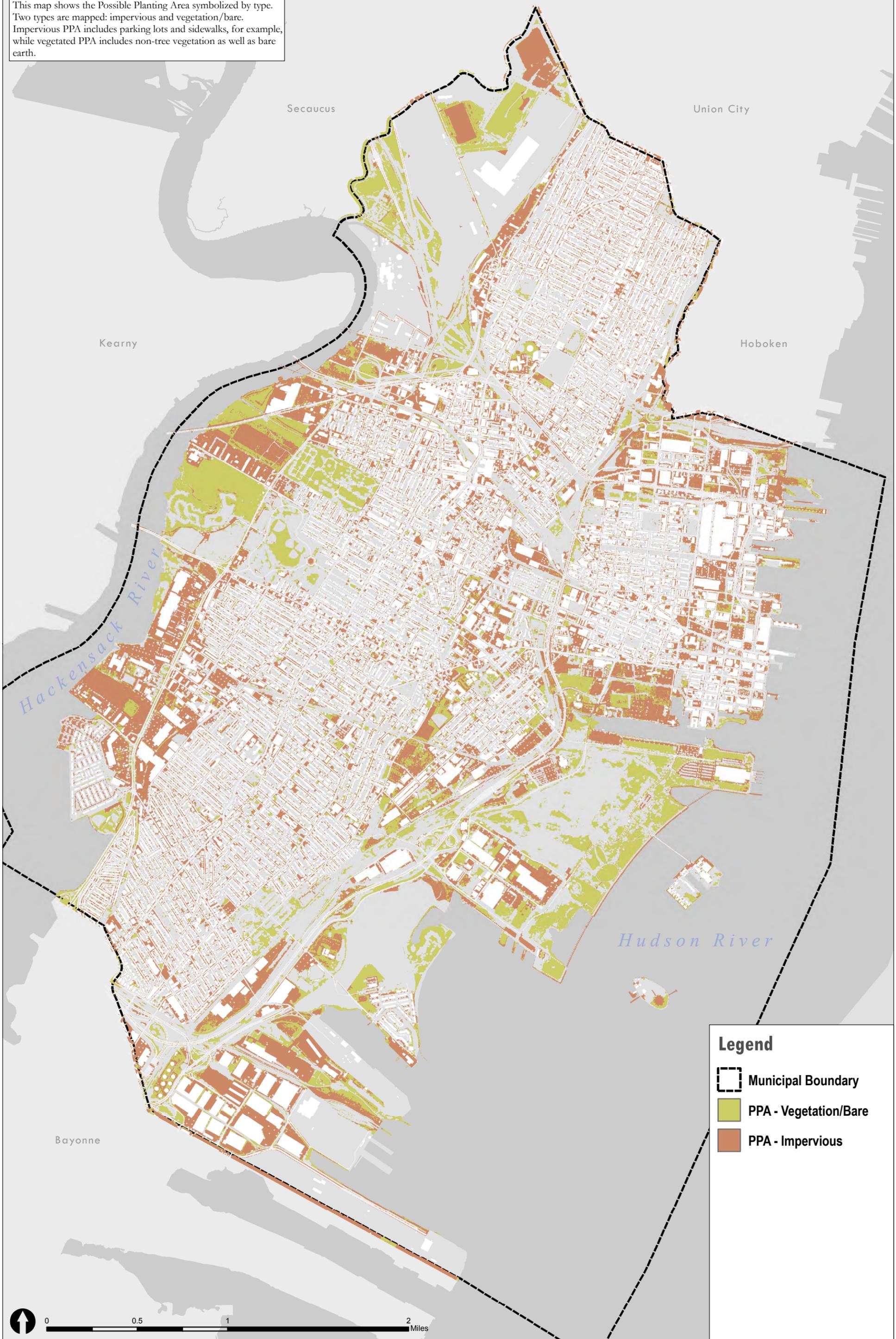
Legend

-  Municipal Boundary
-  Possible Planting Area



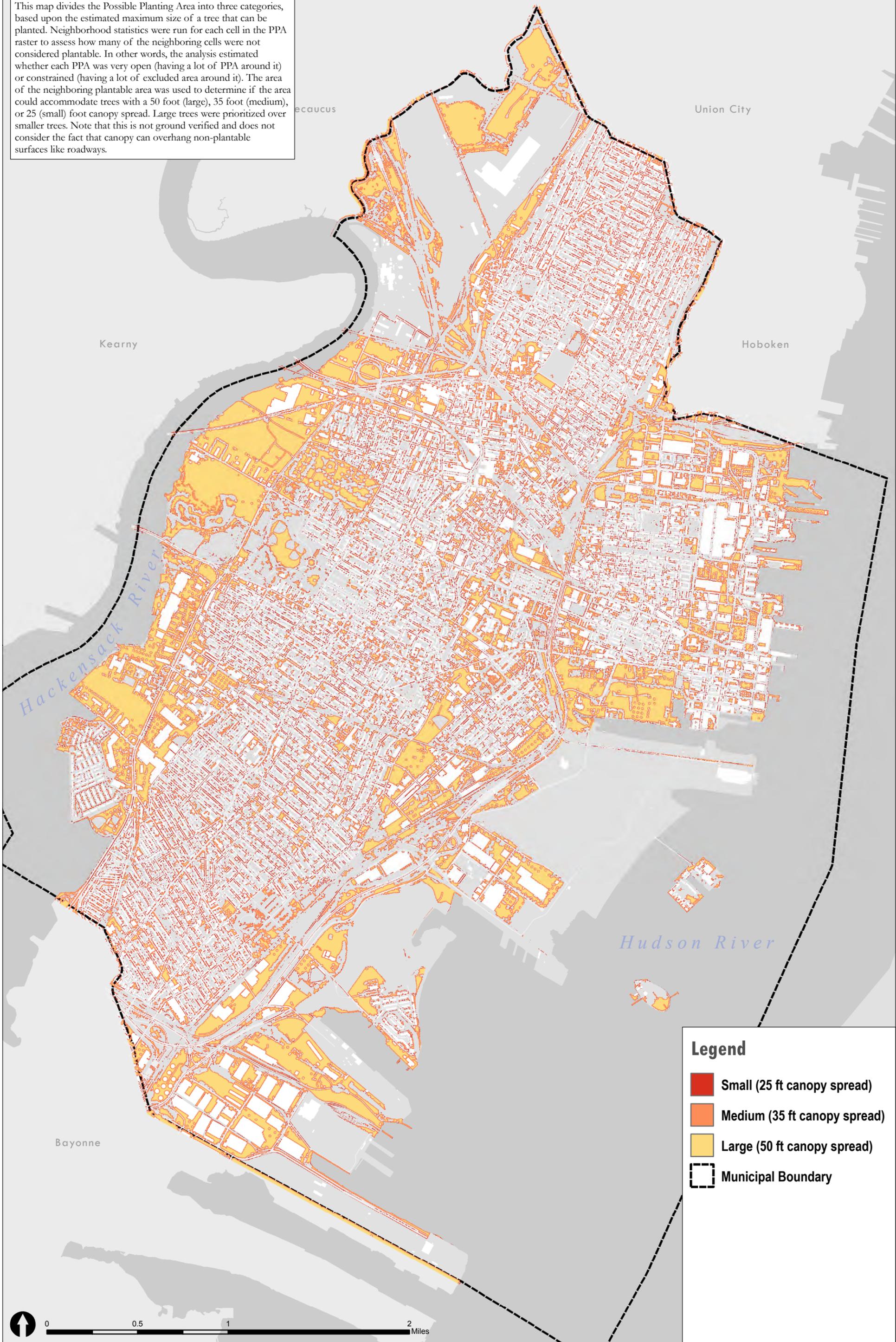
Map 2: Possible Planting Area (by Type)

This map shows the Possible Planting Area symbolized by type. Two types are mapped: impervious and vegetation/bare. Impervious PPA includes parking lots and sidewalks, for example, while vegetated PPA includes non-tree vegetation as well as bare earth.



Map 3: Possible Planting Area by Size of Plantable Area

This map divides the Possible Planting Area into three categories, based upon the estimated maximum size of a tree that can be planted. Neighborhood statistics were run for each cell in the PPA raster to assess how many of the neighboring cells were not considered plantable. In other words, the analysis estimated whether each PPA was very open (having a lot of PPA around it) or constrained (having a lot of excluded area around it). The area of the neighboring plantable area was used to determine if the area could accommodate trees with a 50 foot (large), 35 foot (medium), or 25 (small) foot canopy spread. Large trees were prioritized over smaller trees. Note that this is not ground verified and does not consider the fact that canopy can overhang non-plantable surfaces like roadways.





March 3, 2015

Dear JC Environmental Commission,

Thank you for bringing the Jersey City Parks Coalition in as a partner on a shade tree program. We share your concern and belief that increasing the tree canopy in Jersey City will go a long way to improving our quality of life. Please see our suggestions to the questions put forth in tonight's agenda (in blue type). The members of the JCPC will be in attendance and look forward to developing a program with the commission and other community and business partners.

