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Management of the Urban Forest: A Zip Code Level Approach

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Abstract

Management of the urban forest in a city the size of Philadelphia requires the cooperation and partnership of a variety of organizations and individuals. Philly Tree People (PTP), a neighborhood-based tree planting and tree care non-profit organization, has made a considerable contribution to growing and maintaining the urban forest in their service area, the 19125 and 19134 zip codes of Philadelphia, PA, and is one of the partners in management of the urban forest. Currently, the organization does not have a streamlined solution for managing the data about the activities and services it performs or that occur in the urban forest within their service area. They are in need of (1) a better way to manage information about the urban forest in their service area; (2) access to integrated data about the current urban forest in their service area with the ability to search, sort, map, and plan and prepare for service and maintenance; (3) new ways to market to residents within their service area that they are not reaching with current marketing and outreach methods; and (4) a strategy to take advantage of sustainable and diverse funding opportunities. This capstone addresses the four needs described above. This project includes the merger of disparate administrative data sets into a searchable and sortable data set about the urban forest within the PTP service area. ArcGIS is used to map the administrative data available so that it can be queried and used to answer questions about the service area. Marketing and outreach suggestions for those areas that have been identified with mapping as being in need of trees are also incorporated. The ultimate goal is to help position the organization to continue their success into the next five years and beyond.

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ABSTRACT

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Management of the urban forest in a city the size of Philadelphia requires the cooperation and partnership of a variety of organizations and individuals. Philly Tree People (PTP), a neighborhood-based tree planting and tree care non-profit organization, has made a considerable contribution to growing and maintaining the urban forest in their service area, the 19125 and 19134 zip codes of Philadelphia, PA, and is one of the partners in management of the urban forest. Currently, the organization does not have a streamlined solution for managing the data about the activities and services it performs or that occur in the urban forest within their service area. They are in need of (1) a better way to manage information about the urban forest in their service area; (2) access to integrated data about the current urban forest in their service area with the ability to search, sort, map, and plan and prepare for service and maintenance; (3) new ways to market to residents within their service area that they are not reaching with current marketing and outreach methods; and (4) a strategy to take advantage of sustainable and diverse funding opportunities. This capstone addresses the four needs described above. This project includes the merger of

disparate administrative data sets into a searchable and sortable data set about the urban forest within the PTP service area. ArcGIS is used to map the administrative data available so that it can be queried and used to answer questions about the service area. Marketing and outreach suggestions for those areas that have been identified with mapping as being in need of trees are also incorporated. The ultimate goal is to help position the organization to continue their success into the next five years and beyond.

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INTRODUCTION

Rapid urbanization is transforming the land across the globe. In the United States urban land is expected to increase from 3.1% in 2000 to 8.1% by 2050 (see Figure 1). This change has a significant impact on forest resources and particularly places even greater importance on managing the increasingly valuable urban forest (Nowak and Walton 2005). In the United States, the term urban forestry first appears in the literature in 1894 and is currently "*defined as the art, science, and technology of managing trees and forests in and around urban community ecosystems*" (Konijnendijk et al. 2006; Bratkovich et al. 2010; Silvera Seamans Forthcoming). Urban forestry research in the United States has been on the rise since the 1970's and has led to increased understanding of the many benefits and services provided by urban trees, which has had policy implications (Dwyer, Nowak, and Watson 2002; Konijnendijk et al. 2006). A specific policy implication in Philadelphia attesting to the value and significance of urban forestry research is visible in the *Greenworks Plan* (Nutter 2009), which has a goal of increasing the tree canopy in the entire city to 30% by 2025, with the short-term goals of planting 300,000 trees by 2015. The trees that make up the urban forest provide numerous benefits, ecosystem services, and disservices to residents and the natural environment within cities (Nowak et al. 2007). In a recent systematic review by Roy, Byrne, and Pickering (2012) the benefits,

ecosystem services, and disservices provided by urban trees as discussed in 115 research papers reviewed on the topic are summarized in Figure 2 below. In addition, tree cover in urban areas is declining at a rate of 4 million trees per year and, on average, tree cover in cities is decreasing by a rate of about 27% per year even with the tree planting efforts underway in many cities and natural regeneration. At the same time impervious surfaces in urban areas are increasing by 31% per year according to a recent study by Nowak and Greenfield (2012). Loss of tree canopy in urban areas can be attributed to both natural and anthropogenic factors. The result is that the land is either converted to grass or herbaceous cover, impervious cover or to bare soil (Nowak and Greenfield 2012). Even though Nowak and Greenfield (2012) find that the tree canopy is still declining in urban areas they do not suggest that tree planting efforts cease. In fact, they suggest that these efforts need to be coupled with sustaining the tree cover via protection and maintenance of the existing and newly planted urban tree resources. Dwyer, Nowak, and Noble (2003) make the case for employing adaptive management strategies to sustain urban forests. Some of the disservices of urban trees discussed by Roy, Byrne, and Pickering (2012) include the costs, expenditures and economic issues involving the maintenance, establishment, planting, and overall care for urban trees. The fact that local governments have difficulty in caring for urban trees is an indicator that other partners, such as local tree care nonprofit organizations, are needed to take on

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some of this responsibility, and highlights the lack of and need for funding

sources to effectively manage the urban forest.

Figure 1: Urban Land Change 2000-2050 (Nowak and Walton 2005)

(a)

(b)
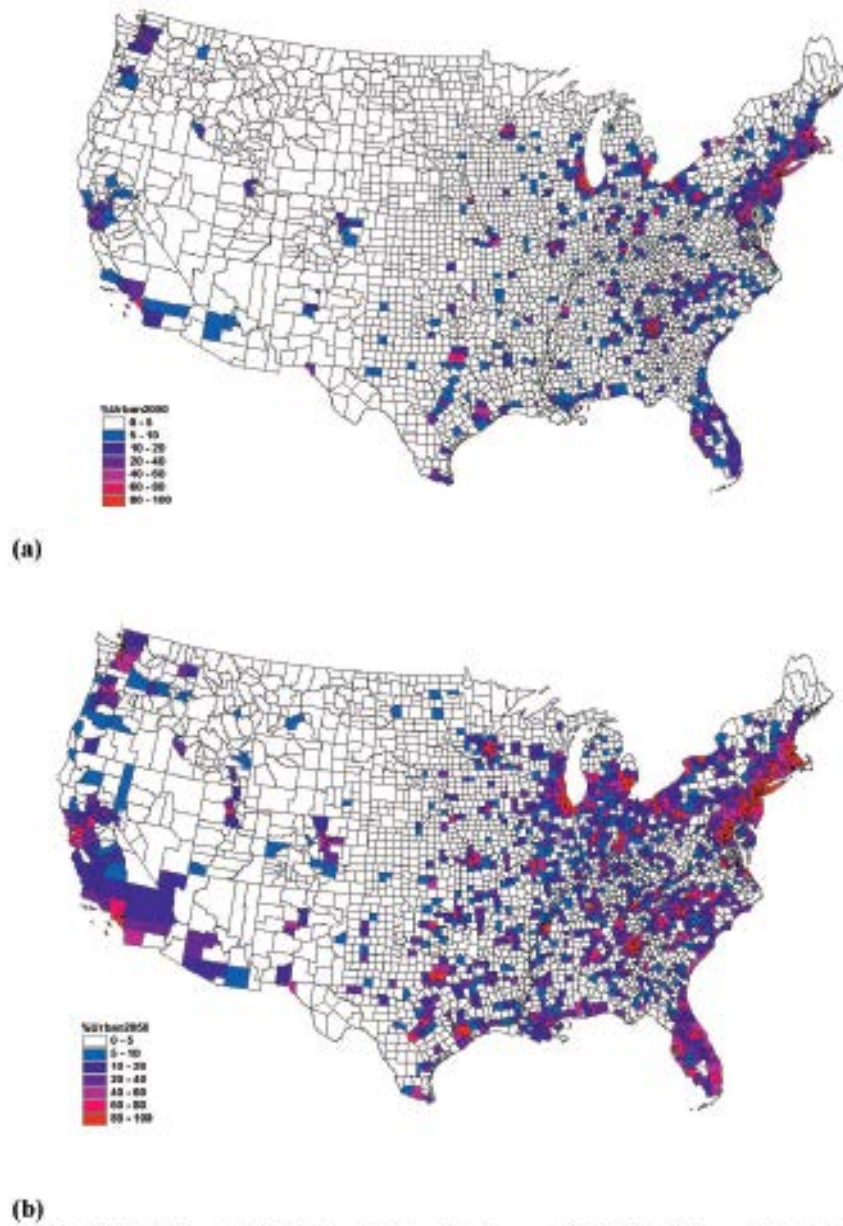
(a) Percent of land classified as urban in 2000, and (b) projected percent of land classified as urban in 2050, by county.

Figure 2: Benefits, Ecosystem Services, and Disservices of Urban Trees (Roy, Byrne, and Pickering 2012)

Benefits

Social benefits
Making urban environment more pleasant to live, work and spend leisure time
Providing significant outdoor leisure/recreation opportunities
Providing nature in the city
Enhancing quality of urban life
Promoting environmental responsibility and ethics
Building stronger sense of community
Enhancing community's sense of social identity and self esteem
Providing settings for significant emotional and spiritual experiences
Providing opportunities for inner city children to experience nature
Economic benefits
Saving substantially on fuel expenditure
Increasing land value
Increasing property value
Increasing rental price
Increasing neighbouring property value
Reducing 'time on market' for selling property
Increasing property taxes
Increasing tourism revenue
Increasing business activity
Contributing to the economic vitality of the city
Providing annual returns on municipal investments
Alleviating the hardships of inner city living for low – income groups
Reducing expenditure on air pollution removal
Reducing expenditure on storm water infrastructure
Saving annual heating and cooling costs
Savings on electricity costs
Avoiding investment in new power supplies
Providing potential for future carbon offsetting trade
Health benefits
Fewer complications and faster recovery at hospital having windows with tree view
Reducing stress
Improving physical health
Creating relaxed psychological states
Averting premature death
Averting respiratory hospital admissions
Visual and aesthetic benefits
Providing a sense of place & identity
Creating seasonal interest by highlighting seasonal changes
Improving scenic quality
Providing privacy

Ecosystem services

Carbon related ecosystem services
Storing/sequestering carbon
Air quality related ecosystem services
Producing oxygen
Filtering air
Removing ozone
Removing carbon monoxide
Removing sulphur dioxide
Removing nitrogen dioxide
Removing airborne particle matters/suspended particles
Removing dust
Reducing smog
Reducing carbon dioxide emissions
Storm water related ecosystem services
Reducing rate of storm water runoff
Reducing volume of storm water runoff
Reducing flooding damage
Reducing water quality problems
Recharging ground water
Energy related ecosystem services
Reducing annual energy use
Reducing summer time energy use
Reducing seasonal cooling energy
Reducing carbon dioxide emission from power plants
Habitat related ecosystem services
Providing habitat for wildlife
Enhancing biodiversity
Providing stability to urban ecosystems
Noise related ecosystem services
Reducing noise
Reducing apparent loudness
Micro climate related ecosystem services
Providing shade
Reducing solar radiation
Modifying microclimate
Reducing relative humidity
Reducing air temperature
Reducing heat island effect
Reduction of glare/reflection
Controlling wind

Disservices

Social problems/hazards
Causing fears of crime
Causing fears of disease
Causing fears of insects and other animals
Causing fears of trees, forests and associated environments
Economic problems/hazards
Cost too much for the city to maintain
Health problems/hazards
Increasing allergy attacks by plant pollens
Increasing attack by associated insects and other animals
Visual and aesthetic problems/hazards
Darkness
Displeasure of messiness and clutter
Obscuring good views
Drip sap or sticky residue on parked cars
Trees look ugly if not maintained
Environmental problems/hazards
Increasing water and energy consumption for tree maintenance
Generating pollens
Generating green waste
Releasing carbon through landscape management and tree management practices
Generating and releasing volatile organic compounds
Displacing native species
Reducing solar access
Dropping branches, leaves, flowers and seeds
Tree roots crack the sidewalks
Causing drainage problems
Can fall across power lines
Costs and expenditures
Cost of planting and establishment
Cost of irrigation
Cost of maintenance, pruning, crown thinning, removal etc.
Cost of management/administration
Cost associated with maintaining urban wildlife
Cost associated with forest induced repairs of urban infrastructure
Cost associated with blocked solar collectors

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Urban forests consist of a matrix of landscape types and forms including urban trees, street trees, and green spaces such as parks, reserves, gardens, vacant land, and playgrounds (see Figure 3 below) (Dwyer, Nowak, and Noble 2003; McLean and Jensen 2004; Schwab 2009; Svendsen and Campbell 2008; and Roy, Byrne, and Pickering 2012). Urban forest management in the United States requires the cooperation of multiple organizations and partnerships between government agencies, nonprofit organizations, private businesses, community groups and individuals (Silvera Seamans Forthcoming). In Philadelphia, PA, management of the urban forest certainly demonstrates that partnering between various groups and with individuals to steward the forest is essential for maintaining such a huge resource. This effort involves the City's Philadelphia Parks & Recreation Department (PPR), the Pennsylvania Horticultural Society (PHS), the Philadelphia Water Department (PWD), the Pennsylvania Department of Conservation and Natural Resources (DCNR), and many other organizations and individuals (American Forests 2012). Non-profit community tree planting programs and organizations in the United States have become ubiquitous partners in the maintenance and planting of the urban forest and the formation of such organizations has been on the rise since the 1970s (Burcham 2009). One such partner is Philly Tree People (PTP), a neighborhood-based tree planting and tree care non-profit organization, which operates in the 19125 and 19134 zip codes of Philadelphia, Pennsylvania. Svendsen and

Campbell (2008) point out that much of the research on environmental stewardship organizations and civic environmentalism in general focuses on organizations with national and international scopes versus organizations with a more local focus, such as community tree planting organizations. This capstone project among other things is an attempt to begin to fill the gap by discussing the role and needs of a locally focused tree planting organization, Philly Tree People.

