

Deeva Green | Davida Heller | Iñigo Larraya  
Lisa Mucciacito | James Robinson  
Desirée Schwartz | Kimberly Stempien  
Heejung Yim

Advisor: Professor Robert Cook

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The Columbia University Capstone Group (the “Capstone Group”), comprised of Deeva Green, Davida Heller, Iñigo Larraya, Lisa Mucciacito, James Robinson, Desirée Schwartz, Kimberly Stempien and Heejung Yim and advised by Dr. Robert Cook, have been tasked by The Nature Conservancy to develop a business plan with a marketing focus to launch the Healthy Urban Tree Initiative. The Capstone project is the culmination of Columbia University’s Master of Science in Sustainability Management in which students apply their knowledge in environmental science and management to consult for an outside organization.

The Business Plan developed by the Capstone Group is a broad national strategy to promote awareness of the benefits and of the threats to urban trees. The Business Plan also provides recommendations to galvanize support for tree planting, stewardship, and pest detection in conjunction with the Initiative. As the Initiative intends to launch in various cities across the United States, the Business Plan has been created to allow The Nature Conservancy staff the flexibility necessary to adapt to relevant local environmental and social needs. The plan was created with the guidance of The Nature Conservancy’s Interim Conservation Planning Guidance document.

Over a four month period, the Capstone Group met semi-weekly to develop the business plan for implementing and marketing the Healthy Urban Tree Initiative. The research process involved surveying the current state of urban forests and researching best practices in stewardship, marketing, and volunteering. In addition to a thorough literature review, experts in the fields of urban tree conservation and nonprofit marketing were consulted. The Capstone Group hopes the business plan will serve as the foundation for the successful commencement of the Healthy Urban Tree Initiative.



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## Executive Summary

As an increasing number of people call cities their homes, The Nature Conservancy (“TNC”) has an unprecedented opportunity to improve the quality of life for millions of people by expanding the urban tree canopy. Using its reputation and capacity as a leading environmental organization, TNC must work to educate and engage the public on the tremendous ecosystem services which trees provide to human health and community well-being.

Healthy, thriving trees can lessen the impacts associated with urban development by reducing the demand for energy, capturing ambient air pollutants and absorbing storm water runoff. The business plan for the Healthy Urban Tree Initiative (“the Plan”) makes the case and sets up a five-year operational strategy for TNC to enter U.S. cities. The Plan provides details of how the Initiative might look in New York City, where the program will pilot.

The mission of the Healthy Urban Tree Initiative (“the Initiative”) is, “To help maintain the health of urban forest resources and more effectively address the major threats that non-native tree pests pose to our trees and forests.” To achieve this mission, the Initiative must (1) support cities’ new and existing tree planting initiatives, (2) provide stewardship to existing trees and (3) improve pest detection efforts. The Plan will contain the following deliverables: an assessment of the current urban tree landscape and proposals for marketing, education and membership strategies.

As the Plan seeks to provide a framework for both national and local implementation, a city-by-city assessment tool is available. This will be used to direct the resources and priorities of the local initiative. The tool asks pointed questions to help local Nature Conservancy offices customize the Initiative’s broad national business plan to be unique to each city. The tool seeks to determine the target audience and the city’s unique needs for tree planting, stewardship and pest detection.

In developing a marketing plan, the Capstone Group comprised of students in Columbia University’s Master of Science in Sustainability Management program, acknowledges that a main challenge of environmental initiatives is to transform environmental concerns into mainstream causes. To reach a broad spectrum of the population, TNC should develop a strong communication message supported by a powerful logo with a tailored marketing approach to appeal to various population groups. The marketing plan integrates various tools popular in the private sector to create awareness: a website, various social media channels, an information-rich educational kit and broad out-of-home advertisements.

The educational stewardship kit is designed to include multiple sections that target different groups within an urban population. It is intended to guide citizens through the initial steps involved in becoming informed on urban tree-related issues, and both spearheading and engaging in local tree stewardship initiatives.

The importance of using digital tools to spread the Initiative's message through is underscored by widespread internet usage by 77.3 percent of the population the United States (United Nations, 2010). Social media is a relatively low cost method of promoting grassroots support for the Initiative. Germane to engaging a wide spectrum of the population, the Plan recommends incentives for engagement (donating, volunteering and promoting awareness) as well as an attractive membership program centered on professional networking.

When executed, the Plan will promote sustainable urban forest stewardship as an integral aspect of city planning. For example, as seen during Hurricane Sandy when downed trees knocked out power to millions, proper tree stewardship and planting is necessary for trees to exist in harmony with city infrastructure. For cities to realize the full benefits of trees, it is essential to plant the right trees in the right places. This is an area in which TNC can provide expertise. By extending from its roots in rural land conservation into urban environmental stewardship, TNC will bring its environmental expertise to cities, providing ecological benefits to millions of urbanites.



## Making the Case for the Healthy Urban Trees Initiative

### The Healthy Urban Tree Initiative will Help The Nature Conservancy Evolve with Global Trends

TNC is a leading environmental conservation organization with over one million members and net assets of over \$6 billion (The Nature Conservancy Annual Report, 2012). It is responsible for protecting more than 119 million acres of land and 5,000 miles of rivers worldwide. TNC's staff includes over 550 scientists, working in all 50 states within the United States and 33 countries (TNC, 2012).

TNC has traditionally been known for its pioneering land conservation practices in rural and environmentally sensitive areas. However, with an increasing share of the U.S. and global population living in cities, there is a need for TNC to use its expertise to enhance the natural environment of cities.

The United Nations projects a global population increase of three billion people by 2050, with up to 75 percent of the world's population living in cities by that time (United Nations, 2009). In the U.S., 250 million Americans currently live in or near urban areas. This is equivalent to 82 percent of the U.S. population living within 3 percent of the country (TNC, 2011). As people increasingly consider cities their homes, it is imperative that TNC enhance its presence in cities so that it can fulfill its mission *"to conserve the lands and waters on which all life depends."*

In this era of increasing urbanization, TNC must educate the public on the relationship between urban life and nature. Urbanites will be more invested in conservation efforts if they recognize the value of ecosystem services and view them as being directly beneficial to their lives (McDonald, 2012). Through TNC's Healthy Urban Tree Initiative, TNC can enter cities by informing and educating citizens about the important benefits of trees in urban environments. By doing so, TNC will engage citizens previously uninvolved with environmental conservation, thereby allowing its mission to endure and evolve.

### Trees Provide Many Benefits to the Urban Ecosystem

Trees are a critical component of cities. Healthy, thriving trees can lessen negative impacts associated with urban environments by reducing the demand for energy, capturing ambient air pollutants, sequestering carbon and absorbing storm water runoff. Trees also improve urban life by providing social and economic benefits, while mitigating the city's overall environmental footprint.

### Reduced Energy Use

Trees moderate urban air temperatures in myriad ways. Firstly, when trees transpire water through their stomata, which are small pores on the leaves' surfaces, energy is absorbed, thereby lowering local air temperatures (Bell, 2006). Moreover, the process of evapotranspiration, which is a combination of the processes of transpiration and evaporation where water is transferred from the



ground surface through vegetation to the atmosphere, cools the local air temperature. It does so by using heat from the ambient air to evaporate/transfer the water. Evapotranspiration, alone or in combination with shading, can help reduce peak summer air temperatures (EPA, 2008). Trees also contribute to enhancing a city's environmental quality by reducing the local energy demand due to their provision of shade, which lessens the opportunities for surfaces to absorb and radiate heat into the local area (Bell, 2006).

In addition to direct energy savings in buildings, a healthy urban forest can help to reduce the impact of the urban heat island effect. The urban heat island phenomenon occurs due to urban development, which results in large amounts of paved and dark colored surfaces like roofs, roads, and parking lots; these built surfaces absorb and store energy rather than reflect the sun's heat, thereby causing ambient air temperatures to rise (EPA, 2012). For example, on hot summer days, cities can be up to eight degrees Fahrenheit hotter than the suburban and rural surrounding areas (EPA, 2008). Trees can also serve as windshields to reduce the wind speed in the vicinity of buildings, which provides substantial energy savings during winter (EPA, 2008).

### **Reduced Air Pollution and Carbon Dioxide**

Urban trees improve air quality through five main processes: absorbing gaseous pollutants (ozone, nitrogen oxides) through leaf surfaces, intercepting particulate matter in the ambient air (e.g., dust, ash, dirt, pollen, and smoke), reducing emissions from power generation by reducing energy consumption demands, releasing fresh oxygen through photosynthesis, and through transpiration, as trees' leaves release clean water vapor into the atmosphere (Vargas, 2007). These processes result in enhanced local air quality and a reduction in ozone levels (Vargas, 2007).

Importantly, urban forests also reduce atmospheric carbon dioxide (CO<sub>2</sub>) in two ways. Firstly, as trees grow, they directly sequester CO<sub>2</sub> in their woody and foliar biomass. As such, a considerable amount of carbon is stored in trees, vegetation, and soils (EPA, 2008). Secondly, trees near buildings can reduce the demand for heating and air conditioning, thereby reducing emissions associated with electric power production and consumption. Notably however, solely increasing the number of trees in an area is not sufficient to maximize the benefits of carbon reduction, as large, old trees have a greater capacity to store carbon and shade buildings than small, young trees (Bell, 2006). Maintaining the existing tree canopy in an area is crucial to garner the aforementioned benefits of trees. Furthermore, trees serve as filters, capturing harmful particulate matter in the air. Specifically, the surface area of trees' foliage captures these particulates.

### **Social Benefits**

Social benefits associated with the presence and health of trees in urban areas are difficult to value. However, the social and economic impacts of trees in urban environments are significant. These



benefits include beautification and enhanced aesthetics, privacy, shade (which increases human comfort), wildlife habitats, and the creation of a sense of place and well-being among urbanites. Trees have also been credited with improving human health, reducing crime and noise pollution, increasing community interactions and preserving wildlife populations.

By reducing air pollution, trees lower the negative health impacts stemming from poor air quality, such as increased asthma rates. Shade from trees reduces people's direct exposure to ultraviolet rays from the sun, which can damage human skin and eyes (Bell, 2008). Noise pollution can also be significantly reduced by a healthy urban forest, as trees act as a buffer to reduce noise pollution. Specifically, trees can absorb up to 50 percent of urban noise pollution (Bell, 2006).

### The Case for the United States

Trees located in urban areas such as parks, streets and backyards represent 25 percent of all trees in the United States. These urban forests contain about 3.8 billion trees and represent an estimated investment of approximately \$2.4 trillion dollars (TNC, 2011).

However, these urban forests are faced with numerous challenges. According to TNC, U.S. cities are losing tree canopy at a rate of one percent annually (TNC, 2011). Natural and social factors including insects and diseases, wildfires, natural catastrophic events, invasive plants, climate change, economic and physical development, air pollution and a lack of adequate management and urban policies are part of what affect the viability and benefits that urban trees can provide (Nowak et. al, 2010).

Furthermore, insects and plant diseases have had serious effects on our urban forests. A recent study by the National Center for Ecological Analysis and Synthesis at the University of California, Santa Barbara, estimated that local governments and homeowners spend about \$2 billion and \$2.5 billion respectively per year on tree removal, replacement, and treatment, and on lost property value due to the introduction of non-native forest insects and diseases. Urban areas are the primary point of entry for these pests, as cities are centers for international trade and travel. Invasive species can be unwittingly introduced via conveyances and products. It is important to note, however, that citizens have consistently been the first to notice and report pest outbreaks in urban areas (TNC, 2011).

As urban areas continue to expand, it is imperative that forest growth keeps pace with development. The benefits of urban forests will become increasingly critical to sustaining environmental quality and human well-being in urban areas (Nowak, 2010). The necessity and relevance of a program such as the Healthy Urban Tree Initiative addresses this situation.

### The Case for New York City

New York City, one of the world's preeminent global centers, is experiencing a period of rapid growth: the city gained nearly 70,000 residents in 2010 to 2011 (Census Bureau, 2012). As the city becomes more heavily populated, a healthy urban forest is vital to maintain the quality of life for all

inhabitants. However, this has not always been a priority. Before the initiation of MillionTrees in 2007, only 120,000 trees had been planted along the streets of the city's five boroughs since 1995 (Nowak, 2007).

New York City has an estimated 5.2 million trees; the three most abundant species are the *Ailanthus* (tree of heaven), introduced from China in the late 1700s (9.0 percent); the *Prunus serotina* (black cherry), native to the northeastern United States (8.1 percent); and the *Liquidambar styraciflua* (sweetgum), also native to the eastern United States (7.9 percent) (Figure 1a) (Nowak, 2007). In New York City, about 55 percent of trees are from species native to the state of New York. The overall tree density in New York City is 26.4 trees/acre (Nowak, 2007).