Jersey City Shade Tree/Green Infrastructure Strategy by Karen Firehock

a. Canopy Goals (1 year, 3 years, 5 years, 10 years)

i. Modeling tree potential results: how much canopy might be achievable (range)

- Look at New York Restoration Project as a model for JC program and their Million Trees project. (They will have planted 1M trees in 10 years this year!)
- BIG DIG 2016 Program: 2,016 trees in 2016 - (2015 is planning year...fundraising and strategic planning, align with all municipal departments and community groups for greatest success)
- By 2018 goal 20,000 trees
- By 2020 goal 50,000 trees
- By 2026 goal 226,000 trees

ii. Charge to the Group: Adopt canopy goal (no net loss, increase by ___ percent) Consider what is possible, desirable and whether/how it can be achieved.

- Divide the City up by major neighborhoods with all Wards represented. Plant on both high ground and low ground.
- Target public spaces (must partner with DPW to make sure they can be watered, maintained and protected from: dog waste, salt, damage or contract this out)
- Host tree planting, watering and pruning workshops for residents and DPW staff.

iii. Example results of benefits based on current canopy percentage and potential future benefits (e.g. stormwater retained, heat reductions etc).

Outcome: Draft canopy goals

b. Programmatic Needs

i. What is the capacity to carry out a program?

- Again, need to align with DPW: training, training, and more training.
- Empower residents to help by subsidizing existing City tree planting program. (training required to participate)
- Engage schools to plant on campuses and/or neighborhood blocks.
- Get bids from landscaping companies who can be put on contract to plant trees: Spring and Fall. --- 1008 each season
- Put out an RFP for this. Maintenance could be included here for the first year of crucial growth and care.

ii. How will we maintain current or increase canopy?

- Establish a tree replacement program.
- Require developers to plant 10 trees for every 1 tree they remove for development.
- Establish tax discounts for homeowners who plant trees. Or other incentive programs. Could be a lottery for a trips somewhere, Disney, Bahama, Yellowstone, Grand Canyon, Sponsors donate trip packages. Or, to other cities which have successful tree canopy models.

iii. Options to build a stepwise program (phasing) – what can we do at a minimum? Maximum? Timing? Who?

JCPC, DPW, NJCU, St. Peter's University, JCBOE, Liberty Science Center

Outcome: Program goals and homework to research options

- Arbor Day 2016 (or we could do "make a difference day" plant 2,016 trees. Use approved street tree list and supplement with any trees which might be recommended for parks.
- Establish minimum tree heights for plantings, specs for how they are planted
- 175 trees per Ward = 1050 trees (Select streets with lowest amount of trees **first**, major pedestrian streets **second**, schools **third**)
- 15 trees in each park = 65 x 15 = 975 trees
- Ward Competitions: Wards or neighborhoods who plants the most trees wins a block party.

c. Other Map Needs:

i. Other green maps, e.g. city gardens, open space access etc.

- Maps should show targeted streets within each Ward
- Maps should show each of the 65 parks in the JC park system. Priority focus first on the 23 parks who are part of the JCPC.
- Set up a meeting with New York Restoration

- Project <https://www.nyrp.org/about/where-we-work/trees/>
- Set up date to present to JCBOE to get them to sign on to the initiative.
- Set meeting to meet with DPW to get them to sign on to the initiative.
- Set meetings with other stakeholders: NJCU, St. Peter's University, HCCC, Liberty Science Center

Outcome: GIC to complete these maps and share on drop box before next meeting

d. Next Meeting: Develop proposed strategy to meet canopy goals and determine how final report/materials will be packaged and shared. Discuss related commission work.

Build a website like New York Restoration Project for donations and sponsors. This should include maps where we can show where we planted trees.

5. Closing remarks and other business by commissioners
6. General public participation (5 minutes per person)
7. Adjournment

Sincerely,

Mory Thomas
VP, JCPC
Cell: 646-648-3390
Email: mory.thomas@gmail.com



Memo

Date: February 16, 2014

To: Jersey City Environmental Commission

From: Karen Firehock and Andrew Walker, Green Infrastructure Center

Re: **Map Review and Next Steps for Shade Tree Inventory**

As it appears likely that we will not be able to meet with you in person on February 17, due to extreme weather and likely flight cancellations, we have drafted an explanation of the maps we were going to review tomorrow evening. The end of this memo includes links to download the maps. We still intend to come and meet in person to review and deliberate about how best to establish a canopy goal and city tree management needs.

a. Canopy Goals

Map Overview

To help Jersey City set realistic canopy goals, the GIC conducted an analysis based on the newly created canopy/land cover data. The goal of the analysis is to determine how much land is potentially available for planting trees. To determine this “Possible Planting Area,” GIS is used to come up with a “best guess” – that is, the analysis is not ground verified and is limited by the data available to refine it. In this case “Possible Planting Area” is defined as any area in which it is potentially feasible to plant a tree (grass, bare earth, impervious surfaces that aren’t buildings or streets).