Figure 3: The Domain of Urban Trees (Roy, Byrne, and Pickering 2012)
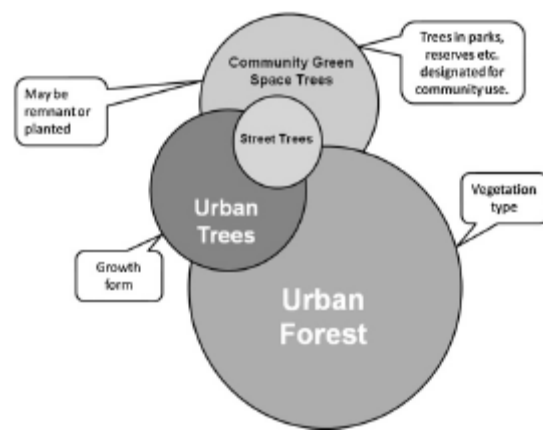
PHILLY TREE PEOPLE BACKGROUND

"*Philly Tree People's purpose is to work to beautify the neighborhood by bringing tree coverage to the streets of 19125 and 19134 both of which are areas deemed by the Pennsylvania Horticultural Society to have critically low tree coverage. We will work to inspire the people in these neighborhoods to take personal responsibility for the urban forest - educating, training and supporting*

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them as they plant and care for trees and as these residents improve the

neighborhoods in which they live, learn, work and play (Philly Tree People,

Bylaws 2007). Philly Tree People (PTP) is a federally recognized 501c (3)

neighborhood-based nonprofit organization with an environmental and social

purpose. Philly Tree People was formed in the spring of 2007 after the founders

attended the Pennsylvania Horticultural Society's (PHS) Tree Tenders training

course. Incidentally the Tree Tenders training program is specifically geared

toward creating environmental stewards within the region. PTP, a volunteer-run

organization with no employees, is run by the three founders, who act as a

working board of directors. Dina Richman, Ph.D., M.B.A. is Treasurer, Jacelyn

Blank, M.Ed. is Secretary, and Nykia Perez Kibler, M.L.S., M.L.A. is President.

PTP partners with Philadelphia Parks & Recreation, the Pennsylvania

Horticultural Society, and the New Kensington Community Development

Corporation (NKCDC) as well as neighbors' organizations and regional

organizations and others within their service area. The mutual goal focuses on

the planting of trees in the 19125 and 19134 zip codes. PTP relies heavily on

volunteers to plant and prune neighborhood trees via the events they organize.

Philly Tree People's purpose is to work to beautify the neighborhood by bringing

tree coverage to the streets of 19125 and 19134 both of which are areas with low

tree coverage. PTP works to inspire residents in the neighborhoods that

comprise 19125 and 19134 to take personal responsibility for the urban forest by

educating, training and supporting them as they plant and care for trees, while simultaneously helping residents improve the neighborhoods in which they live, learn, work and play.

PTP's service area consists of the 19125 and 19134 zip codes. The boundaries are roughly Erie Avenue, Sedgley Avenue, and Castor Avenue to the North, West to Front Street, Girard Avenue on the South, and the area extends to the Delaware River along its eastern border. PTP has concentrated tree plantings within a smaller footprint of the larger target area and has also planted a small number of trees in other zip codes when needed. PTP boundaries encompass many neighborhoods, although they've only planted in a few of the neighborhoods within the geographic service area. Appendix 1 shows City Council Districts and Zip Codes, Appendix 2 shows Ward boundaries, and Appendix 3 shows Council Districts.

PTP has had several milestones and successes from its inception to date including:

- Eleven large volunteer tree planting events where over 800 trees were planted
- Featured in the Greenworks Philadelphia Update and 2012 Progress Report (Dews and Wu 2012)

- Honored at the 2009 Pennsylvania Horticultural Society Philadelphia Green breakfast as a successful new Tree Tenders group

- Initiating a pruning club which to date has pruned over 150 trees.

Currently, the organization does not have a streamlined solution for managing data about the activities and services it performs or that occur in the urban forest within their service area. They are in need of (1) a better way to manage information about the urban forest in their service area; (2) access to integrated data about the current urban forest in their service area with the ability to search, sort, map, and plan and prepare for service and maintenance; (3) new ways to market to residents within their service area, especially those that they have not reached with their current marketing and outreach methods; and (4) a strategy to take advantage of sustainable and diverse funding opportunities.

This capstone addresses the four needs of PTP described above in the following sections: Information Organization & Integration; Tree Inventories and Management of the Urban Forest; Marketing & Outreach; and Capacity Building & Funding. In addition, this project will address some of the questions that PTP has about trees, in particular street trees in their service area. Questions include:

Where are the trees PTP has planted?

What other trees already exist in our service area?

Where are the gaps in our service area?

What is our tree mortality rate?

Who are new potential partners within our service area?

How many trees have we replaced?

How diverse is our forest (genus and species)?

How many denials have we had?

How many cancellations?

DATA SOURCES AND METHODOLOGY

This project involves the merger of disparate administrative data sets into a searchable and sortable data set about the urban forest within the PTP service area. ArcGIS is used to map the administrative data available so that it can be queried and used to answer questions about the service area. Gaps in the urban forest will be emphasized with the mapping results and marketing and outreach suggestions for those areas have been identified. In addition, this project includes a set of suggestions for long- and short-term ways to address the four needs identified above. One suggestion involves conducting a comprehensive street tree inventory for the service area while also addressing the limited capacity of the organization as it now stands to conduct such a survey. Other suggestions include solutions to address the staffing needs as well as provide some suggestions on which tools to employ. In terms of methodology this

capstone project is very much a "project" as it has involved the production of non-scholarly products for the utilitarian purposes of the organization and approaches the entire subject area as a case study.

This project employs the use of ArcGIS, Microsoft Excel and Administrative data about the urban forest in 19125 and 19134 to create a comprehensive view of the current urban forest in both zip codes based on the available data. Specific datasets include Philly Tree People planting data, Neighborhood based community walking surveys of trees which cover discrete areas within the two zip codes (obtained from Philadelphia Parks and Recreation), and data from the Philly Tree Map (downloadable online). Geographic, demographic, and business data downloaded from both government and commercial databases accessible via the Penn Libraries subscription are used. The biggest challenge was to clean and merge the data to paint an accurate portrait of what is currently known about the urban forest in 19125 and 19134. With the data and the maps that will result, PTP will be able to see where gaps in the data exist and also where gaps in the urban forest exist. Philly Tree People can then use this information to create outreach and marketing plans that will help grow the urban forest and to identify places where further maintenance may be required and future partnerships can be formed.

A.   Philly Tree People Planting Data:

Philly Tree People Excel spreadsheets for each of the eleven tree

plantings are the primary source of data for creating a comprehensive and

combined tree planting list for the organization. There were several

challenges associated with merging the PTP Excel spreadsheets for each

tree planting. The main challenges with combining the data included: (1)

identifying the final most up to date version of the spreadsheet which

involved file reorganizing and comparing various versions of spreadsheets

that exist for each planting to locate the most up to date and

comprehensive version; (2) comparing disparate, differently named, or

data parsed differently across the final spreadsheets for each tree planting

and then deciding which fields to keep, combine, move, or otherwise

modify to create a final combined list of all tree plantings; (3) deciding

which additional worksheet tabs to keep including determining how to

combine those as they differ in ways similar to how the main planting list

worksheet data differed; (4) determining the most useful way to repackage

all of the data for continued and future administrative use by the

organization; and (5) concatenating, separating, and editing data within

individual cells and groups of cells to make the data consistent across

cells rows and columns. Appendix 4 shows the differences in fields and

worksheets across the Excel spreadsheets for each planting. This process

and the merger of the information is a product that the organization can

use immediately. This data was geocoded and prepared for use within ArcGIS. The errors in address matching within ArcGIS were corrected to 100% accuracy resulting in 867 individual tree records. This data is combined with the additional tree data listed below as well as the geographic and other business data described below and further discussed in the Results section.

B.   Other Tree Planting Data:

The Philly Tree Map (http://www.phillytreemap.org/) contains data from a variety of data sources for the greater Philadelphia region which includes thirteen counties across three states. As of November 28, 2012, the Philly Tree Map contains information for 180,565 tree planting sites. For the zip code 19125, Philly Tree Map lists 686 (Figure 4) trees and, for the 19134 zip code, 317 (Figure 5) trees are listed. The data available from Philly Tree Map is downloadable in KML, CSV, and Shapefile formats. The Shapefile data was downloaded for use within ArcGIS for this project. Within the past year, Philadelphia Parks and Recreation in cooperation with volunteers from neighbor organizations and PTP surveyed two separate areas (East Kensington and Fishtown) both within the 19125 zip code to assess the state of the current tree stock and to identify empty street tree planting locations. Other surveys are currently underway in 19125 and 19134, but not yet available. These data sets were obtained

(132 records in total with one outside of the service area leaving 131) from PPR and geocoded and will help to expand the picture of the urban forest within the 19125 and 19134 zip codes as the locations have already begun to be planted with new trees by PPR contractors. These data sets have been geocoded for use within ArcGIS, data errors were minimal but manually corrected and these data sets are combined along with Philly Tree People planting data in ArcGIS and further discussed in the Results section.

Figure 4: Philly Tree Map Results for 19125
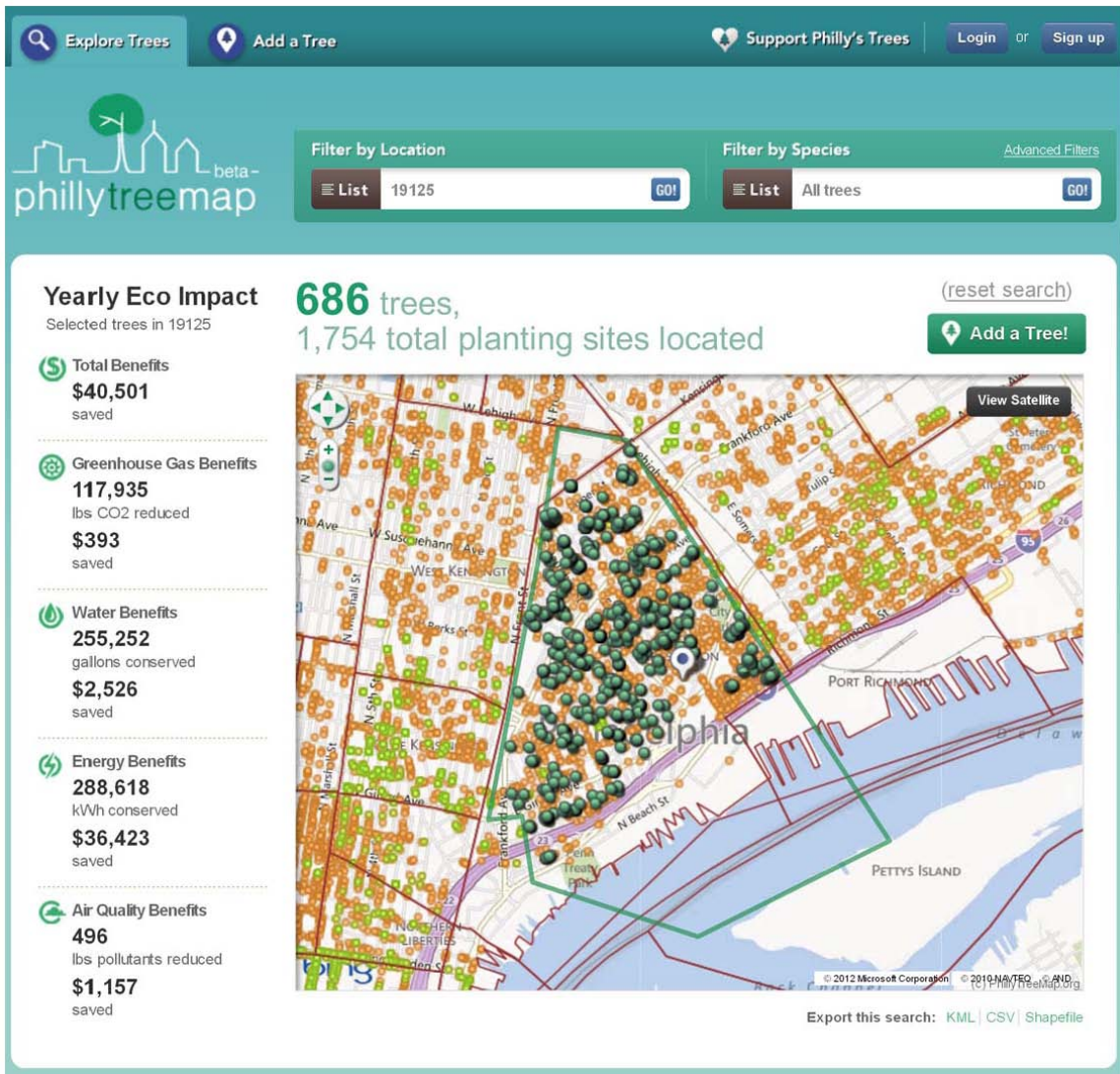
Figure 5: Philly Tree Map Results for 19125
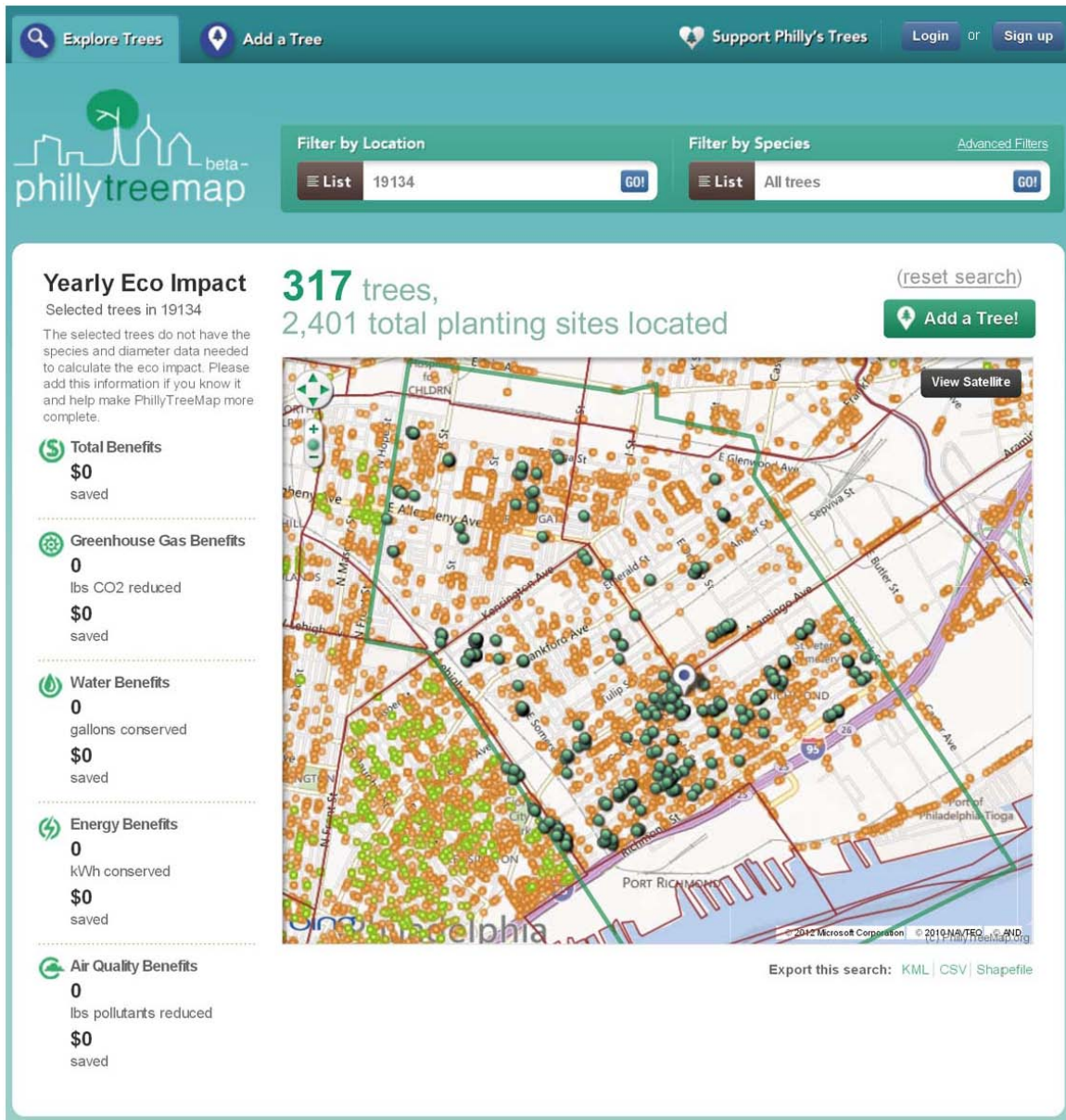
C. Geographic and Business Data:

