

**Challenges of Public-Private Partnerships:
A Case Study of the Boston Urban Forest Coalition**

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Abstract

Urban tree planting programs proliferated during the early 2000s. As a result of stressed and shrinking municipal budgets, the public-private partnership emerged as a strategy for expanding the urban tree canopy and promoting more equitable canopy cover across the city landscape. The Boston Urban Forest Coalition set a goal of planting 100,000 trees through its Grow Boston Greener initiative. Presented here is a case study of the Boston experience, including barriers and impediments faced in the partnership as well as the results of the efforts. Recommendations are made to improve the public-private partnership approach to expand the urban tree canopy in the City of Boston in the future.

I would like to dedicate this thesis to my spouse and best friend, Sara Allred, as well as my parents James and Janice Petit de Mange. Sara's love and patience buoyed me when I was sinking and thought I would never finish. Similarly, without the unconditional love and support of my parents I would have never found my path in life.
I am forever grateful.

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Introduction

Urban trees have been a focus of academic study in recent decades as the ecological, social, human health, and economic benefits of trees have been recognized (McPherson, 1990; Dwyer et al., 1992; Donovan et al., 2013).

Beyond their place in the forest ecosystem, trees have become part of the so-called “green infrastructure” as cities, at times unknowingly, rely on them to mitigate many forms of pollution and heat stress that threaten lives and the built environment (Dwyer et al, 1992). Trees attenuate stormwater runoff in otherwise impervious landscapes (Meier, 1991). They improve mood and mental health (Taylor et al., 1998), property value (Cook, 1978), and air quality (Donovan et al, 2013). With the many benefits associated with trees in the human environment, it is important to understand how tree numbers can be increased and how trees can be better integrated into the built environment.

Knowing the benefits of living alongside forests, the United Nations in 2006, called upon cities across the world to cumulatively plant one billion trees each year in hopes that greater numbers of trees will ameliorate socio-environmental problems for the Earth’s growing urban population (UN, 2011). While many billions of trees have been planted worldwide in recent years (UNEP, 2011); only a small portion of those trees have been planted in the United States. It is curious that a one of the leading nations in the world cannot find a means to plant trees more prolifically. While ambitious tree planting campaigns

have been launched across the country, few have met their goals, and only New York stands out as it approaches completion of its robust one million tree mission. In Boston however, a city that claims a progressive and *green* identity, the goal of 100,000 trees launched in 2007 remains unattainable. It begs the question; how do cities implement large-scale tree planting initiatives with lean budgets, varying levels of expertise, and mixed interest from municipal agencies and residents? Many cities find the way forward through public-private partnership.

During the mid-2000s, the public-private partnership became a dominant model that cities used to expand their urban tree canopy - notably million tree initiatives in New York and Los Angeles and hundreds of smaller campaigns across the country. Those programs, despite considerable differences, featured partnerships between city government and local non-profit and for-profit companies.

In 2007, coinciding with the UN's call for tree planting, an initiative was launched in Boston to plant 100,000 trees within the city by the year 2020, effectively expanding its tree canopy as percentage of total city area from 29% to 35% (Danford et al, 2014). Dubbed Grow Boston Greener (GBG), the program was launched as a mini-grant available to non-profit organizations in the city to plant trees with local volunteers. The GBG program was an outgrowth of a nascent working group calling itself the Boston Urban Forest Coalition; a collaboration of city, state, federal, and non-profit partners with the mission of

expanding Boston's urban tree canopy. The mini-grant component of GBG was to be just one part of a suite of tree planting plans that would combine to reach the goal.

This thesis will explain how the Boston Urban Forest Coalition operated by asking the following research questions: What barriers and impediments did the Boston Urban Forest Coalition (BUFC) face? What were the results of the efforts of BUFC? Should a partnership again be a way to expand Boston's urban tree canopy and what would that look like? By answering those questions, recommendations can be aimed at addressing deforestation in cities like Boston. I start with some background on urban trees, an overview of urban tree planting programs, and a brief discussion of methods. This is followed by a review of the literature surrounding public-private partnerships and the neoliberalization of policies that force such collaboration in search of creating public good. Next, I relay the results of interviews with members of the Boston Urban Forest Coalition and insights learned from reviewing internal and public documents, press releases, and primary literature that specifically discuss the partnership and its work. I follow that with a discussion of the Boston experience in relation to the literature on public-private partnership and efforts in other cities. I finish with a series of detailed recommendations for how the City of Boston and its partners from the BUFC might rekindle the partnership and operate more effectively toward improving Boston's urban tree canopy.

Planting Trees in Urban Spaces

Today, many cities are expanding green space and planting trees. That trees generate a variety of benefits for human and natural systems is well documented (Dwyer et. al, 1992). Despite concerted efforts, the trend is still that many growing cities across the United States are losing trees and converting open space to impervious cover like roads and parking lots as human population shifts to urban centers (Nowak & Greenfield, 2012). With the aim of reversing this trend, US cities are preserving existing forests, redeveloping parts of the built environment into open space, and trying to influence the planting of trees on public and private lands. Recently, the most popular way to plant trees is through citywide, City-led tree planting initiatives (e.g. MillionTreesNYC, CityPlants (LA)). These programs vary in structure and function, and have experienced a mix of success and failure. Presented here is background on urban tree planting relevant to our discussion and an overview of two tree planting programs, City Plants (Los Angeles) and MillionTreesNYC (New York).

The Case for Urban Forests

The management of urban forests is often a practice in accounting for and remediating historic environmental degradation or plain misjudgments (Campbell, 2014). The approach taken to manage or grow an urban forest, where and how, is often dictated by private and public interests at the local

level; forces that are unique to each city. It is important here to define *political ecology* as it is a term with great relevance to the urban forest: *political ecology is the interaction between political, economic, and social forces embedded in existing power structures as they relate to the resolution of environmental issues* (Heynan, Perkins, and Roy, 2006). Hence the particular political ecology of any city influences how an urban forest is valued, what management steps are taken, and who gets to decide. This will be important to recall as we examine the components of and influences on the Boston Urban Forest Coalition.

There is little debate among academics regarding the important function that trees play in the urban landscape; how cities value and prioritize the care and maintenance of urban trees is a different story. The value we place on trees typically does not reflect their functional importance, especially in urban places where a tree's economic value can be calculated on a tree-by-tree basis (Dwyer et al., 1992). Urban trees play a special role in their environment and have been positively correlated with social (Cook, 1978; Schroeder, 1989; Taylor et al., 1998; Kweon, Sullivan, and Wiley, 1998), environmental (Johnson, 1988; Oke et al., 1989; McPherson, 1990; Meier, 1991) and public health benefits (Ulrich, 1984; Donovan et al., 2013). Recently trees have been discussed in terms of being *green* urban infrastructure. In this capacity trees help regulate air pollution (Donovan et al., 2013) and reduce storm water impacts (UEI, 2008), though they are often undervalued in these roles. Counterintuitively, the commodification of trees (placing discrete dollar values on them) has resulted in

deforestation (Swyngedouw and Heynan, 2004). This outgrowth of neoliberal thought in the U.S. and its reliance on capitalist markets to solve all problems necessitates that the so-called "free market" determine socioenvironmental outcomes too (Perkins, 2011). As the role of the state in managing urban forests has declined, public-private partnerships have formed to fill the void left behind by a shrinking government (McCarthy, 2006).

In the last decade, city, state, and federal agencies as well as non-profit organizations have taken up the goal of expanding urban tree canopy as part of a city's infrastructure as well as for more traditional aesthetic and recreational reasons (Princetl, 2010, O'Malley, 2014). Cities have many ways to plant trees; most are low-tech and low-cost precisely because we tend not to value urban forests and therefore do not devote resources to their care (Dwyer et al., 1992). Beyond a dollar value that can be assigned to trees, there is an environmental justice component that compels cities to plant more trees specifically in treeless neighborhoods. In Indianapolis, Heynen (2004) reports that low urban tree canopy is highly correlated with low-income neighborhoods. While complexities exist that go beyond the aesthetic of poor tree-less communities, improving equity across city neighborhoods is a popular justification of tree planting programs.

During the 2000s, tree planting initiatives took off around the world and in the US. Notably New York and Los Angeles have/had million tree goals. Critically, only one city is on its way to that lofty goal. Presented here are

snapshot overviews of the two programs. City Plants (Los Angeles) has been the focus of Princetl et al (2011, 2014) and the information presented below is solely based on that literature and Los Angeles municipal websites. The MillionTreesNYC (New York) program produced a summary document that outlined and evaluated how one million trees are being planted in the city and this overview is based on that document and supplemental New York City Parks Department websites and the website of New York Restoration Project, the non-profit partner of MillionTreesNYC.

City Plants (Los Angeles)

Formerly called MillionTreesLA, City Plants is a tree planting initiative that has recently backed away from an explicit one million tree goal and is instead focusing on building a coalition of public and private organizations that are planting trees in Los Angeles. The program is centrally managed out of the mayor's office and is able to directly engage and educate residents, non-profits, and city government departments to put trees in the ground and care for them afterward. Funding for City Plants is diversified and comes from sources like the Los Angeles Department of Public Works earning carbon credits by planting trees, from regional Air Quality District grants, and from a private foundation established by the mayor to strictly raise funds for tree planting in LA.

Strengths of City Plants include clear leadership and a commitment from the City's executive to meet the goal despite early setbacks, as well as

intragovernmental cooperation. Tree planting has been integrated into many city government departments like housing, transportation, and economic development as part of standard practice within the delivery other services. Weaknesses of City Plants are in its inability to track trees planted on private property inspired by the city program and intense criticism from non-profit partners who do not appreciate the City's rigid rules of participation which are seen as prohibitive to participation. Despite that, City Plants has more partners than they can manage within the partnership, thus the program's ability to inspire tree planting is strong and Los Angeles sees thousands of trees planted annually.

MillionTreesNYC (New York)

A partnership administered by the NYC Parks Department that has very influential non-profit partners like New York Restoration Project (Bette Midler's NGO), and even bigger corporate sponsors (Toyota and TDBank), among countless other local neighborhood organizations and city level departments actively planting trees. Born out the PlaNYC 2030 comprehensive planning process, this partnership was fully visioned and launched with strategies, standard procedures, and implementation measures that few partnerships begin with. Guided by an Advisory Board and foundational planning documents, subcommittees in specialized areas are given autonomy to plant trees, create promotional or educational material as best they can. It pairs policy advocacy to

protect the existing tree canopy with ready resources to plant throughout the five boroughs. It is a thoroughly funded program and has been afforded the room to innovate and make mistakes due to the diversity of funding sources and variety of active partners. Communities have been empowered as evidenced by their level of influence in the direction of the program and independence to plant in their neighborhood with minimal oversight.

Those critical of the program feel, while MTNYC may be nearing its one million tree goal, many of the trees have not be properly cared for and are nearing or are already dead. It is also unclear if the method for counting all the trees planted is valid as trees have been planted in the name of MTNYC by many groups not all of which were closely monitored. No official measure of tree mortality has been published to understand success of the program. Despite the criticism, MillionTreesNYC is a model program from which many ideas can be borrowed.

Conclusion

The need for cities to protect their forests and to expand tree canopy is a point embraced by many municipalities. The benefits of trees to residents and city resources are well documented. Los Angeles and New York represent just two of many different tree-planting programs around the country, which show the promise and variety of approaches that can be taken to plant trees in cities. The key features of challenging but successful programs in the nations two premiere

cities include clear leadership from elected officials, well-articulated missions, diversification of planters, empowerment of residents, and of course, reliable funding sources. The Boston Urban Forest Coalition took a different and less planned route in pursuit of its goal and thus there is much to learn from the experience of the former partners here in Boston if the city is to protect and grow its urban tree canopy.

Methods

The research for this thesis involved three components: a literature review, interviews with key informants, and a review of internal documents and public communications related to Boston Urban Forest Coalition (BUFC) and the implementation of the Grow Boston Greener program. Relevant academic literature was used to situate Boston's urban tree canopy program within the greater conversation regarding the implementation of urban tree planting programs generally. Additionally, primary resources were gathered to better understand public-private partnerships and their function implementing public sector programs. Key informants for this research were the active partners in BUFC as well as, academics, community advocates, and associates within City and Federal government. Also interviewed were recipients of Grown Boston Greener grants however the results of those interviews are not reported in this thesis. Both in-person and phone-based interviews were conducted, detailed notes were taken but conversations were not recorded.