Explanation of Maps

There are three primary maps, labeled 1 through 3.

Map 1: Possible Planting Area

The Possible Planting Area (PPA) was created to show areas in which it is possible to plant a tree. Three types of land cover were included: non-tree vegetation, bare earth and non-building Impervious. A 1-meter land cover dataset was queried to map these land cover types. Then, a series of exclusionary factors were used to eliminate certain areas in order to develop a more realistic estimate of plantable area. See Figure 1 for a list of factors that excluded land from the PPA.

Note that this map does not represent areas of potential tree canopy, but rather estimates areas in which a tree could actually be planted (as tree canopy can overhang a street or building). See Figure 2 for a graphic illustration of the difference.

Thus, the PPA estimates areas that are feasible to plant trees – it is not a suitability map. For example, a wide sidewalk may get identified as a feasible place to plant a tree, but it may not be very suitable if there are low power lines and an abundance of underground utilities. This would still need to be field checked and compared with other unseen barriers, such as underground utilities.

Map 2: Possible Planting Area (by Type)

This map is very similar to Map 1, except it separates the PPA into two types for a more nuanced view. The first type is PPA that is currently grass or bare earth. The second type is PPA that is currently an impervious surface, such as a parking lot or sidewalk. Obviously, impervious PPA is typically more difficult to plant in. However, in order to abate stormwater, converting some impervious areas to pervious would be desirable, even though it may cost more to do.

Map 3: Possible Planting Area by Size of Plantable Area

This map estimates the approximate size of tree that would be appropriate to plant in a given location in the PPA. For example, a large oak would not be appropriate to plant on a small sidewalk that is constrained by buildings. This map was created by using GIS to determine how “open” any given area of PPA was by looking at how much land around it was also PPA. For example, the narrow sidewalk from the previous example would have a low amount of PPA around it because it is proximate to streets and buildings. Conversely, the middle of a large lawn area will have a lot of PPA around it.

Three size categories of tree were used to perform the analysis: small (~25ft canopy spread), medium (~35ft canopy spread), and large (~50 ft. canopy spread). The sizes of these trees are based on the average canopy spreads of the trees on Jersey City’s tree list.

Map 4: Possible Planting Area by Size of Plantable Area (Wards)

Map four is the same as Map 3, except it shows the ratio of small/medium/large tree PPA on a ward-by-ward basis (e.g. Ward C has less area to plant very large trees relative to other Wards).

Uses for these maps

The primary use of these maps is to help estimate how much area could potentially be planted with trees in Jersey City. Note that this is not an estimate of potential tree canopy, but it can be used as a rough proxy for how much tree canopy could be increased. Table 1 shows the implications of covering different percentages of the PPA in tree canopy. The first (left most) column shows percentages from one to one hundred, which represents the percentage of the PPA covered by tree canopy. The next column shows how many square feet this percentage equates to. The next column shows what the citywide tree canopy percentage would be if it increased by that amount of square feet. The next columns estimate how many trees that would equate to, using the size categories discussed above.

The ratio of small/medium/large trees was derived from the data shown on Map 3 – of the total amount of PPA in the City, an estimated 21 percent is feasible for large tree, 42 percent for medium tree, and the rest (37 percent) for small trees.

As can be seen, over 90 percent of the PPA would have to be covered in tree canopy to achieve the 40 percent Arbor Day Foundation recommendations, which is probably not realistic. Based on this table, a city wide goal of 20 to 25 percent is probably most realistic (which equates to between 12 and 32 percent of the PP covered in tree canopy). Covering roughly 50 percent of the PPA in tree canopy would raise the city's tree canopy coverage to 30 percent, which represents a more aggressive goal.

A secondary use is to geographically locate which areas are feasible for planting trees. This can be used to perform additional analyses, or may even be used directly for tree planting project planning (in the initial stages).

These numbers exclude Liberty State Park.

Limitations of these maps

- These maps are not a recommendation of which areas should be planted.
- These maps do not represent *suitability* for tree planting, but are instead an estimation of feasibility/possibility. They are intended to help the JCEC estimate more realistic canopy goals.
- The maps are based on the best available GIS data, however these data are of varying levels of accuracy and currency.