The *Philadelphia Zip Codes* Shapefile and data set (prepared by the City

Planning Commission in 2012) and the *Philadelphia Parcels* Shapefile and

data set (prepared by the Philadelphia Department of Records in 2012) were downloaded from the Pennsylvania Spatial Data Access website. Base Street Maps were downloaded from ESRI via ArcGIS. Information on the businesses operating within the 19125 and 19134 zip codes was obtained from the subscription directory database *U.S. Businesses / Employers* within the *Reference USA* suite of databases. The business data was downloaded 200 records at a time for each zip code (19125 had 1437 results and 19134 had 2903 results) and then later combined into one detailed file and then further for PTP's use as a business directory. The business directory Excel file consists of four spreadsheets. Two spreadsheets contain all data downloaded for all businesses, one for each zip code. Two spreadsheets one for each zip code displays only the most relevant columns of data for PTP's needs and these have pivot tables turned on for easy sorting and searching on specific variables. The business data was geocoded and uploaded into ArcGIS resulting in a 98% address match for 19125 and a 96% address match for 19134. This level of accuracy is adequate for the purposes at hand. For 19125 ArcGIS could not match 24 records or 2% of the businesses and for 19134 it could not match 107 records or 4% of the business addresses. In addition, the Pennsylvania Horticultural Society provided parcel data obtained via the Philadelphia Water Department, which was shared solely for marketing

and outreach purposes regarding trees for Philly Tree People to enhance the urban forest within the 19125 and 19134 zip codes. The data from the Pennsylvania Horticultural Society will be useful in the future for building a baseline tree inventory and for marketing purposes, but is not represented in the mapped results.

In addition to merging administrative and public data sets together, one of the other tasks is to prepare a list of next steps, both short-term and long-term suggestions, about how to build on the current information available and how to expand and grow the urban forest in the PTP service area. A review of the recent literature, current practices, and local initiatives, in collecting tree inventories will help elucidate a path for Philly Tree People to take in creating a current, comprehensive, verified, and ground-truthed data set to help with the management and maintenance of the urban forest in 19125 and 19134 zip codes.

INFORMATION ORGANIZATION AND INTEGRATION

Research has shown that activities that aim to provide environmental services or benefits are more effective when it is easy for people to engage in a particular activity. In the case of tree plantings, good organization of events makes participating easy (Summit and Sommer 1998). PTP has demonstrated this to

be the case with their tree plantings. However, another useful component of being well organized is having reliable and well maintained records. PTP has had well organized information on planting day, but has not been consistent with the treatment of the information for all plantings and has not combined all data from all plantings. Appendix 4 shows the varied and inconsistent data records for the eleven PTP tree plantings.   In the Results Section, Table 1 lists the outcome of the merger including the data fields and spreadsheets that are included in the final comprehensive Excel file. One future challenge will be to determine how to incorporate this newly prepared dataset into everyday practices.

This capstone project is a first step towards the development of an Urban Forest Management Plan for the 19125 and 19134 zip codes in which the neighborhood-based tree planting and tree care nonprofit Philly Tree People operates. By attempting to identify the resources we already have available, including understanding the current urban forest that exists in the services area, some of the first essential steps have been taken toward development of a forest management plan. This urban forest management plan will serve as a strategic plan for the geography and the amenities to be maintained by PTP. The Urban Forest Management Plan Toolkit (UFMP Toolkit), a project developed by the California Urban Forest Council and the Inland Urban Forest Council, http://ufmptoolkit.com/index.htm, describes the importance of developing an urban forest management plan "to address the specific needs of your local urban

forest; to coordinate and conduct management activities efficiently and cost-effectively; to ensure adequate and consistent funding; and to educate the community and elected officials about the value and need to manage the urban forest." This is an integral step in the process of preparing a street tree inventory, capacity building, and fundraising for new programs and support of tree maintenance and care efforts.

TREE INVENTORIES AND MANAGEMENT OF THE URBAN FOREST

In addition to learning how to identify tree care needs, finding opportunities to plant, and to educate and engage others in the care of trees, PTP is in need of a systematic way to monitor and track trees that PTP has planted and/or pruned as well as to track and map the existing trees within the service area. PTP lacks a computer-based tree inventory, a tool to track, plan, and manage trees within the service area. An urban street tree inventory of the PTP targeted service area would be useful for planning, reporting, and assessing the needs of the community as well as the total capacity and impact PTP could potentially make to the neighborhood as a whole and also specifically to the tree canopy. Properly planning and conducting a comprehensive street tree inventory in the PTP service area would help to monitor and track the health of the urban forest as well as document changes. Establishing a tree inventory for the community

would also afford PTP opportunities to identify areas that can be forested as well as to plan for tree care and maintenance in a systematic and strategic way. It would go hand in hand with the development of an urban forestry management program for the community (Wu, Xiao, and McPherson 2008). Currently, PTP also lacks an effective and efficient means for tracking trees that they have helped to plant in the neighborhood. A comprehensive and detailed tree inventory would help PTP better provide tree care assistance and education to neighbors. Creating a plan to help acquire, implement and create these tools is essential to the future development of the organization. This capstone suggests a plan to develop and implement an appropriate street tree inventory.

A tree inventory is a detailed record keeping system that contains the location, selected characteristics and the condition of trees within a particular geographic area (Bond, Buchanan, and ISA 2006). There are various types of tree inventories ranging from samples of tree populations to full population counts, with a myriad of data collection methods, hardware and software options as well as countless pieces of information that could be collected, depending on the purpose for conducting the inventory. In addition, it is essential to have a well-developed project plan worked out before proceeding (Wolowicz and Gera 2007). Tree inventories are used to analyze a specific group of trees and at minimum usually result in an inventory report, which generally contains charts, graphs, maps, or tables from which knowledge can be gained about general and

detailed characteristics of the population of trees surveyed (Bond, Buchanan, and ISA 2006). Generally municipalities and agencies within local governments perform street tree inventories and manage and maintain the urban forest. As *Greenworks Philadelphia* points out (Nutter 2009), the Department of Parks and Recreation, who is responsible for street trees, does not have the resources to do this work alone and calls for partnering with other organizations as well as residents. They continue to seek external funding to support this effort.

   Andreu et al. in a 2009 report update the work of Olig and Miller (1997) in which the authors assess the utility, function, and availability of tree inventory software. The Andreu et al. (2009) report provides a very useful table in which some of the capabilities and main features of each software package are shown along with the cost. Philly Tree People has had training on and experience testing out a prior version of the i-Tree software. After looking over the details discussed in the report there appear to be only two viable options listed, both of which are free solutions and includes the latest version of *i-Tree (Streets)* and the *Trees in the Hood* software. An alternative option, which is less practical and too costly in terms of software costs and training, but not entirely out of the question, is to develop an ArcGIS system capable of handling the needs of the organization. This solution may be more complicated than needed. The 2012 Street Tree Inventory Report: Northwest District Neighborhood from Portland

Parks & Recreation (DiSalvo, Fuchs, and Schull 2012) is a great example of what can be learned by conducting a street tree inventory.

Another dataset that would be useful to PTP is to identify a list of all potential new street tree planting sites This dataset does not currently exist and would be quite a challenge to create, however the data obtained from PHS could help to this end. Kirnbauer et al. (2009) discusses a new system for creating sustainable tree planting programs, a component of which is to determine where new planting locations might exist, and their system utilized ArcGIS to accomplish this. However, PTP currently does not have the capacity to conduct a street tree inventory without either bringing in volunteers or hiring people to help with the project. In the Capacity Building & Funding section below, a new PTP program is described that would help to provide the organization with the means of conducting a street tree inventory for their service area. This would require a small temporary part-time trained staff to assist with the process. While using volunteers to conduct a street tree inventory is possible and has been done by other groups, the service area is large and this process would take a lot of time and organization. It would be much more effective for PTP to manage a small group of paid people to accomplish this task (DiSalvo, Fuchs, and Schull 2012).

MARKETING & OUTREACH

Grassroots organizing to get the word out about the organization and about tree planting opportunities is one of the marketing and outreach tools employed by PTP. These activities have been essential for jumping right into their planting program. PTP decided soon after forming that they would benefit from a shared group email account as well as a web presence. Marketing initially consisted of making announcements and applications available at neighbors' association meetings. The East Kensington Neighbors Association (EKNA) was the first group approached, followed by the Fishtown Neighbors Association (FNA), and the Olde Richmond Community Association (ORCA).   PTP also shared their plans with the NKCDC, which led to further advertising and outreach opportunities via the NKCDC Sustainable 19125 initiative and via the Green Guides program. Strategic partnering with various organizations within the community has enabled PTP to improve their outreach efforts. People associated with a partner organization may favorably associate Philly Tree People with their partners and can help to grow the volunteer base (Dwyer, Nowak, and Noble 2003).

Philly Tree People is also fortunate to have one or two free neighborhood newspapers covering some of the areas they serve. Both papers have free community calendars where PTP posts information. The PhillyBlog and Facebook have both been actively used by residents in the zip codes served.

PTP also has a Facebook page where PTP announcements about upcoming events and opportunities for residents to obtain trees have been announced. Because there are many residents in the service area whose first language or primary language is Spanish, the tree application was translated into Spanish eliminating the language barrier for Spanish-speaking residents. PTP has since had the application translated into Vietnamese, another language used in some pockets of the service area.

Being creative with advertising and marketing efforts, even if there isn't a community neighbors' organization in a particular area, is essential to getting community participation and buy-in for PTP programs. Zhang et al. (2007) indicates that in general although tree planting is widely perceived as a positive with more than 90% of citizens appreciating the value of urban trees, there still seems to be a discord about who should be planting trees. Many feel that it is a governmental responsibility. This suggests an opportunity for education about urban forestry initiatives within the city. PTP often encounters this perspective within the neighborhood and there is widespread confusion about who plants trees in the neighborhood. Anecdotally this concept that the government provide this and other types of services to residents seems to be very prevalent in the 19125 and 19134 zip codes. Some of the other ways PTP has marketed include: hanging flyers at local businesses, door to door distribution of fliers, tables at local arts and crafts markets and health fairs or asking local businesses or

organizations to post announcements in their newsletters or on their listservs or websites. PTP also sends out thank you cards to supporting individuals and organizations as well as to planting team leader volunteers. PTP uses business cards as another marketing tool in addition to social media mentioned previously.

Even though PTP has utilized many marketing options to get the word out about trees, interest appears to have dwindled, possibly because they have saturated the reach of these marketing efforts. PTP is in need of new methods for marketing the tree planting opportunities offered in the service area to owners and residents and needs new ways of generating interest and applications. PTP can use the newly created maps and can also utilize ArcGIS to help identify areas with fewer numbers of trees than other areas and can also identify streets with no trees to target with door to door distribution of fliers. It may be beneficial when door knocking to identify the Block Captain to assist, if willing and able, with efforts to advertise about tree planting opportunities for residents on their block. In Philadelphia, Block Captains are volunteers who help to organize clean ups and other events for their residents and also act as a resource for residents. PTP could work more directly with the NKCDC Green Guides to help to get entire trees planted, if neighbors are willing and space is available. This might entail giving a brief presentation to residents at someone's home or in an outdoor space. The Green Guides are similar to Block Captains, but are focused on greening and sustainability initiatives. The program is run by the NKCDC, not the

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City of Philadelphia. Another costly, but potentially useful idea is to directly mail property owners without trees a letter about PTP outlining how to obtain applications for trees. Identifying and connecting with local businesses, religious institutions, and schools to spread the work to their constituents would also be a viable option. Creating a more simplified version of the street tree application to publish in purchased advertisement space in the local newspapers is another thing to consider. In any case, PTP should spend some time brainstorming the most effective ways for outreach. The options listed within this project can serve as a starting place for the brainstorming sessions.

CAPACITY BUILDING & FUNDING

In terms of capacity building, PTP is run by three people. They engage volunteers to help plant and prune street trees. But in the present configuration they do not have the capacity to conduct a street tree inventory of the entire two zip codes in a reasonable amount of time. In addition, there are other needs in the community that the organization cannot meet without expanding personnel. Because of the need to be more efficient and because of real needs within the community, part of this capstone project focuses on developing a new program for Philly Tree People. This new program would be used as a basis for grant

applications for funding necessary for full implementation as will the information contained in the newly drafted annual report contained in Appendix 6.

The newly developed program is entitled the Philly Tree People Environmental Stewards Program and is loosely based on of the UC Green GreenCorps program in West Philadelphia.   The staff and volunteers of UC Green have regularly mentored Philly Tree People. The Philly Tree People Environmental Stewards Program is a greening maintenance program designed to provide green job skills, environmental education, and leadership experience for high school students from one of the 9 local high schools. One of the primary goals of this program is to provide youth with an opportunity to give back to their community. High School students will care for and provide maintenance to over 800 trees planted by Philly Tree People since 2007 and to select public green spaces, while also earning a part-time wage and gaining new skills. The primary responsibilities of the Environmental Stewards will include mulching, pruning, weeding, watering, mapping, planting, cleaning, and photography. Training opportunities include attending the PHS Tree Tenders program and learning how to use and to properly care for hand tools used in landscaping and urban forestry. The program will run over the course of four months and has a budget of $30,000. Appendix 7 is a program profile I created for use as a fundraising tool.

The Greenworks Philadelphia Plan (Nutter 2009) has identified the 19125 and 19134 zip codes as an area within the City of Philadelphia that has a tree

canopy cover of approximately 3.4%, while the goal is to raise the canopy cover to 30% tree coverage in all neighborhoods. Philly Tree People has been working towards increasing the tree canopy cover since our founding in 2007 by helping residents apply for street trees. One strategy that is generally lacking amongst municipalities including Philadelphia is the capacity, both in terms of employees and finances, to care for all of the trees within the city. Newly planted trees, including over 800 planted by Philly Tree People (PTP) volunteers within our target area since 2007, are of special concern because proper maintenance and care during the first few years for street trees is critical to their survivability (Burcham 2009; and McLean and Jensen 2004). The Philly Tree People Environmental Stewards Program will increase PTP's capacity to fill in this vital gap in the maintenance and care of trees within our target area, while simultaneously providing youth enrichment and development opportunities in a low income and poverty- and crime-stricken area.