Literature Review

The literature review focuses on public-private partnerships in the delivery of public service, most focusing specifically on tree planting partnerships. While public-private partnerships have a long history, studying their function as a means of delivering services and the processes by which successful partnerships are sustained is relatively new. The literature search was based on a key word

search of academic literature and scholarly journals for “public-private partnership”, “program implementation”, “evaluation”, “urban tree initiative”, “performance measure”, “collaboration”. I decided to truncate the list of sources by focusing on environmental and tree planting public-private partnerships though a number of sources are more general in nature. From many articles, some that referenced others within the search, the salient sources were isolated and key themes were synthesized across sources to present the conditions that compel organizations to collaborate, the variety in structures of public-private partnerships, and the practices of successful public-private partnerships. This helped to provide a benchmark that the Boston Urban Forest Coalition could be measured against.

In addition, key articles and documents relating to two other urban tree canopy initiatives were examined. These helped to shape questions for interviews and to provide comparisons with the Boston case. Descriptive summaries of the Los Angeles and New York tree initiatives are nested in the introduction and contribute to an understanding of programs that were contemporaries of the Boston Urban Forest Coalition’s Grow Boston Greener campaign.

Interviews with Key Informants

Preliminary discussions with colleagues and fellow students from the Tufts Department of Urban and Environmental Policy and Planning with

experience in Boston's tree planting community as well as web searches for partners who participated in the Boston Urban Forest Coalition and Grow Boston Greener helped to build a list of important professionals to interview. Those directly involved in the development, planning, and implementation of the Boston Urban Forest Coalition partnership and the Grow Boston Greener program were invaluable resources upon which the assessment was conducted. Additionally, recipients of the mini-grants administered via Grow Boston Greener were interviewed and helped to provide greater context though their conversations are not directly reported in the results section of this thesis. Each key informant, listed in Table 1, was interviewed independently and provided context and information that allowed important questions to be answered: What was the mission of BUFC? What was each agencies role in the BUFC? What was internal and public communication like? How was funding acquired and distributed? What structures were in place to evaluate success and to evaluate the partnerships effectiveness? What capacity did the partners have to contribute to the partnership and share resources?

Most interviews were conducted over the telephone as was convenient for the Boston Urban Forest Coalition partners, though some interviews were conducted in-person. The interviews were not recorded but the primary investigator took detailed notes and clarifying questions and follow-up emails ensured the reliability of information therein. Interviewees were asked a series of open-ended questions aimed at drawing out honest accounts of

programmatic goals, roles of partners, collaborations processes, and implementation strategies for the BUFC and its tree planting mission. The specific questions can be found in Appendix 1. All interviews were informal conversations that engendered candor and honesty. Questions were crafted ahead of time to guide the conversation, but were intentionally broad to minimize the influence of the primary investigator on the recollections of the interviewees. The interview results reported in a subsequent section shed light on the challenges of cross-sector collaboration and what that means in the context of Boston's public service and non-profit community working to preserve and expand the urban tree canopy.

Results are organized by key words and by partner to highlight themes and characterize the partnering process of the Boston Urban Forest Coalition. The results are discussed in the context of understanding each partner's sector, size, and power (real and perceived) to understand how the public-private partnership functioned. Importantly, interviews helped clarify the timeline and narrative of the experience of planting trees in Boston. The interview results are further contextualized in the discussion by considering them in light of the literature on public-private partnership function in the city, its structure, and process.

It should be noted that these interviews were conducted in 2014 and 2015 about experiences in the BUFC that happened between 3 and 10 years earlier. Certainly memories fade and details were lost during the intervening

years, still the data gathered is presumed to be true to the best account made by each interviewee and thus helpful in reviewing the partnership and learning from the experience for the benefit of Boston's tree canopy and more importantly the residents that depend on such a resource. It is also important to recognize that many more individuals integral to the partnership were sought than were interviewed. Some declined but most that were active in the partnership had moved on and could not be reached at all.

Table 1: Boston Urban Forest Coalition key informants

Urban Ecology Institute (UEI) Interviewees: <i>Charlie Lord and Sherri Brokopp</i>	Department of Conservation and Recreation (DCR) Interviewee: <i>Eric Seaborn</i>
City Parks Department (City Parks) Interviewee: <i>Leif Fixen</i>	USDA Forest Service (USFS) Interviewees: <i>John Parry and Jessie Scott</i>
Boston Natural Areas Network (BNAN) Interviewee: <i>Jeremy Dick</i>	Mayors Office of New Urban Mechanics Interviewee: <i>Katherine Foo</i>
Franklin Park Coalition Interviewee: <i>Christine Poff</i>	Arnold Arboretum Interviewee: <i>Pamela Thompson</i>
Also interviewed were leaders from local community organizations, schools, and civic groups who planted trees in the Grow Boston Greener campaign:	

Internal Documents, Public Communications, and Journal Articles

Neighborhood and regional newspapers, municipal and agency websites, and documents and meeting minutes directly shared with the primary investigator provided documented evidence of the partnership operations and corroborated the interview results. These documents helped make clear the relationships

within the partnership, the vigor with which the initiative started, and provided sources of criticism, confusion, and disappointment from the public as the Coalition struggled to reach its planting goals. A journal article from Danford et al. (2014) was particularly influential in shaping this research. The article considers the feasibility and effectiveness of the Grow Boston Greener initiative's 100,000-tree goal. It is briefly summarized in the Results chapter.

Acronyms

BNAN – Boston Natural Areas Network (The Trustees of Reservations)

BUFC – Boston Urban Forest Coalition

DCR – Massachusetts Department of Conservation and Recreation

EPA – US Environmental Protection Agency

GBG – Grow Boston Greener

GIS - Geographic Information Systems

HUD – Department of Housing and Urban Development

ICLEI – International Council for Local Environmental Initiatives

NPS – National Park Service

NYRP – New York Restoration Project

PPP – Public-Private Partnership

UEI – Urban Ecology Institute

USFS – United State Forest Service (US Department of Agriculture)

UTC - Urban Tree Canopy

Public-Private Partnerships

A public-private partnership is collaboration between a government and a private entity (for-profit or non-profit) that delivers a public service (Skelcher, 2005). Today, the public-private partnership (PPP) is a common mechanism by which programs are implemented in municipalities across North America and Europe (Bell & Wheeler 2006, Bovaird, 2004; Briggs, 2003; Bryson, Crosby & Stone, 2006; Huxham & Vangen, 2004; Linder, 1999). Services that were once thought to be exclusively delivered by the state, like power and water utilities, and social welfare programs are being rendered by third parties in partnership with government more frequently than in the past (Skelcher, 2005).

The literature references many types of PPP, at times focused on parks, green space, or ecological restoration but not always exclusively trees. For this thesis I have assumed that partnering behavior is largely similar across industries and effective practices can translate from any type of PPP to the environmental and social stewardship collaboration needed to plant and care for urban trees. Here I will provide brief overview of why organizations partner and the basic structures to partnerships. Bovaird (2004) provides a helpful nuance to the definition when considering PPPs as:

“...working arrangements based on a mutual commitment (over and above that implied in any contract) between a public sector organization with any organization outside of the public sector.”

Organizations entering into public-private partnership are then agreeing to, whether consciously or not, an “over and above” commitment in the hopes that it will reveal the dynamic and emergent properties that make partnerships worthwhile. As will be discussed, the benefits of partnership are not always realized. Beyond answering why agencies and organizations partner, it is important to understand the components of the partnering process found at work within successful partnerships: the behavior of partners, leadership, communication, community engagement, implementation, and evaluation; all recognized in the collaboration literature as significant.

Why partnerships form

The literature recognizes specific conditions that exist prior to the formation of partnerships: a complex issue landscape, sector failure, a powerful sponsor emerging to champion the idea, and obvious existing networks that allow the collaboration to create greater public value than could be achieved working independently (Bryson, Crosby, & Stone, 2006).

Complex (or Turbulent) Issue Landscapes - high levels of uncertainty and issues with many moving parts often bring together partners interested in stability and decreased risk.

Sector Failure - one or more sectors (public, for-profit, non-profit) have attempted to provide solution to a problem but have been unable to successfully provide resolution to the public.

Powerful Sponsor/Champion - often problems cannot draw enough attention until a prominent figure in the community advocates for it.

Existing Networks - an existing community of organizations working on the same or similar issue make partnerships form more naturally where overlaps exist.

(Bryson, Crosby, & Stone, 2006)

Organizations form partnerships for reasons in addition to those generalized above. Sometimes one partner simply cannot perform a task without the other, for others there is advantage in sharing the risk involved in an endeavor, and still others are mandated to partner as a condition to receive directed funding (Briggs, 2004). There are often both public and private agencies that exist in the same space to address the same problem and the impetus to partner presents itself in obvious ways; at least temporarily or on discrete projects (Bryson, Crosby & Stone, 2006). In some cases, private organizations exist solely to fill some need left vacant by the changing role of public agencies in recent decades (Skelcher, 2005).

Within the US, deregulation, budget cuts, and privatization stemming from political shifts have created conditions such that some government agencies rely on the private sector to function at all (Bryson, Crosby & Stone, 2006). Public-private partnerships then are simultaneously a response to contemporary mistrust in government and a result of public reliance on government, a dissonance that has grown since the 1980s (Linder, 1999). Similar dissatisfaction with government has driven the devolution of decision-making power from states to municipalities in recent decades, and further at times, as powers have been delegated out of government to the private or non-profit sector (Briggs, 2003; Kuchelmeister, 2000). In this way, the hegemony of neoliberal philosophies have created a crisis that can only be solved by greater reliance on privatization (Swyngedouw and Heynan, 2004). The increasing privatization of public interest results in a reduction in democracy by consolidating power instead of diffusing it (Kamat, 2004).

Over the last four decades in the U.S., the shrinking role of government has had many serious consequences (Smith, 2012). Officials across the political spectrum have been influenced by neoliberal philosophies that call for limited government and greater reliance on capitalist markets (McCarthy, 2004; Smith, 2012). This shift away from the social welfare state of earlier generations has resulted in policies that make it easier to privatize resources held in common and in existing forestry programs being defunded (Kamat, 2004; McCarthy, 2006). The diminished role of the state acting for the public good has forced a shift in

the approaches needed to tackle difficult socioenvironmental problems and these evolving approaches often include partnership with non-government entities (Briggs, 2003).

Some highly critical of privatization point out that neoliberalism has fundamentally changed our relationship with nature; essentially reducing the inherent value held by things like trees or water and placing only a market value on them (Perkins, 2011). From the neoliberal perspective, if trees are assigned a dollar value then market forces are best suited to solve the problems of the urban forest (Smith, 2012). But as is pointed out by Swyngedouw and Heynan (2004), privatization drives deforestation precisely because neoliberalism values the individual interest and devalues those resources held in common.

Partnerships in some ways then seem inevitable. Private firms are now well adapted with specific expertise geared toward solving public problems, and municipalities with shrunken budgets for public services have little choice (George, 1999). This follows the schema laid out by Perkins (2011) where fiscal austerity imposed on local governments by neoliberal thinkers, results in the transfer of control to the private sector for the sake of increasing profits. The consolidation of power into the private sector in the short term harms democracy (Kamat, 2004; McCarthy, 2006). But oddly, over time, NGOs (many an outgrowth of neoliberalism) may threaten neoliberal ideologies because they often work with the marginalized groups most harmed by neoliberal capitalism (Kamat, 2004). In this way, the public-private partnership, though needed

presently to deliver public good could reveal the shortcomings of neoliberal thought and return power to the people and funds to the state (Kamat, 2004).