Limitations of Table 1

- Does not account for tree mortality (would have to plant more trees than the estimate because some would not survive due to drought, disease or unanticipated development).
- Planting the percentages of the PPA shown on the table would likely result in a larger citywide tree canopy than is shown because tree canopy can overhang areas that were excluded from the PPA (tree canopy can overhang streets, but a tree can't be planted there).

Example benefits

The City's tree canopy is currently providing a number of benefits. By mapping out the City's tree canopy, these benefits can be more accurately estimated. The economic benefits of trees are among the most persuasive arguments for supporting investment in tree canopy. The estimated benefits of Jersey City's trees include:

- Between 95 million and 155 million gallons of rainwater intercepted annually. This is water that is prevented from entering the City's stormwater infrastructure during the initial rainfall (first 1 - 2 inches) during a storm. These are conservative numbers (Jersey City's trees are most likely more mature than the ages used for modeling) and this also does not account for water absorption by trees or evapotranspiration. Assuming the monetary benefit is \$0.008 per gallon, this equates to between \$760,000 to \$1.2 million in benefits.
- Carbon storage (estimated using iTree Vue software)
 - Carbon Storage: 59,311.1 tons; \$4,223,779.4 @ \$71.21 per ton annually
 - CO2 Equivalent Storage: 217,434.4 tons ; \$4,223,779.4 @ \$19.43 per ton annually
- Air pollutant removal (estimated using iTree Vue software)

- Carbon monoxide (CO): 1.5 tons per year; \$2,111.6 @ \$1,450.46 per ton annually
- Nitrogen dioxide (NO2): 13.6 tons per year; \$138,687.2 @ \$10,212.24 per ton annually
- Ozone (O3): 24.6 tons per year; \$251,145.0 @ \$10,212.24 per ton annually
- Sulfur dioxide (SO2): 4.6 tons per year; \$11,512.8 @ \$2,500.12 ton annually
- Particulate matter (PM10): 21.3 tons per year; \$144,954.8 @ \$6,818.24 per ton annually

b. Programmatic Needs

Management/Expansion Capacity:

Currently the city can likely just keep up with management of its current trees. The city encourages tree planting through its annual tree giveaway each year run by DPW. However, this is not the same as having a strategic plan for where trees should be planted. And the survival rate of these free trees is not known.

Creating a goal for the city's tree canopy will require the city to find a way to expand its current tree management capacity. The maps can be used to target key areas of the city for new tree potentials. To be most effective, a rationale should be created for where to prioritize plantings. In addition, even if the goal becomes simply maintaining the current 17 percent canopy, a strategy will still be needed to do this since, as trees die, they must be replaced. A management strategy will be needed to ensure that replaced trees are planted in such a way as to ensure their longer term survival.

Over the next month, we will explore what is the organizational structure needed to carry forward a canopy goal for Jersey City. To do this we'll need to complete an assessment of the city's challenges and opportunities to determine what is the current capacity for urban canopy management, how does it need to be improved, how can we get there (likely a mix of government and private sector approaches and identified funding mechanisms). A phased approach will likely be needed. As we saw with the other programs we reviewed for Pittsburg, New York City etc., there are many components to a successful management program that need to be created and tailored for Jersey City.

c. Other Map Needs:

The GIC has drafted some sample maps (see the "Other Map Needs" attachment). They include:

- Access to Parks
- Community Gardens
- Tree Canopy + Historic Districts
- Tree Canopy + Public School Walksheds
- Tree Canopy by Drainage Area
- Tree Canopy Square Footage per Person
- Other statistics? We have calculated a number of stats including some analyses on park. [Here is a graphic that visualizes the tree canopy of Jersey City's parks, as well as their relative acreage \(size of the circles\).](#)

The GIC team would like to know, are these maps useful and what other things can/should we map/for what purposes?

Recommended Next Steps:

- 1) GIC to complete assessment of current tree management capacity within city (through interviews with key DPW staff as well as other groups, such as the Parks Coalition).
- 2) Meet with JCEC and other stakeholders to develop a draft framework for how to maintain/expand canopy along with a canopy goal
- 3) Obtain buy in and agreement to proceed with creation of new tree canopy framework (strategy).
- 4) GIC to create other environmental maps (e.g. access to open space by ward etc.)
- 5) Create final recommendations in report format.