Youth employment opportunities in the neighborhood are limited and the Philly Tree People Environmental Stewards Program would provide workforce and environmental enrichment opportunities for 6 youth in the neighborhood over the course of 4 months. While the young stewards will directly benefit, so will the community at large, by the increased survivability of the existing trees, as well as the identification of new potential planting sites by the program via mapping and inventorying and outreach to residents who might want to apply for additional

trees. Trees afford many unseen benefits to neighborhoods including: air quality improvements, energy conservation, water conservation, providing cooling effects that decrease the heat island effect, providing UV protection in the form of shade, increasing business traffic, increasing property values, providing food and cover for wildlife, providing aesthetic benefits, reducing violence, helping people heal and relax, and combatting the greenhouse effect (Dwyer, Nowak, and Watson 2002; Konijnendijk et al. 2006). In addition, the neighborhoods that fall within the 19125 and 19134 zip codes are low income communities.   The median income is approximately $24,700 significantly lower than the U.S. median income of $50,054, and lower than Philadelphia's median income of $36,251 according to 2010 U.S. Census Bureau data available online. The neighborhood is a densely populated, racially diverse urban area with an average owner/renter occupancy rate and an average vacancy rate compared to the city as a whole. At this time PTP is still waiting to hear from the potential funder about the possibility of funding. Fundraising and applying for grants to help PTP steward the urban forest in the 19125 and 19134 zip codes are imperative for the expansion of services and the success of the already planted street trees.

RESULTS

PTP's eleven tree planting lists were combined and the resulting outcome was listed in terms of data fields and spreadsheets in Table 1. Appendix 4 shows the data variability from year to year. This exercise has allowed some statistical facts to be gathered, things that were previously unknown to PTP. A total of 867 trees were planted by PTP across six zip codes, ten wards, and four city council districts. The detailed numbers can be used by PTP to reach out to their elected officials in each of these levels of government to enlist support, outreach and marketing opportunities, or funding for continued activities. The four City Council Districts include Districts 1, 5, 6, and 7. The ten Wards include Wards 7, 8, 19, 23, 31, 32, 35, 33, 42, and 61. PTP has planted 663 or 76.5% of their trees in the 19125 zip code, with 188 trees or 21.7% planted in the 19134 zip code. There is more opportunity to plant in 19134, which is also larger in terms of land area. Figure 6 outlines the six zip codes where PTP plantings have occurred. The remaining 1.8% or 16 trees were planted in the 19133, 19124, and 19123 zip codes and resulted from combining PTP's planting days with another Tree Tenders planting organization, Traveling Tree Tenders.

Table 1: New Comprehensive Philly Tree People Data File Summary

Spreadsheet 1: Plantings	Spreadsheet 2: Cancellations	Spreadsheet 3: Denials
Fields:	Fields:	Fields:
Community Group	Specific Planting	Specific Planting
Planting Location	Tree Species	Planting Location
Location2 (pushed status removed)	Planting Location	Owner
Location3 (shows Street or Yard minus notes)	Owner(s)	St. #
Owner(s)	St. #	St. Prefix
St. #	St. Prefix	Street
St. Prefix	Street	Zip Code
Street	Zip Code	Email Address
Zip Code	Email Address	Phone Number
Location Notes, Comments, & Owner Requests	Phone Number	Location Notes, Comments, & Owner Requests
Property Owner Notes	Location Notes, Comments, & Owner Requests	Pit Size
Pit Size	Pit Size	Tree Species
Tree Species	PTP Notes	PPR Arborist Notes
Tree Species Common Name	PPR Arborist Notes	PPR Approved
PPR Arborist Notes	PPR Approval Status	Approved to Plant Current Season
PPR Approval Status	Approved to Plant Current Season	Donated
Approved to Plant Current Season		Additional Arborist Notes
Additional Arborist Notes		Home Owner Notes / Requests
PHS Notes		PTP Notes
PHS Questions		
PHS Approval		
Nursery		
Specific Planting		
Planting Year		
Planting Season		
Planting Date		
Submitted to PHS (Y or N)		
Preliminary Status (Approved, Denied, Cancelled)		
Interim Status (Pushed, Re-		

inspect)
Final Status (Planted, Denied, Cancelled)
Replacement (Y or N, or U for unknown)
Group
Received Application Received Confirmation
App #
Tree #
Email Address
Phone Number
Site Checked
Donated
Scanned
APP RECD via FAX, Mail, Email, NKCDC, Pruning Club, Facebook, etc.
PTP Notes
Group Leader
Combined Address
City
State
Combined Address No Zip code
Ward
District
PA One Calls
PA-OCS

Figure 6: Zip Codes with PTP Plantings – 2 Views

Zip Codes
- 19123
- 19124
- 19125
- 19133
- 19134
- 19140
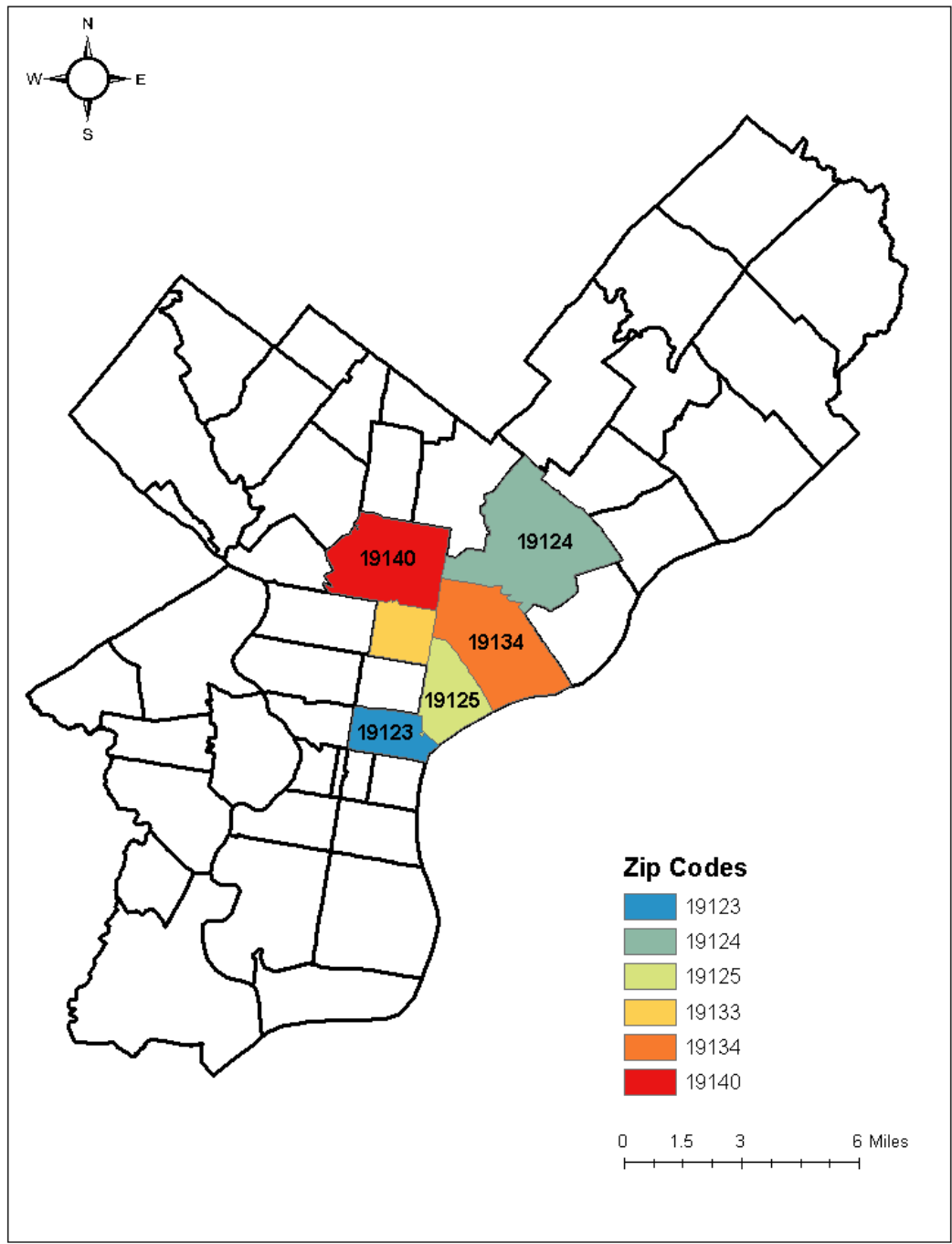
PTP has had 175 denials and 53 cancellations across all years. A searchable business directory was created for both 19125 and 19134 for use by PTP to identify potential partners. Potential target groups were identified and include new buyers of homes and people with children under five years of age, groups which could be reached by using the business directory to identify residential real estate agencies and child day care and preschool facilities operating in the 19125 and 19134 zip codes. The urban forest is diverse with 29 genera represented by 91 species planted by Philly Tree People. Table 2 lists the total by genera and Appendix 5 lists the species. In the PTP service area we've planted more trees that when at maturity will be in the small size class, with some in the medium category, and few in the large tree category. According to Nowak et al. (2007) there are approximately 2.1 million trees in the City of Philadelphia with 10 species comprising 56.5 percent of the total (see Figure 7 below).

Table 2: PTP Planting Totals by Genus

Totals	Genus
163	Prunus
141	Acer
139	Syringa
61	Carpinus
60	Amelanchier
55	Cornus
45	Gleditsia
40	Cercis
33	Malus
30	Cladrastis
21	Unknown
13	Pyrus
11	Tilia
9	Ulmus
8	Koelreuteria
7	Crataegus
5	Ostrya
5	Platanus
4	Chionanthus
3	Betula
3	Cercidiphyllum
2	Oxydendrum
2	Styrax
2	Zelkova
1	Aesculus
1	Corylus
1	Gymnocladus
1	Maackia
1	Nyssa

Figure 7: Tree Species in Philadelphia (Nowak et al. 2007)
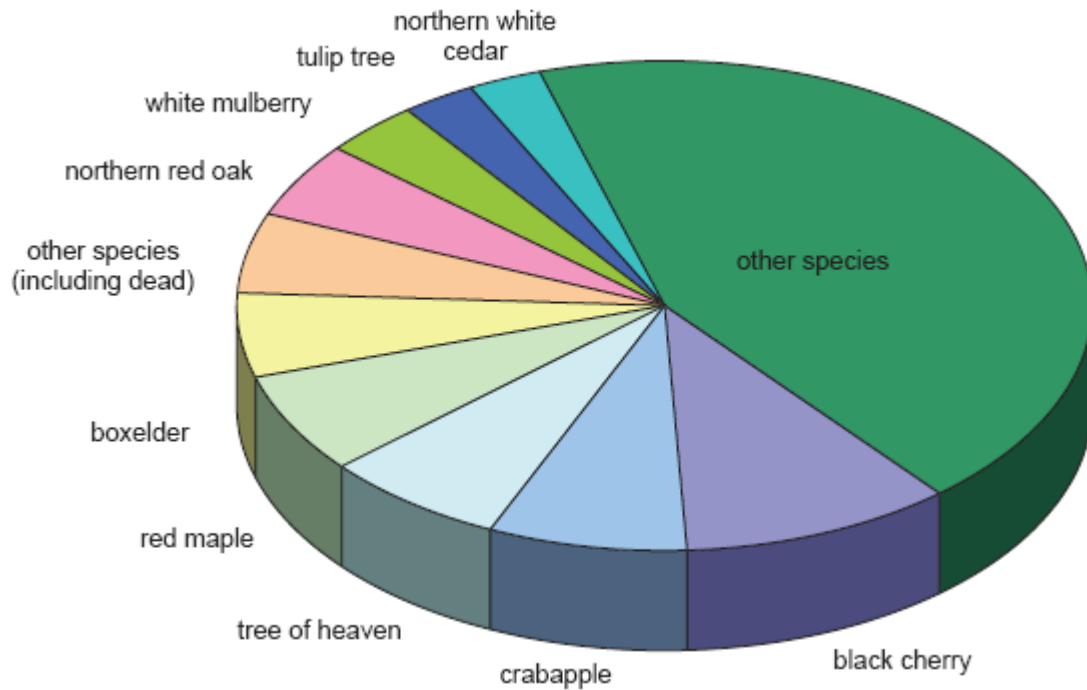
PTP replaced 84 trees. The PTP mortality rate based solely on the number of replaced trees is 10%. However an accurate mortality rate for PTP trees is not possible at this time because it would involve an inventory and assessment of every tree planted by PTP and additional information on the already once and twice replaced trees. Roman and Scatena (2011) found that survival rates of street trees based on aggregating the results of several published studies results in an average annual survival rate of 94.9-96.5% with an annual mortality rate of 3.5-5.1% per year. In an earlier work by Roman (2006), specifically within part of the PTP service area prior to PTP's formation, the author found that street trees on average 8-10 years after planting had a 57%

cumulative survival rate, with annual survival rates of 94.2%. Calculating the mortality or survivability of street trees requires longitudinal data that is verified and conducted on a regular, annual or semi-annual basis. Understanding tree mortality is an essential piece of the puzzle in terms of sustainably managing the urban forest. This project does not delve any further into this topic (Nowak, Kuroda, and Crane 2004).

The following results were prepared within ArcGIS from the data collected about trees and businesses. Figure 8 indicates where the trees were planted. Figure 9 shows the empty tree pits to be planted. See Figure 10 for all known trees planted or to be planted shortly within the 19125 and 19134 zip codes. Also, Figure 11 shows the businesses in the two zip codes with Figure 12 showing both the businesses and the trees in relation to each other. The gaps located in PTPs service area are indicated in Figures 8-12. Figure 13 is provided to show the streets and other landscape features such as highways and rail lines unobstructed by the points showing the trees and businesses and provides a means of seeing that some of the gaps are not suitable planting locations.