### **Air Quality**

Trees in New York City are estimated to store 1.35 million tons of carbon (valued at \$24.9 million), or 42,300 tons of carbon per year (valued at \$779,000) (Figure 1c). Moreover, about 22,900 tons per year of carbon are sequestered by trees in New York City (Nowak, 2007). Trees in New York City are also effective at removing other pollutants, including ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), and carbon monoxide (CO), according to the Urban Forest Effects model (Figure 1c) (Nowak, 2007). In addition, it is estimated that 2,202 tons of air pollution (CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>10</sub>, SO<sub>2</sub>) are removed per year from trees and shrubs combined. This reduction in air pollution is estimated to have a related value of \$10.6 million (Nowak, 2007). Notably however, carbon storage can be lost when trees die and decompose (Peper, 2007). Due to their age and size, London plane trees provide the most amount of CO<sub>2</sub> absorption, accounting for 24 percent of citywide CO<sub>2</sub> reductions in New York City (Peper, 2007).

### **Energy**

The New York City (private and public) canopy cover is 24 percent (Grove, 2006). According to the Center for Urban Forest Research estimated street tree canopy in New York City at 11,110 acres, covering 5.9 percent of the city (Figure 1d). The largest portion of the street tree canopy cover is in Queens (45.2 percent). Brooklyn accounts for 26.6 percent of the canopy cover, Staten Island's canopy cover accounts for 13.5 percent, the Bronx accounts for 9.4 percent, and Manhattan accounts for 5.3 percent of the canopy cover in New York City (Peper, 2007). The estimated annual cost of residential buildings is \$11.2 million in New York City; the reduction in heating and cooling costs from avoided energy generation due to the presence of trees is valued at \$167,000 per year (Nowak, 2007).

### **Storm Water**

New York City's street trees capture 890.6 million gallons of storm water annually, which is about 1,525 gallons per tree on average (Peper, 2007). Excess water runoff occurring from major rainstorms can combine with raw sewage. However, the amount of runoff can be reduced due to the presence of trees, as they create little water pools, which collect rainwater and divert it from entering

the city's drainage systems. Healthy urban trees can therefore reduce the stress on city's infrastructure, decreasing both the water quantity and quality (pollutants) that end up in the receiving water bodies (Peper, 2007). It is estimated that these stated benefits are valued at \$35.6 million, or \$61 per tree per year, further revealing the benefits and necessity of healthy urban trees (Peper, 2007).

### **Insects and Diseases**

A significant pest worth mentioning is the Asian Longhorned Beetle (ALB), which is an insect that kills various hardwood species as it bores into them. The potential financial loss of trees due to ALB in New York City is \$2.25 billion (Nowak, 2007). Almost 31 percent of New York City's street tree species are susceptible to the ALB. Moreover, pest and disease control expenditures average about \$135,000 annually for Dutch elm disease control, an overall cost which can be decreased by increasing New York residents' awareness of the issue (Peper, 2007).

## The Business Plan Scope

The Plan for developing the Initiative is a broad national strategy, which will provide guidance for cities to implement their own programs according to their unique social and environmental context. New York City will serve as the pilot city.

The Plan contains the following deliverables:

1. Marketing and communications plan: Strategies to raise public awareness of the importance and value of urban tree health and tree stewardship efforts through a mainstream integrated marketing campaign and an education kit. The marketing and communications plan ultimately aims to promote involvement with the Initiative.
2. S.W.O.T.: An analysis identifying the internal and external factors that are favorable and unfavorable to launching the Initiative.
3. Capacity: An assessment of the resources (staffing, volunteering, educational, promotional and digital material, and other) needed to implement each of the three goals of the Initiative. It will develop an estimated budget for implementing the Initiative in a U.S. city.
4. Membership: Strategies to expand membership and engage previously uninvolved demographics.
5. Situational analysis: An assessment of the health of New York City's population of trees and existing conservation efforts.
6. Work plan of major actions: The major steps needed to expand the Initiative over the five-year Plan horizon. The work plan includes a timeline and actions to be taken on a national level and for each city as they introduce and launch the Initiative locally.
7. Risks: Anticipating risks to the success of the Initiative including volunteering and fundraising. This section also includes risk abatement strategies.
8. Monitoring plan: Performance indicators and metrics for evaluating the success of the Initiative during its implementation.

## Situational Analysis

### S.W.O.T. Analysis

During its initial period of evaluation, each local office of TNC will perform an analysis of the strengths, weaknesses, opportunities and threats (S.W.O.T.) facing the Initiative's entrance into a city. The S.W.O.T. analysis identifies the internal and external factors that are favorable and unfavorable to launching the Initiative. The analysis will predict drivers for success and potential obstacles for the local Initiative chapter. A generic S.W.O.T. analysis was developed for any local city (Figure 1) and a specific analysis for New York City (Figure 2)

Figure 1: Generic National S.W.O.T. Analysis

|          | (+)  | (-)  |
|----------|--|--|
| Internal | <p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>TNC's reputation for environmental leadership</li> <li>Existing local knowledge on pests, tree inventory, etc.</li> <li>Existing pest detection tools (apps)</li> <li>Existing TNC programs (e.g., LEAF)</li> </ul> | <p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>TNC's previous lack of urban involvement</li> <li>Difficult to educate mass market about tree benefits and threats</li> </ul>  |
| External | <p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Partnerships with municipal parks department</li> <li>Partnerships with active environmental NGOs</li> <li>Popularity of green movement</li> <li>Corporate partnerships</li> </ul>                              | <p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>Lack of awareness about urban tree health</li> <li>Weak economy hurts funding</li> <li>New invasive species arriving in US</li> <li>Overlap/competition with similar initiatives</li> </ul> |

Figure 2: New York City S.W.O.T. Analysis

|          | (+)  | (-)  |
|----------|--|--|
| Internal | <p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>TNC is based in New York City</li> <li>Existing pest detection programs in NYC</li> <li>Existing TNC Young Professional group</li> </ul>  | <p><b>WEAKNESSES</b></p> <ul style="list-style-type: none"> <li>Limited human resources for scope of project</li> <li>Limited funding</li> </ul>   |
| External | <p><b>OPPORTUNITIES</b></p> <ul style="list-style-type: none"> <li>Partnerships with local- neighborhood- and college-level organizations for volunteering</li> <li>Large, diverse population for membership and education</li> <li>Strong volunteer recruitment infrastructure (Streetproject.org, IOBY.org, Giveandgetnyc.org, NY Cares)</li> <li>Centralized activities (i.e., farmers markets) provide means for reaching target audiences</li> <li>Wealthy population could add to donor base</li> <li>Trees killed by Hurricane Sandy could be a rallying call for volunteerism</li> </ul> | <p><b>THREATS</b></p> <ul style="list-style-type: none"> <li>Many existing urban forestry organizations competing for volunteers' attention</li> <li>Severe weather could threaten or destroy planting and stewardship progress</li> </ul> |

### Questionnaire

Each city considering implementation of the Initiative will examine its unique characteristics through a city-by-city assessment tool, developed in conjunction with Gerald Posner an expert in urban

plant science (Appendix 2) (G. Posner, personal communication, October 25, 2012). The tool asks pointed questions to help TNC local offices customize the Initiative's broad national Business Plan to be unique to each city. Specifically, the questions seek to determine the target audience, and the city's unique needs for (1) tree planting, (2) stewardship and (3) pest detection. The tool also provides data sources for answering the questions and seeks to establish baselines and best practices through case studies of other cities.

For example, if New York City wants to determine a target audience for involvement with the Initiative, it would examine: data concerning different demographic groups in order to determine discretionary income for donor capacity; level of environmental concern in order to gauge potential interest in the Initiative; historical volunteer patterns to predict success with volunteer programs; and the age of the city's population in order to target a sizeable group. Examining overlapping results in these four areas might lead the local TNC office to conclude that young professionals would be most receptive to the Initiative in New York City.

Young professionals are an optimal target for marketing efforts in New York City due to their discretionary income and interest in environmental issues. According to a new report from Forrester, *U.S. Young Professionals: A Demographic Overview*, young professionals are fully employed 22 to 34 year olds who have a four-year degree. With higher average household incomes than their young nonprofessional counterparts they have significant spending power considering only a quarter have children (Forrester, 2012).

As of 2011, the population of 25 to 34 year-olds in New York City is 1.4 million, the City's largest age demographic (Census, 2011). A Nielsen report states the "young and moneyed," aged 25 to 34 making over \$100,000 annually, are prevalent in high density areas of New York City, Washington, D.C., San Francisco, and Chicago (Nielsen, 2009). People within this demographic are attractive targets because of their discretionary funds and the valuation they put on environmental issues. According to a Gallup Poll from March 2012, Americans ages 18 to 29 are the only demographic which prioritizes environment protection over economic growth. Due to these factors and those discovered through the questionnaire, young professionals are the primary target of the marketing and membership plans.

## Marketing Campaign

### Establishing a Mainstream Marketing Campaign

The main challenge of environmental initiatives is to transform environmental concerns into mainstream issues. While it is easier to rally support for issues by targeting environmentally concerned citizens, the core challenge is to raise awareness among mainstream citizens. Mainstream awareness and concern is crucial for shaping public opinion and for building a large network of donors and volunteers to engage in large-scale action.

In order to make urban tree health a mainstream issue, TNC will benchmark the private sector's marketing model, focusing on the mass market to raise general awareness of the benefits and threats to urban trees. The Initiative's strategy, therefore, details plans for an integrated marketing campaign. The key objective of this plan is to raise awareness to foster consciousness, a precursor to commitment and action.

In this mass-market campaign, TNC needs to target several different groups of citizens. In the case of New York City, five target groups have been identified: children, young professionals, business interests, communities and opinion leaders. Due to the high percentage of young people with discretionary income that live in New York City, young professionals have been identified as the priority target for this marketing campaign (see Questionnaire, page 13). To tackle all of these sectors, different communication tools will be employed and the message will be adapted without losing consistency. If desired by TNC, the marketing campaign can be further customized to address gender and ethnicity, a level of demographic specificity which was outside the scope of the project.

A strong and consistent communications message begins with a powerful slogan. A number of candidate taglines were developed and considered. Both surveys and focus groups were employed to assess the most suitable candidate. *Extend Your Roots* (Figure 3) was clearly the preferred tagline to represent the Healthy Urban Tree Initiative. According to survey respondents, *extend* elicited concepts such as growth, sharing and endurance. Respondents associated *your* with empowerment, personal ownership and pride, while *roots* was linked with strength, family, community, health and stability.

**Figure 3: Extend Your Roots Logo**



*Extend Your Roots* will serve as the lead for every communication. However, the message can be customized for specific target audiences or events. According to Hewett (2007) "Rather than trying to convince others about how good trees and parks are, we should link urban forest and green-space to customer health, wealth and happiness just as McDonalds links its product to the experience of happiness and not to food, and Nike and Harley Davidson link theirs to experience and not to shoes and machines." Figure 4 describes the customized message of tree stewardship for each target segment and the adapted message/claim, which communicates the specific benefits related to that population group.

**Figure 4: Customized Message for Each Target Segment**

|                  | Children  | Young Professionals   | Business Interests                                      | Community   | Opinion Leaders                              |
|------------------|---|---|---|---|--|
| Benefit of Trees | Play space<br>Clean air   | Outdoor sports<br>Aesthetics<br>Freedom                                 | Energy costs<br>Employee satisfaction<br>Carbon capture | Health<br>Meeting place<br>Recreation                                 | Storm management<br>Green Image<br>Altruism  |
| Adapted Claim    | "The guardians of the park"<br>"Trees are your friends"<br>"Where will the squirrel hide her nuts?" | "X trees=1 car,"<br>"Love trees, be cool,"<br>"Fight for your TREEDOM!" | "A Multi-Tasker by Nature"                              | "Good fences make good neighbors, Good trees make good neighborhoods" | "Nature's carbon capture and storage system" |

The marketing plan integrates various tools used by the private sector when there is a need to create awareness, ranging from social media channels, to education, to out-of-home publicity. All of these tools become increasingly necessary when targeting multiple groups, and each tool is designed to appeal to one or more groups. Figure 5 identifies the tools to be used for targeting different market segments, which is described in greater detail in the sections to follow.

**Figure 5: Tools for Different Targets**

| MARKETING TOOLS |                | CHILDREN | YOUNG PROFESSIONALS | BUSINESS INTERESTS | COMMUNITIES | OPINION LEADERS |
|-----------------|----------------|----------|---------------------|--------------------|-------------|-----------------|
| DIGITAL         | SOCIAL MEDIA   |          | ✓                   | ✓                  | ✓           | ✓               |
|                 | APPS           |          | ✓                   |                    | ✓           |                 |
| OUT OF HOME     | MTA            |          | ✓                   |                    |             |                 |
|                 | OUTDOOR        | ✓        | ✓                   | ✓                  | ✓           |                 |
| PARTNERSHIPS    | GIVING         |          | ✓                   | ✓                  |             |                 |
|                 | VOLUNTEERING   |          | ✓                   | ✓                  |             |                 |
| EDUCATION       | KITS           | ✓        | ✓                   | ✓                  | ✓           |                 |
|                 | DOCUMENTARY    | ✓        | ✓                   |                    |             |                 |
| BUZZ            | EVENTS         |          |                     |                    | ✓           | ✓               |
|                 | VIDEOS         |          | ✓                   |                    |             |                 |
| INCENTIVES      | POINTS         |          | ✓                   | ✓                  | ✓           | ✓               |
|                 | PROMOTIONS     | ✓        | ✓                   |                    |             |                 |
| PR              | CELEBRITY REPS |          | ✓                   | ✓                  | ✓           | ✓               |
| DIRECT          | MAILINGS       |          |                     |                    | ✓           | ✓               |

**Digital**

According to the United Nation’s International Telecommunication Union Agency, Internet usage penetrated 77.3 percent of the U.S. population in 2010. It is therefore not a surprise that companies are designating more of their marketing budgets to multiple digital tools (Figure 6). The ‘Marketing Budgets 2012 Report’ published by Econsultancy (2012) reports that 74 percent of surveyed companies are investing more in digital marketing technology for their 2012 budgets than ever before. As such, the need for the Initiative’s marketing strategy to include a strong emphasis on digital media is evident. A variety of digital options are available to broaden the spectrum of action within the Initiative. Different options will be directed at the different targets.