Types and Attributes

The ambition of the endeavor may dictate the depth of partnering and risk sharing (Briggs, 2003). Some projects may not require much of partners; just that they communicate about goals. Others might go so far as to dissolve some boundaries between partners, a blending of organizational resources, or administration. In economic terms, lower risk (i.e. less money spent) does not ensure successful implementation but may draw partners together to work on discrete projects or long-term strategies that can increase a partnership's longevity and outlooks for success (Linder, 1999). However, economic inducements are not the only reasons to collaborate; some partnerships form increase political influence or give one sector access to

Partnership structure

If partnerships are perceived to be advantageous, and we have a sense of how they may form; what structure do they take? The antecedent conditions discussed in the previous section tend to lead organizations to partner along a continuum of commitment interpreted a number of ways; a few outlined in Table 2 by Skelcher (2005); Briggs (2003); and Linder (1999). Briggs (2003) offers a clear continuum of collaboration that bears many similarities to the Skelcher (2005) model ranging from no collaboration at all to full merger of public and

Table 2: Types of Partnerships: Color-coding denotes similarity of models across the literature

Skelcher (2005)	Briggs (2003)	Linder (1999)
Public Leverage – legal and financial inducements for businesses to get involved	Communication Model – share info, informal, little commitment	Management Reform – Government more like business in strategy
Contracting-Out and Competitive Tendering – lower cost/higher quality provision when outsourced to business	Cooperation Model – pooling activities to have bigger impact without sharing resources	Problem Conversion – reframe problems/attract profit-seeking collaborators
Franchising – licensing service provision and consumers pay the private business directly	Coordination Model – Sharing resources, all formally tracked	Moral Regeneration – Government more like free-market in thinking
Joint Ventures – two or more parties engage in a project but retain independence	Federation Model – Integrated services and deep resource sharing	Risk Shifting – fiscal stringency in government provides opportunity for business if some burden fiscal burden lifted.
Strategic Partnering – no boundaries between organizations for mutual benefit	Merger Model – removal of organizational boundaries, often legally recognized as independent entity	Restructuring Public Service – outsource as much as possible/break public unions to find efficiencies
		Power Sharing – Resource sharing and horizontal shift of responsibility across sectors generates trust

private organizations into a new entity. Linder’s model (1999) differs as it describes the behaviors more so than the structure of PPP, but the behaviors nest well within the same collaboration continuum. The models are largely congruent in that each of the steps along their respective continuum represents a greater amount of risk and resource sharing, increased delegation of decision

making power, and eventually strategic long-term planning and implementation of service delivery. Generally, with low risk collaboration, the public partner shares new information or makes conditions attractive for private organizations to address public issues for their own benefit (i.e. profit or issue interest). Beyond that, some level of direct outsourcing takes place when the public agency feels the private sector can more efficiently handle the provision of service. It follows that some level of shared responsibility is next; hybridization on both sides in which the public agency adopts some behaviors of the private sector, and the private sector partner assumes some responsibility over the administration of a public service with significant oversight by the public agency. And finally, structured partnerships emerge as public agencies and private organizations contractually align their operations for mutual benefit surrounding the provision of a public good. Few PPPs go beyond this stage as merging a public entity and a private business would be difficult to justify, administer, and could draw intense criticism for conflicts of interest. Moreover, this is not a linear or predictable chronology of the partnering process. Partnerships launch and evolve differently some deepening, others weakening their level of commitment and resource sharing. In each model though, the action centers on the public partner and it's ability to lead the partnership and bring the right stakeholders into the partnership.

The type of exchanges that happen between public agencies and NGOs define the structure of the PPP (Skelcher, 2005). Some may be so informal they

are not recognized as a true partnership even by the participating organizations (Skelcher, 2005; Briggs, 2003; and Linder, 1999). For the purposes of studying the Boston Urban Forest Coalition (BUFC), the joint venture, federation, and power sharing models are most relevant. These models and other key attributes of successful partnerships will help elucidate the strengths and weaknesses of the BUFC. These types of partnerships demand deep commitment and well defined roles for partnering organizations that share resources and fully coordinate efforts, while also maintaining organizational independence. If this is to happen, what attributes should the partnership embody?

Key Attributes of Partnerships

Within the literature, recurring themes emerge that outline attributes of successful partnerships.

The role of local government

The International Council on Local Environmental Initiatives compiled a simple and straightforward set of recommendations for municipalities to expand their tree canopy (Bell & Wheeler, 2006). Drawing from the experience of successful models in US cities as different as Milwaukee and Sacramento, ICLEI, among others, finds that public-private collaboration is an effective way to reach a broad audience and build a sustainable tree initiative (Bell & Wheeler, 2006).

A major theme in the ICLEI guidelines and across the literature was the centrality of local government within the partnership. As was made particularly clear with

the success found in New York (MillionTreesNYC), government is the only partner that has a lasting relationship with every resident and thus has an outsized role to play in the partnership. This doesn't translate to having all the decision-making power or control of all funds; instead it suggests that the city and state, being organizations that will have farther reach and outlast other partners has the most vested interest. Traditionally, municipalities are the only entities charged with producing public good; in this case a healthy urban tree canopy. But under the suspicion cast on the state by neoliberalism, that role is brought into question and private NGOs are expected to step in (Kamat, 2004).

Furthermore, the literature suggests that cities must empower renters and those in public housing to demand cleaner greener spaces where they live (Heynan, Perkins, & Roy, 2006). As Heynen and others point out, there exist correlations between homeownership and tree canopy and if renters and non-property owning residents are stripped of the power to control their environment, the cities tree canopy will not expand quickly into treeless neighborhoods and will continue to represent an environmental injustice (Heynan, Perkins, & Roy, 2006).

Partners and Leaders

The role of leadership within a partnership does not imply control, but rather coordination and network operation pursuant to goals (Linder, 1999). Some in the literature even question the traditional sense of leadership precisely because traditional hierarchies need to be ignored within partnerships (Huxham

and Vangen, 2004). When leaders or their delegates collaborate, they step outside of their organizations and should relinquish some of the power associated with their title because effective leadership within a partnership works toward cooperative maximization rather than the vision of an individual (Huxham and Vangen, 2004). It is suggested instead to remove hierarchy and titles held outside of the partnership, opting for a shared power and leadership format within the partnership. This eliminates the imbalance often felt when small community organizations or residents sit at the same table as local government officials or subject matter experts.

The convening partner and other early partners need to evaluate all potential partners to ensure a good fit, but also be self-critical and recognize weaknesses and gaps that other organizations may strengthen or fill (Briggs, 2003). By carefully selecting collaborators, a strong partnership will avoid the “shotgun marriage” scenario described by Briggs (2003) where funders, powerful champions, or outside stakeholders impose collaboration on reluctant organizations, a scenario that leads to early exit from the partnership or just empty partnering. Enthusiastic and willing participation in collaboration seems obvious, but when partnerships are promoted as the “holy grail”, unwitting partners are common (Bryson, Crosby & Stone, 2006). On the other hand, the role of choosing who will be part of a partnership carries great power (Bryson, Crosby & Stone) and thus the early adopters of collaboration should be mindful

and self-aware when selecting others as to not overlook smaller or less obvious partners.

Partnering can be inspiring as new ideas and initiatives are generated, but the process of collaborating can often be chaotic (Briggs, 2003; Huxham and Vangen, 2004, Skelcher, 2005). To minimize chaos, it's important for ambitious collaborations that each partner assumes roles within the partnership that fit their expertise and ongoing organizational operations and that doesn't stretch any one partner beyond its means (Kuchelmeister, 2000). After all, partnerships are intended to make the work of creating public good easier. By defining roles and ensuring that there are neither gaps nor redundancies within the collaboration, the partnership can work efficiently toward goals. Lopez and Jennings (2007) point out that this is easier when partnerships are an outgrowth of existing relationships and networks within communities.

Additionally, and specifically regarding urban tree planting, strategic contributions of land, skills, and financing are needed to form the widest array of partners possible, to give the partners a reason to collaborate, and to ensure the resiliency and sustainability of the partnership (Jones et al., 2005). Recognition of the multifaceted social, ecological, economic, health benefits of urban trees and green space should be coupled with a recognition that more stakeholders with different expertise and interests are needed to successfully manage an urban forest and have it fulfill a multitude of roles in an urban space.

Organizations that partner should represent an array of tangible attributes, such

as skilled staff, equipment, data, and intangibles like a positive reputation with residents and professional networks that support the mission of the partnership (Briggs, 2003). Often overlooked though is the act of simply acknowledging the extra work and resources needed to partner, which can be an important early step in fostering honest collaborations where realistic goals and commitments are set (Jones et. al, 2005).

By definition the partnership needs a public partner and clearly should include technical experts that understand the science and practices of urban forestry. However, a public-private partnership also needs a powerful and/or charismatic local sponsor; a champion who has deep interest in solving the problem (Bryson, Crosby, & Stone, 2006). While not steering the ship, the charismatic sponsor is the wind in the sails that propels the mission forward. If the proper partners are oriented towards partnering and shared goals are made explicit; a popular tree champion can reduce conflict, misplaced resources, and build cohesion (Jones et al., 2005).

Leadership is often a point of contention in partnership and is discussed throughout the literature (Bryson, Crosby, & Stone, 2006; Huxham and Vangen, 2004; Jones et al., 2005). Just defining the difference between leadership and control can alleviate confusion (Jones et al., 2005). Leadership can be the act of convening meetings, coordinating resource sharing, or being the primary funder (Jones et al., 2005). But leadership can also be the act of cultivating other leaders, lifting the voices of less well known or powerful partners, and balancing

the power dynamics so that all partnering organizations can contribute to the co-production of the partnership and its mission in meaningful and not just symbolic ways (Briggs, 2003; Jones et al, 2005; Lopez and Jennings, 2007). Finding members of the community to champion the effort and sharing leadership with residents of the city is also an important form of leadership (Bryson, Crosby & Stone, 2006).

Communication

Early in the alliance building process Briggs (2003) points out that there are three key stages that are heavily dependent on open and honest internal communication and often not considered "real work": Defining the problem, Setting directions, and Implementing. He further points out that this communication comes in the form of negotiations regarding what the problem is, what the solution is, and what strategy will be implemented (2003). If partners feel valued in this process and are able to communicate their needs and desires with regard to their participation in the partnership, effective partners can be secured and ineffective ones can be eliminated.

Effective communication can keep conflict to a minimum because when transparency and open communication are expected, trust between partners increases (Brooks, Crosby & Stone; 2006). Many partnerships exist in the midst of suspicion between partners precisely because of poor communication practices (Huxham & Vangen, 2004). Brooks (2003) points out that even

differences in style and format of communication can be hurdles. Standard communication practices are then essential to partnerships with wide diversity in the types of organizations at the table. This can be practiced early in the partnership by setting and achieving one very small goal, which Huxham and Vangen argue builds trust among partners by setting expectations for many things, not least of which is communication (2004). Jones et al (2004), point out that lack of clarity in communication or clearly delineated resource commitments can be stifling challenges for partnerships.

Community Engagement and Legitimacy

Engagement should happen early in the partnership and provide genuine ways for smaller partners and community members to participate in goal and mission setting (Lopez & Jennings, 2007). Partnerships must be aware of the space in which they operate. As with any organization, PPPs can become mission focused and not realize they are alienating important stakeholders or missing opportunities that will advance the mission. Kuchelmeister (2000) points to an example in Sao Paolo, Brazil where the city provided jobs to the poor and homeless stewarding trees the city had planted. This effort empowered an oft-overlooked segment of the community to participate in place making, provided a needed service to the city, and the income relieved the tree steward of some hardship; many needs were met by one action. More conventional neighborhood engagement can include local businesses sponsoring trees in exchange for advertising space on tree bags and protective sleeves; a small but

effective tie to a partner who might not be a natural fit when thinking of environmental initiatives (Kuchelmeister, 2000). Briggs (2003) warns that the legitimacy of PPPs is regularly questioned when complicated histories of mistrust exist with residents and local government agencies. This mistrust in government is strongest in communities that need to be engaged and empowered the most; often the potential benefactors of the goals of the PPP. It is thus important, to get to know the community and ensure commitments to the community's participation and input are not simply symbolic (Lopez and Jennings, 2007). Getting to know the community can be a daunting task but it is important that community stakeholders are at the table from the beginning playing a meaningful part in the partnership.

Implementation and Evaluation

In addition to thinking about how they partner, PPPs need to consider how to implement strategies that actually provide the service they are aiming to provide and a way to measure success. Successful implementation begins with accessing the knowledge of "on-the-ground" implementers in documenting existing conditions (Lopez & Jennings, 2007). This means looking beyond the advocates and experts to the people planting trees throughout a city who will have insights that leaders might not (Lopez & Jennings, 2007).

Inter- and intra-agency cooperation is critical when implementing something as complex as a network of urban green space through the planting of

trees (Jones et al., 2005). This means that the tree planting initiative is implemented by city departments outside of the parks department (or other designated department) and is integrated into housing, transportation, public works and others (Bell & Wheeler, 2006). Similarly, implementation is made easier when this cooperation is known to all non-public partner organizations. They see that the public partner in the PPP has organized many branches of the government to avoid conflicts with the tree planting process and integrating tree planting into department activities.

Much of this concerted effort needs to be coordinated by a dedicated liaison working for the partnership to ensure success and avoid unintended undermining of tree planting goals (Bell & Wheeler, 2006). A dedicated partnership staff person can ensure that partnership stays on task by allowing partners to fulfill their responsibilities and dedicate less time to administrative duties related to the act of partnering (Lopez & Jennings, 2007). Staying on task requires the explicit delegation of duties, the coordination of which, if not part of a clear implementation plan, can lead to conflict, lost resources, or duplication of efforts (Jones et al, 2005).

The phrase, "ask the right questions" appears many times throughout the literature and is used to succinctly say, craft smart and specific questions that in reflecting the goals of the partnership generate effective evaluation (Sawhill & Williamson, 2001; Briggs, 2003; Lopez & Jennings, 2007). Realistic measurements informed by a PPP's mission and tied to attainable short-term

goals are important components of an evaluative strategy (Sawhill & Williamson, 2001). Well crafted evaluations often ensure that outputs (e.g. trees planted per year) are not confused with outcomes (e.g. improved public health or decreased stormwater runoff) (Briggs, 2003). Often tangible outputs are easier to measure but partnerships typically form because a particular outcome is challenging to produce. Evaluative tools abound and must be resourced and time given to evaluation beyond periodic "check-ins".