ATTACHMENTS

- [PPA Map Series](#)
 - [\[Large format of Map 3 with street names\]](#)
- [Figure 1](#)
- [Figure 2](#)
- [Table 1](#)
- [Other Map Needs](#)

Table 1: Planting scenarios in Potential Planting Area

Percent of PPA Covered	New TC (Sq. Ft.)	New Citywide TC %	Small Trees	Medium Trees	Large Trees	Total Trees
1%	1,048,045	17.10%	789	457	112	1,358
2%	2,096,091	17.35%	1,579	915	224	2,718
3%	3,144,136	17.61%	2,369	1,372	336	4,077
4%	4,192,181	17.86%	3,159	1,830	448	5,437
5%	5,240,227	18.12%	3,949	2,287	560	6,796
6%	6,288,272	18.37%	4,739	2,745	672	8,156
7%	7,336,318	18.63%	5,529	3,202	784	9,515
8%	8,384,363	18.89%	6,319	3,660	896	10,875
9%	9,432,408	19.14%	7,109	4,117	1,008	12,234
10%	10,480,454	19.40%	7,899	4,575	1,120	13,594
11%	11,528,499	19.65%	8,689	5,032	1,232	14,953
12%	12,576,544	19.91%	9,479	5,490	1,345	16,314
13%	13,624,590	20.16%	10,269	5,947	1,457	17,673
14%	14,672,635	20.42%	11,059	6,405	1,569	19,033
15%	15,720,680	20.67%	11,849	6,862	1,681	20,392
16%	16,768,726	20.93%	12,639	7,320	1,793	21,752
17%	17,816,771	21.18%	13,429	7,777	1,905	23,111
18%	18,864,817	21.44%	14,219	8,235	2,017	24,471
19%	19,912,862	21.69%	15,009	8,692	2,129	25,830
20%	20,960,907	21.95%	15,799	9,150	2,241	27,190
21%	22,008,953	22.20%	16,589	9,607	2,353	28,549
22%	23,056,998	22.46%	17,379	10,065	2,465	29,909
23%	24,105,043	22.71%	18,169	10,522	2,578	31,269
24%	25,153,089	22.97%	18,959	10,980	2,690	32,629
25%	26,201,134	23.23%	19,749	11,437	2,802	33,988
26%	27,249,180	23.48%	20,539	11,895	2,914	35,348
27%	28,297,225	23.74%	21,329	12,352	3,026	36,707
28%	29,345,270	23.99%	22,119	12,810	3,138	38,067
29%	30,393,316	24.25%	22,909	13,267	3,250	39,426
30%	31,441,361	24.50%	23,699	13,725	3,362	40,786
31%	32,489,406	24.76%	24,489	14,182	3,474	42,145
32%	33,537,452	25.01%	25,279	14,640	3,586	43,505
33%	34,585,497	25.27%	26,069	15,097	3,698	44,864
34%	35,633,542	25.52%	26,859	15,555	3,811	46,225
35%	36,681,588	25.78%	27,649	16,012	3,923	47,584
36%	37,729,633	26.03%	28,439	16,470	4,035	48,944
37%	38,777,679	26.29%	29,228	16,927	4,147	50,302
38%	39,825,724	26.54%	30,018	17,385	4,259	51,662
39%	40,873,769	26.80%	30,808	17,843	4,371	53,022
40%	41,921,815	27.06%	31,598	18,300	4,483	54,381
41%	42,969,860	27.31%	32,388	18,758	4,595	55,741