**Figure 6: Digital Tools**



**Web and Mobile Platforms**

The website will describe the Initiative and its different objectives, goals, areas of action, and educational materials using various visual elements including videos and photos (coupled with brief explanatory paragraphs). To foster user engagement, the site will establish a point-based incentive structure where users earn points for volunteering, donating and raising awareness (see Incentives section, page 22). The site will also contain a blog where users can interact with like-minded people and TNC scientists to collaborate in tree planting, stewardship and pest detection efforts. According to Jace Levine, Director of Business Development at MOPRO, the need to create web- and mobile- based platforms where people can interact is of great importance (phone conversation on December 6th, 2012). Most, if not all types of engagement promoted by the Initiative have an outdoor and dynamic component to them. Given the Initiative’s marketing objectives of raising awareness, educating and promoting action, an easy to use, attractive mobile platform and web page will help the Initiative communicate its messages.

These platforms will consist of learning and action dashboards designed for making information available as well as providing users with the necessary resources needed to take action in all situations.

1. Marketing objective: Raise awareness, educate and call to action.
2. Conservation drivers: Planting, stewardship and pest detection.
3. Rationale: Websites have been shown to be an essential medium in cause related marketing. A website engages consumers, members, volunteers, donors and those who are seeking involvement in a cause through the creation of targeted webpages. Since the Initiative’s ultimate goal is to develop into a national program, a centralized webpage for the program as a whole is also recommended.
4. Strategy: As advised by the MOPRO web development agency, the Healthy Urban Tree Initiative’s website should be modeled after the site of the Global Citizen, because of the similarities in their direction and goals (J. Levine, personal communication, December 7, 2012). Both are “causes” which seek to promote engagement at various levels through diverse marketing tools and media channels. Also, both initiatives aim to promote interaction between users and the project through an incentives program, which allows for the accumulation of points. The website will be the central link of coordination between the public and TNC staff managing the Initiative.

## Social Media

Social media will be used to spread messages about the importance of tree health and to increase visibility of TNC through site traffic. Social media tools, including Facebook, Twitter, YouTube and Instagram will expose a variety of audiences to the Initiative, allowing them to engage in various interactive ways. According to U.S. executives surveyed by Epiphany Metrics in 2009, the greatest value generated by social media is “building company brand” as well as “enhancing the relationship with customers/clients.”

## Facebook

1. Marketing objective: Raise awareness and promote action.
2. Conservation drivers: Planting, stewardship and pest detection.
3. Rationale: According to Quantcast (2012), Facebook has had 140 million monthly visitors reported in 2012, making it the third most visited web page in the US; 42 percent of Facebook visitors are between ages 18 and 34.
4. Strategy: Create a Facebook page for the Initiative where users will voice opinions, “like” the page and share it with friends. The site will provide information on local and national events and act as a portal to donate. Users will be able to accumulate points under the proposed points system (see Incentives section page 22). The Initiative will also be promoted on other TNC Facebook pages. The Initiative will be added as a ‘Cause’ on this Facebook page.

## Twitter

1. Marketing objective: Raise awareness and promote action.
2. Conservation drivers: Planting, stewardship and pest detection.
3. Rationale: According to Quantcast (2012), Twitter has had 91 million monthly visitors reported in 2012, making it the fifth most visited web page in the US. 45 percent of Twitter visits are in the 18- to 34-year-old demographic range.
4. Strategy: Use @extendyourroots to send messages and tips on urban tree stewardship and pest detection to followers. Support Tweets with blog posts (part of the Expand Your Roots website). Be responsive to followers by answering questions and expressing gratitude. Provide points to supporters for re-tweeting information (see Incentives, page 22).

## Instagram

1. Marketing objective: Raise awareness.
2. Conservation drivers: Planting, stewardship and pest detection.
3. Rationale: According to Quantcast (2012), Instagram has had 3.3 million monthly visitors reported in 2012. 65 percent of Instagram visits are in the 18- to 34-year-old demographic range.
4. Strategy: Create a photo contest for the followers of the *Extend Your Roots* account. Pictures taken by users will be focused on illustrating how users see themselves extending their roots. The pictures with the most “likes” will be posted on the *Extend Your Roots* website. The winner will be chosen to win a trip with TNC to South America or another nature-oriented destination to experience a true “Nature Experience” with scientists/experts.

## YouTube

1. Marketing objective: Raise awareness and education.
2. Conservation drivers: Planting, stewardship and pest detection.

3. Rationale: YouTube is the perfect tool to spread the word and make people understand the problem through a comprehensive video. When a video is impactful it can go viral, reaching a large group of citizens.
4. Strategy: Create a video modeled after *The Story of Stuff*, created by Free Range Studios. This format, consisting of a speaker supported by simple illustrations that reinforce the story, is the latest trend on creating videos to explain a social, economic or environmental concern. It usually consists of a speaker supported by simple illustrations that reinforce the story. It is very important to hire a qualified production team to create the most impactful video with the highest potential for going viral. Also, create an *Extend Your Roots* channel in YouTube where this and other videos can be watched. This ensures that people's comments and feedback are organized in one place.

### Pest Detection Mobile Application

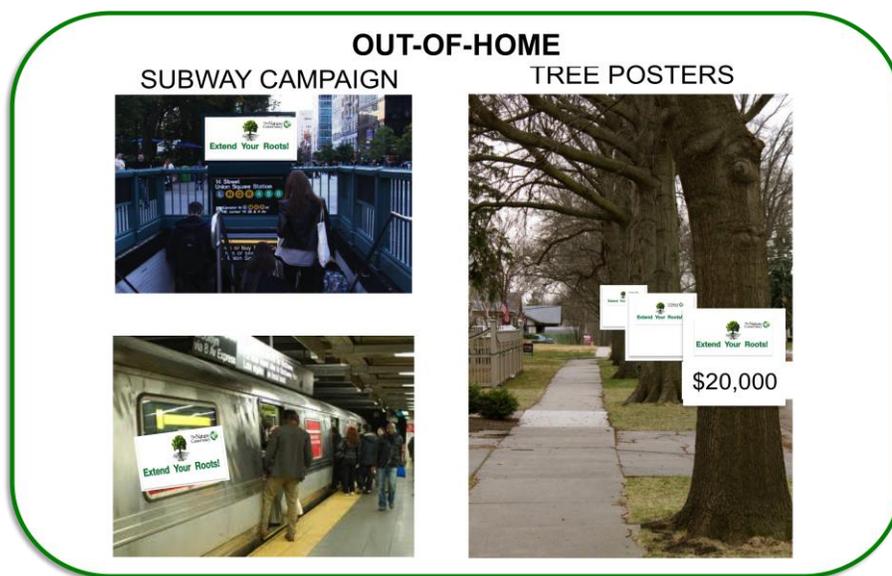
1. Overview: The *Outsmart Invasive Species* mobile application aim to strengthen ongoing invasive-species monitoring efforts with the help of citizens. The web- and smartphone-based approach enables volunteers to identify and collect data on invasive species (iTunes, 2012)
2. Marketing objective: Educate and promote action
3. Conservation driver: Pest detection
4. Rationale: Easily accessible, regularly updated information on pest detection and invasive plants is crucial to the success of the OutSmart Initiative.
5. Strategy: Expand buzz of the application by using the different digital tools (above) chosen for the campaign. Reference Outsmart in the educational tool kits.

### Out-of-Home

Out-of-home is outdoor advertising which uses any medium that lends itself to capture the attention of those on the go in public places, transit stations, waiting rooms and more (Figure 7). It can take the form of subway posters, billboards, bus stop walls, etc. It creates more visibility than any other marketing strategy. Its continuous presence offers repeated exposure, which can have an important value to motivate engagement.

According to a Market Share and Clear Channel Outdoor white paper in 2010, out-of-home is an impactful marketing vehicle contributing to overall campaign effectiveness. It does not only contribute directly to the campaign's effectiveness, but it also helps the other components of an initiative due to its exposure to different targeted audiences.

Figure 7: Out of Home Tools



### Public transportation Campaign

1. Marketing objective: Educate and promote action.
2. Conservation drivers: Planting, stewardship and pest detection.
3. Rationale: 8.5 million subway and bus riders daily in New York City; 468 subway stations across the city's five boroughs.
4. Strategy: Use the tools the Metropolitan Transportation Authority (MTA) provides for publicity such as: MetroCard, subway cars, subway stations and buses. As TNC is a non profit organization, the MTA can provide special rates for some of this publicity. However, depending on the tools chosen these discounts can vary. Subway advertisements can be relatively dense in information as passengers have time to read them.

### "The Value of Trees" Campaign

1. Marketing objective: Raise awareness
2. Conservation drivers: Planting, stewardship and pest detection.
3. Rationale: With 4.5 million visitors per year, New York City's parks are the perfect location for an outdoor campaign. Hanging posters from trees is a very direct method of communicating trees' benefits (Figure 8).

Figure 8: Value of Trees



4. Strategy: In order to argue the reasons why citizens should “extend their roots”, posters will be hung from park trees. Adapt messages to the different targets: dollar value of trees, threats of pests, CO2 capture, clean air effect, increased real estate value of areas.

### Buzz

1. Marketing objective: Raise awareness
2. Conservation drivers: Stewardship
3. Rationale: Public events are the perfect venue to raise awareness of “Extend Your Roots”. Many people are gathered in parks for these events around the year in New York, a perfect occasion to display a large banner with the “Extend your roots” logo.
4. Strategy: Create banners, posters and brochures for park events to have the biggest visibility possible. The first important occasion is Earth Day, where attendants will be easy targets.

### Public Relations

It is important to identify the city’s best ambassadors to promote the Initiative. These opinion leaders should be chosen to pass the message to the five different targets previously identified. Each city needs to choose a leader, celebrity, musician, actor or journalist who can effectively communicate the Initiative’s mission to children, young professionals, business interests and communities.

### Direct Marketing

Community mailing: E-mailing newsletters with specific tree canopy facts and threats could directly elicit feelings of ownership and neighborhood because of the highly localized message. When a problem is close to you it becomes a bigger problem. Brochures: having volunteers give away brochures in the streets, close to trees that have been affected by a pest and taking the opportunity to explain it to the neighbors of that community.

### Incentives

Incentive programs are an integral part of the strategic marketing plan that will help to strengthen and deliver the *Extend Your Roots* campaign message through social media channels, networking events, classroom participation and contests. Incentive programs are tailored to the Initiative’s target audience, in order to engage citizens, foster participation and enhance the overall effectiveness of the Initiative’s goals. The incentive programs will be used to stimulate behavior that will support the three main objectives of the Initiative: (1) support cities’ new tree planting initiatives, (2) provide stewardship to existing trees and (3) improve pest detection efforts. Additionally, the incentives will increase awareness of the value and issues surrounding trees in urban areas and boost membership of TNC.

The success of the Initiative on a national scale is dependent on making a connection to a mainstream audience. As such, communicating the Campaign’s message to as many urban residents as possible is critical, while ensuring consideration is given to all socioeconomic levels. Moreover, providing several options for incentivizing behavior ensures optimal participation levels among all community

members. For instance, not everyone will be in a position to donate money or purchase membership but they may wish to volunteer their time. Conversely some will prefer to donate or become a member in lieu of volunteering.

### ***How Far Can You Extend Your Roots? Point System***

To encourage involvement from a diverse spectrum of people, the Initiative should adopt a point system to reward people for their efforts towards the Initiative. The tagline for this campaign is *How Far Can You Extend Your Roots?* Once a member signs up to join the campaign through the website or mobile platform, he or she will be able to earn points for involvement with the initiative. Specific examples of engagement include attending volunteering and networking events, donating time and/or money and engaging in social media such as sharing experiences through photos and videos, or partaking in online discussion forums through social media platforms such as Twitter, Facebook, Instagram and YouTube. Earning points for these activities will be visually tracked on members' individual accounts by the "growing" or "extending" of their roots. The points associated can then be spent on membership fees, entrance fees to special speaker events or gift certificates for products and tree planting.

