Age-Friendly Park Programs: Lessons for Boston

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Abstract

The world's population is aging and cities across the globe are trying to prepare to meet the needs of this growing population. Parks are an important part of an age-friendly city since parks provide numerous psychological and physical benefits to users. Yet older adults do not frequent parks as much as younger generations and often do not view parks as an important public health resource. Therefore, programs that encourage older adults to use parks are vital to change this mindset. My research reviews what is currently being done to make parks age-friendly, describes five effective types of recreational park programs for older adults and analyses how these programs can be expanded and replicated in cities like Boston. Using descriptive mapping, I apply this information to identify potential parks in Boston where age-friendly programs are likely to be successful.

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Chapter 1: Introduction

An aging population is a reality for many cities around the world. Cities are realizing the importance of creating an environment that is accessible and friendly to older adults to ensure this population can lead healthy and active lives. The World Health Organization created the Age-Friendly Cities and Communities Network in 2006 to help governments prepare for an increase in older adult residents. The City of Boston committed to becoming an age-friendly city in 2014 by joining this network and is currently in the process of gathering data about the needs of older Boston residents. Parks and open space in cities are an important health resource and can alleviate some of the psychological and physical issues associated with aging. Yet parks are often underutilized by older adults. Therefore, it is crucial for cities to make parks accessible, safe, functional and, more importantly, to develop programs to encourage older adults to visit parks on a regular basis. The City of Boston is fortunate to have over 7,000 acres of open space (City of Boston 2015) but Boston must also concentrate on making this open space more inviting and enticing if Boston is truly going to become an age-friendly city. A primary goal of this thesis is to understand what park programs for older adults have been successful in other cities and use this information to make recommendations to the City of Boston.

In order to learn how Boston can encourage park use among older adults it is important to first understand how other cities are creating age-friendly parks and the role of park programs in this process. For the purposes of this research, a recreational park

program is any type of class, walk, event, equipment or instruction that is intended to motivate an older adult to go to park or similar open space and engage in some sort of physical activity. After identifying recreational programs that have successfully encouraged park usage across the United States, I interviewed people with experience running these programs to understand the challenges of running these types of programs and how these programs can be successfully replicated. After researching what programs currently take place in Boston parks, I interviewed people directly involved with this park programming to better comprehend how current programs are promoted and supported and to identify opportunities for more older adult programs. Through this research, I hope to highlight the importance of programming in parks, explain how these programs can achieve success and how this can be adapted in Boston and other cities throughout the United States. Through descriptive mapping, I also provide suggestions regarding where recreational park programs might be successful based on their proximity to older adults and infrastructure.

Chapter 2: Literature Review

Many cities worldwide have committed to become age-friendly or "livable for all ages" due to the increasing population of older adults. According to the World Health Organization (2006), one of the eight domains of age friendliness is increasing accessibility and utilization of parks for older adults as vital to the physical, mental and environmental health of a city and all of its residents. Yet, encouraging older adults to use parks can be difficult. Fortunately, there are currently programs designed to address this challenge. Therefore understanding these programs, figuring out how to replicate them and creating additional opportunities for older adults to use parks is an important part of creating an age-friendly city. In 2014, Boston Mayor Martin J. Walsh announced Boston joined the World Health Organizations Age-Friendly Cities Network. This thesis explores programs in parks for older adults and uses this information to provide recommendations to Boston on how park programing can encourage older adults to enjoy parks and open spaces to create a healthier, more vibrant and age-friendly community.

The Age-Friendly City Movement

The worldwide population is aging and communities across the globe are realizing that infrastructure and policies must be changed to ensure that people of any age can continue to maintain healthy and socially active lives. According to World Health Organization (WHO) projections, 22% of the world population will be over age 60 by 2050 and for the first time in history there will be more people over age 60 than younger than age 14 (World Health Organization 2007). It is therefore important that communities prepare for this population shift.

The WHO characterizes an age-friendly city as one that "adapts its structures and services to be accessible and inclusive of older people of varying needs and capacities" (World Health Organization 2007 p.1), which in turn benefits everyone by creating a more physically welcoming and intergenerational environment (The Philadelphia Corporation on Aging 2011; Peters 2011). Municipalities dedicated to becoming age-friendly can join the WHO's Global Network of Age-Friendly Cities and Communities©, which, as of March 2015, includes 259 cities and communities in 28 countries (World Health Organization 2015). A community that commits to the WHO network must complete a five year assessment that includes obtaining input from the community, making recommendations for creating new policies and infrastructure, and evaluating the changes made.

The WHO has identified "eight interconnected domains of urban life" that directly impact the well-being of older adults which are: Outdoor Spaces and Public Buildings, Transportation, Housing, Social Participation, Respect and Social Inclusion, Civic Participation and Employment, Communication and Information and Community Support and Health Services (World Health Organization 2007). The WHO guide provides advice and checklists for improving these domains based on focus group research from thirty-three cities across the world (World Health Organization 2007). The majority of the WHO recommendations for parks and outdoors spaces focus on infrastructure improvements, like adding bathrooms and benches (World Health Organization 2007, 2014). However, little guidance is provided on how to encourage older people to use parks, such as age-friendly park programming.

The Benefits of Parks in an Age-Friendly City

Parks are ideal spaces to create accessible and inclusive areas in age-friendly cities. Based on an extensive review of scientific and "grey literature" conducted by Active Living Research in 2014, parks around the world were found to have high co-benefits in the realms physical health, mental health, social benefits, environmental sustainability, safety/injury prevention, and economic benefits (Sallis 2015). Looking at and spending time in nature has been shown to improve physical health, brain performance and decrease depression (Baurush 2013; Lehrer 2009; National Recreation and Park Association 2013; World Health Organization 2007). Parks can help build communities because they provide gathering spots among diverse populations and can foster intergenerational interactions (Peters 2010). In New York, parks have become a type of "naturally occurring senior center" where residents gather to socialize (Park Chelsea 2012). Lastly, parks improve quality of life in neighborhoods by providing shade, improving air quality and increasing property values (City of Boston 2015; Sallis 2015).