Figure 8: PTP Plantings
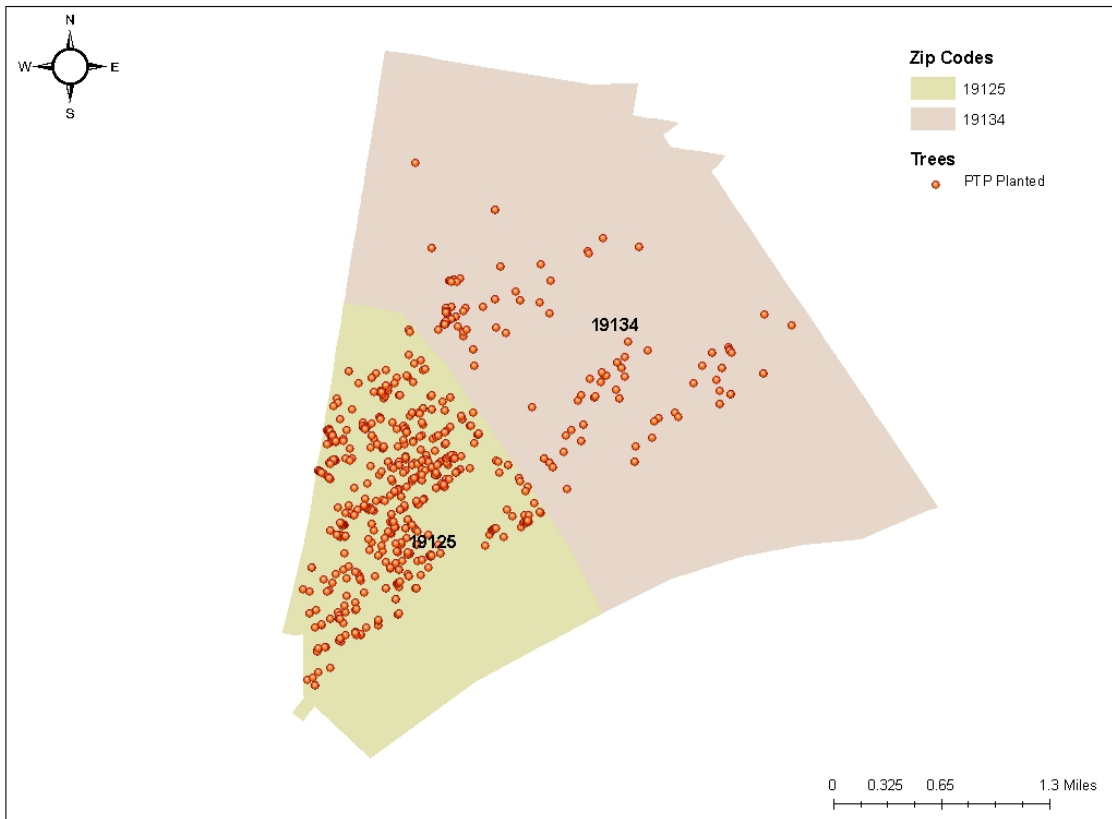
Figure 9: Empty Tree Pits to be Planted

41
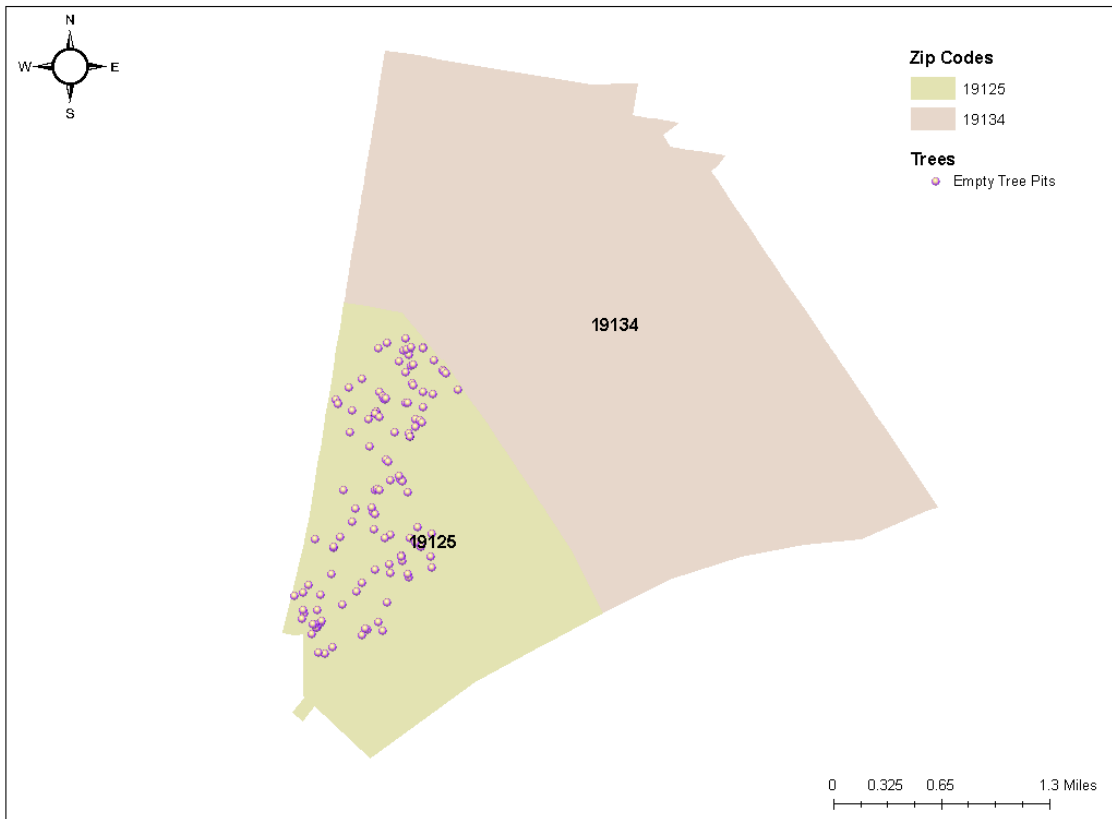
Figure 10: PTP Plantings, Empty Tree Pits, Trees listed in the Philly Tree Map Data
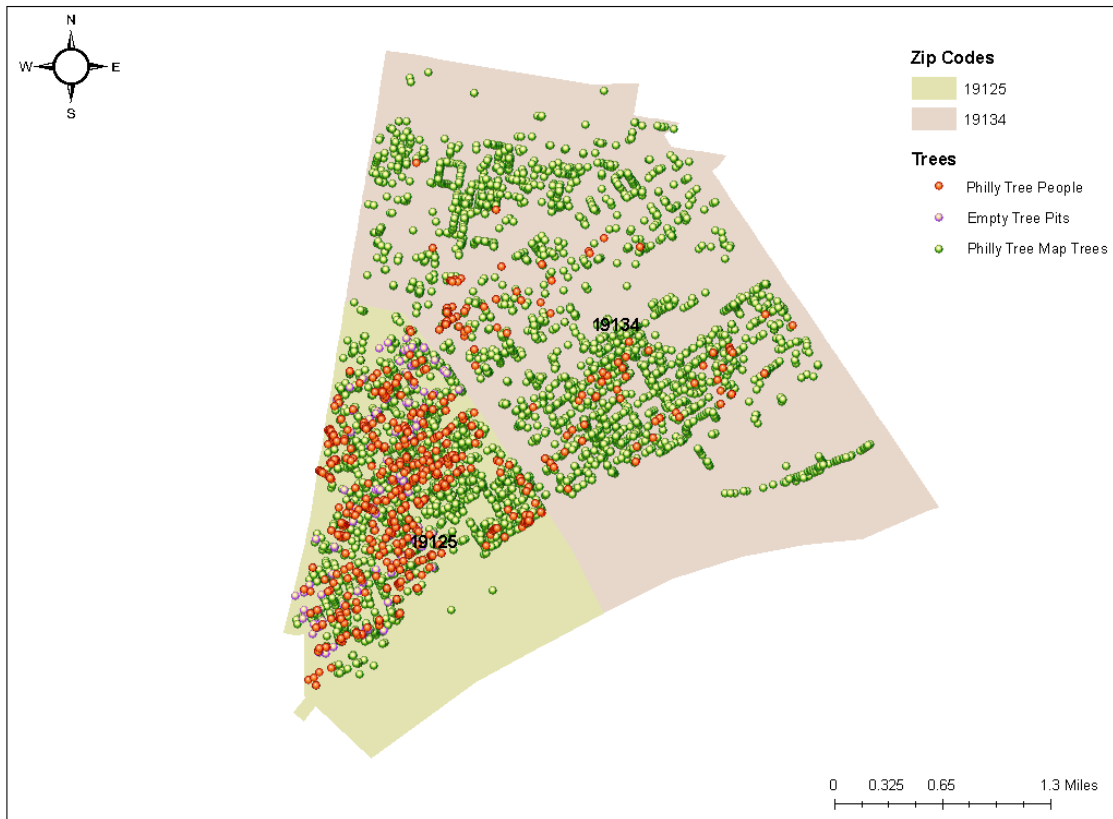
Figure 11: Businesses of 19125 and 19134