In addition to the points system, incentive contests will also be an important tool to increase participation, awareness and enthusiasm for the Initiative. Below are some examples of incentive contests that are focused on motivating specific target market segments.

### ***Extend Your Roots Networking Night***

The "*Extend Your Roots Networking Night*" is a casual meeting that takes place once a month at a local restaurant or bar during after work hours. This event is an opportunity for young professionals to meet other environmentally concerned individuals in their community. The event will be hosted by TNC, but invitations extended to other urban environmental organizations to foster a collaborative effort among various groups who are working towards the healthy urban tree goals. Attendees are encouraged to bring friends, colleagues and family members. Points will be awarded to those who recruit the most friends to sign up for TNC membership.

The purpose of this event is to increase membership, thereby increasing awareness of the Initiative, and to cultivate connections with other programs in the community. This forum also provides an opportunity to promote future tree-planting events. Some examples of incentive giveaways are: canvas bags and picnic blankets with the Initiative's logo, and corporate sponsored gift cards.

### ***Show Us Your Roots!***

"*Show Us Your Roots!*" is a photography contest provided through the Initiative's Facebook social media channel. The contest is geared toward youth, with the help of their parents. The contest

will encourage the use of knowledge gained from the “stewardship kit” information and curriculum taught in students’ school classrooms, or provided in students’ community service programs. Participants are to document, via photographs, an area in their neighborhood where they have demonstrated excellent tree stewardship, such as pruning, mulching, planting or tending to tree beds.

The purpose of the Facebook photo competition is to link education with the promotion of tree stewardship, while broadening the user interface of the social media site. The contest will encourage children to bring home the information they have learned at school and encourage their family members to get involved. The contest is judged by other Facebook group members, thereby promoting broader exposure. Prizes could be linked to, and/or provided by, corporate sponsors; for instance, a prize could be donated gift cards, which would be of little or no cost to TNC, while simultaneously providing free advertising for the sponsor via the Initiative’s Facebook page.

### **Pesky Tree Pest Poster Competition**

The “*Pesky Tree Pest Poster Competition*” is a youth-oriented poster design contest aimed at promoting tree pest awareness. Participants will be encouraged to visit the [Beetle Busters](#) (USDA, 2012) and the [Asian Longhorned Beetle](#) Facebook pages (Asian Longhorned Beetle, 2012), which have great information about pests, pest education and pest detection. Children can utilize these pages for inspiration when creating their designs. Posters will be judged not only on creativity but also on how well each contestant demonstrates his or her understanding of tree pests. The winning poster will be distributed in the local community and displayed for public view in schools, community centers and other public locations. Suggested prizes could include gift cards from local plant nurseries where winners can purchase small trees and flowers to plant at their home or school.

### **Education: Stewardship Kit**

To help educate communities, the Healthy Urban Tree Initiative will create stewardship kits to provide citizens with general and practicable tree stewardship information. The purpose of the kit is to help citizens in cities become tree stewards in their neighborhoods, schools and communities by promoting appropriate tree planting decisions, teaching the basics of tree maintenance and pest identification, and encouraging continuous tree monitoring.

The education kits will provide citizens with the necessary tools to spearhead and engage in local tree stewardship initiatives. The kit is intended to guide citizens through the initial steps of becoming informed, engaged and active tree stewardship volunteers. It is comprised of multiple sections, and is intended for use by a diverse spectrum of people. The specific audiences targeted for the tool kit are schools, community volunteers, youth groups, property owners, employees and members of organizations partnering with the Initiative and media outlets. A summary of the educational components intended for each specific audience is indicated in Figure 9. Extensive

information on stewardship practices will be included in every kit, but will be tailored to each target segment.

**Figure 9: Components of Various Educational Kits**

|                        | Tools Checklist | Tree Species Selection | Planting Locations | Stewardship Guide | LEAF Materials | Videos | Apps and Games | Curriculum Supplements | Case Studies | Arborist Contact List | Promotional Materials |
|------------------------|-----------------|------------------------|--------------------|-------------------|----------------|--------|----------------|------------------------|--------------|-----------------------|-----------------------|
| School                 | ✓               | ✓                      |                    | ✓                 | ✓              | ✓      | ✓              | ✓                      | ✓            | ✓                     | ✓                     |
| Community              | ✓               | ✓                      | ✓                  | ✓                 |                |        | ✓              |                        | ✓            | ✓                     | ✓                     |
| Youth Groups           | ✓               | ✓                      | ✓                  | ✓                 | ✓              | ✓      | ✓              |                        |              | ✓                     | ✓                     |
| Property Owners        | ✓               | ✓                      |                    | ✓                 |                |        | ✓              |                        |              |                       | ✓                     |
| Corporate Partnerships | ✓               | ✓                      | ✓                  | ✓                 |                |        | ✓              |                        |              |                       | ✓                     |
| Media                  |                 | ✓                      | ✓                  | ✓                 |                | ✓      | ✓              |                        | ✓            | ✓                     | ✓                     |

For example, community groups will receive material that addresses the selection process of tree species and planting locations, and schools groups will receive supplements to school curricula for science teachers. Moreover, the education kits will direct the recipients to the various online forums for discussion and information sharing, the documentary videos posted online, instructions on how to access and use the smartphone applications, online games and information on other city initiatives such as case studies.

The kits are intended to be e-mailed to the assigned target recipients to reduce paper usage and to allow for easy customization. Each kit is to be presented in a stand-alone format (such as PDF), but should also direct users to the Healthy Urban Tree Initiative's website for further information and material. Directing traffic to the website will raise the profile of TNC with urban audiences and will provide data on areas of interest. The kits' materials are to be presented in an aesthetically pleasing manner to maintain enthusiasm. The idea is to make tree stewardship practices enticing, exciting and available to various demographics, thereby striking a balance between general information and more scientific and technical information via different levels of engagement.

TNC is recommended to hire a freelance educational consultant to develop the curricular material, as well as a professional arborist to develop the tree planting and stewardship information.

TNC should also secure the services of a graphic designer, hired as a freelancer, to compile this information and present the kit in a visually appealing way (Appendix 4).

## Target Audiences

School: Teachers and students interested in enriching their science curriculum.

Community: Adult community service groups, religious groups, reading groups, and exercise groups. Information can also be distributed at fairs and other community events, neighborhoods block parties, etc.

Youth Groups: Urban summer day camps and youth groups such as Girl Scouts and Boy Scouts.

Property Owners: Homeowners, building owners and superintendents interested in planting and caring for trees on their properties.

Partnerships: TNC's corporate partners and their employees; and partnering NGOs and their members.

Media: Journalists and bloggers covering science and environmental issues. The media kit is intended to provide local and national media groups with sufficient information to promote and inform a wider population about the Initiative, local community activities and the importance of tree stewardship and pest detection.

## Kit Components

Tools checklist: This section of the kit comprises a list of essential and recommended tree planting and stewardship tools for all community groups.

Tree Species Guide: This section will consist of information that guides citizens to choose the right kind of tree species for planting. It will teach citizens the kind of questions they should ask before making the decision to help a plant a tree, and help them understand the benefits and risks associated with different tree varieties. There will be a focus on information about native tree species and their associated benefits, susceptibilities and purchase and maintenance cost estimates. This information will be compiled from TNC scientists, other existing studies, as well as the USDA's Natural Resources Conservation Services (NRCS, 2007; NRCS, 2012).

Planting Locations: This section will provide information on strategic locations to plant trees to maximize benefits to habitat restoration and tree species diversity. The information will also seek to inform people on how to minimize tree maintenance and potential conflict with grey infrastructure, which is defined as

any physical, human-built infrastructure such as roads, buildings, utility plants, railways, bridges or power lines. In addition to general guidelines, this component will include geographic information system (GIS) data of vacant land available for planting. The use of GIS is an important tool here, as it is a system that digitally analyzes, manipulates and presents physical areas and the corresponding infrastructure. The GIS information should be presented and available on a wiki page. A wiki page is an online webpage, which blends the concept of open-source software where anyone can freely create and contribute content, with the concept of an encyclopedia. In this case, contributors of the page are the municipal parks departments, local arborists, landowners and citizens, who contribute and suggest best practices and considerations for each geographic location.

Stewardship Guide: Information on best maintenance practices including irrigation, tree bed preparation, mulching, weeding, stump grinding, green waste disposal, fertilization, insect and disease treatment, grate and guard repair, curbing of dogs, protection of young trees from harm (soil compaction of beds, piling of trash and debris on tree bed or against the tree, proper staking, etc.), and strategic pruning for young trees. It should also include estimated maintenance costs. This section will also include information on pests and invasive species and their significance, and tips on pest detection training and identification methods. This information will come from existing data and guidelines prepared by TNC, as well as from the USDA's Natural Resources Conservation Service (NRCS, 2007).

TNC's LEAF (Leaders in Environmental Action for the Future) Materials: Teachers, students and youth groups will gain access to existing TNC LEAF workshops, website content and materials where educators and group leaders can share best practices, tools and experiences from their stewardship initiatives. They will also gain access to TNC's scientific resources and related materials such as Nature Works Everywhere, which includes videos, lesson plans and interactive games (see Apps and Games section below) that align to planting and stewardship standards.

Videos: TNC's pest documentaries 'Trees, Pests & People' and 'Lurking in the Trees' posted on YouTube. The former focuses on three types of trees, namely Walnut, Avocado and Ash, which are all under threat of invasive insects and diseases. The latter documentary focuses on the issue of the Asian Longhorned Beetle in Worcester, MA.

Apps and Games: The kit will promulgate existing games, interactive websites and smartphone applications, once TNC makes arrangements to access and promote each, which encourage tree stewardship. Examples of smartphone applications can be found in the marketing section on page 15, including *OutSmart* for pest detection. Interactive environment related websites will also be promoted, such as TNC's Climate Wizard, which allows users to visualize the impacts of climate change anywhere on Earth, including one's classroom or backyard. Other interactive websites include the Atlas of Global Conservation, the Cool Green Science Blog, which features blog entries from experts in the field and the



most recent science news from around the world, and TNC's Carbon Calculator, where students can measure their individual and household impacts on the climate.

Curriculum Supplement: Information about trees and stewardship that seeks to complement schools' science curriculum with tree related readings and labs. The curriculum supplement will be available in different versions for elementary school, middle school science and high school biology and chemistry. The curriculum supplement will also provide teachers with a forum to post questions and answers and share lesson plans, experiences and photos.

Arborist Contact List: A contact list of local of local International Society of Arboriculture (ISA) certified arborists and their fields of expertise.

Case Studies: The purpose of including case studies in the stewardship kit is to stimulate shared learning and inspire citizens to spearhead their own tree stewardship initiatives. Learning what other people and cities are doing can stimulate new ideas and motivate people to pursue similar efforts or extend beyond what has already been done and what is currently being done. It also provides a basis for personal research and shared learning and experiences between communities and cities.

1. Portland: Portland's Neighborhood Tree Liaison program is a type of training program for people who do not necessarily have former experience with tree stewardship, but do have an interest in trees. Classes are taught by leading tree care professionals and cover both general and advanced tree issues. Graduates of the class then work with the Portland Parks Department on specific tree projects. These graduates could act as community leaders for local volunteer groups who need guidance and assistance with planting, stewardship and pest identification. They could be designated to specific neighborhoods to link up with these community groups as valuable resource liaisons on tree issues. These liaisons could also be responsible for keeping neighborhood data current such as tree inventories, pest identification, and existing tree initiatives (Portland Parks & Recreation, 2007).
2. Seattle: Partner with local nurseries and the landscape industry to make quality information and planting/maintenance materials available. Work to discourage the sale and planting of known non-native invasive plant species. Seattle's teaching materials are part of the city's 'A City Among the Trees' initiative. The materials include a twenty-minute video (now out of print) highlighting specific examples of sustainable urban forestry techniques from creating 'green streets' to restoring greenbelts and cultivating community gardens. The video begins with a lively animated sequence showing the growth of a tree, the changing seasons, and the generations of a family who care for the tree through its seasonal changes. A companion workbook provides urban forestry guidelines, including permitting requirements, planting

specifications, and recommended management practices. There is also an Educator's Guide, which provides context and curricular exercises for involving middle and high school students in urban planning and forest stewardship (Seattle Department of Transportation, 2007).



## Risks

The Initiative will assess the threats to the success of the project by anticipating the risks and developing strategies to mitigate their potential damage to the implementation process and outcome of the Initiative. Three likely scenarios which could threaten the success of the Initiative are: (1) the inability to convince the target audience of the linkage between tree conservation, ecosystem services and urban quality of life; (2) low participation in volunteer efforts; and (3) the inability to garner funds.

If the project cannot convince the public of the importance of healthy urban trees and the services they provide, the Initiative will struggle to attract volunteers and raise funds. To mitigate this risk, the Initiative should tailor marketing and informational messaging to appeal to each audience sector. The appropriate medium and messaging to be used for each segment of the population are detailed in the marketing plan.