Results

This chapter provides an overview of the data gathered from interviews with Boston Urban Forest Coalition partners, review of periodicals and journals reporting on tree planting efforts, and investigations of web sources like the City of Boston's website. The results are a blend of first-hand accounts as recalled by the interviewees, publically searchable information (website, news articles, etc), and some documents offered by former partners and participants in the BUFC. Together the record of what the BUFC was and what it accomplished. In the subsequent Discussion section I will compare the characteristics of the BUFC reported here with the practices and characteristic of effective partnerships found in the Literature Review.

Interviews

Interview results and subsequent research based on information gathered during interviews helped establish the sequence of events that lead to the formation of the Boston Urban Forest Coalition. The timeline presented here gives us a glimpse into the existing conditions in Boston's tree planting community prior to and throughout the experience of implementing the Boston Urban Forest Coalition which helps when considering the successes and failures of the partnership.

BUFC Timeline

Figure 1: Timeline

1989 -1998	Yale University Forestry Studies Department partners with Baltimore City Parks to implement social forestry principles in youth education and neighborhood tree planting groups
1998-2004	Urban Resources Partnership: By 1998, 13 cities had been identified to partner with local branches of federal agencies (USFS, EPA, NPS, HUD, etc) for "community-initiated and community-lead environmental projects". Approximately \$150,000/yr for staff and mini-grants were made available to each project/organization. The program was defunded by the Bush administration in the early 2000s. This organization assembled a partnership closely tied to small community and neighborhood groups in Boston under the direction of the USFS and was essentially a precursor to BUFC but with better documented success via reports generated by the partnership to the federal funders.
2000-2005	Yale University City Roots – a program modeled closely after the Baltimore social forestry initiative that promoted neighborhood-based greening for well-being in cities in the Northeast and evolved into many different community-based urban environmental programs, mostly focused on planting trees. Urban Ecology Collaborative (Richmond, Baltimore, Pittsburgh, Philadelphia, Hartford, and Boston) created by USFS and its academic colleagues to share ideas, resources, and practices for urban tree canopy improvement. USFS Social Benefits of Ecosystem Services study leads to UEI Boston Tree Count. Concerns mount about management of Boston city parks’ urban forest and piecemeal approach to forestry. Only trees planted were replacements or individual special events. Toni Pollock (City Parks Commissioner) acknowledges lack of communications between Boston Parks & Rec Dept and DCR as a deficiency to address under her leadership.
2005-2006	UEI, DCR, USFS, and City Parks visioning meeting. Launch of UEI tree inventory; all volunteer/paid summer interns conducting valid citizen science. The data is turned into a report, the

Greater Boston Urban Forest Inventory

BUFC born from UEI lead tree inventory and visioning meeting.

- 2007** **BUFC launches Grow Boston Greener with mayoral pronouncement of 100,000 trees by the year 2020. Established as a multifaceted tree planting effort across organizations and sectors, and included a mini-grant program available to neighborhood groups and non-profits.**
- 2007 - 2013** **Many thousand trees planted (total estimated between 10,000 – 20,000) by volunteers, homeowners, City Parks Department, all going toward the 100,000 goal.**
- Economic collapse of 2008 impacts funding and stability for non-profits and city government.**
- BUFC Membership fluctuates but core partners remain (UEI, DCR, USFS, BNAN, City) through 2010. In 2012 BUFC is informally dissolved.**
- 2014** **New Mayor in Boston; GBG webpage removed from City website. GBG exist only as a small tree give-away run by Boston Natural Areas Network.**
- BNAN also keeps focus on Boston's tree canopy through twice monthly open meetings of the Boston Urban Forest Council. The Council is strictly and advocacy and education organization helping the residents of Boston determine the future of the city's forest resources.**

Themes

Organized below are the responses to the questions that guided conversational interviews with members of the BUFC. These are presented as an aggregation of the salient points that help tell the story of the Boston Urban Forest Coalition, including how the partners interacted and how the partnership functioned during its brief tenure. The key themes are highlighted and will be discussed later.

When asked about the role of each partner played in the partnership, interviewees were asked about the role of their own organization and that of other organizations. You'll notice that in most cases each agency assigned itself the same or similar roles as its partners assigned it. It should be noted that while Table 3 is populated, UEI was the only organization that was able to assign a role for all other partners when asked, something that highlights UEI's central role in

Table 3: Role of Partners in the Boston Urban Forest Coalition

Organization /Agency	Role as understood by organization/agency	Role as understood by other partners
UEI	Convener, Chair of BUFC, build trust between partners	Convener, "sparkplug" for BUFC, "primer" of BUFC
City Parks	Plant trees in city owned spaces, liaison for BUFC to engage City government	Permission to plant in city, keep things practical
DCR	Build forestry capacity in MA cities, funding, training and expertise	Funding, support small tree organizations, expertise, tree purchasing
USFS	Funding, ground survey and canopy goals, technical expertise	Funding, expertise
BNAN	Administer GBG, No role at first	Implementer of GBG
Mayor's Office	Bystander	Access to neighborhood and civic organizations, no role
Franklin Park	No Role in BUFC as a result of inability to plant trees in the park or care for trees in the forest of Franklin Park.	No Role in BUFC (yet listed as partner on many documents)
Arboretum	Organize guest speaker for meetings	Organize guest speaker for meetings

the BUFC. Conspicuous was the self-described role of the mayor's office as "bystander" which runs counter to most news articles and the recollection of other partners in BUFC, who usually recalled the influence of mayor's office and that it was the face of the GBG campaign. The person interviewed representing the mayor's office was not designated by the mayor or his office but rather was an "urban mechanic" staffer who worked closely with the Grow Boston Greener initiative for several years. Many interviewees reported that responsibilities within the partnership were "undefined" or at least informal and ad hoc. Further, interviewees recalled this lack of definition created a feeling of being lost within the partnership and leading to "messy" processes. Nevertheless, several of the lead partners (DCR and UEI, especially) emphasized the informal nature of the partnership as an agreed upon trait of the partnership and one that was appreciated.

Figure 2: Key Themes

Internal Communication

Most partners interviewed felt that communication was good during the height of BUFC activities. Partners stressed that communication was best when communicating big goals among the most active partners and disseminated well to other partners but less effective when discussing implementation details and strategy, which hampered progress on specific activities. Some partners highlighted that data sharing and analysis was a weak spot for the partnership, which they attributed to poor communication. BUFC organized monthly and quarterly meetings and kept all partners in contact via regular email messages. Communications were transparent, open to the public, and highly visible to upper level officials in city government like Toni Pollack (City Parks) and Jim Hunt

Key Themes:

- **Regular meetings**
- **Big goals communicated well**
- **Implementation communication poor**
- **Data sharing harmed by poor communication**

(Mayor's Office). A UEI listserv provided a convenient way to share ideas, events, and collaborative opportunities among partners and gain insight from outside the partnership; it's unclear how active the listserv was outside of the core partners.

at times

Public Communication

Outreach and communication with the general public was described in contradictory terms, about half the partners calling it "ok" and the others describing it as "unsatisfactory". There was a heavy reliance on social media platforms (e.g. Facebook) that supplemented individual partner websites and the City of Boston's website. The newness of social media as a ubiquitous social presence meant that BUFC was unsure how to maximize the function of the platform. The impact of social media campaigns were hard to measure and by most interviewees accounts, were presumed to be limited. Similarly, direct mailings were made but their effect was unable to be described by interviewees. Still, excitement was generated for Arbor Day and Earth Day events through effective public media campaigns via advertisements in traditional media (e.g. newspapers, flyers, billboards in subway trains). The City of Boston via BUFC/Mayor's office engaged in tree planting competition briefly with other east coast cities in which mayors were publicly challenging their counterparts to plant increasing numbers of trees; interviewees felt this was an effective public campaign. Classic Communications, a for-profit partner in BUFC, produced pro-bono marketing materials for BUFC but could not be reached for an interview.

Key Themes:

- **Fair at engaging public**
- **Heavy reliance on new social media**
- **Positively received by city residents**

Evaluation

All but one partner acknowledged that there was no process in place to evaluate the partnership and make improvements. While trees planted were tracked, no partner could provide the data nor knew who managed tree data. Essentially, all partners thought that tracking data and evaluating success the responsibility of another partner. Aside from the initial street tree inventory that led to the formation of BUFC, evaluations of resources or the partnership were non-existent to most partners. One partner however felt that the evaluative process

Key Themes:

- **No Evaluative process**
- **Informal self-reflection part of on going BUFC partnership**

was informal but ongoing and part of the open communication that occurred in every meeting and email, even noting that there were regular check-ins regarding how well partners were meeting short term goals. Again, as with other components of the partnership, the informal nature appears to have resulted in unsatisfactory outcome as judged by the partners.

procedure

Funding

All interviewees mentioned the significance of the 2008 economic downturn and subsequent recession as a harmful influence. Interviewees explained it not only meant that funds dried up, but also that less attention was given to trees given the stress of economic uncertainty. Creativity and frugal behavior became important. UEI pointed out and other partners concurred that there were successes in participatory budgeting processes at BUFC, but that funds were limited enough to cause stress nonetheless. Some partners recalled that UEI managed shared funds while others remember it as the responsibility of the City Parks Department. Overall, shared funds were extremely limited and most partners assumed that they would need to wisely manage their own budget to help meet the goals of BUFC and not be able to rely on the partnership to fund or expand projects. Initially all funds were from private sources (e.g. Home Depot \$100,000 grant) despite "handshake promises" from public officials to raise more funds specifically for BUFC. Approximately \$300,000 annually was provided to the MA Urban Forestry Program by the USFS, along with smaller supplemental grants from DCR and USFS targeted at urban trees. The MA Urban Forestry Program is housed within DCR and made significant amounts available to Boston, however the assumption was that Boston as a major urban center could attract funds on its own. This meant that much of the \$300,000 was spread out to smaller cities and towns. The partnership of BUFC was often highlighted on grant applications made by each partnering agency because many grants required the act of partnering. These grants were not always written for BUFC. Most partners felt however that many opportunities to attract funds were missed (e.g. fees to film makers filming in Boston that would be dedicated to trees; not attracting big corporate partners).

Key Themes:

- **Poorly funded**
- **Participatory budgeting process was a highlight**
- **Confusion between partners about fund management**
- **Missed opportunities for funding**

Capacity

Across all partners there was recognition that each agency lacked two things, funding and space to plant trees. No partner was assigned the responsibility of finding adequate tree planting sites, although City Parks were in charge of permitting tree planting on public lands and thus were looked to for recommendations. Some interviewees explained that it wasn't feasible for all partners to contribute regularly with the demands of individual organization needs. While partners like DCR were wholly focused on building capacity for urban tree canopy expansion, smaller partners like Arnold Arboretum and Franklin Park Coalition had no funds or sites to plant new trees. In fact, most interviewees were aware that the smaller partners were unable to dedicate staff to BUFC. Smaller partners expressed frustration that the "big" partners (especially local, state, and federal government) scheduled "long, midweek meetings" that they were unable to attend. Smaller partners wanted to contribute more but could not find meaningful ways to do so.

Leadership

Some interviewees described leadership as "flat", "poor", and even "unknown". Among partners, UEI was most often recognized as the leader of BUFC but small partners cited City Parks, DCR, or Earthworks as the leader. Most described leadership as UEI-centric and perceived as either too much for UEI to handle ("unfair to burden UEI") or as problematic because it minimized the role of other partners. Late in its existence, BUFC elected a steering committee and proposed a rotating leadership position to spread the burden/opportunity to all willing partners but neither was implemented. All interviewees acknowledged that most partners were hesitant to take on too much responsibility despite belief/commitment to the BUFC mission. Most interviewees recalled that when key leaders within UEI left the organizations that BUFC collapsed due to the centrality of UEI.

Key Themes:

- **Planting sites were the limiter**
- **Government at all levels had greater capacity than small non-profits and neighborhood groups**

Key Themes:

- **Leadership based at UEI**
- **No agency stepped in to fill leadership void when UEI leaders left.**
- **Most partners unwilling to take on leadership role (lacked capacity)**

Sharing

The meager funding was budgeted collaboratively but other resource sharing was varied according to most interviewees despite commitments to do otherwise. In general, data sharing was described as poor but material and equipment sharing was good between partners actually planting trees. Several interviewees described the written agreement signed by partners in BUFC and that resource sharing was expected but not specific. Volunteers and human resources were shared well across partners as were educational and printed materials.