42%	44,017,905	27.57%	33,178	19,215	4,707	57,100
43%	45,065,951	27.82%	33,968	19,673	4,819	58,460
44%	46,113,996	28.08%	34,758	20,130	4,931	59,819
45%	47,162,041	28.33%	35,548	20,588	5,044	61,180
46%	48,210,087	28.59%	36,338	21,045	5,156	62,539
47%	49,258,132	28.84%	37,128	21,503	5,268	63,899
48%	50,306,178	29.10%	37,918	21,960	5,380	65,258
49%	51,354,223	29.35%	38,708	22,418	5,492	66,618
50%	52,402,268	29.61%	39,498	22,875	5,604	67,977
51%	53,450,314	29.86%	40,288	23,333	5,716	69,337
52%	54,498,359	30.12%	41,078	23,790	5,828	70,696
53%	55,546,404	30.37%	41,868	24,248	5,940	72,056
54%	56,594,450	30.63%	42,658	24,705	6,052	73,415
55%	57,642,495	30.88%	43,448	25,163	6,164	74,775
56%	58,690,540	31.14%	44,238	25,620	6,277	76,135
57%	59,738,586	31.40%	45,028	26,078	6,389	77,495
58%	60,786,631	31.65%	45,818	26,535	6,501	78,854
59%	61,834,677	31.91%	46,608	26,993	6,613	80,214
60%	62,882,722	32.16%	47,398	27,450	6,725	81,573
61%	63,930,767	32.42%	48,188	27,908	6,837	82,933
62%	64,978,813	32.67%	48,978	28,365	6,949	84,292
63%	66,026,858	32.93%	49,768	28,823	7,061	85,652
64%	67,074,903	33.18%	50,558	29,280	7,173	87,011
65%	68,122,949	33.44%	51,348	29,738	7,285	88,371
66%	69,170,994	33.69%	52,138	30,195	7,397	89,730
67%	70,219,040	33.95%	52,928	30,653	7,510	91,091
68%	71,267,085	34.20%	53,718	31,110	7,622	92,450
69%	72,315,130	34.46%	54,508	31,568	7,734	93,810
70%	73,363,176	34.71%	55,298	32,025	7,846	95,169
71%	74,411,221	34.97%	56,088	32,483	7,958	96,529
72%	75,459,266	35.22%	56,878	32,940	8,070	97,888
73%	76,507,312	35.48%	57,667	33,398	8,182	99,247
74%	77,555,357	35.74%	58,457	33,855	8,294	100,606
75%	78,603,402	35.99%	59,247	34,313	8,406	101,966
76%	79,651,448	36.25%	60,037	34,770	8,518	103,325
77%	80,699,493	36.50%	60,827	35,228	8,630	104,685
78%	81,747,539	36.76%	61,617	35,686	8,743	106,046
79%	82,795,584	37.01%	62,407	36,143	8,855	107,405
80%	83,843,629	37.27%	63,197	36,601	8,967	108,765
81%	84,891,675	37.52%	63,987	37,058	9,079	110,124
82%	85,939,720	37.78%	64,777	37,516	9,191	111,484
83%	86,987,765	38.03%	65,567	37,973	9,303	112,843
84%	88,035,811	38.29%	66,357	38,431	9,415	114,203
85%	89,083,856	38.54%	67,147	38,888	9,527	115,562
86%	90,131,901	38.80%	67,937	39,346	9,639	116,922
87%	91,179,947	39.05%	68,727	39,803	9,751	118,281

88%	92,227,992	39.31%	69,517	40,261	9,863	119,641
89%	93,276,038	39.56%	70,307	40,718	9,976	121,001
90%	94,324,083	39.82%	71,097	41,176	10,088	122,361
91%	95,372,128	40.08%	71,887	41,633	10,200	123,720
92%	96,420,174	40.33%	72,677	42,091	10,312	125,080
93%	97,468,219	40.59%	73,467	42,548	10,424	126,439
94%	98,516,264	40.84%	74,257	43,006	10,536	127,799
95%	99,564,310	41.10%	75,047	43,463	10,648	129,158
96%	100,612,355	41.35%	75,837	43,921	10,760	130,518
97%	101,660,400	41.61%	76,627	44,378	10,872	131,877
98%	102,708,446	41.86%	77,417	44,836	10,984	133,237
99%	103,756,491	42.12%	78,207	45,293	11,096	134,596
100%	104,804,537	42.37%	78,997	45,751	11,209	135,957

Exclusion Factors for Possible Planting Area

Exclusion Factor	Rule/Description
Existing Tree Canopy + 10 ft buffer	To allow room for growth from existing trees
Buildings + 4 ft buffer	To allow room for tree growth
Golf Courses	Hand digitized
Hudson Generating Station	Selected using parcels layer
Athletic Fields	Athletic field needed for recreation excluded, but periphery included
Streets	All street polygons in JC database
Paths	All path polygons in JC database
Rail lines	Rail centerlines buffered by 10 ft to exclude ballast
Traffic Lights and Posts + 20 ft buffer	To preserve visibility of lights and signs
Transmission Towers + 40 ft buffer	To preserve ability to access towers unimpeded
Light Poles + 20 ft buffer	To allow tree growth and avoid conflicts with lighting
Container Loading/Unloading Docks	Hand digitized areas needed for loading/unloading containerized cargo, based on aerial imagery