Trouble communicating its core messages could be due to the large, mainstream demographic the program is targeting. To mitigate this risk, TNC staff should continuously assess its success in engaging the public. As each city will have a different cultural and demographic makeup, TNC can partner with existing organizations (Figure 15) to reach across the community.

The second major risk to the Initiative is low participation in volunteer efforts. The success of TNC's efforts to affect the urban forest landscape hinges on its ability to attract reliable volunteers to assist in tree planting, stewardship and pest detection. This threat could arise from a lack of commitment to volunteering due to other time commitments, apathy towards the cause, or a feeling that volunteer efforts could be better spent elsewhere. To mitigate these risks, TNC can partner with other organizations that are working on similar conservation-based efforts and neighborhood organizations. For example, in New York City, TNC could use the resources of local neighborhood organizations (Figure 15) to gain an established volunteer base. TNC can attract these organizations as partners by through its well organized and "shovel ready" volunteer programs (see Volunteering, page 31).

Another core risk to the project is the inability of TNC to raise sufficient funds. Failure to meet financial goals could result if fundraising efforts are not directed at suitable or appropriate donors. It will take time to build a donor base so sufficient start-up funds should be in place to enable the program to fully engage in their efforts. Thereafter, fundraising success should be closely monitored and the program size tailored to conservative forecasts. To enhance fund raising success TNC should perform philanthropic research, focusing on giving history, donor interests, community standards of living and levels of discretionary income. Targeting a specific demographic and tailoring a fundraising strategy for that group may help TNC more effectively meet its funding needs.

## Staffing and Volunteering

### Staffing

The Initiative will be implemented by hiring an accomplished leadership team that will consist of an Executive Director and a Senior Communications Director who will be working at the national level. The staff will be responsible for spearheading the launch of the Initiative in New York City, as well as overseeing all cities which implement the Initiative.

For the City of New York, three staff members will be employed to manage the program. They will be responsible for ensuring that the *Extend Your Roots* initiatives are well implemented and tracked. The staff members will include a Program Director, a Digital Manager and a Program Coordinator. The Director will have the role of supervising the general management, as well as creating the right partnerships in the city. The Digital Manager's main role is to administer the social media tools which aim to make this initiative a mainstream issue. Finally, the Program Coordinator will be in charge of the logistics.

A staffing plan has also been included for Philadelphia, which serves as a model for smaller cities in the nation. The number of staff will fluctuate if the city is larger. Since Philadelphia is a smaller city, the Program Director will be responsible for the logistics otherwise handled by the Program Coordinator and the Digital Manager role will be a part time position.

### Volunteering

The Healthy Urban Tree Initiative will require the involvement of a large force of volunteers, as tree planting and tree stewardship activities are labor-intensive and time-consuming. TNC should expect to face certain challenges regarding community engagement and volunteerism at the onset of the Initiative and on an ongoing basis (see Risks, page 30). These obstacles may arise from the public's lack of knowledge about urban forestry and its value, an inability of the marketing campaign to connect to certain target audiences due to language and cultural barriers, competition with other local environmental and social issues and related programs, and people's quotidian activities, responsibilities, work and personal priorities. In order to implement a successful volunteer program, there are several factors to consider, namely an understanding of the socioeconomic makeup of each targeted community, an understanding of the main reasons why different demographics wish to volunteer and similarly, what prohibits them from volunteering. Additionally, a well-functioning volunteer program requires enough training and supervision so that members are informed and enabled to perform the tasks that they are assigned.

In regards to value creation, there are a myriad of benefits that volunteers bring to urban forest initiatives. Increased volunteer involvement will result in more tree planting, stewardship, pest



detection and educational outreach, thereby benefiting the existing and new trees, the communities, and the volunteers themselves. In addition to the benefits of physically having a growing volunteer base, volunteers typically include a diverse cross-section of each community, whose diverse talents and networks can add depth and strength to the Initiative. Finally, volunteers can serve as an agent, connecting larger urban forestry initiatives with their local host communities. Through local political forums, these stewards can encourage funding of local tree stewardship and educational ventures, defend environment-friendly management decisions, challenge special interests, and serve as a link between broad segments of the community (Fazio, 2003). It is also important to note that many people who start out supporting organizations through volunteer efforts can go on to become significant donors.

Ensuring that efforts to increase volunteerism reach across the social spectrum in every city will lead to even more beneficial and enriching programs. Inclusion among all sectors of a community will bring a broader range of knowledge and experience based on diverse backgrounds, perspectives and social contacts, which will provide important opinions and forums for knowledge creation and advocacy. Furthermore, an expanded pool of participants provides more candidates for leadership positions and greater opportunities for funding. Additionally, there will be increased occasions for urban citizens to work together from diverse neighborhoods, thereby enhancing participants' understanding of each other. This can ultimately result in the strengthening of groups within society, which has great positive value for the future of each city. Specifically, Deborah J. Chavez of the USDA Forest Service proposes that to engage a wide spectrum of volunteers, an organization must *invite volunteers across the community*, include their opinions/ ideas and involve them in decision-making processes (Fazio, 2003).

Notably, there are some common misconceptions about trees among those living in urban settings. It is important to gain an understanding of the held negative or misdirected attitudes in order to overcome them and redirect people towards a positive path. For example, many urbanites do not know or understand the significant role that trees play in urban communities. Although many people appreciate the aesthetic qualities that trees provide, they have not been informed of the actual function of trees. The 'NIMBY' or, 'not in my backyard attitude' can be used to describe the tendency of citizens to feel as though trees require too much maintenance, are too expensive and pose a liability. Furthermore, there are urban residents who believe that because trees grow naturally in forests without the help of stewards, all trees should be able to survive on their own, regardless of their location (Broussard et al, 2009). Such a misconception proves the importance of the Initiative's education and awareness campaign.

Once a community is better informed regarding the issues involved in urban forestry, and is provided opportunities for involvement, citizens will likely begin to understand their role within their physical space and recognize their responsibilities to maintain and preserve it. This will presumably lead

to a sense of ownership, pride and appreciation for their urban forest and natural surroundings within the urban built environment.

### **Motivating Drivers for Volunteers**

There are several factors that motivate people to volunteer in tree-related initiatives, namely a sense of duty in performing community service, an intrinsic adopted value of ecological services and thus the desire to maintain and improve the benefits provided to communities from the presence of tree populations. Beyond these stated reasons, there are more subtle reasons that motivate people to volunteer, which TNC should leverage in order to increase volunteerism and thus the Initiative's impact on urban forests. James R. Fazio from The National Arbor Day Foundation explains these motivating factors in *A Practical Guide to Sustainability*; these factors include a need for public recognition, social interaction and public influence (Fazio, 2003).

### **Quantifying Volunteerism - Case Study: MillionTrees NYC**

To gain an understanding of what can be expected from your volunteers, Andrew Newman who is the Program Manager at MillionTrees NYC and Max Litt who formerly worked for the New York Restoration Project, have offered some quantifying data that will be critical to consider when implementing an urban forestry program (M. Litt, personal communication, November 9, 2012; A. Newman, personal communication, November 21, 2012). There are numerous variables to consider when organizing and planning an urban tree-planting event, which will vary in degree depending on the location. Some of these variables include: the characteristics of the location, as this will determine the level of manpower required; the type of trees to be planted and the associated costs; the quality of the soil; whether the outcome is to be purely ecological or if it will require a degree of landscape architecture. For example, tree planting in a New York neighborhood could require heavy equipment to break through asphalt, trucks to bring in high quality soil (as the soil in New York City is often degraded), and waste management to haul away the associated debris. This process can become quite costly.

There are generally three scenarios in which trees get delivered, namely container shipped, bare root or balled-and-burlapped. MillionTrees NYC almost exclusively plants balled-and-burlapped or container trees. Balled-and-burlapped trees can take anywhere from 30 minutes to an hour to plant; containerized trees, depending on their size, take anywhere from five to 20 minutes. Tree sizes are measured in gallon containers and include the tree itself plus the rootball and the soil. One to two gallon trees are less than ten pounds and are considered to be easily managed by one person. In locations where tree variety is important, larger "specimen" trees can be planted. "Specimen" trees can weigh from 500-1000 pounds and require trained supervision as well as outside contractors with specialized equipment to handle moving heavy trees.



MillionTrees NYC hosts two large-scale reforestation plantings each year that last about four hours in duration and are mainly serviced by volunteers. Additionally, they host at least 100 tree care workshops every year, which last about two hours in duration. The total number of hours TNC can expect from the volunteers is quite variable and essentially depends on how committed the individual is. However, once an individual has participated in a tree-planting event, the likelihood that they will continue to volunteer is high.

During the semi-annual reforestation event, approximately 20,000 trees get planted. The event lasts from 9 am to 1 pm, or until all the trees have been planted. The ratio of staff to volunteers is usually one staff member for every ten volunteers for planting events. For workshops and stewarding events, two to five staff members are provided to supervise groups of ten to forty volunteers. The semi-annual reforestation event costs around \$700,000 for the plant material and hole auguring. An additional \$20,000 is spent on planting equipment and other resources, which include staffing and preparation for the event. It is likely that some of these costs can be offset by event sponsorship.

## Budget and Resources

The budget will be split in two sections, cost drivers for the national program and the specific budget allocation for the project in New York City. The national-based expenses (Figure 10) will be allocated to the cities depending on the size of the city the stewardship needs. As New York City is the largest city, it will be responsible for paying 20 percent of national overheads. Philadelphia is picked as an example of the next step in the program's expansion. The total budget to implement the initiative is \$1,273,683. From this amount \$681,810 represent the costs for New York City, \$ 273,543 and \$318,329 remains in the national budget. As more cities enter the program, the New York's share of national overheads will decrease as more of these costs are allocated to the different cities. In New York, the bulk of the budget will be spent on salaries, \$270,000 for a program director and a digital marketing manager (Figure 11; Appendix 4b). The digital marketing manager will be responsible for the success of the whole marketing campaign and for managing a budget of \$31,059. Appendix 4c provides a budget for Philadelphia, which serves as an example for a smaller city.

**Figure 10: National Budget (Shared Expenses)**

|  | Cost (\$)      | Percentage (%) |
|--|----------------|----------------|
| Salaries, Wages                          | 208,000        | 65             |
| Facilities allocation                    | 12,000         | 4              |
| Creative Agency: Logo and graphic design | 16,000         | 5              |
| Website Video Production                 | 12,000         | 4              |
| Website ExtendYourRoots.org              | 3,510          | 1              |
| Social Media Strategy with MOPRO         | 66,819         | 10             |
| <b>TOTAL</b>                             | <b>318,329</b> | <b>100</b>     |

**Figure 11: New York City Budget**

| COST DRIVER            | Total          | Weight        | Marketing Objective |         |                | Conservation Driver |             |                |
|------------------------|----------------|---------------|---------------------|---------|----------------|---------------------|-------------|----------------|
|                        |                |               | Raise Awareness     | Educate | Call to Action | Planting            | Stewardship | Pest Detection |
| Overhead               | 59,000         | 8.7%          | ○                   | ○       | ○              | ○                   | ○           | ○              |
| Direct Salaries        | 270,000        | 39.6%         | ○                   | ○       | ○              | ○                   | ○           | ○              |
| Digital                | 31,059         | 4.6%          | ○                   |         | ○              | ○                   |             | ○              |
| Education              | 45,800         | 6.7%          |                     | ○       |                | ○                   | ○           | ○              |
| Out of Home            | 57,331         | 8.4%          | ○                   |         |                | ○                   | ○           | ○              |
| Corporate Partnerships | 20,470         | 3.0%          | ○                   |         | ○              | ○                   |             | ○              |
| PR                     | 6,000          | 0.9%          | ○                   |         |                |                     | ○           |                |
| BUZZ                   | 28,000         | 4.1%          | ○                   |         |                |                     | ○           |                |
| Direct Marketing       | 35,000         | 5.1%          |                     | ○       | ○              |                     | ○           |                |
| Incentives             | 129,150        | 18.9%         |                     |         | ○              | ○                   |             | ○              |
| <b>Budget Total</b>    | <b>681,810</b> | <b>100.0%</b> |                     |         |                |                     |             |                |

## Funding and Membership

In 2011, TNC secured over \$160 million in government grants and over \$450 million in dues and other contributions. Combined with other income and gifts, TNC's revenue totaled over \$1.1 billion (The Nature Conservancy's 2012 Annual Report, 43). TNC has successfully established corporate partnerships and foundation donors, such as the collaborations with Dow Chemical and Avon, and ongoing partnerships with foundations such as 3M's Community Giving program. Given TNC's existing corporate ties, it advised the Capstone Group to focus on membership strategy to continue to build individual charity loyalty. The goal of the Initiative's membership plan is to develop a novel group of members and future donors engaged in conservation activism.

### Membership

The Initiative's implementation in New York City, and in other U.S. cities, is an opportunity for the organization to appeal to new members. Building upon TNC's robust fundraising efforts, by capitalizing on the urban focus of the *Extend Your Roots* marketing campaign, the Initiative may appeal to those without prior conservation experience or exposure. By expanding its breadth of members, a greater share of the urban population will gain awareness of the Initiative and the benefits and threats to urban trees in New York City.