43
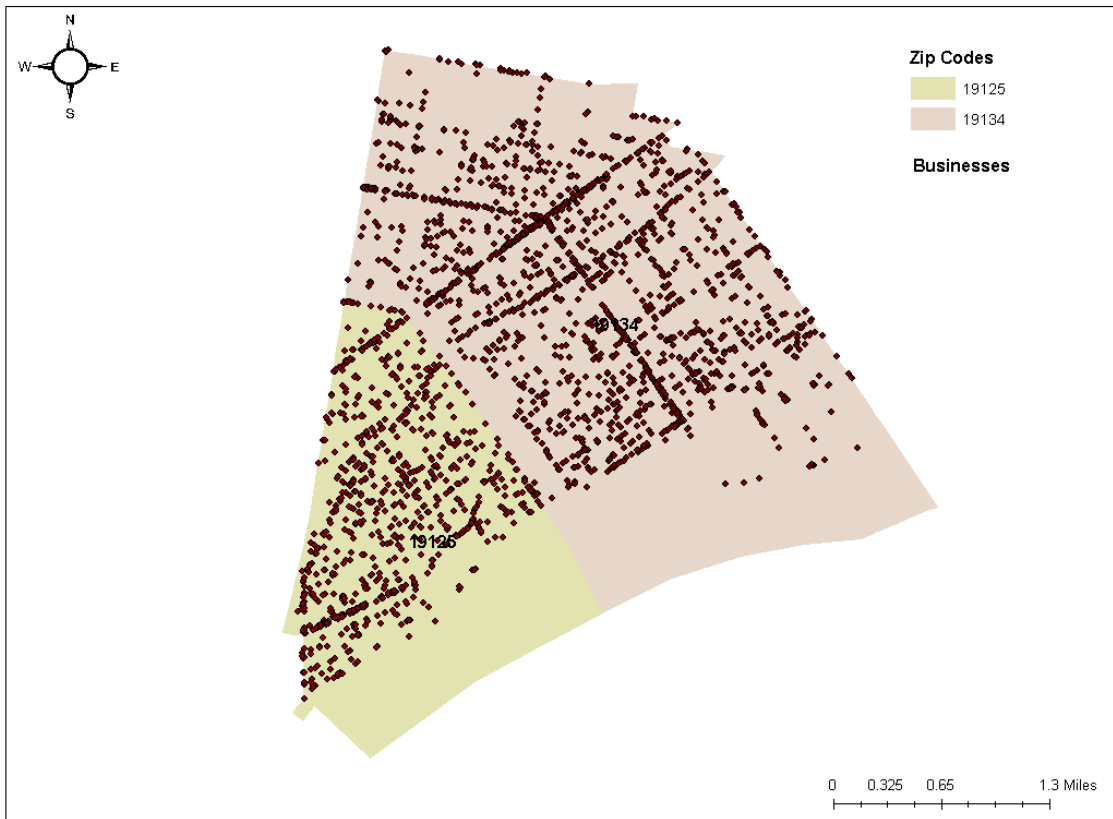
Figure 12: Businesses and All Trees

Zip Codes
- 19125
- 19134

Businesses

Trees
- Philly Tree People
- Empty Tree Pits
- Philly Tree Map Trees

0   0.25   0.5   1 Miles

Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012

44
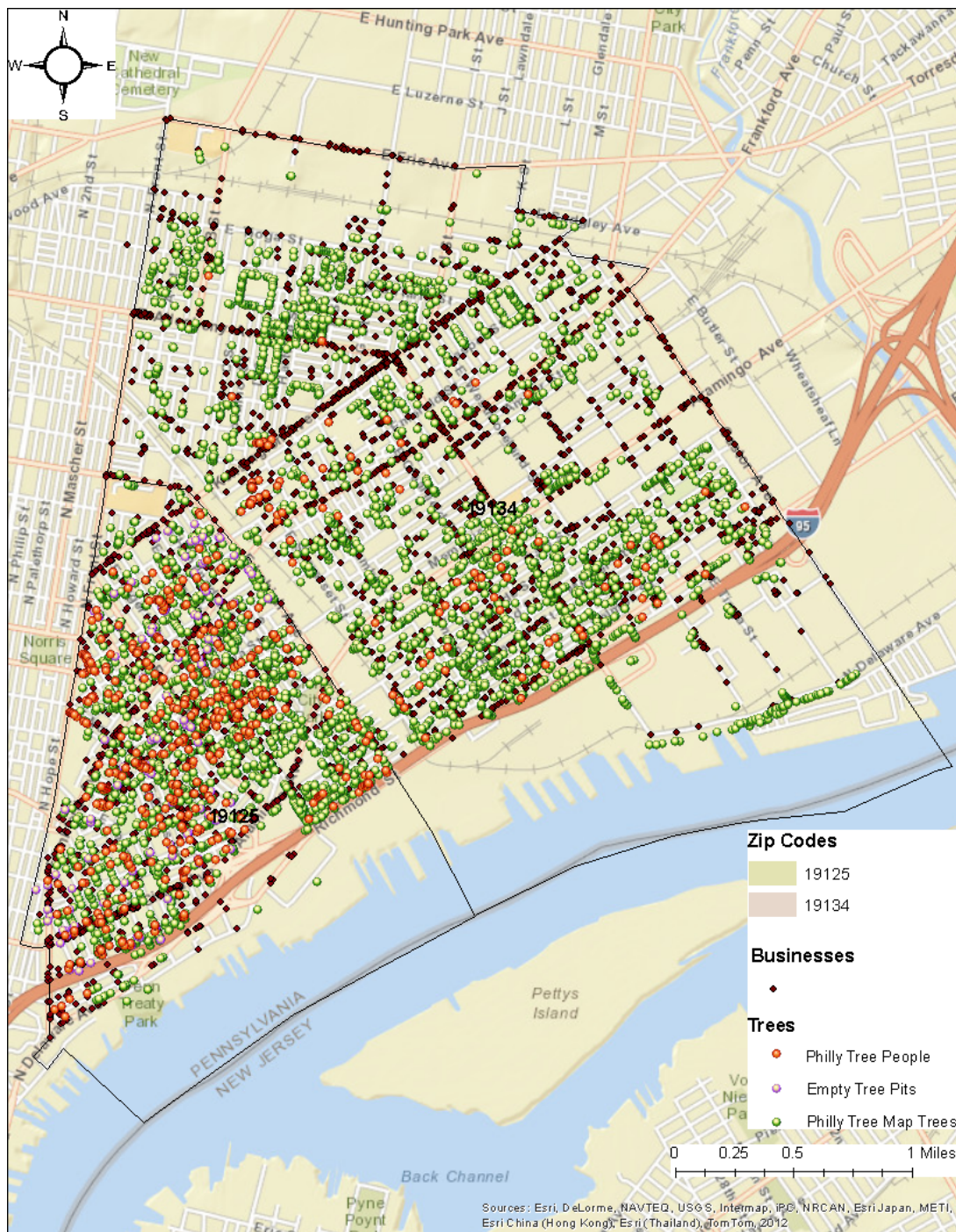
Figure 13: A Streets Map for 19125 and 19134.
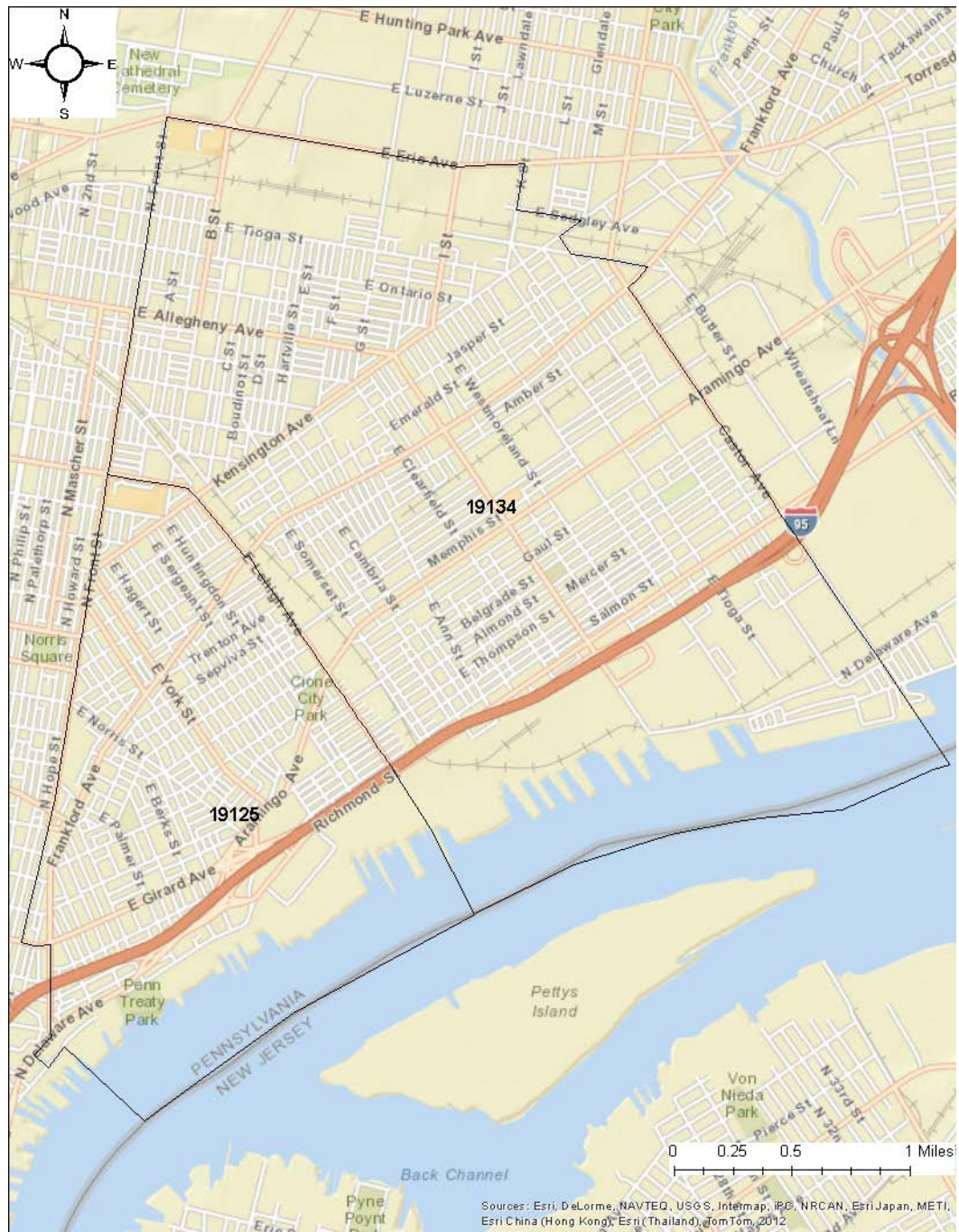
DISCUSSION, CONCLUSION & RECOMMENDATIONS

Greene, Millward, and Ceh (2011) find that awareness of the benefits of trees is not enough of a motivator for urban residents to partake in tree planting or to participate in other stewardship activities. One vehicle for reaching out to get more trees planted is to partner with local real estate agents to sell new homeowners on the idea of getting street trees for their property. New homeowners according to Greene, Millward, and Ceh (2011) are an important target audience for the planting of new trees because of their interest in personalizing their new abode. PTP has advocates who are already real estate agents, but PTP would benefit from reaching out to all of the residential real estate companies in the 19125 and 19134 zip codes. PTP could prepare a brief letter and provide a sample application to each firm identified in the newly created Business Directory and could then follow up with telephone calls and/or meetings to discuss the tree planting options available. Greene, Millward, and Ceh (2011) suggest that collecting demographic data about tree recipients and tree planting volunteers would help to elucidate who to target for future tree planting opportunities. They find that there is great variability demographically regarding who participates in environmental stewardship activities even between neighborhoods. The results found in some neighborhoods also indicate that more affluent and well educated residents in addition to regions with children under the age of five or with higher education may tend to participate more in

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tree planting and stewardship activities. In lieu of conducting a detailed demographic survey PTP could conduct a simple poll in an online format of past volunteers and tree recipients and can utilize the data gained to improve programming and outreach efforts. In addition, PTP should regularly be collecting feedback from volunteers at the end of events using a paper-based response system for those that want to provide feedback in paper format as well as an online feedback form for others.

PTP at this juncture in its development is in need of an organizational assessment, strategic planning, and fundraising planning, and an urban forest management plan. PTP has discussed the need for expanding organizational capacity by bringing in dedicated volunteers to be more involved in decision-making. In 2013, PTP should consider growing the board and developing new partnerships with like-minded organizations and constituents within the 19125 and 19134 area that may be interested in being on a Philly Tree People board of directors. Renewing PTP's membership in the Alliance for Community Trees (ACT) and taking advantages of the many funding, marketing, and other resources would be worthwhile to reconsider. In the past PTP didn't have time to devote to engaging fully in the benefits of ACT membership, but if we aim to grow, this type of membership may help us do just that.

PTP should pursue funding from other sources and Figure 14 below demonstrates that billions of dollars continue to be given to nonprofit

organizations. Figure 14 portrays the source of money for nonprofits. Individual

donors contribute 73% of the funding for nonprofits in this country consisting of

$217.79 billion. This is not a trivial amount of money and, although not all

nonprofits' funding streams will be divided as the country totals depicted in Figure

6, it is still worth noting the importance of individual donors and recognizing the

fact that they should be cultivated. PTP has had many individual donors, more

than any other category listed below, with some contributions additionally from

Foundations and Corporations. There are numerous ways PTP could solicit

funds regularly from individuals. Many non-profit organizations conduct an annual

appeal for funding from their constituents either electronically or via U.S. Mail and

PTP could easily conduct an annual appeal. Some other fundraising options to

consider include: conducting an online fundraising campaign via Kickstarter to

fund a specific event or program, organizing a fundraising gala with paid entry,

and considering earned income opportunities (i.e. the selling of goods and

services to help sustain the organization financially). Figure 16 below denotes

that people will donate to environmental causes and the figure shows that 3% of

giving involves giving to environmental or animal nonprofits. PTP should continue

to locate foundations and corporations that give to environmental charities. One

approach is to use the Foundation Directory online to search for funding

opportunities, to see which foundations have given to other like-minded charities,

and to look at our partners to see where their funding comes from, as there may

be ample opportunities for PTP as well. Additionally, some of our partners have recently offered assistance and a willingness to assist Philly Tree People with fundraising for tree care and tree maintenance to the city. Philly Tree People should continue to look for additional funding sources to support existing programs and to develop and support new programs. Investigating how to get on the United Ways list of Charitable Organizations would provide additional exposure and possible funding.

Figure 14: 2011 Contributions to Nonprofit Organizations by Source of Contribution
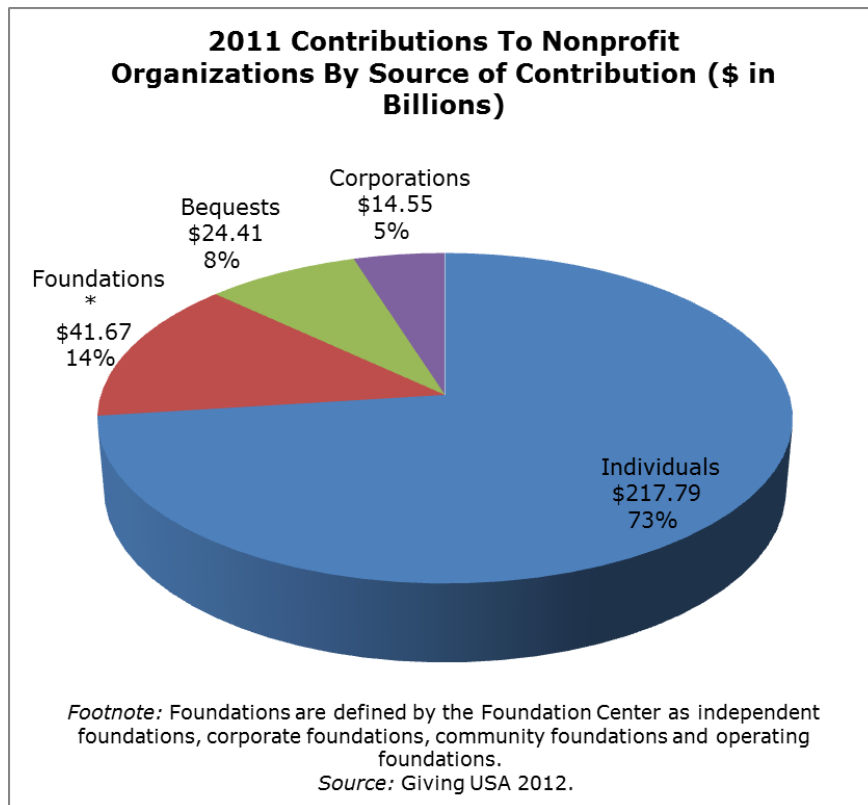
Figure 15: 2011 Contributions to Nonprofit Organizations by Type of Organization

2011 Contributions To Nonprofit Organization By Type of Organization ($ in Billions)

Environment & Animals $7.81 3%

Foundation Grants to Individuals $3.75 1%

Unallocated $8.97 3%

Arts, Culture & Humanities $13.12 4%

International Affairs $22.68 8%

Health $24.75 8%

Public-Society Benefit $21.37 7%

Human Services $35.39 12%

Gifts to Foundations $25.83 9%

Religion $95.88 32%

Education $38.87 13%

Footnote: Unallocated contributions included deductions carried over multiple tax years, gifts to new organizations and government agencies, and foundation grants to international recipients.
Source: Giving USA 2012.

In conclusion, this project suggests several ways for Philly Tree People to better manage information about the urban forest in their service area, which included the creation of a comprehensive Excel file with standardized information from all prior tree plantings and the reorganization of that data for continued and future use. Disparate data sets about the trees in the PTP service area were combined in ArcGIS for the purposes of producing illustrative maps for

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management and informational purposes and for later use and manipulation. The development of an Urban Forest Management Plan for 19125 and 19134 is also suggested and an online tool for creating the plan was identified to assist with this process. In addition to reorganizing existing information, the project suggests taking this newly organized information a step further and using it along with information provided by PHS on parcels to develop a street tree inventory for the two zip codes serviced by PTP. A few software options are suggested for use to conduct the inventory. Several new ways to advertise tree planting opportunities to property owners in the neighborhood are also proposed. One product resulting from this project is a database of all of the current businesses within the PTP service area, which will be a resource for PTP to use for marketing and outreach purposes. Another outcome of this project is the development of a new program, the Philly Tree People Environmental Stewards Program, aimed at employing youth to maintain and care for the urban forest in 19125 and 19134. The development of this new, yet to be implemented program, hinges on funding, and part of the process involved applying for a grant to fund the program. The outcome of the funding application is unknown at this time. Several other suggestions are made throughout the project for PTP to consider in addition to the products produced all of which aim to help position Philly Tree People to more efficiently and effectively tackle the next five years of the organization's future.

APPENDICES

Appendix 1: Philadelphia City Council Districts and Zip Codes

Philadelphia City Council Districts and Zipcodes

Legend
Council District
1
2
3
4
5
6
7
8
9
10

Committee of Seventy
Clean and effective government. Fair elections. Informed citizens.

Appendix 2: City Council Districts with Ward Boundaries

Philadelphia City Council Districts

Legend
Ward Boundaries
District 1
District 2
District 3
District 4
District 5
District 6
District 7
District 8
District 9
District 10

The Committee of Seventy
Clean government. Fair elections. Informed citizens.
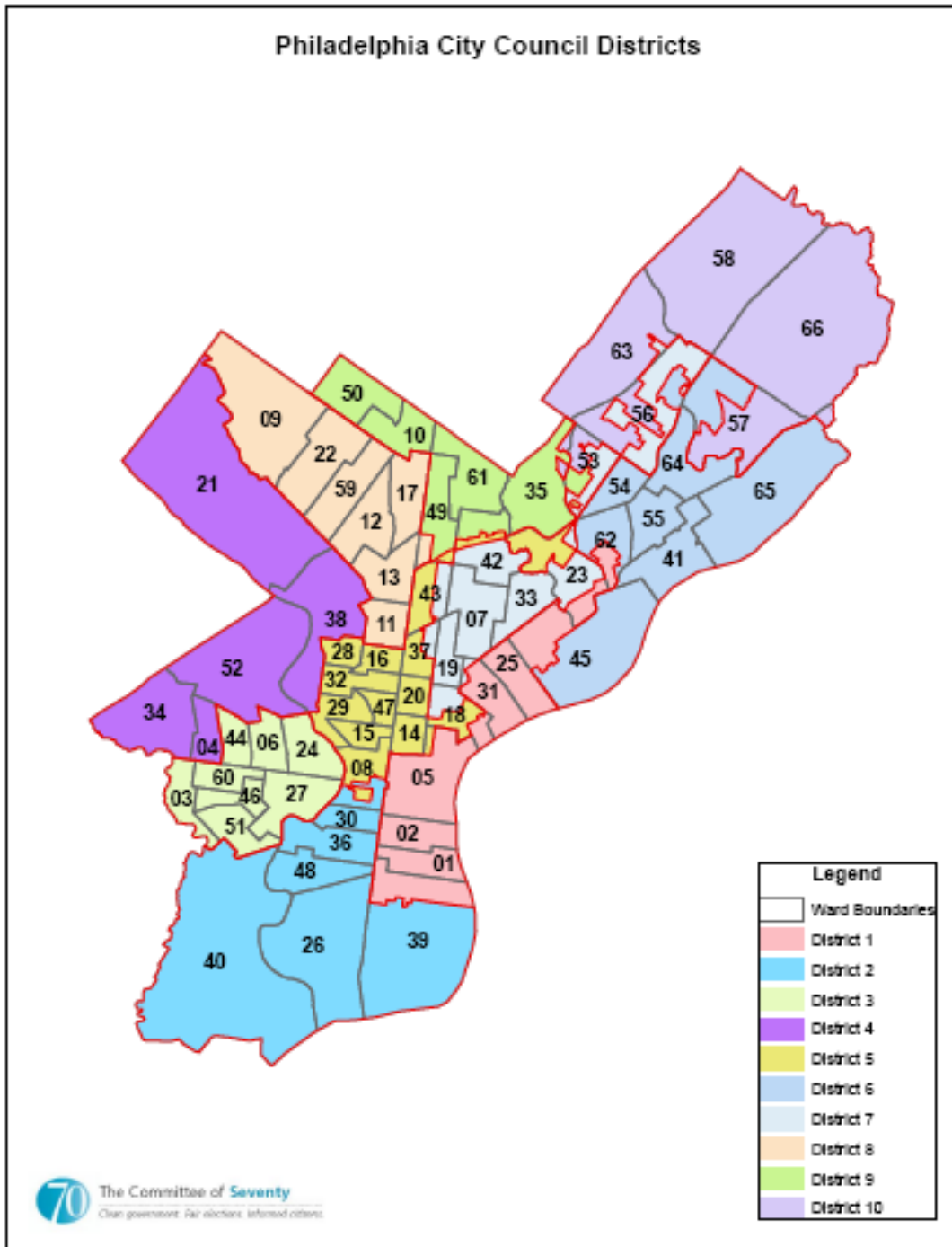
Appendix 3: City Council Districts