Figure 2



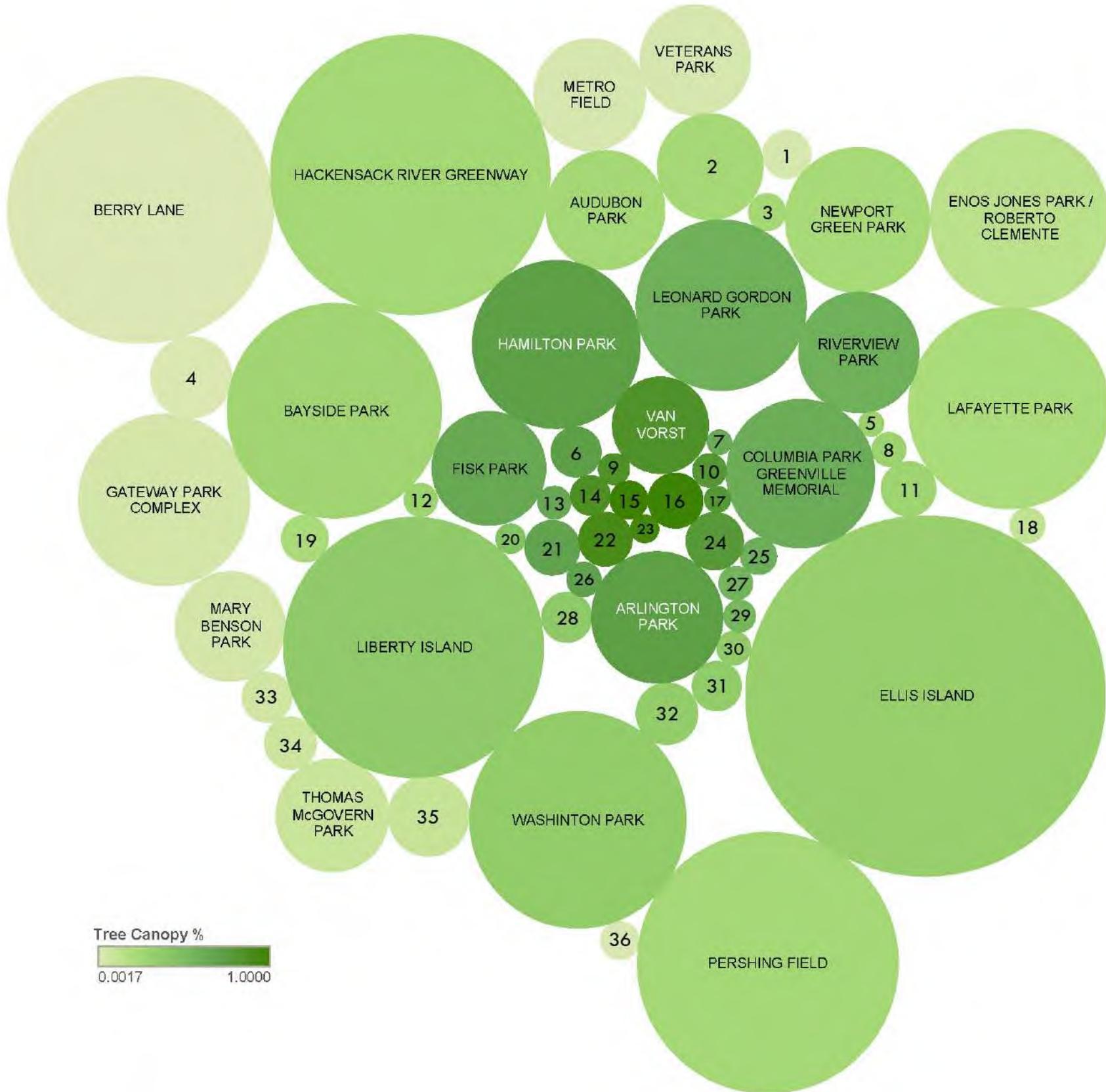
Hypothetical tree planting project



Potential Planting Area shown in yellow highlight



Potential tree canopy shown in orange highlight



1. 16th Street Playground
2. Pavonia/Marion Playground
3. Harmon Street Pool
4. Exchange Place
5. 1st Street Playground
6. Terrace Avenue/Edward Crincoli
7. Meluso Park
8. Terry Dehere/Garfield Avenue Park
9. Martiniak-Enright Park
10. Boyd-McGuinness Park
11. Oak Street Park
12. Virginia Avenue Park
13. Lt. R.B. Grover Memorial Park
14. Tumulty Park
15. Cueno Place Park
16. Terrance Avenue Park
17. Skinner Memorial Park
18. Ralph Taylor Memorial Park
19. Arthur Ashe Basketball
20. Woodland Avenue Park
21. Sgt. Anthony Park
22. Cornelius Parker Park
23. Monticello Avenue Mini Park
24. Paulus Hook Park
25. LaPointe Park
26. Stevens Park
27. Wayne Street Playground
28. City Hall Park
29. Wilkinson Avenue Park
30. Ferris Triangle Park
31. Apple Tree House
32. Dr. Lena Edwards Park
33. Fitzgerald-Holata Park
34. Muhammad Ali Park
35. Roberto Clemente LL
36. Fulton Park