### Initial Target Market for New York City - Young Professionals

As previously established, the membership plan will target young professionals in their 20s and 30s because of their value of environmental protection (see Questionnaire, page 13). Building upon TNC's existing Young Professionals Group in New York City, the membership campaign for the Initiative will focus on building community and professional networking. While the current Young Professionals Group offers its members happy hours, nature trips, and volunteer opportunities, the Initiative will host networking events *in* the city with urban planners and municipal leadership focused on sustainable development and healthy urban environments.

Events for members associated with the initiative will also include a monthly breakfast and speaker series with local sustainability experts and community activists. Also, these members will be encouraged to volunteer professional skills to the development of the Initiative. Local organizations in New York City (Appendix 9) have been identified to target for membership outreach. Developing collaborative relationships with these groups can help integrate TNC into the urban landscape, further establishing its position as a leader in New York urban forest protection.

## Work Plan

The work plan (Figure 8) is an important aspect of the Business Plan as it highlights the main actions necessary to accomplish the goals of the Initiative. The work plan plots these principal actions on a timeline, which spans from month one of the Initiative's inception, to five years into the future. Each year is divided into quarters. The work plan itself is divided into two separate work plans, one consisting of tasks for the Initiative's national team to implement, and the other consisting of tasks for each city partaking in the Initiative. The tasks are divided into three categories, namely general organization, marketing, and strategic partnerships. The local city work plan also includes a fourth task category: volunteering. The main idea for the work plan is to provide a structured, logical and uniform approach to instituting the Business Plan on a national and city level.

## Monitoring Plan

The intent of the monitoring plan is to measure progress on a specified set of indicators to be used throughout the planning, implementation and achievement phases of the Initiative. The monitoring plan is intended to measure: (1) how effectively the Initiative is being managed and (2) how effectively the Initiative uses its limited resources to achieve its ultimate goals. As each city has its own unique characteristics, the TNC local office administering the Initiative will need to identify applicable indicators as it sees fit.

Indicators which measure the effectiveness of managing the Initiative—*public involvement*, *tree management* and *fundraising*—should be measured every year (Appendix 5). These items are easily measurable, but demand thorough recordkeeping on the part of TNC staff. The *public involvement* indicator seeks to measure the success of the media and educational campaigns at reaching and engaging the local community. *Tree management* seeks to apply easily quantifiable measures to the ultimate goal of increasing tree canopy. *Fundraising* measures the success of the Initiative in meeting its financial objectives through grants, private donations, events and corporate sponsorships.

The overall cost-benefit analysis (Appendix 6) compares the value of the Initiative's ultimate goals, such as increasing canopy cover, with the associated costs of operation. A holistic cost-benefit study can be performed less frequently if TNC local offices deem it's undertaking to be too expensive. Moreover, the USDA's i-Tree software should be used in quantifying the benefits of trees' ecosystem services in dollars (USDA, 2012). Adopting a program like i-Tree, a software developed by the USDA Forest Service that provides urban forestry analysis and benefits assessment tools, will help the Initiative effectively make program and budget decisions, adapt to changing conditions over time, and effectively communicate the effectiveness of the program with senior management and with the various funding sources.

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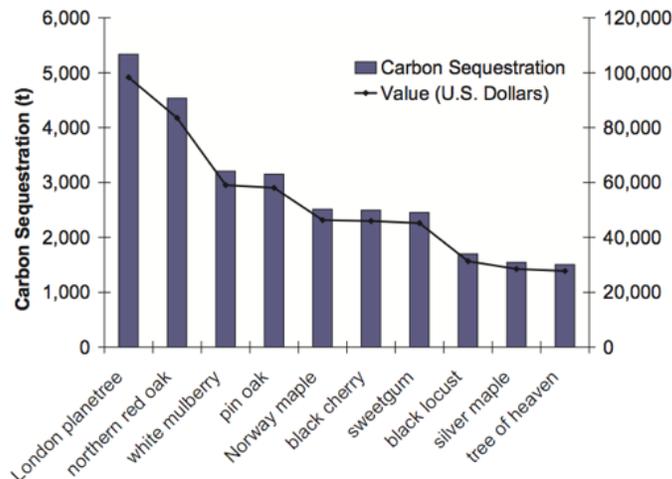
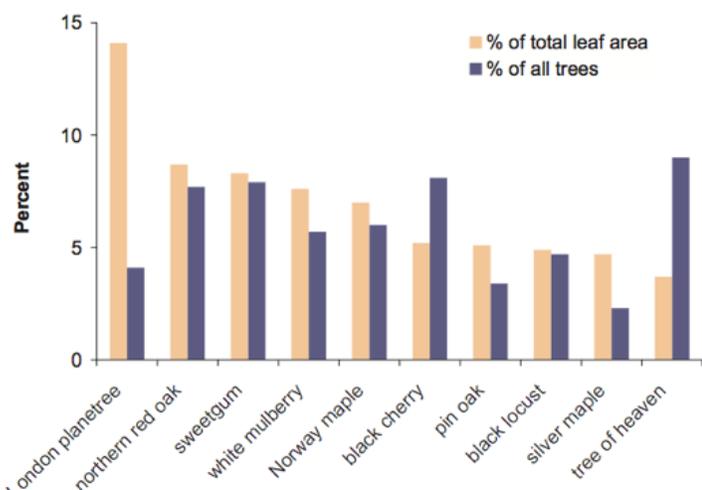
## Appendix

- Appendix 1a: Tree Density in New York City
- Appendix 1b: Carbon Sequestration
- Appendix 1c: Monetary Value of Trees
- Appendix 1d: New York City Tree Canopy
- Appendix 2: Questionnaire
- Appendix 3a: Staffing Plan TNC National
- Appendix 3b: Staffing Plan TNC NYC
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- Appendix 4a: National Budget (Shared Expenses)
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- Appendix 7: Cost Benefit of Urban Trees in New York City
- Appendix 8: Work Plan for Implementation
- Appendix 9: Potential Partner Organizations in New York City

### Appendix 1a: Tree Density in New York City

### Appendix 1b: Carbon Sequestration

Occurrence of Trees in New York City Carbon Sequestration Potential of Trees



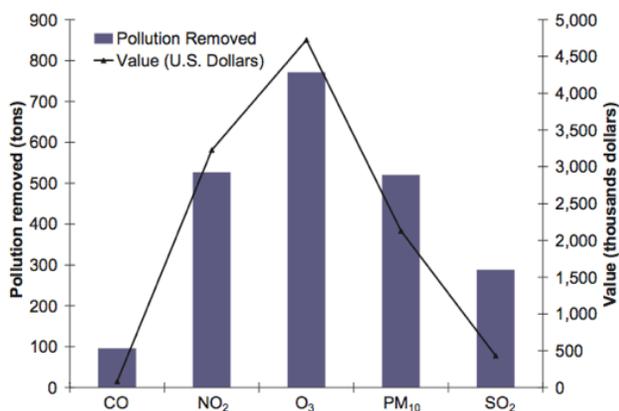
(Nowak et al., 2007) (Nowak et al., 2007)

### Appendix 1c: Monetary Value of Trees

### Appendix 1d: New York City Tree Canopy

Pollution Removed and its Monetary Value

Tree Coverage by Census Block Group



(Nowak et al., 2007)

(Peper et al., 2007)

| Questionnaire for Determining City's Focus                   |   |   |  |
|--|---|---|--|
| Objective  | Question  | Determine Target Audience   |  |
|  |   | National Data   | Local Data   |
| Objective  | Question  | Determine Feasibility of Tree Planting  |  |
|  |   | National Data   | Local Data   |
| Determine existing organizations and captured constituencies | What other organizations exist in the planting/stewardship/pest detection areas?<br>Who are those constituents? |   | Local TNC office can assemble this information with local municipalities and NGOs  |
|  | Which age groups have the most discretionary income in your city?   | <a href="http://www.scribd.com/doc/71143235/Demographics-of-Who-Has-the-Money">http://www.scribd.com/doc/71143235/Demographics-of-Who-Has-the-Money</a><br><a href="http://www.bls.gov/cex/#tables">BLS Discretionary Income Data: http://www.bls.gov/cex/#tables</a> | Understanding which groups have discretionary income will give TNC information on potential target donors.   |
|  | Which age groups are growing in your city?<br>What is the distribution of ages within your city?                | US Census   | TNC's target audience should target sizeable constituencies in the city. Age is just one defining characteristic.  |
|  | What age group volunteers the most hours?   | BLS Volunteering Data: <a href="http://www.bls.gov/news.release/volun.nr0.htm">http://www.bls.gov/news.release/volun.nr0.htm</a>  | Understanding groups' volunteer patterns will help help TNC market its volunteer initiatives.  |
|  | Who cares about environmental issues?   | <a href="http://www.gallup.com/poll/153515/America-Is-prioritize-economic-growth-environment.aspx">http://www.gallup.com/poll/153515/America-Is-prioritize-economic-growth-environment.aspx</a>   | Understanding which groups most value environmental issues will help predict interest and involvement in HUTI.   |
|  | Ethnicity and languages spoken  | US Census data: Population: Ancestry, Language Spoken At Home   | TNC can customize its marketing information with translated marketing materials  |
| Growth Potential for Additional Trees                        | Who is the realistic target for tree canopy cover in your city?   | Use census data to determine geographic area of different types of neighborhoods to calculate realistic tree canopy   | Before setting tree planting goals, the local TNC office must assess the current tree canopy and the realistic target for tree canopy. Examining the difference between these figures should be the basis for the number of trees organizations across the city should aim to plant. |
|  | What is the current tree canopy in your city?   | USDA FIDO, FIA data mart <a href="http://www.fia.fs.fed.us/tools-data/default.asp">http://www.fia.fs.fed.us/tools-data/default.asp</a>  |  |
|  | How many trees have been planted by active volunteer organizations in the last year?                            | Accounting for the growth potential for trees and the existing volunteer efforts, is there an incremental benefit for HUTI to engage in tree planting? If yes, where can it add value?  | Local TNC office can assemble this information with local municipalities and NGOs  |

| Objective                                     |   | Question  |  | Decision Criteria  |  | Determine need for stewardship        |  | Rationale for Question |  |
|---|---|---|--|--|--|---------------------------------------|--|------------------------|--|
|   |   | National Data   |  | Local Data   |  |                                       |  |                        |  |
| Determine existing tree care efforts          | Which organizations currently care for the city's trees?  | Qualitative analysis by local TNC Office: Determine TNC's ability to add value in field of tree stewardship   | Local TNC office can assemble this information with local municipalities and NGOs  | Determining existing tree maintenance actors and their reach will help TNC determine the level of need in tree maintenance.  |  |                                       |  |                        |  |
|   | Percentage of trees serviced on an annual basis?  |   |  | Determining existing tree education actors and their reach will help TNC determine the level of need in tree education.  |  |                                       |  |                        |  |
|   | What organizations exist for educating about tree stewardship? How many people does this organization educate per year? |   |  | Comparing the mortality rate of trees in urban areas (status quo) and the mortality rate of trees in nearby rural areas (the goal) will help TNC determine the desired level of tree maintenance.  |  |                                       |  |                        |  |
| Determine existing tree stewardship education | What percentage of trees die in your city every year?   | % higher of the city mortality rate than surrounding rural counties   | USDA FIDO, FIA data mart<br><a href="http://www.fia.fs.fed.us/tools-data/default.asp">http://www.fia.fs.fed.us/tools-data/default.asp</a>                                |  |  |                                       |  |                        |  |
|   | What percentage of trees die in surrounding rural areas every year (to determine baseline)                              |   |  |  |  |                                       |  |                        |  |
| Objective                                     |   | Question  |  | Decision Criteria  |  | Determine the Need for Pest Detection |  | Rationale for Question |  |
|   |   | National Data   |  | Local Data   |  |                                       |  |                        |  |
| Determine existing threats from pests         | Have there ever been pest outbreaks in your city?   | Qualitative analysis by local TNC office: Is the threat from pests ACCUTE, MODERATE, or LOW<br><br>Are certain neighborhoods at higher risk of outbreaks?<br><br>Where can TNC add resources in the most beneficial manner? | OUI Smart App<br><br><a href="http://www.aphis.usda.gov/plant_health/plant_pest_info/index.shtml">http://www.aphis.usda.gov/plant_health/plant_pest_info/index.shtml</a> | These questions seek to examine whether there have historically been pest outbreaks in the city. If there have been outbreaks, the local TNC office should determine their severity and what actions were taken by the city to remediate the problem.  |  |                                       |  |                        |  |
|   | What years did the outbreaks occur?   |   |  |  |  |                                       |  |                        |  |
|   | What pests have been detected?  |   |  | NVC: Trees susceptible to Longhorn beetle:<br><a href="http://www.nycgovparks.org/trees/species-list">http://www.nycgovparks.org/trees/species-list</a><br><a href="http://www.nycgovparks.org/trees/tree-census/2005-2006/results">http://www.nycgovparks.org/trees/tree-census/2005-2006/results</a> |  |                                       |  |                        |  |
|   | What trees are susceptible to these pests?  |   |  | USDA Plant Health Site<br><a href="http://www.aphis.usda.gov/plant_health/plant_pest_info/index.shtml">http://www.aphis.usda.gov/plant_health/plant_pest_info/index.shtml</a>  |  |                                       |  |                        |  |
| Determine susceptibility to pests             | List your top ten most prevalent trees, what percentage of the urban canopy do those trees make up?                     |   |  | These questions seek to predict potential weaknesses in the urban forest--lack of diversity and weak mechanisms for pest detection--which could make it susceptible to future outbreaks.   |  |                                       |  |                        |  |
|   | Are certain neighborhoods more homogeneous in their tree distribution?  |   |  |  |  |                                       |  |                        |  |
|   | Are there any organizations currently working on pest detection?  |   |  |  |  |                                       |  |                        |  |