Key Themes:

- **Sharing of materials, human resources, and funds were good.**
- **Data sharing was poor.**

Impact of Boston Urban Forest Coalition on Tree Planting in Boston

Regarding the impact of the BUFC on the Grow Boston Greener (GBG) initiative, the responses of interviewees were split, half feeling the impact was limited, the other half feeling that BUFC launched GBG and was immense. BUFC helped develop GBG and moved the conversation of urban trees forward in Boston. One interviewee summed the impact as "planting some trees is better than planting none". 5000 trees planted were directly attributed to BUFC according to one interviewee though many thousand more were planted during its campaign for expanded tree canopy.

Key Themes:

- **BUFC launched GBG**
- **BUFC had limited effectiveness planting trees in Boston**

What would you do differently

There was overwhelming agreement among interviewees who said that defining roles for BUFC members and developing funding streams and tree planting implementation strategies were what they would do differently. Some mentioned creating trusted structures for sharing data. Others recommended a variety of changes to the engagement of Boston neighborhoods and residents such as offering more education programming, building local leadership or "tree champions", and having dedicated city government staff focused on empowering neighborhood groups. Several interviewed suggested that it would have been better to avoid big goals for tree numbers (i.e. 100,000 by 2020) as it became a far off dream. Some were critical of the City and felt that BUFC should have distanced itself from local politicians and instead

Key Themes:

- **Develop a funding strategy**
- **Define clear roles within BUFC for each partner**
- **Develop tree planting implementation plan**
- **Avoid large number tree**

used the relationship to push the mayor and city council to adopt laws protecting the current canopy in the city.

goals

One idea that came out of most interviews that does not fit neatly into the broad categories organized above is that change was a constant feature of the partnership and landscape in which BUFC operated. In one form or another each partner interviewed mentioned that the complexity of dealing with change hampered efforts and stymied enthusiasm periodically. There was excited anticipation of major improvements to Boston's urban tree canopy early in the partnership that changed quickly following the financial collapse of 2008. But economic change was not the only change that interviewees reported. Change came as member organizations came and went, individuals came and went, and the public interest in planting trees shifted. Some organizations felt they could not dedicate the time needed to become adept at partnership related tasks because of changing responsibilities within their own organization.

Journal Articles, Press Releases, and Newspaper Articles

Reviewing local news articles to understand perspectives outside of partnering organizations helped further assess the functioning and effectiveness of the Boston Urban Forest Coalition. The BUFC did not appear with regularity in any journals or local periodicals, which is evidence of limited public relations

campaign. Nonetheless the few that were found provided important insight and context.

- Boston Parks & Recreation Dept., April 2006, *Boston's Urban Forest Coalition Study: Trees Provide Air Quality Benefits*

This press release from City Parks promoted the benefits to public health that trees have. It discussed that BUFC had a goal of developing a strategic plan for tree planting and that quantifying the economic value of Boston's trees would attract public and private support. Renee Toll-DuBois (UMass Extension) was quoted saying, "Community involvement is a key component of what our urban forest coalition is hoping to accomplish."

- BUFC Press Release, October 2006, *Planting Peace: An Evening with Nobel Peace Laureate Dr. Wangari Maathai*

Press releases before and after Dr. Maathai's talk at a BUFC event provided inspiration for tree planting and boosted fund raising in the short term. In many ways this visit by the Nobel Laureate and inspirational tree advocate propelled the city and the BUFC toward the 100,000 tree goal and the GBG initiative. As the United Nation's primary tree planting emissary; Dr. Maathai was encouraging cities to contribute to the UN's goal of one billion trees planted each year globally.

- City of Boston Press Release April 30, 2007, *Mayor Announces 100,000 Will be Planted in City by 2020.*

This press release records the formal launch of Grow Boston Greener and quotes leaders from around Boston including Mayor Menino as they explain the formation of the BUFC, how GBG will work, its goals, and most importantly the importance of trees in Boston.

- Alliance for Community Trees (ACTrees), May 2007, *Boston Mayor Menino Announces Urban Forestry Initiative*

Published on the ACTrees website which is largely visited by the tree advocacy planting community, the article lauded the launch of the Grow Boston Greener campaign. It highlighted youth involvement as BUFC, Eagle Eye Institute, and Massachusetts YouthBuild Coalition planted trees and taught urban forestry skills to city kids on Arbor Day 2007. This article signified that Boston was receiving national attention for its tree planting effort and that it was in the contemporary vanguard of other major US cities

- Christian Science Monitor, August 2007, *How to bring shade to a city*

This article discusses the 100,000 tree goal launched earlier in 2007 and the red maple named Wangari after Nobel Peace laureate Dr. Wangari Maathai. It explains the difficulty of keeping street trees alive due to the harsh city environment. The Arnold Arboretum is quoted saying, "These trees take a

coalition of people to basically babysit, water, and tend to. In the end, aftercare makes all the difference."

- The North Street Neighborhood Association, September 2007, *Boston Urban Forest Coalition Aims to Plant 100,000 Trees*

This neighborhood association newsletter highlights the launch of GBG, the potential for planting on private property instead of street tree pits, and the leadership of Earthworks* in the tree planting initiative. The newsletter notes that the City promised to plant 12% of the 100,000 trees and DCR would plant 3,000.

* Earthworks was a BUFC partner that is now defunct and could not be reached for interview or materials.

- Boston.com YourTown, November 2011, *Boston awarded \$30K toward effort to plant 100,000 new trees by 2020*

Several important facts are noted in this article; the DCR awarded the city \$30,000 for tree planting to "re-energize" the BUFC; in 2011 BNAN took over GBG; and that BUFC has struggled through "organizational changes". It notes that BNAN would be assuming leadership of BUFC's flagship program and expected similar funding for GBG once it settled into its role as leader. In interviews BNAN could not report the total number of trees planted as a result of this money. The article gives the impression that the BUFC was struggling to plant trees between three and four years into its existence.

- *Boston Globe* July 2012 Boston struggles with goal to plant 100,000 trees

The article highlights that the City and BUFC efforts to plant trees had "languished" and just replacing dying street and park trees was the best they could do. The *Globe* explained that the BUFC's primary mechanism for planting trees, the GBG initiative, was not planting at anticipated rates to match the pace needed to plant 100,000 by 2020. It notes that BUFC was then pushing large property owners like universities and hospitals to plant more trees but recognized the cost of tree planting was prohibitive to large institutions just as it was to homeowners.

- Rachel Danford et. al., February 24, 2014; *What Does it Take to Achieve Equitable Urban Tree Canopy Distribution? A Boston Case Study*; *Cities and the Environment*.

This important paper published in 2014 determined that in addition to stakeholder disagreements, poor funding, and lack of oversight; available space for planting is the most significant limiting factor when planting urban trees in Boston. The researchers found through analyzing several tree planting scenarios that reaching the goals of Grow Boston Greener (35% canopy cover and canopy equity across the city) would require the planting of over 350,000 trees and utilize every plantable site in the city plus additional spaces that are free of trees and not yet ready to accept a tree (impervious surfaces). The conclusion here is

that the goals set out in Grow Boston Greener, while valuable to the urban tree canopy and to city residents, are presently unattainable and insufficient.

Internal Documents

Few documents were available to review given the time that lapsed between the dissolution of the Boston Urban Forest Coalition and the interviews and research. Still, some important documents were found and one interesting Memorandum of Understanding (MOU) provided by a small and minimally active member provided great insights.

An important foundational document for BUFC was the Greater Boston Urban Forest Inventory (GBUFI) conducted by the Urban Ecology Institute (UEI) in 2005-06. Importantly, the GBUFI describes the heterogeneous matrix of trees in Boston as an ecological and environmental justice concern for the city. Recognizing that a substantial portion of the urban forest in Boston was consolidated in a few neighborhoods and not others was just the first step for BUFC as it targeted communities for tree planting. It is unclear however, if this report was used in targeting neighborhoods that lacked trees. While the GBUFI is rich in neighborhood level and citywide data on nearly every street tree, it does not provide guidance on planting trees. The GBUFI provided significant improvement with regards to the inventorying of trees, as its name would suggest, but it was not itself a planning document though UEI promised to

develop an implementation strategy to manage and expand the city's tree canopy.

BUFC Membership

Depending on the source, as many as twelve partners were listed under the umbrella of the Boston Urban Forest Coalition; UEI, DCR, City Parks, and USFS are the only ones mentioned with regularity. On one particular document dated in 2010 in which BUFC was nominating itself for the Collaboration Prize from the Lodestar Foundation, partners as diverse as Earthworks, The Dorchester Environmental Health Coalition, Allston-Brighton Community Development Corporation, Arnold Arboretum, Charles River Conservancy, Charles River Watershed Association, and Girls Get Connected were listed as active members. In other documents the City of Boston Department of Neighborhood Development, JPTrees, Greening Rozzie, Franklin Park Coalition, and Southie Trees are listed as active members. Attempts were made to contact every partner listed. Only Franklin Park Coalition and Arnold Arboretum agreed to be interviewed and Department of Neighborhood Development while responsive had no institutional knowledge of participating according to brief conversations with current officials. Most other members were listed on documents touting the diversity of partners that comprised BUFC but no record of participation could be acquired. This was affirmed by their reluctance to be interviewed for this project.

BUFC Memorandum of Understanding

One of the less active partners, Allston-Brighton CDC could not provide meaningful feedback in an interview because of personnel turnover, but did share a signed Memorandum of Understanding between the organization and BUFC. This document was signed in 2008 and is presumed to be similar to other MOUs that helped to ally organizations into a functioning partnership. In it UEI is named as the fiscal agent of BUFC and the mission of BUFC and responsibilities of the signing partner are made explicit. Here the mission of BUFC is to develop an urban forest comprehensive plan, improve education and outreach about urban forests, coordinate agencies from all sectors in urban forestry, and advocate for policy reforms regarding trees. These goals were reflected in the interviews. Partners were expected to attend eight BUFC meetings a year, participate in subcommittees and/or "make some other significant contribution as deemed appropriate by the Steering Committee." This is far more formal a document than was recalled during interviews but embodied the spirit that was shared by interviewees. Curiously, the Steering Committee was not mentioned as an explicit entity in interviews so may have been convened on an ad hoc basis only.

Websites

City of Boston

The City of Boston website is a simple site designed to share basic information relevant to city residents. Press releases related to Grow Boston Greener were found here as were tree-planting guides and links to apply for Grow Boston Greener's tree planting grant. Multiple versions of the tree-planting guide were found and were all very detailed educational materials. The existence of PDF planting guides on the city's webpage made clear that BUFC assumed there were enough property owners who would be interested and able to plant and care for a tree.

The Grow Boston Greener webpage on the City of Boston website which had helpful step-by-step tree planting guides and applications for mini-grants was removed months after the Menino administration left office. It was unclear if the removal of the GBG webpage meant the 100,000 tree goal had been abandoned by the Walsh administration or if there was going to be a new strategy and goal. The City's parks and tree web pages have not been updated. The page does not announce any new goals for total canopy or tree numbers but contains links to request a new street tree from the City and requirements for having a street tree planted.

Boston Natural Areas Network

The BNAN website is simple and at the time it was first accessed in 2014 did not have any information about the Boston Urban Forest Coalition or its flagship program Grow Boston Greener. The BNAN page did however feature several other tree-related segments; most prominently details about the Boston Urban Forest *Council*. The Council is described as explicitly an advocacy and information-sharing forum that hosts meetings open to the public twice per month. BNAN has been absorbed into land preservation non-profit The Trustees of Reservations, and the website now highlights the Spreading Roots program, a tree give away program that happens twice per year.

DISCUSSION

BUFC in context of partnership formation

The formation of the Boston Urban Forest Coalition (BUFC) was preceded by conditions similar to those described in the literature; issue complexity, sector failure, champions, and existing networks:

- The issue landscape the BUFC faced had well-known complexities including the imbalance of canopy cover, the multi-jurisdictional nature of planting trees on private and public land, limited public knowledge with regard to the benefits of trees and the need for more, mixed interest from city residents in participating in such an initiative, and the challenge of finding suitable sites for trees.
- The Massachusetts Department of Conservation and Recreation (DCR), the US Forest Service, the City, and non-profits were all independently attempting to expand urban tree canopy but none were particularly successful by the mid-2000s.
- From the outset the Urban Ecology Institute (UEI) was Boston's most highly regarded and skilled tree advocate, exhorting the need to plant trees and providing justification to do so; this was matched with local (if quiet) leadership of neighborhood greening organizations like JPTrees, Greening Rozzie, and others. The problem being, most city residents were unaware of UEI and their mission to plant trees in Boston.

- The public and private organizations with an interest in urban trees in Boston all knew one another but lacked formalized relationships or a unifying strategy.