Philadelphia City Council Districts
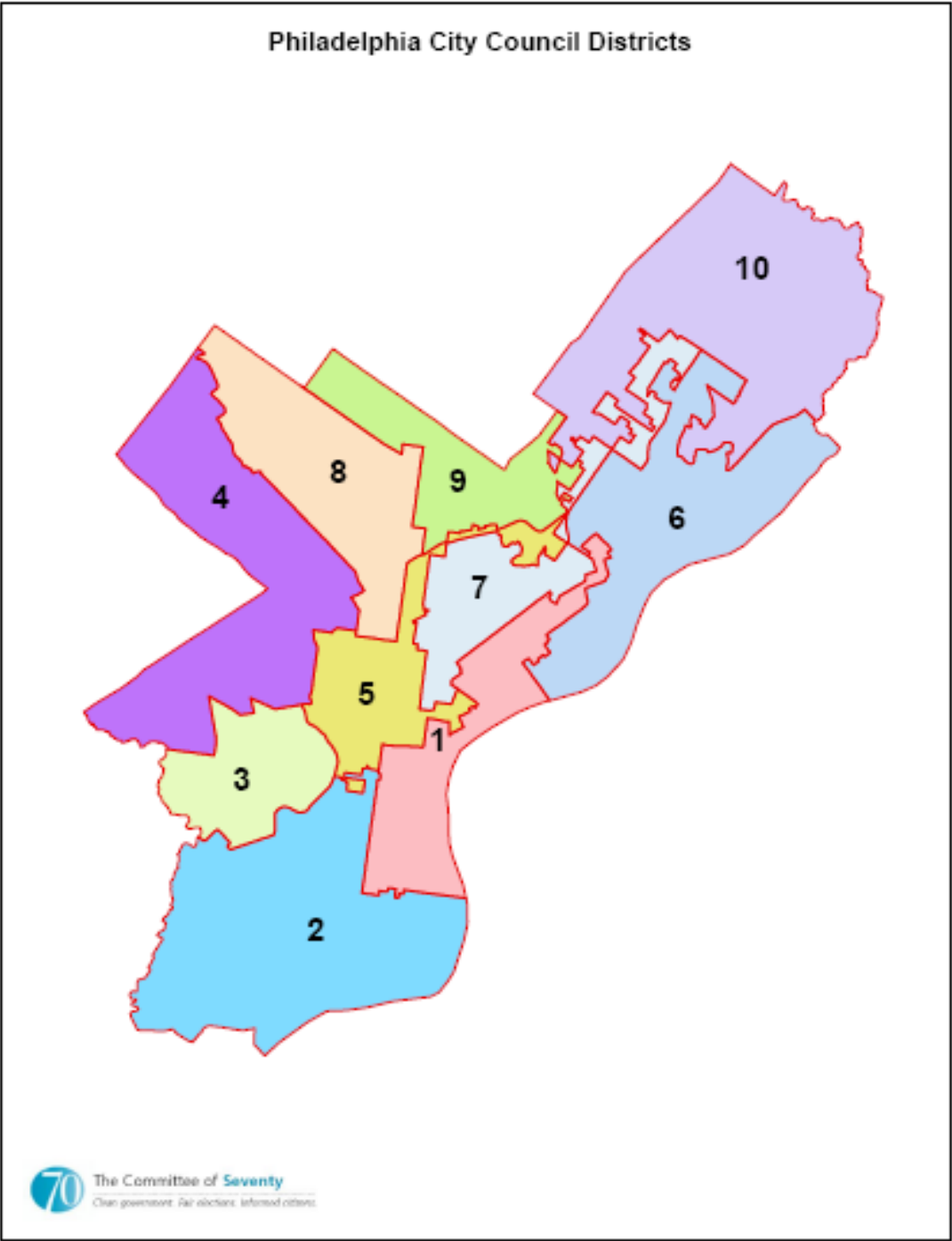
Appendix 4: Philly Tree People Planting Spreadsheets with column headings and worksheets list

Year	2007	2008	2008	2009	2009	2010	2010	2011	2011	2012	2012
Season	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Main Spreadsheet Data Fields	Application #, Name, Address, Zip code, Phone, Total # of Trees, Other notes, Small Medium, Large, Tree Type, Needs Pit Cut (Y or N), Donation Promised, Donation Received, Form of Payment, Received Initial Thank You Letter	Tag Number, Nursery, Contact, Dimension of desired pit size, LOCATION NOTES, Owner and Phone Number, Address, Municipality, Census Tract(s), Park Name, Location within site, Closest Intersection, PA ONE CALLS, Between these streets, between street y, PA-OCS, Tree Variety, Email Address, Ward, TEAM	Tree species, Tree Location, Pit size, Location Notes, Owner, Address, City, State, Zip, FPC arborist notes , Problems?, # of Trees on Block, GROUP	Tag Number, Nursery, Community, Type Street Lawn, Park Other, Tree size request S/M/L/, Requires new concrete cut (Yes or No), Extend existing tree pit (Yes or No), Desired pit size, Location Notes, Owner, St. #, Prefix, St Name, Suffix, Street, Zip, Telephone #, Email addresses	Application #, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, email, Phone, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT F09?, donate, PTP or NKCDC?, group	Planting Loc., Owner, email, phone, St. #, St. Prefix, Street, Zip, donate, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S10?	Community, Location, Group, Owner, Email address, Phone Number, St. #, Prefix, Street, Zip, Donations, Location Notes, Pit Size, Tree species, FPC arborist notes , FPC Approved	Group, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Email Address, Phone Number, Site Checked, Donated, Location Notes/Comments, Pit Size, Tree species, Common Name, FPC arborist notes , Home Owner Notes/Request, Email Address, Phone Number, Donated, FPC APPROVAL, Approved to Plant F10?, ADDITIONAL ARBORIST NOTES	Group, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree Species, Common Name, FPC arborist notes , Home Owner Notes/Request, Email Address, Phone Number, Donated, FPC APPROVAL, Approved to Plant F11?, ADDITIONAL ARBORIST NOTES	Group, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Species, email, phone, Location Notes/Comments, Pit Size, ADDITIONAL ARBORIST NOTES, Donated	Community, Group, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Tree Species, Home Owner Notes/Request, Email Address, Phone Number, Site Checked, Donated, Scanned, How did we receive application?
Sheet 2 (Name: Data Fields)	Update for PHS: Tree Species, Community, Season/Year, Type (Street, Lawn, Park, Other), Tree size request S/M/L/C, Requires new concrete cut Yes or No, Extend existing tree pit Yes or No, Dimension of desired pit size, LOCATION NOTES, Owner, streetNumber, streetNumberSuffix, streetPrefix, streetName, streetType, streetSuffix, Zipcode, Municipality	"Sheet2" (Group Sheet): Owner and Phone Number, Address, Between these streets, , between street y, Tree Variety, Ward, TEAM	Cancelled: NA	Saturday May 9: SAT TEAM, Former Group, Location, Owner, Email address, St. #, Prefix, Street, Zip, Location Notes, Tree species	FPC Denied: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, email, phone, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT F09?	Check These: NA	Tree Common Name: Scientific name, Common Name, Nubmer Needed	Tree Species List: Scientific name, Common Name, Number, Need, Have	Tree Species List: Scientific name, Common Name, Number, Notes	Cancellations: NA	Fall Group Sheet: 2 row repeating header, Planting Order, Owner, St. #, Prefix, Street, Zip, Comments, Tree Species, Group
Sheet 3 (Name: Data Fields)	NA	"Sheet3" (For PHS): Tag Number, Nursery, Contact, Dimension of desired pit size, LOCATION NOTES, Owner and Phone Number , Address, Municipality, Census Tract(s), Park Name, Location within site, Closest Intersection, PA ONE CALLS, Between these streets, between street y, PA-OCS, Tree Variety, Email Address, Ward, TEAM	NA	FPC Yes: Group, Location, Owner, St. #, Prefix, Street, Zip, Location Notes, Tree species	Push to Spring: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, email, phone, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT F09?, donate	FPC NO: Planting Loc., Owner, email, phone, St. #, St. Prefix, Street, Zip, donate, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S10?	Cancelled: NA	Pushed to Fall11: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Email Address, Phone Number, donated, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S11?, ADDITIONAL ARBORIST NOTES	Cancellations: NA	PHS list 13April: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, PPR arborist notes , PPR APPROVAL, Tree species, Approved to Plant S12?	Wrap Sheets: Group, Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Tree Species, common name
Sheet 4 (Name: Data Fields)	NA	NA	NA	Cancel: NA	Submitted: Tree species, Type, Pit size, Location Notes, Owner, Address, City, State, Zip, FPC arborist notes , Email address, Phone number, Location Notes	FPC Push to Fall: Planting Loc., Owner, email, phone, St. #, St. Prefix, Street, Zip, donate, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S10?	PHS Push to Spring11: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC APPROVAL	Denials: NA	PHS 2Nov11: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC APPROVAL, Approved to Plant F11?, ADDITIONAL ARBORIST NOTES	Spring Apps: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Received app confirm?, App #, Home Owner Notes/Request, Email Address, Phone Number, Site Checked, Donated, Scanned	PHS Nov: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Pit Size, Species

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Year	2007	2008	2008	2009	2009	2010	2010	2011	2011	2012	2012
Season	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Sheet 5 (Name: Data Fields)	NA	NA	NA	FPC No: Group, Owner, Email address, phone, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Status, FPC arborist notes , FPC Approved	Common Names Fall09: Scientific name, Common Name , Number	Cancel: NA	Denials: Community, Location, Owner, Email address, Phone Number, St. #, Prefix, Street, Zip, Donations, Location Notes, Pit Size, Status, Tree species, FPC arborist notes , FPC Approved	Spring 2011 Apps Submitted: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Home Owner Notes/Request, Email Address, Phone Number, Site Checked, Donated	Spring12 Reinspection: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, FPC arborist notes , Home Owner Notes/Request, Email Address, Phone Number, Donated, FPC APPROVAL, Approved to Plant F10?, ADDITIONAL ARBORIST NOTES	PHS Denials: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Email/phone, Location Notes/Comments, PPR APPROVAL, ADDITIONAL ARBORIST NOTES, PTP notes	PHS Oct: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, NOTES, Y OR N, Tree species, PHS QUESTIONS, PHS Approval, , District
Sheet 6 (Name: Data Fields)	NA	NA	NA	Tree Common Names: Scientific name, Common Name, Number Needed	PTP replacements: Application #, Address, Notes, tree type needed, FPC Fall09	Submitted: Tree #, Location, Owner, Email address, Phone Number, St. #, Prefix, Street, Zip, Location Notes, Pit Size, Status, Tree species, FPC arborist notes , FPC Approved, donate?	PHS 19125 final: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC APPROVAL	PHS11 Apr List: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, FPC arborist notes , FPC Approved, APPROVED TO PLANT S11?, ADDITIONAL ARBORIST NOTES	PHS All Results: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, FPC arborist notes , Home Owner Notes/Request, Email Address, Phone Number, Donated, FPC APPROVAL, Approved to Plant F10?, ADDITIONAL ARBORIST NOTES	Species S12: Scientific name, Common Name, Number	PHS Denials: NA
Sheet 7 (Name: Data Fields)	NA	NA	NA	NA	Cancelled: NA	PHS Original: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S10?	PHS Sep: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC APPROVAL	Group Sheets: Group, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Tree species, Tree Common Name	PHS Denied: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, FPC arborist notes , Home Owner Notes/Request, Email Address, Phone Number, Donated, FPC APPROVAL, Approved to Plant F10?, ADDITIONAL ARBORIST NOTES	Species: Scientific name, Common Name, Number, Need, Have	Push to Spring: NA
Sheet 8 (Name: Data Fields)	NA	NA	NA	NA	PHS: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT F09?	Tree Common Names: Scientific name, Common Name, Number Needed	Combo PTP & Sus19125: Location, Owner, Email address, Phone Number, St. #, Prefix, Street, Zip, Location Notes, Needs Pit Cut, Stump?, Donations, Pit Size, Tree Species, FP Arborist Notes, FP Approval	Cancellations: NA	Submitted Apps: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, Received app confirm?, App #, Tree #, Home Owner Notes/Request, Email Address, Phone Number, Site Checked, Donated, Scanned	Fro Wrap Sheets: NA	Tree Species List: Scientific name, Common Name, Number, Need, Have