### Appendix 3a: Staffing Plan - TNC National

| Employee Classification                  | Annual Salary Range  | Job Description  |
|--|----------------------|--|
| Executive Director                       | \$115 - \$115K       | <ul style="list-style-type: none"> <li>• Program Development</li> <li>• Oversees accounting and budgets</li> <li>• Oversee the heads of each department, including marketing and fundraising</li> </ul>  |
| Senior Communications Director           | \$60 - \$70K         | <ul style="list-style-type: none"> <li>• Oversees effective marketing strategy</li> <li>• Develops media contacts</li> <li>• Creates and implements strategies for internal communications</li> <li>• Works with Executive Director to implement the Initiative</li> </ul> |
| Employee Benefit Package paid for by TNC | 30% of annual salary | Group health, dental, vision and life insurance, disability, retirement, sick leave and vacation   |



### Appendix 3b: Staffing Plan – New York City

| Employee Classification                  | Annual Salary Range                       | Job Description  |
|--|---|--|
| Program Director                         | \$80 - \$85K                              | <ul style="list-style-type: none"> <li>• Liaise with TNC national organization, government agencies and community and partner organizations</li> <li>• Provide leadership in the development and management of the Initiative program, including marketing</li> <li>• Raise and allocate the necessary funds to meet the programmatic and organizational goals including communication with donors, recruiting new donors, retaining existing donors, developing grant proposals, maintaining foundation relations, develop corporate donor program and identify additional sources of revenue</li> <li>• Develop, promote and implement new or improved approaches, models and strategies for advancing the growth and maintenance of US urban forest canopy</li> </ul> |
| Digital Manager                          | \$60 - \$65K                              | <ul style="list-style-type: none"> <li>• Devise strategies to drive online traffic to the company website</li> <li>• Track conversion rates and make improvements to the website</li> <li>• Develop and manage digital marketing campaigns</li> <li>• Oversee the social media strategy for the company</li> <li>• Manage online brand campaigns</li> <li>• Improve the usability, design, content, and conversion rates of the company website</li> <li>• Control budget and marketing</li> </ul>   |
| Program Coordinator                      | \$40 - \$45K                              | <ul style="list-style-type: none"> <li>• Direct monitoring projects, including annual conservation and stewardship progress</li> <li>• Support and direct stewardship components of the HUTI program including invasive species management and maintenance of land management record keeping</li> <li>• Lead site management planning efforts for all cities</li> <li>• Recruit, plan and coordinate the work of volunteers</li> <li>• Direct outreach efforts at local festivals and to communities and local opinion leaders</li> </ul>  |
| Intern                                   | college credit available for compensation | <ul style="list-style-type: none"> <li>• Science and data research as necessary</li> <li>• Provide general program office support as needed</li> <li>• Type and proofread proposals, newsletters and other written material</li> <li>• Answer phones and greet visitors</li> <li>• Maintain office supply levels</li> <li>• Email, scan, copy, print and record keeping</li> </ul>   |
| Employee Benefit Package paid for by TNC | 30% of annual salary                      | Group health, dental, vision and life insurance, disability, retirement, sick leave and vacation   |

### Appendix 3c: Staffing Plan Philadelphia

| Employee Classification                  | Annual Salary Range                       | Job Description   |
|--|---|---|
| Program Coordinator                      | \$60 - \$65K                              | <ul style="list-style-type: none"> <li>• Liaise with TNC national headquarters, other public sector agencies, government representatives and community and partner organizations</li> <li>• Leadership in the development and management of the HUTI program, including marketing</li> <li>• Raise and allocate the necessary funds to meet the programmatic and organizational goals including communication with donors, recruiting new donors, retaining existing donors, developing grant proposals, maintaining foundation relations, develop corporate donor program and identify additional sources of revenue</li> <li>• Develop, promote and implement new or improved approaches, models and strategies for advancing the growth and maintenance of US urban forest canopy</li> </ul> |
| Part-Time Digital Manager                | \$40 - \$45K                              | <ul style="list-style-type: none"> <li>• Devise strategies to drive online traffic to city specific website</li> <li>• Track conversion rates and make improvements to the website</li> <li>• Manage digital marketing campaigns</li> <li>• Manage online brand campaigns</li> </ul>  |
| Intern                                   | college credit available for compensation | <ul style="list-style-type: none"> <li>• Science and data research as necessary</li> <li>• Provide general program office support as needed</li> <li>• Typing and proofreading proposals, newsletters and other written material</li> <li>• Answer phones and greet visitors</li> <li>• Maintain office supply levels</li> <li>• Email, scan, copy, print and record keeping</li> </ul>   |
| Employee Benefit Package paid for by TNC | 30% of annual salary                      | Group health, dental, vision and life insurance, disability, retirement, sick leave and vacation  |



## Appendix 4a: National Budget (Shared Expenses)

# Healthy Urban Tree Initiative National Budget

|  | Total          | Weight        |
|--|----------------|---------------|
| <b>Overhead</b>                          | <b>318,329</b> | <b>100.0%</b> |
| Salaries                                 | 208,000        | 65.3%         |
| Facilities                               | 12,000         | 3.8%          |
| Creative Agency: Logo and Graphic Design | 16,000         | 5.0%          |
| YouTube Video Production                 | 12,000         | 3.8%          |
| Website extendyourroots.org              | 3,510          | 1.1%          |
| Social Media strategy with MOPRO         | 66,819         | 9.8%          |



## Appendix 4b: New York City Budget

## Healthy Urban Tree Initiative Budget for NYC

|  | Total          | Weight        |
|--|----------------|---------------|
| <b>Budget Total</b>                        | <b>681,810</b> | <b>100.0%</b> |
| <b>Overhead</b>                            | <b>59,000</b>  | <b>8.7%</b>   |
| Salaries                                   | 52,000         | 7.6%          |
| Facilities allocation                      | 3,000          | 0.4%          |
| Creativity agency: Logo and Graphic design | 4000           | 0.6%          |
| <b>Direct Salaries</b>                     | <b>270,000</b> | <b>39.6%</b>  |
| NYC Program Director                       | 120,000        | 17.6%         |
| Digital Manager                            | 90,000         | 13.2%         |
| Program Coordinator                        | 60,000         | 8.8%          |
| Part time intern                           | 0              | 0.0%          |
| <b>Digital</b>                             | <b>31,059</b>  | <b>4.6%</b>   |
| Website extendyourroots.org                | 878            | 0.1%          |
| Social Media Strategy with MOPRO           | 18,059         | 2.6%          |
| YouTube video production and promotion     | 3,000          | 0.4%          |
| Promoting Instagram photo contest          | 2,000          | 0.3%          |
| Web Advertising                            | 8,000          | 1.2%          |
| <b>Education</b>                           | <b>45,800</b>  | <b>6.7%</b>   |
| Education kit content                      | 32,000         | 4.7%          |
| Curriculum content                         | 1,600          | 0.2%          |
| Poster content                             | 3,200          | 0.5%          |
| Digital Kit design                         | 7,200          | 1.1%          |
| Poster design                              | 1,800          | 0.3%          |
| <b>Out of Home</b>                         | <b>57,331</b>  | <b>8.4%</b>   |
| Public transportation campaign             | 49,331         | 7.2%          |
| Interior display horizontal format         | 15,000         |               |

|                                  |                |              |
|----------------------------------|----------------|--------------|
| Interior display vertical format | 2,813          |              |
| 2 Sheet                          | 1,519          |              |
| Bus Shelter                      | 30,000         |              |
| Outdoor tree posters campaign    | 8,000          | 1.2%         |
| <b>Corporate Partnerships</b>    | <b>20,470</b>  | <b>3.0%</b>  |
| National Geographic              | 7,500          | 1.1%         |
| Photography Courses              | 5,000          |              |
| Trip to the Amazon               | 2,500          |              |
| Bloomberg                        | 0              | 0.0%         |
| Co-development with Google       | 10,000         | 1.5%         |
| Whole Foods                      | 2,970          | 0.4%         |
| Brochures                        | 750            |              |
| Education Guide in Paperbags     | 1,500          |              |
| Displays on Counters             | 720            |              |
| <b>PR</b>                        | <b>6,000</b>   | <b>0.9%</b>  |
| Opinion Leaders' Promotion       | 6,000          | 0.9%         |
| <b>BUZZ</b>                      | <b>28,000</b>  | <b>4.1%</b>  |
| Earth Day                        | 20,000         | 2.9%         |
| Other Events                     | 8,000          | 0.6%         |
| <b>Direct Marketing</b>          | <b>35,000</b>  | <b>5.1%</b>  |
| Community Mailing                | 10,000         | 1.5%         |
| Door Hangers                     | 10,000         | 1.5%         |
| Brochures                        | 15,000         | 0.6%         |
| <b>Incentives</b>                | <b>129,150</b> | <b>18.9%</b> |
| Gala Event                       | 50,000         | 7.3%         |
| Giveaways with Logos             | 400            | 0.1%         |
| Speaker events                   | 3,750          | 0.6%         |
| Volunteer events                 | 75,000         | 11.0%        |

|                                    |                |              |
|------------------------------------|----------------|--------------|
| <b>Out of Home</b>                 | <b>57,331</b>  | <b>8.5%</b>  |
| Public Transportation Campaign     | 49,331         | 7.3%         |
| Interior Display Horizontal Format | 15,000         |              |
| Interior Display Vertical Format   | 2,813          |              |
| Two sheet                          | 1,519          |              |
| Bus shelter                        | 30,000         |              |
| Outdoor tree posters campaign      | 8,000          | 1.2%         |
| <b>Corporate Partnerships</b>      | <b>20,470</b>  | <b>3.0%</b>  |
| National Geographic                | 7,500          | 1.1%         |
| Photography Courses                | 5,000          |              |
| Trip to the Amazon                 | 2,500          |              |
| Bloomberg                          | 0              | 0.0%         |
| Co-development with Google         | 10,000         | 1.5%         |
| Whole Foods                        | 2,970          | 0.4%         |
| Brochures                          | 750            |              |
| Education Guide on Paperbags       | 1,500          |              |
| Displays in Counters               | 720            |              |
| <b>PR</b>                          | <b>6,000</b>   | <b>0.9%</b>  |
| Opinion Leaders' Promotion         | 6,000          | 0.9%         |
| <b>BUZZ</b>                        | <b>28,000</b>  | <b>4.1%</b>  |
| Earth Day                          | 20,000         | 3.0%         |
| Other Events                       | 8,000          | 0.6%         |
| <b>Direct Marketing</b>            | <b>35,000</b>  | <b>5.2%</b>  |
| Community Mailing                  | 10,000         | 1.5%         |
| Door hangers                       | 10,000         | 1.5%         |
| Brochures                          | 15,000         | 0.6%         |
| <b>Incentives</b>                  | <b>129,150</b> | <b>19.1%</b> |
| Gala Event                         | 50,000         | 7.4%         |
| Giveaways with Logos               | 400            | 0.1%         |
| Speaker Events                     | 3,750          | 0.6%         |
| Volunteer Events                   | 75,000         | 11.1%        |