It is unknown if these conditions were explicitly recognized by the founding organizations as the partnership formed. The informal nature of the partnership that interviewees reference suggests that prescriptive and intentional partnership formation processes were likely overlooked early in the partnership. Without doubt, partners entered into the BUFC under the assumption that coordinated efforts would spread the financial burden and that partnership sharing, primarily of information, could demystify some of the complexity that impeded tree planting.

Interview responses made clear that partners felt there was much to gain through a public-private partnership that could not be accomplished by any one partnering organization alone. It was also expressed that those emergent properties of partnering (innovation, efficiency, synergism, etc) that make it worth the extra time and efforts were fleeting. For example, material resource sharing that was good on the ground made tree planting easier for several partners and their clients, yet data sharing was limited which stifled evaluation and problem solving. Furthermore, it is surmised that because innovation and efficiency were not mentioned during interviews or in the documents reviewed that they were not a prominent product of the partnership. Still there was

recognition by partners that there was always great value in trying to partner if only to encourage one another and share strategies or successes to boost morale. That isn't to suggest that real partnering wasn't happening, quite the contrary. The BUFC represented a united front of advocates for trees that had an influential period in the mid-2000s but were harmed by conditions out of their control, such as the 2008 financial meltdown. The partnership was not sufficiently resilient to overcome set backs but was able to push the mission forward and plant few thousand trees and retain a limited tree giveaway administered by BNAN.

Partnership features in BUFC

There are varying degrees of satisfaction with the progress made by the Boston Urban Forest Coalition toward expanding Boston's urban tree canopy. Interviews suggest that state and federal government agencies along with the Urban Ecology Institute felt good about accomplishments and pace. These organizations were the most influential within the partnership as they bear greater influence in terms of political ecology, and were responsible for most of the work of the partnership; it's meetings and day-to-day operations. Their satisfaction may be due to the longer timescale on which these organizations operate; governmental agencies generally set long-term goals as they are permanent institutions and therefore have longer timescales on which they work. On the contrary, smaller organizations were unhappy with the pace. The demands of board members and funders often put pressure on these small

organizations for quick results. All partners expressed feelings of being “spread thin”; having more tasks than time. But those organizations with limited resources, small non-profits, often found it difficult to make additional time for the partnership beyond monthly meetings.

The recollections of many partners suggest that the BUFC and especially its Grow Boston Greener campaign were successfully attracting attention to the need for more trees in Boston. The demand for trees exhausted the capacity of the program. As a result, the partnership experienced a decline in interest as applications for tree planting grants were rejected because funds and resources were depleted. This was frustrating to partners and residents alike. The height of initial enthusiasm for the partnership was not matched with adequate resources or efficient implementation strategy, and was a factor interviewees identified as harmful to the partnership.

The BUFC, like many partnerships operated under the assumption that partnering would just happen or that it would come naturally; a characteristic that leaves partnerships vulnerable to collapse when partners are not invested. This vulnerability was exposed when no partners stepped in to fill the void following the departure of key members of the Urban Ecology Institute. The partnership declined in spite of the fact that all the partners wanted the BUFC to continue its important work. The partnership could have benefited from formalized roles, responsibilities, and succession plans. To be fair, UEI reported providing a detailed succession plan and strategy for the partnership to continue

beyond its participation, but the implementation of such a plan did not occur. In contradiction to the interviews, documents like the meeting minutes and a Memorandum of Understanding signed by the Allston-Brighton CDC show quite clear expectations of what partners were to contribute. This conflict underscores the partnership's lack of specific vision and a plan for implementing the vision.

As noted in the literature, partnerships rely on a healthy mix of diverse partners that represent all parts of the urban forest, its functions, its community, and its management needs in order to ensure that all the necessary resources to maintain and grow the urban canopy are available within the partnership. In partnerships of this nature a mutualistic behavior needs to be adopted; one in which each partner offers something to the whole and still feels as though it is getting as much or more in return for its contribution. It is unclear that partners experienced this, though in interviews a plurality of partners felt the BUFC was a success despite its challenges. What then were the contributions and what were the rewards for actively partnering?

Behavior of partners

The interviews revealed that a common frustration among partners was the inability to follow through with commitments. For instance, the City promised more funding to be set aside for tree planting, yet eight years into the partnership, it was still funded primarily by donations to a general parks fund

and small grants. This was the case in Los Angeles too and caused a great deal of resentment directed at the City by residents and partners alike. In Los Angeles though, the backlash led to the tree program being administered entirely inside the mayor's office and to the establishment of dedicated non-profit fundraising foundation to keep the partnership well resourced in perpetuity. While not explicitly expressed by interviewees in Boston, one might glean that the mayor's broken promises hurt the cohesiveness of the partnership.

The BUFC was not the first public-private partnership to plant trees in Boston. The Urban Resources Partnership, a federal program described briefly in the BUFC Timeline in the previous chapter, was successful at planting trees but was defunded in the early 2000s after just a few years and immediately collapsed leaving many partners confounded. Combined with the knowledge that similar partnerships in other cities were struggling contributed to BUFC partners being hesitant to fully commit. To be clear, some partners (UEI, DCR, BNAN, and USFS) were dedicated to the mission of the partnership but other partners, chiefly the city of Boston who wouldn't invest sufficient resources or small non-profits who worried of the risk. Uneven commitment meant that at some level the partnership was always tenuous. Indeed BUFC was easily wounded following the economic collapse in 2008, but even partners interested in deep involvement had to reconsider. BUFC nonetheless built a community of urban forest professionals that worked to aim their organizations in the same

direction and find ways to share resources, which in the end resulted in the planting of tens of thousands of trees.

Unlike what was recommended in the literature, the City was not the central actor in the partnership. Instead that role was filled by UEI who organized and directed much of what the partnership did. Unfortunately unlike the City, UEI did not have standing relationships with active community organizations. Neighborhood-based organizations and community level tree planting groups are the sustainers in Los Angeles and New York. Public-private partnerships have the ability to democratize processes that would otherwise happen independent of resident input, like planting trees. That special property was not realized in Boston because the City did not empower its residents sufficiently and UEI was incapable of doing so.

Research and interviews were unable to reveal the exact number of trees that were planted or a clear strategy or planning document for planting trees on a massive scale in the city. Grow Boston Greener was well organized and made an impact on city trees but in some ways was a stand-alone effort instead of part of larger schema. It seems as though partners came together to discuss the urban tree canopy broadly as reported in meeting minutes and interviews, but it was not obvious that they were engaged in specific tasks together. The BUFC, in this regard, were a band of organizations working on the same project but without mechanisms to seamlessly operate across organizational boundaries. This missing strategy meant that while shovels and wheel barrows could be

shared for tree planting, data wasn't shared between partners very well. It was expressed by some partners that better data collection and clear methods for data sharing could have helped the initiative react to change and make improvements. The Cities reluctance to share information regarding its tree planting plans led to reluctance in other partners to share, hence we have no reliable count of how many trees were planted as a result of BUFC or GBG; a number that should have been readily available.

A key challenge for the BUFC that emerged during interviews were the apparent differences of culture from agency to agency within the partnership, again this reflects on the dynamics of political ecology in the city. For instance, the Franklin Park Coalition a small place based non-profit expressed several times that the meetings BUFC would host were not timely or productive enough for them to attend. Yet the USFS, a large federal agency, felt just the opposite; that meetings were efficient and very useful. Exploring the different stresses and priorities that a small non-profit might face versus those of a government agency are important. Having taken the time early in its existence to acknowledge cultural differences and develop common language and communication styles as suggested in the literature could have helped the BUFC craft meetings that worked for all partners. Without clearly delineated expectations and a formal structure to accommodate the differences from partner to partner, mechanisms made to bring the partnership together (e.g.

meetings) can be perceived as exclusionary. As unintended as this might have been, the partnership was harmed in ways that went unrecognized.

As was evidenced by the MillionTreesNYC campaign, making tree planting part of the culture of all city level departments can go a long way to meeting a tree planting goal. This was recognized by the Boston City Parks Department as a regret. They were not able to bring departments across the city into tree planting to help meet the goals of BUFC. City of Boston housing, public health, and transportation departments could have been putting trees in the ground as part of their existing functions and could have been empowering residents along the way. While asking departments that do not self identify as related to the environment or trees, actions such as policy changes and advocacy are possible when directly planting is not. As was expressed by DCR, advocating for policy that would protect existing trees was a missed opportunity and a vast array of City government departments could have and should have been playing this role.

Leadership

It was made clear that the Urban Ecology Institute played an important and central role as the convener of the partnership, a role usually occupied by the city government in other PPPs. UEI's centrality though, ultimately became a source of weakness for the partnership when key leaders within UEI resigned their positions. Key figures at UEI were in all ways the champions of Boston's urban tree planting experiment in the early 2000s, a fact that cannot be

understated. Without the ambition of leadership within UEI, the BUFC would not have existed. Despite UEI's limited staff and funding, and its poor proximity and connection to Boston (being in Chestnut Hill on the Boston College campus); it emerged as the only capable organization to lead. As UEI fell apart, so did the BUFC. Though leaders at UEI recall developing a leadership transition plan for the BUFC following the departure of long standing individuals, there is no evidence that it was implemented. Paired with the undefined roles for other partners, it is no surprise that the partnership became rudderless, leading to its slow but inevitable dissolution.

To be fair, it is unclear why UEI held so much power within the partnership. Did it assume leadership or did leadership fall to the organization as a result of other partners backing down? Some partners give the impression that organizations were worried about over committing to BUFC, a trait that would have inhibited the Coalition in many ways including burdening UEI with all the leadership responsibilities. On the other hand, UEI may have just had the vision for the expansion of tree canopy in Boston and could not relinquish the responsibility once put forth. This is a point that was not clarified during this research.

As was warned about in the literature, there existed a hierarchy at BUFC with UEI at the top, followed by experts at the USFS, DCR, and City Parks. Smaller partners and city residents were left at the bottom of the power structure with less inspiration to be involved more actively in the process. This was not an

intentional act on the part of the BUFC core members but rather an artifact of the unconscious decision to not develop common partnership practices, communications, and implementation strategies.

Further suggested in the literature and found to be important in New York and Los Angeles among other cities, was the primacy of the mayor. Under Bloomberg in New York, the PlanNYC2030 comprehensive planning process gave planners time and funding to create and properly implement MillionTreesNYC. Similarly, in Los Angeles, mayor Villaraigosa took his campaign promises of *greening* the city seriously. When MillionTreesLA faltered he brought it back under control of the mayor's office, developed a dedicated funding stream, and re-launched it as CityPlants. Unfortunately for Boston, Mayor Menino and his staff never provided the support and leadership needed to buoy Grow Boston Greener or the BUFC through difficult times following the 2008 recession nor did they dedicate significant funding or highlight the importance of trees outside a few ribbon cuttings and photo opportunities.

Internal Communication

The BUFC was good at communicating aspirations and setting big goals. This was made clear in interviews. Unfortunately, it was less effective at creating actionable implementation strategies. Basic communication in the form of newsletters and monthly meetings were a strong suit for BUFC; but as with many partnerships these platforms became a way of reporting back to the partnership

instead of a place to strategize and innovate. Communication came easily to many of the partners as a result of long standing relationships which meant that developing big goals among the most active members was effective. These pre-existing relationships between UEI, DCR, USFS, and City Parks meant that other partners either felt marginalized or weren't even aware that they were not part of communications.

Community Engagement & Legitimacy

Outreach and public messaging were mixed and relied mostly on social media at a time when agencies were just learning how to effectively use social media. It's impossible to know how widespread public knowledge of the BUFC was. Was the public aware but disinterested? Or was the public largely unaware?

According to interviews with BNAN staff, the city's perceived leadership of the BUFC and GBG may have harmed legitimacy as a whole since government is at times viewed as inept. Moreover, with the seal of the City on GBG, some potential participants may have opted out simply because they'd prefer to avoid local government bureaucracy. Instead of letting the multifaceted BUFC be the face of tree planting, and be seen as an inclusive partnership, the City (and the mayor) became the face and likely had a chilling effect on participation (above and beyond the chill of a poor advertising campaign). All the while, the City

played a rather minor role in the development and implementation of the actual program.

The BUFC had many talented and well-intentioned partners; unfortunately they were in large part disconnected from the residents of Boston. Despite the stated focus on environmental justice from many of the partners, the BUFC did not reflect the racial and socioeconomic diversity of the city, failed to account for cultural difference, and missed an opportunity to make meaningful relationships with tree champions from many identities in the city that could have given BUFC legitimacy, resiliency, and sustainability beyond the *traditional* environmentalist community. Establishing trust and legitimacy across an entire city with its many residents representing many identities is a very long process. History and cultural interests and sharing of power all need to be considered, even when just planting trees. This represents a missed opportunity for BUFC, because these relationships might have sustained the effort.