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Year	2007	2008	2008	2009	2009	2010	2010	2011	2011	2012	2012
Season	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall
Sheet 9 (Name: Data Fields)	NA	NA	NA	NA	NKCDC: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT F09?	From Fall09: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, email, phone, Location Notes/Comments, Planting Loc., Owner, St. #, St. Prefix, Street, Zip	PHS Approvals May Original: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S10?, ADDITIONAL ARBORIST NOTES	PHS ALL 11Apr: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S11?, ADDITIONAL ARBORIST NOTES	PHS Aug- to be planted: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, FPC arborist notes , FPC APPROVAL, Approved to Plant F10?	From Fall11: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, FPC arborist notes , Home Owner Notes/Request, Email Address, Phone Number, Donated, FPC APPROVAL, Approved to Plant F10?, ADDITIONAL ARBORIST NOTES	Cancellations: NA
Sheet 10 (Name: Data Fields)	NA	NA	NA	NA	NA	NA	FPC Push to Fall: Planting Loc., Owner, email, phone, St. #, St. Prefix, Street, Zip, donate, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S10?	PHS apps 23Feb: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S11?, ADDITIONAL ARBORIST NOTES	Pushed to Fall 11: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Email Address, Phone Number, donated, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC Approved, APPROVED TO PLANT S11?, ADDITIONAL ARBORIST NOTES	PHS 18Jan 12: Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, PPR arborist notes , PPR APPROVAL, ADDITIONAL ARBORIST NOTES	Submitted to PHS: Community, Planting Location, Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Nursery, Tree species, FPC arborist notes , FPC Approved
Sheet 11 (Name: Data Fields)	NA	NA	NA	NA	NA	NA	PHS PTP Fall 10: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Tree species, FPC arborist notes , FPC APPROVAL	NA	NA	Submitted to PHS: Community, Planting Location, Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Nursery, Tree species, FPC arborist notes , FPC Approved	Group Sheets: Group, Planting Loc., Owner, St. #, St. Prefix, Street, Location Notes/Comments, Tree species, Tree Common Name
Sheet 12 (Name: Data Fields)	NA	NA	NA	NA	NA	NA	PTP Submitted: Location, Owner, Email address, Phone Number, St. #, Prefix, Street, Zip, Location Notes, Needs Pit Cut, Stump?, Donations	NA	NA	Group Sheets: Group, Planting Loc., Owner, St. #, St. Prefix, Street, Location Notes/Comments, Tree species, Tree Common Name	PHS Sept: Community, Planting Loc., Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, NOTES, Y OR N, Tree species, PHS QUESTIONS, PHS Approval, District
Sheet 13 (Name: Data Fields)	NA	NA	NA	NA	NA	NA	Sus19125 only: Location, Address, Prefix, Street, Zip, Location Notes, Owner	NA	NA	NA	NA
Sheet 14 (Name: Data Fields)	NA	NA	NA	NA	NA	NA	PHS Format PTP Only: Community, Planting Location, Owner, St. #, St. Prefix, Street, Zip, Location Notes/Comments, Pit Size, Nursery, Tree species, FPC arborist notes , FPC Approved	NA	NA	NA	NA

Appendix 5: PTP Comprehensive Species List

Scientific name	Common Name
Acer campestre	Hedge maple
Acer ginnala	Amur Maple
Acer ginnala 'Flame'	Amur Maple 'Flame'
Acer griseum	Paperbark Maple
Acer miyabe	Miayabe Maple
Acer pensylvanicum	Striped maple
Acer rubrum sp.	Red Maple
Acer rubrum 'Armstrong'	Armstrong' Red Maple
Acer rubrum 'Autumn Flame'	Autumn Flame Red Maple
Acer rubrum 'Autumn Spire'	Red Maple 'Autumn Spire'
Acer rubrum 'Bowhall'	Bowhall Red Maple
Acer rubrum 'Karpick'	Karpick Red Maple
Acer rubrum 'October Glory'	October Glory Red Maple
Acer rubrum 'Scarsen'	Scarlet Sentinel Maple
Acer rubrum 'Red Sunset'	Red Sunset Maple
Acer saccharum 'Endowment'	Endowment Red Maple
Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple
Acer saccharum 'Sugar Cone'	Sugar Cone Maple
Acer tataricum	Tartarian Maple
Acer truncatum	Shantung Maple
Acer x Freemanii 'Armstrong'	Freeman Red Maple
Amelanchier laevis	Serviceberry
Amelanchier 'Robin Hill'	Robin Hill Apple Serviceberry
Amelanchier x grandifolia	Autumn Brillance Apple Serviceberry
Aesculus sp.	Horse Chestnut
Betula nigra 'Heritage'	'Heritage' River Birch
Carpinus betulus	European Hornbeam
Carpinus betulus 'Fastigiata'	Fastigiata' European Hornbeam
Carpinus caroliniana	American Hornbeam
Celtis laevigata	Sugarberry
Celtis occidentalis 'Magnifica'	Common Hackberry
Cercidiphyllum japonicum	Katsuratree
Cercis canadensis	Eastern Redbud
Cercis canadensis 'Alba'	Alba' Eastern Redbud
Cercis canadensis 'Ace of Hearts'	Eastern Redbud 'Ace of Hearts'
Chionanthus retusus	Chinese Fringetree
Cladrastis kentukea	American Yellowwood
Cladrastis lutea	Yellowwood
Cornus 'Celestial'	Flowering Dogwood
Cornus florida	Flowering Dogwood
Cornus florida 'Cherokee Brave'	Flowering Dogwood
Cornus florida 'Rubra'	Flowering Dogwood

Cornus florida x kousa 'Constellation'	Kousa Dogwood 'Constellation'
Cornus kousa	Kousa Dogwood
Cornus mas	Cornelian Cherry
Cornus mas 'Aurea'	Cornelian Cherry 'Aurea'
Corylus colurna	Turkish Filbert
Crataegus viridis 'Winter King'	Winter King Hawthorn
Gleditsia triacanthos 'Skyline'	Skyline Thornless Honeylocust
Gleditsia triacanthos var.	Thornless Honeylocust
Gleditsia triacanthos var. inermis	Imperial Thornless Honeylocust
Gymnocladus dioicus	Kentucky coffeetree
Koelreuteria paniculata	Goldenraintree
Maackia amurensis	Flowering Amur Maackia
Malus 'Prairiefire'	Flowering Crabapple
Malus 'Red Splendor'	Red Splendor Crabapple
Malus 'Royal Raindrops'	Royal Raindrops Crabapple
Malus 'Spring Snow'	Spring Snow Crabapple
Nyssa sylvatica	Blackgum
Ostrya virginiana	American Hophornbeam
Oxydendrum arboreum	Sourwood
Platanus x acerifolia 'Bloodgood'	Bloodgood london Planetree
Prunus cerasifera 'Newport'	Newport Cherry Plum
Prunus cerasifera 'Thundercloud'	Thundercloud Cherry Plum
Prunus maackii	Amur Chokecherry
Prunus 'Okame'	Okame' Cherry
Prunus sargentii	Higan cherry
Prunus sargentii 'Columnaris'	Columnar Sargent Cherry
Prunus sargentii 'Pink Flair'	Pink Flair Cherry
Prunus serrulata 'Kwanzan'	Kwazan Cherry
Prunus serrulata 'Royal Burgundy'	Kwazan Cherry 'Royal Burgundy'
Prunus serrulata 'Snow Goose'	Snow goose cherry
Prunus sp.	Chokecherry
Prunus subhirtella 'Accolade'	'Accolade' Higan Cherry
Prunus subhirtella 'Autumnalis'	'Autumnalis' Higan Cherry
Prunus virginiana	Canada Red Chokecherry
Prunus virginiana 'Canada Red Select'	Canada Red Select Chokecherry
Prunus x 'Accolade'	Flowering Cherry
Prunus x hilleri 'Spire'	Flowering cherry
Prunus x yedoensis	Yoshino Cherry
Pyrus calleryana 'Chanticleer'	Callery Pear
Styrax japonica	Japanese Snowbell
Styrax japonica 'Snow Charm'	Japanese Snowbell 'Snow Charm'
Syringa reticulata 'Ivory Silk'	Japanese Lilac 'Ivory Silk'
Tilia cordata	Littleleaf Linden
Tilia cordata 'Greenspire'	Littleleaf Linden
Tilia mongolica 'Harvest Gold'	Harvest Gold linden
Tilia tomentosa	Silver linden

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Tilia x flavescens 'Glenleven'	Glenleven linden
Ulmus x Homestead	Homestead Elm
Zelkova serrata 'Green Vase'	'Green Vase' Japanese Zelkova
Zelkova serrata 'Village Green'	'Village Green' Japanese Zelkova

Philly Tree People Annual Report 2011

Philly Tree People
2771 Jasper Street
Philadelphia, PA 19134
www.phillytreepeople.org

The Year in Review

In 2011, Philly Tree People marked its 4th year anniversary and it was our busiest year thus far. We organized our 7th and 8th very successful volunteer tree plantings where 185 volunteers planted 192 trees. We held our 2nd Pruning Club season during the summer of 2011 in which we held our first orchard pruning club event with a guest arborist from UC Green. We co-taught a Mini Tree Tenders training course for neighbors in 19125 alongside Pennsylvania Horticultural Society staff and New Kensington Community Development Corporation staff. We also held our very first tool sharpening workshop at Greensgrow Farm and had a special guest speaker from UC Green out to show attendees hot to properly care for their hand tools. We also had informational tables at 2 large neighborhood events that were well attended and we were able to outreach to the community at large and were able answer questions about trees and tree care. We also participated in two rounds of tree surveys in portions of our target area.

This year we also received overwhelming positive feedback and support from neighborhoods, volunteers, the media, as well as from local organizations. Philly Tree People was awarded with a "2011 Community Service Award" from the Fishtown Neighbors Association in recognition for our outstanding service and dedication to our neighborhood. In August 2011, Philly Tree People was awarded the "Sustainable 19125 Volunteer Award" from the New Kensington Community Development Corporation's Sustainable 19125 initiative for our outstanding contributions to Sustainable 19125 and our commitment to the neighborhood. Philly Tree People was also featured in the Local Heroes section of the Pennsylvania Horticultural Society's Green Scene magazine in January/February 2011.

We want to thank our dedicated volunteers both former and new, our many partners, donors, tree requestors, our friends and our families for the continued enthusiasm and generous support. Thank you to the Milton Steele Foundation, FMC Corporation, IPAK Corporation, Philadelphia Brewing Company, New Kensington Community Development Corporation, Greensgrow Farm, The North Face, TreeVitalize, Pennsylvania Horticultural Society, Philadelphia Parks & Recreation, and to individual donors for supporting the Philly Tree People programs that improve the streets of 19125 and 19134 for all in our community.

Thank you to all past and current supporters, we're looking forward to making 2012 another amazing year for Philly Tree People and the 19125 and 19134 zip codes greener.
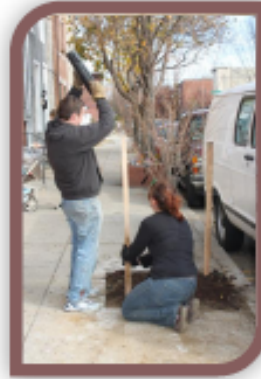
Sincerely,

Philly Tree People

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Financial Information

In 2011, half of our revenue came from individual donors, a quarter from foundations, and another quarter from corporations. Our expenses as usual were used almost entirely to support our programs and included the purchasing of tools and office supplies to support our programs, and for marketing materials, as we did not have paid staff in 2011.

About Philly Tree People

Philly Tree People (PTP) is a neighborhood-based urban environmental stewardship non-profit organization that focuses on engaging and educating the community in tree planting, tree care and maintenance, and growing the urban forest in the 19125 and 19134 zip codes of Philadelphia, PA.

PTP is a federally recognized 501c (3) community-based nonprofit organization with an environmental and social purpose and was founded in 2007 by Dina Richman, Ph.D., M.B.A. (Treasurer), Jacelyn Blank, M.Ed. (Secretary), and Nykia Perez Kibler, M.L.S., M.L.A. (President). "Philly Tree People's purpose is to work to beautify the neighborhood by bringing tree coverage to the streets of 19125 and 19134 both of which are areas deemed by the Pennsylvania Horticultural Society to have critically low tree coverage. We will work to inspire the people in these neighborhoods to take personal responsibility for the urban forest - educating, training and supporting them as they plant and care for trees and as these residents improve the neighborhoods in which they live, learn, work and play" (PTP Bylaws).

Our service area has been identified in the Greenworks Philadelphia plan as an area within the City of Philadelphia with low tree coverage and our work also helps beautify the neighborhood by bringing tree coverage to the streets of 19125 and 19134.

Our partners include the City of Philadelphia, the State of Pennsylvania, Philadelphia Parks & Recreation, the Pennsylvania Horticultural Society (PHS), TreeVitalize, East Kensington Neighbors Association (EKNA), Fishtown Neighbors Association (FNA), Olde Richmond Community Association (ORCA), the New Kensington Community Development Corporation (NKCDC) as well as residents and other tree tender groups and tree care and maintenance experts.

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Appendix 7: PTP Environmental Stewards Program Profile

Philly Tree People Environmental Stewards Program

Program Description

The Philly Tree People Environmental Stewards Program is a greening maintenance program designed to provide green job skills, environmental education, and leadership experience to young adults of high school age who either live in 19125 or 19134 or attend one of the 9 high schools located within our target area. One of the primary goals is to provide youth with an opportunity to give back to their community by caring for and providing maintenance to over 800 trees planted by Philly Tree People since 2007 and to select public green spaces, while also earning a part-time wage and gaining new skills. The primary responsibilities of the Environmental Stewards include mulching, pruning, weeding, watering, mapping, planting, cleaning, and photography. Training opportunities include attending the PHS Tree Tenders program, getting hands-on training by urban forestry leaders and arborists, and learning how to use and to properly care for hand tools used in landscaping and urban forestry. The program will run over the course of four months beginning just before the school term ends on a few select Saturday's and then running through the summer months. A temporary part-time paid manager will be responsible for daily management and training of youth employees.

Youth employment opportunities in the neighborhood are limited and the Philly Tree People Environmental Stewards Program would provide workforce and environmental enrichment opportunities for 6 youth in the neighborhood over the course of 4 months. While the young stewards will directly benefit, so will the community at large, by the increased survivability of the existing trees, as well as the identification of new potential planting sites by the program via mapping and inventorying and outreach to residents who might want to apply for additional trees. Trees afford many unseen benefits to neighborhoods including: air quality improvements, energy conservation, water conservation, providing cooling effects that decrease the heat island effect, providing UV protection in the form of shade, increasing business traffic, increasing property values, providing food and cover for wildlife, providing aesthetic benefits, reducing violence, and helping people heal and relax (Dwyer, Nowak, and Watson 2002; Konijnendijk et al. 2006). In addition, the neighborhoods that fall within the 19125 and 19134 zip codes are low income communities with the median income falling approximately around $24,700 which is significantly lower than the U.S. median income of $50,054, and lower than Philadelphia's median income of $36,251 according to 2010 U.S. Census Bureau data available online. The neighborhood is a densely populated, racially diverse urban area with an average owner/renter occupancy rate and an average vacancy rate compared to the city as a whole.

The Greenworks Philadelphia Plan (Nutter 2009) has identified the 19125 and 19134 zip codes as an area within the City of Philadelphia that has a tree canopy cover of approximately 3.4%, while the goal is

to raise the canopy cover to 30% tree coverage in all neighborhoods. Philly Tree People has been working towards increasing the tree canopy cover since our founding in 2007 by helping residents apply for street trees. One strategy that is generally lacking amongst municipalities including Philadelphia is the capacity, both in terms of employees and finances, to care for all of the trees within the city. Newly planted trees, including over 800 planted by Philly Tree People (PTP) volunteers within our target area since 2007, are of special concern because proper maintenance and care during the first few years for street trees is critical to their survivability (Burcham 2009; and McLean and Jensen 2004). The Philly Tree People Environmental Stewards Program will increase PTP's capacity to fill in this vital gap in the maintenance and care of trees within our target area, while simultaneously providing youth enrichment and development opportunities in a low income area.

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