## Appendix 4c: Small City Budget

## Small City Example: Philadelphia

|  | Total          | Weight        |
|--|----------------|---------------|
| <b>Budget Total</b>                        | <b>273,543</b> | <b>100.0%</b> |
| <b>Overhead</b>                            | <b>17,700</b>  | <b>2.6%</b>   |
| Salaries, wages                            | 15,600         | 2.3%          |
| Facilities allocation                      | 900            | 0.1%          |
| Creativity agency: logo and graphic design | 1200           | 0.2%          |
| <b>Direct Salaries</b>                     | <b>150,000</b> | <b>22.0%</b>  |
| Program coordinator                        | 90,000         | 13.2%         |
| Part time Digital Administrator            | 60,000         | 8.8%          |
| Part time intern                           | 0              | 0.0%          |
| Website extendyourroots.org                |                |               |
| <b>Digital</b>                             | <b>9,318</b>   | <b>1.4%</b>   |
| Website extendyourroots.org                | 263            | 0.0%          |
| Social Media strategy with MOPRO           | 5,418          | 0.8%          |
| Youtube video production and promotion     | 900            | 0.1%          |
| Promoting Instagram photo contest          | 600            | 0.1%          |
| Web Advertising                            | 2,400          | 0.4%          |
| <b>Education</b>                           | <b>13,740</b>  | <b>2.0%</b>   |
| Education kit content                      | 9,600          | 1.4%          |
| Curriculum content                         | 480            | 0.1%          |
| Poster content                             | 960            | 0.1%          |
| Digital Kit design                         | 2,160          | 0.3%          |
| Poster design                              | 540            | 0.1%          |
| <b>Out of Home</b>                         | <b>17,199</b>  | <b>2.5%</b>   |
| Public Transportation Campaign             | 14,799         | 2.2%          |
| Interior display horizontal format         | 4,500          |               |
| Interior display vertical format           | 844            |               |
| 2 Sheet                                    | 456            |               |

|                               |               |             |
|-------------------------------|---------------|-------------|
| Bus Shelter                   | 9,000         |             |
| Outdoor tree posters campaign | 2,400         | 0.4%        |
| <b>Corporate Partnerships</b> | <b>6,141</b>  | <b>0.9%</b> |
| National Geographic           | 2,250         | 0.3%        |
| photography courses           | 1,500         |             |
| Trip to the Amazon            | 750           |             |
| Bloomberg                     | 0             | 0.0%        |
| Co-development with Google    | 3,000         | 0.4%        |
| Whole Foods                   | 891           | 0.1%        |
| Brochures                     | 225           |             |
| Education Guide in Paperbags  | 450           |             |
| Displays on Counters          | 216           |             |
| <b>PR</b>                     | <b>1,800</b>  | <b>0.3%</b> |
| Opinion leaders' promotion    | 1,800         | 0.3%        |
| <b>BUZZ</b>                   | <b>8,400</b>  | <b>1.2%</b> |
| Earth Day                     | 6,000         | 0.9%        |
| Other Events                  | 2,400         | 0.6%        |
| <b>Direct Marketing</b>       | <b>10,500</b> | <b>1.5%</b> |
| Community mailing             | 3,000         | 0.4%        |
| Door hangers                  | 3,000         | 0.4%        |
| Brochures                     | 4,500         | 0.6%        |
| <b>Incentives</b>             | <b>38,745</b> | <b>5.7%</b> |
| Gala Event                    | 15,000        | 2.2%        |
| Giveaways with Logos          | 120           | 0.0%        |
| Speaker events                | 1,125         | 0.2%        |
| Volunteer events              | 22,500        | 3.3%        |

## Appendix 4d: MOPRO Budget

InTheMO Interactive  
 11925 Wilshire Blvd #200  
 Los Angeles CA 90048  
 United States



Inigo Larraya

Estimate # 3178

Estimate Date December 6, 2012

**Estimate Total \$90,295.50 USD**

| Item                   | Description                            | Unit Cost | Quantity | Line Total             |
|------------------------|--|-----------|----------|------------------------|
| Project Manager        | Project Management                     | 600.00    | 16       | 9,600.00               |
| Creative Director      | Concepting, Style & Layout             | 850.00    | 3        | 2,550.00               |
| Design Team            | Design All Creative Components         | 660.00    | 19       | 12,540.00              |
| Lead Analyst           | Lead Analysis                          | 850.00    | 21       | 17,850.00              |
| Director of Technology | Application Development & Architecture | 1,250.00  | 6        | 7,500.00               |
| Technology Team        | Application Build & Development        | 750.00    | 34       | 25,500.00              |
| GUI                    | Graphic User Interface and GUI fixing  | 650.00    | 12       | 7,800.00               |
| DBA                    | Data Base Administration               | 750.00    | 1        | 750.00                 |
| Testing                | Bug Fixing, Cross Browser Analysis     | 690.00    | 26       | 17,940.00              |
| Test Cases             | Testing the app for bugs               | 600.00    | 5        | 3,000.00               |
| Verification           | Verification                           | 400.00    | 3        | 1,200.00               |
| <b>Subtotal</b>        |  |           |          | <b>106,230.00</b>      |
| Discount - 15%         |  |           |          | -15,934.50             |
| <b>Estimate Total</b>  |  |           |          | <b>\$90,295.50 USD</b> |



### Appendix 5: Monitoring Plan

| Effectiveness of Managing the Healthy Urban Tree Initiative |   |  |
|---|---|--|
| Major Indicator   | Measurement   | Unit   |
| Public Involvement  | Volunteers trained through stewardship program                        | Count/Year                                   |
| Public Involvement  | Volunteers participating  | Count/Year                                   |
| Public Involvement  | Inquiries for assistance and information                              | Count/Year                                   |
| Public Involvement  | Volunteer satisfaction  | Average Survey Score                         |
| Public Involvement  | Presentations and educational events                                  | Count/Year                                   |
| Public Involvement  | Reach of media campaign   | Estimated of people reached through campaign |
| Public Involvement  | Involvement with local and neighborhood organizations                 | Count/Year                                   |
| Public Involvement  | TNC members recruited through involvement with the Healthy Urban Tree | Count/Year (self report)                     |
| Tree Management   | Trees Planted   | Dollars/Year                                 |
| Tree Management   | Acres of trees serviced through stewardship                           | Dollars/Year                                 |
| Tree Management   | Number of pests detected  | Dollars/Year                                 |
| Fundraising   | Funds raised through grants (government, NGOs, foundations)           | Dollars/Year                                 |
| Fundraising   | Funds raised through private donations                                | Dollars/Year                                 |
| Fundraising   | Funds raised through TNC events (i.e., gala)                          | Dollars/Year                                 |
| Fundraising   | Funds raised through corporate sponsorships                           | Dollars/Year                                 |



### Appendix 6: Cost Benefit of the Healthy Urban Tree Initiative

| Cost Benefit of the Healthy Urban Tree Initiative |   |                  |
|---|---|------------------|
| Major Indicator                                   | Measurement   | Unit             |
| Cost  | Staffing  | Dollars/Year     |
| Cost  | Overheads   | Dollars/Year     |
| Cost  | Media Campaign  | Dollars/Year     |
| Cost  | Volunteer Resources in Tree Planting                        | Man Hours/ Year  |
| Cost  | Volunteer Resources in tree stewardship                     | Man Hours/ Year  |
| Benefit   | Associated value from Changes to the Canopy Cover           | Percentage       |
| Benefit   | Associated value from Changes to the survival rate of trees | Dead Trees Count |
| Benefit   | Associated value from Public knowledge base of Trees        | Survey Score     |



### Appendix 7: Cost Benefit of Urban Trees in New York City

| <b>Benefits</b>           | <b>Total (\$)</b>  | <b>\$/tree</b> | <b>\$/capita</b> |
|---------------------------|--------------------|----------------|------------------|
| Energy                    | 27,818,220         | 47.63          | 3.41             |
| CO <sub>2</sub>           | 754,947            | 1.29           | 0.09             |
| Air quality               | 5,269,572          | 9.02           | 0.65             |
| Stormwater                | 35,628,224         | 61.00          | 4.36             |
| Aesthetic/other           | 52,492,384         | 89.88          | 6.43             |
| <b>Total benefits</b>     | <b>121,963,347</b> | <b>208.83</b>  | <b>14.93</b>     |
| <b>Costs</b>              |                    |                |                  |
| Planting                  | 8,160,000          | 13.97          | 1.00             |
| Contract pruning          | 1,871,000          | 3.20           | 0.23             |
| Pest management           | 135,000            | 0.23           | 0.02             |
| Removal                   | 1,784,976          | 3.06           | 0.22             |
| Administration            | 6,255,000          | 10.71          | 0.77             |
| Infrastructure repairs    | 3,000,000          | 5.14           | 0.37             |
| Other costs               | 568,600            | 0.97           | 0.07             |
| <b>Total costs</b>        | <b>21,774,576</b>  | <b>37.28</b>   | <b>2.67</b>      |
| <b>Net benefits</b>       | <b>100,188,771</b> | <b>171.55</b>  | <b>12.27</b>     |
| <b>Benefit-cost ratio</b> |                    | <b>5.60</b>    |                  |

(Peper, 2007)

### Appendix 8: Work Plan for Implementation

|   |   | Year 1 |    |    |    | Year 2 |    |    |    | Year 3 |    |    |    | Year 4 |    |    |    | Year 5 |    |    |    |  |
|---|---|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--------|----|----|----|--|
|   |   | Q1     | Q2 | Q3 | Q4 |  |
| <b>NATIONAL TASKS</b>   | <b>General Organization</b>   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Define Mission of HUTI and actions needed to implement that mission       |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Define national budget and local budgets                                  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Secure grants and funding   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Hire national staff   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Create and Launch HUTI website  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | <b>Marketing</b>  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Create HUTI education toolkit   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Create HUTI ads and promotional materials                                 |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Launch national digital media campaign (YouTube, Facebook)                |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Contact national publications with HUTI information                       |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Update marketing materials with local feedback and success data           |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | <b>Strategic Partnerships</b>   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Contact national NGOs   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
| Contact potential national partners for sponsorship and collaboration |   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
| <b>LOCAL CITY TASKS</b>   | <b>General Organization</b>   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Analyze local priorities using questionnaire                              |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Contact local NGOs to identify areas for collaboration                    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Hire local staff  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Create and launch city webpage  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | <b>Marketing</b>  |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Launch local digital media campaign using local celebrities and interests |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Distribute educational toolkits to target audiences                       |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Update educational and promotional material using local feedback          |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | <b>Strategic Partnerships</b>   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
|   | Contact potential local corporations for sponsorship and collaboration    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
| <b>Volunteering</b>   |   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
| Organize tree planting and stewardship events for individuals         |   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |
| Organize tree planting and stewardship events for local organizations |   |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |        |    |    |    |  |

Groundwork  
by National  
Level of  
Healthy  
Urban Tree  
Initiative

## Appendix 9: Potential Partner Organizations in New York City

| Organizations Targeting Young Professionals      |   |
|--|---|
| Big Brothers and Big Sisters                     | <a href="http://www.bigsny.org/v-ypc.php">www.bigsny.org/v-ypc.php</a>  |
| Give and Get New York City                       | <a href="http://giveandgetnyc.org/resources/finding-volunteer-opportunities/">http://giveandgetnyc.org/resources/finding-volunteer-opportunities/</a> |
| I Can Volunteer                                  | <a href="http://icanvolunteer.com/Home.html">http://icanvolunteer.com/Home.html</a>   |
| IOBY   | <a href="http://ioby.org/">http://ioby.org/</a>   |
| New York Cares                                   | <a href="http://www.newyorkcares.org/">www.newyorkcares.org/</a>  |
| Street Project                                   | <a href="http://www.streetproject.org/">www.streetproject.org/</a>  |
| The New York Urban League of Young Professionals | <a href="http://www.nyul.org/join_yp.html">www.nyul.org/join_yp.html</a>  |
| Young Professionals Impacting New York City      | <a href="http://www.nycties.org/">www.nycties.org/</a>  |
| Organizations Targeting Community Engagement     |   |
| Manhattan  |   |
| 92 <sup>nd</sup> Street Y                        | <a href="http://www.92y.org">www.92y.org</a>  |
| Goddard  | <a href="http://goddard.org/">goddard.org/</a>  |
| Grow New York City                               | <a href="http://www.grownyc.org/">www.grownyc.org/</a>  |
| Harlem Grown                                     | <a href="http://harlemgrown.org/">http://harlemgrown.org/</a>   |
| Isaac's Center                                   | <a href="http://www.grownyc.org/">www.grownyc.org/</a>  |
| West Side Community Garden                       | <a href="http://www.westsidecommunitygarden.org/">www.westsidecommunitygarden.org/</a>  |
| Brooklyn   |   |
| Peace Corps, Brooklyn and Queens                 | <a href="http://peacecorps.meetup.com/cities/us/ny/brooklyn/">peacecorps.meetup.com/cities/us/ny/brooklyn/</a>  |
| Spontaneous Good                                 | <a href="http://www.meetup.com/SpontaneousGood/">www.meetup.com/SpontaneousGood/</a>  |
| The Brooklyn Botanic Garden                      | <a href="http://www.bbg.org/get_involved/volunteer">www.bbg.org/get_involved/volunteer</a>  |
| Queens   |   |
| Green Shores New York City                       | <a href="http://www.greenshoresnyc.org/index.html">www.greenshoresnyc.org/index.html</a>  |
| The Astoria Park Alliance                        | <a href="http://www.waterfrontalliance.org/partners/astoria-park-alliance">www.waterfrontalliance.org/partners/astoria-park-alliance</a>              |
| Bronx  |   |
| Bronx River Alliance                             | <a href="http://bronxriver.org/">http://bronxriver.org/</a>   |
| Van Cortland Park Conservancy                    | <a href="http://vcpark.org/">http://vcpark.org/</a>   |
| Staten Island                                    |   |
| Green Belt Conservancy                           | <a href="http://sigreenbelt.org/">http://sigreenbelt.org/</a>   |
| Staten Island Parent                             | <a href="http://www.siparent.com/">www.siparent.com/</a>  |