Implementation and evaluation

Without doubt the BUFC influenced the planting of thousands of trees across Boston. It surely could not have done this without a strategy. That a strategy was not described in interviews though was surprising. Not having access to most of the internal documents of the partnership it can not be known what type of planning went into the tree planting program or who was included in the

discussion. It is safe to assume UEI, DCR, USFS, BNAN and City Parks were at the table; but implementing an initiative of this scale requires expertise and access to information that was not held within that short list of likely participants. With no documentation or recollection of the strategy design process provided in interviews, it leads to the supposition that at the partnership level, there was minimal work done to plan for 100,000 new trees in the city. Furthermore, it was made explicit through interviews that formal evaluation was not a part of BUFC. Some level of evaluation was happening at BUFC as evinced by the record of different incarnations of tree planting programs and changes to Grow Boston Greener's administration. Clearly the BUFC was trying different strategies but it is not clear if there was an overall strategy of short, medium, and long term goals and techniques used as guide for the whole partnership to base individual organizational tactics.

Funding

The significance of the 2008 global economic crash and subsequent recession can not be understated. That event had deep impacts on non-profit and charitable organizations across the country. Organizations that rely on generous supporters will necessarily shrink when funding isn't readily available. The BUFC successfully used a participatory budgeting process to distribute shared funds, though funds were limited. This process was transparent and was highlighted by several interviewees as a positive process with outcomes all were

pleased with. Unfortunately without funds to distribute the process has less significance.

Despite informal promises of funds from the mayor, no dedicated fund for the BUFC or GBG was ever established. Such a fund is in large part why Los Angeles is still planting thousands of trees annually. As with many other challenges the partnership faced, local tree champions, the "public" in public-private partnership could have held the mayor accountable and helped secure funding. In some ways, the public's lack of awareness of the BUFC partnership hurt the partnerships budget.

Maybe the most frustrating funding related challenge expressed by the partners was the lack of dedicated staff to seek out funding, such as a grant writer. While many skilled people were part of the BUFC, neither they nor their counterparts could devote enough time to writing grants and attracting funds. This was a well-known deficiency within the partnership and one that dogged the partners. The addition of an independent and dedicated BUFC staff person or partnership liaison would have stretched the means of the partnership but might have positively impacted funding after the initial investment, perhaps enough to have sustained it.

Conclusion

The Boston Urban Forest Coalition and its Grow Boston Greener campaign matched the ambition of other more prominent American cities with high hopes in 2007 to plant 100,000 trees in thirteen years. This may have been

naïve, but many of the right pieces were in place and willing partners were plentiful. This wasn't enough; a partnership is more than just a good idea on paper and requires that partners work at partnering as much as they work towards planting trees. Without question, the financial crash of 2008 had a chilling effect on funding for all public and non-profit agencies, which wounded BUFC. It also shifted the focus of politicians and residents alike away from environmental causes like trees. However, as has been described the partnership faced key challenges, external and self-created identified in the public-private partnership and collaboration literature. Still an effective collaboration across sectors can be a democratizing process and shift some power held within the political ecology of Boston back to the residents. Recommendations in the next chapter suggest key challenges might be met to continue successful tree planting in Boston.

Recommendations

Desired Outcomes

In the best-case scenario, the residents, the City, and the partners that comprise the public-private partnership called the Boston Urban Forest Coalition would all be active, invested actors in expanding urban tree canopy cover in Boston driven by a common set of practices and collaborative techniques, and self-governed through democratic process. This expansion in tree canopy would deliver a variety of benefits that satisfy needs of all parties and have positive influence on social, environmental, and economic systems for the residents of Boston. The City as the prime actor might first look at trees as natural infrastructure to abate storm water, noise, air pollution, and temperature concerns but it knows trees also produce an array of positive externalities for residents including improved overall public and mental health, improved economic vitality, aesthetically pleasing communities, energy savings, and opportunities for children to learn from and experience nature in the urban environment. The City cannot, however, afford to plant all the trees that it wants, let alone justify the allocation of the necessary funds in the face of competing interests. To ensure the City can provide the service rendered by trees and fund the maintenance of expanded tree canopy in perpetuity, a dynamic partnership is needed and all partners need to be empowered with

important roles and responsibilities, including that of identifying planting sites and sourcing funding from outside city and state government budgets.

If a major goal of a tree-planting program is social equity, then additional considerations are also important. In many low-income neighborhoods, there is limited capacity (time, interest, or ability) to organize community around something like tree planting. This may speak to perceptions of the environment or the lack of education around the benefits trees bestow, but it likely simply reflects priorities. It is understandable that people will not prioritize tree planting in neighborhoods with high crime, low educational outcomes, and challenging economic conditions precisely because safety, public schools, and unemployment are perceived to be unrelated to ones environment. That is why a strong BUFC partnership with robust education component is needed. BUFC in cooperation with resident groups and their advocates are essential to building capacity for tree canopy expansion in neighborhoods across the city. There exist champions of the environment and environmental justice in all communities, including tree-less urban communities, and these individuals and groups need to be activated and engaged as part of the BUFC.

As considered in the previous chapter, specific challenges must be addressed if Boston plans to expand its urban tree canopy and do so through a public-private partnership.

Procedural Objectives

Re-energizing the tree-planting program initiated by the Boston Urban Forest Coalition requires the following:

- 1) *Reconvene* the extant BUFC partners to conduct a *re-visioning* of the mission statement,
- 2) Use the opportunity to conduct a "post-mortem" *performance evaluation* - This process will surface the deficiencies and blind spots BUFC had, spotlight potential new partners, and generate solutions to the challenges.
- 3) Use the data gathered from the evaluation to *resurrect* the BUFC with new partners from communities throughout the city, define roles, secure funding, and build a strategic implementation plan.

Strategies

It is important for partnerships to explicitly think about and discuss the act of partnering. Assuming that partners with similar interest will collaborate effortlessly is foolish. Clearly BUFC put a great deal of effort into making the partnership work, but it is also obvious that the partnership was not explicit in its practice of partnership skill building. Boston is a city with tremendous private and non-profit resources; and cross-sector and interdisciplinary projects are common as a result of the multitude of universities, non-profit, and resident advocacy organizations in the region. Partnerships and collaborations of all

types are prevalent, and necessarily there are many experts that can lend themselves to the effort of resurrecting the BUFC, including universities with an interest in urban trees.

In its first incarnation, the BUFC was comprised of organizations interested in collaboration but with little energy and limited resources to collaborate. To implement a project at a city-wide scale under an informal partnership is woefully insufficient. As indicated in interviews, there was an emphasis on keeping the partnership informal, and while partners in the BUFC felt this was strength, partners ended up confined to the capabilities of their own organization. If spreading the implementation across multiple organizations is a smart choice (in this case it is), then the process must be deliberate. While it was discussed but never fully implemented, a democratic leadership or network structure within the BUFC should be in place to delegate duties like grant administration, advertising, fund raising, education, and tree maintenance. For instance, according to Danford et al. (2014), finding 100,000 sites suitable for planting trees may not even be possible but planting the available sites in a just and sustainable way requires the attention of a dedicated staff with an explicit mission. Presuming sites could be found, sharing this information with tree professionals and those administering the grant money require considerable more thought than an individual meeting or email can convey. This in turn, requires the attention of a person whose only role is handling the administrative responsibilities of the partnership.

To rebuild this partnership, lessons must be learned from its previous iteration and shared widely. Reconvening, evaluating, and resurrecting the Boston Urban Forest Coalition will require the extant members of the partnership to look back at what the BUFC was and envision what it might be. It will need to reestablish and state its mission, short and long-term goals, feed their collective memory into an evaluative process. Ultimately it will need to innovate, bring seemingly disparate communities together and redefine what it means for a public-private tree planting partnership looks like for Boston.

Reconvene

In advance of developing performance measures, the BUFC must clarify its mission and strategy statements so that the performance measures can be rooted in the strategy and aligned with the mission. BUFC partners were never given nor did they create a venue to develop a vision for Boston's urban tree canopy. The City as a central institution and BNAN as the current administrator of a tree-giveaway, along with strong neighborhood groups and community organizing groups (e.g. JPTrees and Alternatives for Community and Environment) are best suited to facilitate this process. It will also be important to provide inducements to old BUFC partners who feel frustrated after dissolution of the partnership just two years ago. This might require preliminary commitment of funds from all partners, a signed commitment from the mayor's office that it will play a bigger role in sustaining and promoting the program, or

maybe just knowledge of an active grassroots movement to plant trees. The act of bringing BUFC partners back together presents a rare second chance to create a bold and explicit mission and strategize how thousands more trees can be planted. This may call for a more formalized approach than the casual partnership reported by so many partners of the original BUFC.

A helpful tool early in the process of reforming the partnership could be to work on a power mapping exercise. This tool will allow each partner and BUFC itself to identify allies and obstacles. Through creating a power map, BUFC can understand its position within the city's political ecology. This could be used to shape agendas, recruit allies, and actively challenge impediments to tree canopy equity and expansion initiatives. A collective thought exercise like this could also be a shared experience that reaffirms the commitments of old partners and sparks interest in from new partners but without any initial expectations of commitment.

Evaluate

Developing performance measures for the BUFC and GBG tree planting initiative is at once simple, and complicated. Simple because the very tangible measure of its output is the number of trees planted, and counting is as basic as a measure can be. It is complicated though because trees-in-the-ground is only one metric of many other measurable aspects to consider, tangible and intangible. The other measures involve multiple agencies whose desired

outcomes include improved air quality, reduced stormwater runoff, economic development, aesthetic pleasure, reduced stress, and noise reduction – though they are all striving for more urban trees. It will be important for the extant members of the BUFC to develop a more precise list of desired and measurable criteria by which to gauge its past performance. Here we have proposed a method of performance evaluation and inserted a set of example measures consistent with the goals of the BUFC. Undoubtedly, the BUFC will define the actual evaluative measures differently.

The *Balanced Scorecard* is a helpful visual tool developed to make the self-evaluation processes easier to conceptualize (Kaplan and Norton, 1992). By identifying four important categories to measure against, an organization can prove its effectiveness or expose its deficiencies. The scorecard is used to measure tangible and intangible qualities of performance but here the scorecard proposed incorporates the different reasons we measure performance in the first place (Behn, 2003). Naming and integrating the reasons a particular measure is used can help us ask better questions and craft more effective evaluations (Behn, 2003). Not only is it able to evaluate defined outcomes and targets, it also provides space for motivating partners and staff, promoting tree planting internally and externally, and for building a feedback loop that generates learning. As noted earlier, the key challenges facing BUFC in the implementation of a program like GBG are communication, leadership, funding, and capacity; all addressed in the proposed balanced scorecard. In Figure 3 a

balanced scorecard example represents the goals and principals of the BUFC specifically related to the Grow Boston Greener initiative and ways by which the BUFC might measure its accomplishments.

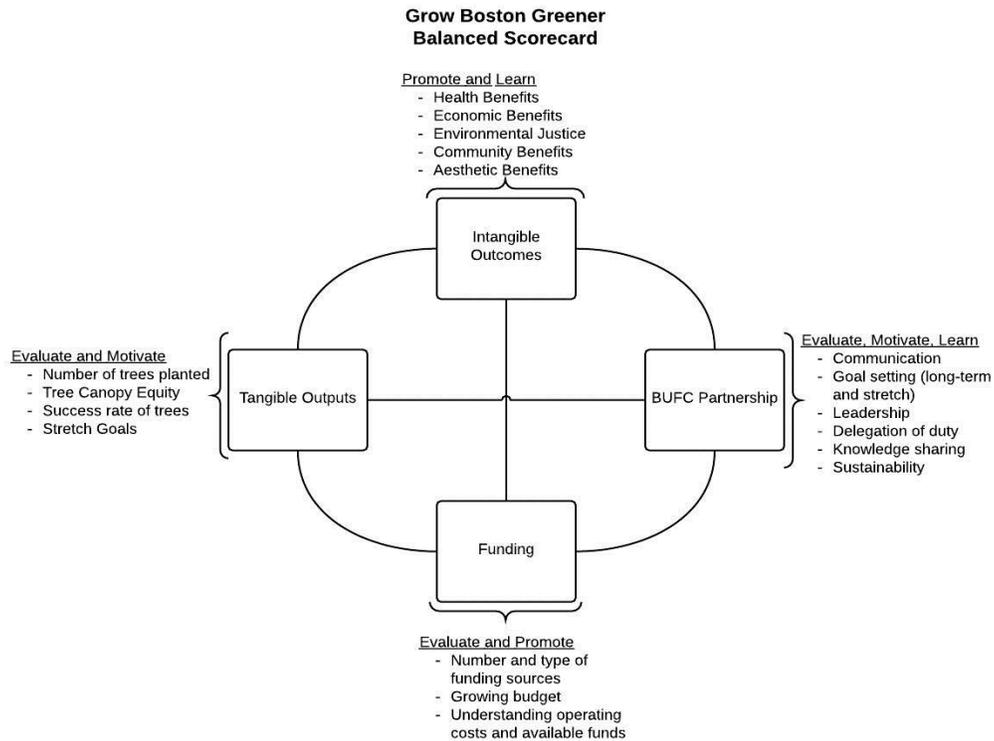


Figure 3: Proposed Grow Boston Greener Balanced Scorecard

This process will undoubtedly be time consuming and require all partners to be vulnerable and honest with themselves. While politicians are often hesitant to show or share vulnerabilities in their initiatives, we think that this "post-mortem" approach (especially because there is a new mayoral administration) provides an opportunity for learning about partnership in the Boston context by reflecting on honest criticism independent of assigning blame.

Most partners in the BUFC have little to lose politically and more to gain from honest evaluation than elected officials precisely because their jobs do not depend on public opinion. And, an evaluation of this type might provide motivation for the mayor to improve upon the actions of his predecessor with regard to city trees.

I've broken the scorecard into four broad categories that strive to measure the internal workings of the BUFC vis-a-vis the GBG initiative, the short-term outputs, the long-term outcomes, and how it might all be funded. Intangible outcomes are difficult to measure because they develop slowly. Finding appropriate methods to measure the internal functions and external outcomes of tree planting are important to motivate the partnership and city residents, and create a feedback loop for learning and innovating. At the top of the scorecard are the Intangible Outcomes (health, economic, community, environmental justice, and aesthetic benefits) that will be measured in order to promote and learn from the program. These are the long-term mission outcomes that are derived from an expanded urban tree canopy; in essence how residents interact with and respond to their altered environment. As part of the process, partners should recognize that each partner evaluates differently and may be reasonable to modify goals or measures to advance the mission.

Next come the Tangible Outputs (number of trees, equitable spatial distribution, stretch goals, etc.), which can be used to evaluate the methods of distributing trees, the performance of key actors, and help identify impediments

to planting. Measuring the Tangible Outputs can be an internal and external motivational tool if stretch goals are applied to BUFC partners (internal) and if target neighborhoods can be challenged to plant trees in competition with one another (external). Stretch goals are medium term targets that help to keep an organization moving in the right direction. Providing for quarterly or biannual measures can give reasons to celebrate victories or focus efforts to better meet stretch goals.

The third performance measure focuses on the BUFC partnership and assesses performance in terms of communication, realistic goal setting, leadership and delegation of duty, knowledge sharing, and sustainability. These are the areas that interviews with partners revealed the greatest weaknesses. With the hope of evaluating, motivating, and learning from previous shortcomings, these measures will take each organization out of their silo and should lead to the assignment of responsibilities that move the partnership towards short and long-term goals. In the past, BUFC existed in a state where each partner acted on its own assuming the others were contributing to the 100,000 tree goal (even when they were not). Measuring performance of the partnership could remedy this by drawing attention to communication breakdowns, overlaps or gaps in service, and through questioning assumptions of how partnerships should work. Enhancing communication and increasing knowledge sharing alone could force the BUFC to look at ways outside of the GBG mini-grant program and Parks Department tree planting to get more trees

in the ground toward the goal of 100,000. It is known that more trees need to be planted on private property if the goal is to be met (Danford, et al., 2014). Making it easier for private residents to plant whenever and wherever could add thousands of trees annually to the city's canopy.

Finally, it is important to measure funding. GBG was a chronically under-funded initiative and though it was described as a public-private partnership, the public funding was paltry and the private funding was scarce. Allocating small amounts from the city budget and diverting funds from the DCR budget were the only two sources of funding to pay for trees; there were few private funders (Home Depot). The initiatives in New York and Los Angeles each had big corporate sponsors (including Toyota and TD Bank) that allowed the tree-planting partners to act boldly knowing they had funds to meet their needs and support goals; something BUFC could benefit from. Additionally, staffing and marketing were left to already strained small non-profit partners and one generous but limited for-profit partner. By measuring the needed budget to plant trees at a steady rate, and finding the current budget insufficient, BUFC could decide to focus more energy toward finding funds from new sources. By evaluating the performance of funding or even funders, BUFC could identify efficiencies and further use the measures collected as a tool for demonstrating the need for different funders.

The most difficult to measure arm of the scorecard is the Intangible Outcomes. These outcomes include health, economic, community,

environmental justice, and aesthetic measures that can only manifest over long periods of time hence making them difficult to quantify. While some are subjective (aesthetic and community) and others more objective (health and economic), this type of data could prove the value of the entire program. Incorporating residents in this type of performance measure is important to program success and legitimacy. In its initial inventory of Boston's trees in 2006, UEI enlisted resident volunteers from many neighborhoods. It would seem wise to re-connect these volunteers (and new ones) with GBG and utilize their interest in urban trees to help with resident self-reporting of the intangible benefits. Indeed residents themselves are the best measure of their own satisfaction with regard to intangible outcomes. The use of volunteers then creates an avenue for BUFC to learn about its neighborhood level impact, and provides a learning experience for volunteers by collecting evidence of the benefits of urban trees. Any positive outcomes give GBG the opportunity to promote the program to the public using word of mouth (i.e. volunteer sharing) and popular marketing, as well as promote it internally to BUFC partners to prove that their efforts are working.

Similarly, tangible outputs, the trees, can be tracked by volunteers and can increase learning for BUFC and residents alike. BNAN, which was the most recent administrator of GBG's mini-grant program, should be able to gather this data easily from their records of grantees. The tracking of trees planted can serve three functions; evaluate BNAN's performance administering the program,

determine canopy equity, and also be used as a motivation and promotional tool for other partners as they embark on planting trees. The data from all three measures, if made available to all partners and collected frequently, could lead to a feedback loop that allows the partnership to learn and become responsive to what is and is not working in different neighborhoods throughout the city. These types of measures allow BUFC to highlight the successes of GBG in big public ways (e.g. a bill board or smartphone app) and use the shortcomings to motivate the staff and residents.

Bringing all the BUFC partners together will be a challenge to measuring the effectiveness of the partnership. Some animosity may exist between partners due to the collapse of the GBG program. Some partners may simply not have the capacity beyond their daily operations to think about performance evaluation or to think about the task of partnering. If the BUFC can overcome this hurdle there is much to be gained from creating a space to determine what is working and what is failing with regard to communication, goal settings, leadership, delegation of duty, knowledge sharing, and sustaining the effort. This type of evaluation can create a sort of institutional knowledge that can help the BUFC shape strategy even if turnover of individuals within partnering agencies is high. It can also recognize the expertise that each partner brings to the coalition and designate leadership and duties that fill gaps in performance between partners.

Measuring the types and levels of funding and making these measures known to all partners within the BUFC can be a unifying exercise. More clearly accounting for what is needed and how it can be funded can generate ideas for efficiency and can demonstrate need to potential new funders. In the past, the function of budgeting and funding has been kept "in-house" for each partnering organization. Applying measurement to funding can encourage resource sharing and highlight deficiencies with one partner that could be alleviated by other partners.

To be clear, a balanced scorecard will not solve all of the problems that the BUFC faces implementing GBG. Each partner within BUFC is dedicated to its own mission and recognizes that planting trees in urban communities is important. But having coordinated strategies and being intentional in the partnership is more likely to achieve the overarching goal of 100,000 trees throughout the city than just banding together.

Resurrect

From the inception of the Boston Urban Forest Coalition, the partners were able to define the public value that it would provide: health, economic, public safety, and community development benefits to city residents as a result of increased urban tree canopy. In the absence of the Urban Ecology Institute, the City should assume the role of central organizing agent. At present it is unclear if the City has the capacity to assume such a responsibility. Hence a

public-private partnership should still be considered a reasonable choice. It is important to analyze the results of the performance evaluation in order to determine the course of action for resurrecting the Boston Urban Forest Coalition with the City at the center. What then can be done independent of the learning generated from the balanced scorecard?

It was discussed earlier that the BUFC had no formal structure to it or even a steering committee (though one was planned) to provide a mechanism through which partners could communicate. While it was not necessary (maybe even undesirable) to have a single organization take leadership, UEI was functionally the leader of BUFC. This highlights that having an independent network administrator could have positively influenced coalition communication, trust, knowledge sharing, legitimacy, and funding simply by unaffiliated nature of the position. This should be a key component of the new BUFC. It is recommended that a small staff be charged with playing the role of network administrators and grant writers; basically keeping the “wheels greased”. It should be the responsibility of this convening authority to bundle resources, communicate goals and achievements internally and to the public, schedule and facilitate meetings, share information, and coordinate efforts. At the very least, leadership should rotate through the partners if only to play a convening and coordinating role. Regardless of what the new BUFC looks like, it is important to remember that problems with leadership didn't surface because there were no leaders.

Without question the most powerful partner is the City of Boston whether or not they actually lead the partnership. The city's influence on the partnership had a variety of consequences that could have been mitigated if it had played a more active role. To some of its partners, the City became a paralyzing force because GBG was billed as a big city-wide program which leaves smaller less powerful partners questioning their role. Perceiving that the City was in charge, smaller partners weren't empowered to make BUFC their own. On the other side of the power dynamic, the City's real power only resided in the small amount of funds that it was willing to allocate to paying for trees for GBG, while the rest was left to UEI and other partners. So the perceived power of the City was far greater than its actual power. This means that there was a vacuum between what the City was doing and what smaller BUFC partners thought it was doing – which means things were not getting done and ultimately was a sign of the weak communication channels that existed around GBG.

While each organization in the BUFC was legitimate to its own constituency, it's unclear if the BUFC was seen by the residents of Boston to be legitimate in its own right or not. Because it was not rooted in any one community, the BUFC needed to borrow some credibility to get off the ground. The partners with credibility however were unable to share that perceived legitimacy as one would hope. To be certain, there were some collaborative efforts that helped spread the word of the availability of the tree planting in Boston, but this did not translate into broad grassroots support. Before

launching any new initiatives the BUFC would be well advised to seek consultation with residents that steward neighborhood gardens, plant trees, and know their neighbors in order to sustain tree planting in the city.

It is important to recognize what stakeholders were missing from the original partnership, especially during the development stages of a public initiative like Grow Boston Greener: the many neighborhood associations, CDC's, and environmental justice organizations that abound in Boston. Though this omission was hardly intentional, limiting the role for residents in developing a program that depended upon their participation was glaring. There would undoubtedly be issues resolving power imbalances among the small neighborhood groups, well established nonprofits, and big government agencies. But sharing of power and leveling of power in partnerships is key to their function. Remember, it was recommended in the literature that officials step outside of their title when entering into partnerships so that all stakeholders are taken seriously and given equal weight within the partnership.

Including and empowering residents should be a focus of the new BUFC. One way this might take shape is through a neighborhood ambassador program. Empowering neighborhood groups to invest in the BUFC's efforts would follow the successful models in New York and Los Angeles who have armies of volunteers planting trees. Who better knows the conditions on the ground, where to plant, and how best to reach volunteers in the community than engaged residents.

If nothing else is to be changed in the new BUFC, should it be resurrected, establishing the most effective and transparent practices for communicating across agencies would at least keep partners focused and the collaborative spirit alive in the BUFC. While the mini-grants of the GBG helped to plant many trees over seven years; it could have been far more effective had the BUFC provided a united front for advertising, fundraising, resource sharing, and for locating the neighborhoods that needed trees most. Instead, the agency administering the grants changed, partners in BUFC changed, and funding levels changed. As one interviewee said, "change was constant". Moreover, public and nonprofit agencies often find themselves in many partnerships and suffering from collaboration fatigue, a real phenomenon cited in the literature (Briggs, 2003). This calls for honest self-evaluation on the part of partners. If they cannot engage substantively each partner should be comfortable to step back in a strategic manner and allow others to step-up. The new BUFC will need to be responsive to challenges and able to innovate quickly in a perpetually changing environment.

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Appendix 1 - Interview Questions

What were the goals of the Boston Urban Forest Coalition?

Do you feel these goals were met?

What could have been done differently?

Can you think of some examples of success? Of failures?

Related to the numbers of trees planted?

Related to tree canopy equity?

Related to the partnership?

What was the role of your organization in the partnership?

The role of other organizations?

What were the early stages of the partnership like?

Who was involved?

What was discussed?

How did this influence outcomes later?

What was the capacity of partners to contribute?

What as funding like?

How was it attained?

What was leadership like?

What was communication like in the partnership?

How was GBG promoted? How was it received?

From reading and talking to a few people, I understand that Growing Boston

Greener discontinued because of _____. Is that the way you see it?

How was evaluation used in the partnership?

What would you have done differently?

Do you think that tree-planting programs should move forward in the city?

Do you see more chances for success? If so, how?