Yet, parks are often underutilized for their health benefits, especially by older adults even if they live in close proximity to parks (Van Cauwenberg 2011; Kaczynski 2014). Although there is a significant amount of literature concerning children and increasing time spent outdoors, there is substantially less literature about ways to encourage older adults to spend time outdoors. Outreach and programming is necessary to get people out of their homes and into community parks (Haywood 2015). According to the WHO's initial research, many older adults avoid parks because of concerns about

safety, access, availability of seating, lack of bathrooms, lack of shelter from the weather, and hazards from sharing the parks with other users (World Health Organization 2007).

The Importance of Programming in Parks

While improving infrastructure in parks will hopefully entice more older adults to use parks, providing activities and social programs is necessary to increase park usage, especially when infrastructure improvements are not feasible (Cooper Marcus 1997). A Miami-Dade County report observed that park use declines when programming is reduced in any particular park, regardless of whether the park has new or renovated facilities *(*Age Friendly Initiative Miami Dade County 2015). The mere existence of a neighborhood park does not ensure that people will reap any of the potential health benefits parks can offer; therefore programming is essential to turn parks into public health resources (Harnik 2011). Parks can host a variety of programs from weekly group classes to large annual events. These programs are usually organized and managed by municipal or private organizations and require permission from the owners of the park (Harnik 2011). Additionally, parks can be used by people to follow their own individual walking or exercise programs.

While appropriate programming can encourage people to get outside, physical activity programs provide the greatest benefits and therefore this research will focus on programs that involve some sort of physical activity. Older adults are ideal targets for physical activity programs since people over 65 years old are less active than all other age groups (Carson 2012) despite the fact that the American College of Sports Medicine and the American Heart Association recommend that adults over 65 years old exercise moderately at least 150 minutes per week (Exercise is Medicine 2016a). Exercise helps

reduce the risk of obesity, coronary artery disease, diabetes, hypertension, cancer, depression, anxiety, arthritis, and osteoporosis (Exercise is Medicine 2016b).

The CDC has created many evidenced based programs to promote health for older adults but six out of seven of these programs take place inside (Belza 2007). Yet, people are more likely to stick with a healthy behaviors/exercise regime if it takes place outdoors since being outdoors provides varied scenery, is often free of charge and increases the opportunities for socialization (Miller 2014). Thus, hosting programs in parks increases the likelihood older adults will continue the healthy behaviors they learn in the classes based on the CDC models and enable older adults to enjoy more time outdoors.

Keys to Successful Programs

Research has been conducted on how to successfully run exercise programs for older adults as well as how to successfully run programs in parks. But there is very little detailed information combining these topics to understand successful exercise-related park programs for older adults. The National Council on Aging and the Centers for Disease Control have created many indoor wellness programs for older adults, such as Matter of Balance and Healthy Moves for Aging Well (The Health Living Center of Excellence 2016). In order to be successful, these programs must take place in an accessible building, must not compete with other popular programs in the area, and must have highly trained instructors (Belza 2007). According to the combined research of these two organizations, effective physical activity programs for older adults must incorporate the following ten principles (Belza 2007):

1. Set a specific goal for increasing older adult participation in physical activity.

2. Encourage physical activity as part of a healthy lifestyle.

3. Promote everyday tasks as opportunities for physical activity.

4. Offer a variety of group-based physical activity programs and self-directed opportunities that are suitable for older adults.

5. Offer physical activity programs that feature one or more components of physical activity (cardiovascular, strength, flexibility, balance).

6. Conduct a census of active aging programs in the community or city.

7. Ensure that programs are safe and effective and are tailored to meet the needs of individual participants.

8. Offer instruction in proper technique and provide adequate supervision.

9. Include behavioral support strategies to increase motivation and promote retention.

10. Address risk management and injury prevention.

While the CDC provides models for evidenced-based programs, it is also crucial to appropriately adapt programs to meet the needs and wants of participants. For example, the CDC discovered it is difficult to attract men to physical activity programs so some of these programs were adapted to be more competitive and/or had men-only orientations (Belza 2007).

According to Miami-Dade's age-friendly initiative, using a park as the location for any type of programming requires some infrastructure and planning. Providing safe access points and ensuring safety during the event is crucial. Posting signage about the park and the event is also necessary to reduce confusion. Advertising the program in all sorts of avenues and working with partners to reach more people is crucial to a program's

success (Harnik 2011). Partnering with organizations that are committed to the same program goal also ensures success (Harnik 2011).

Combining the advice mentioned above provides useful instructions on how to successfully host physical activity program for older adults. Miami-Dade County also provided unique recommendations on how to create successful exercise programs in parks. Holding all types of events in parks is an effective way to introduce people to different parks and the available features. Providing intergenerational programs is important because families are more likely to return to a park if the park offers activities for the entire family. Lastly, programs should be advertised in a variety of ways, including distributing park brochures in medical offices *(*Age Friendly Initiative Miami Dade County 2015). Creating programs for people of all abilities and that are culturally appropriate are also key factors in successful programs (Harnik 2011; The University of Hawaii Center on Aging 2015).

Barriers to Providing Programming in Parks

Unfortunately, there are some barriers to adding programming in parks. Some parks are not ADA accessible or may not be near public transportation. Parks may not have the infrastructure (like bathrooms) that older adults require (Orca Planning 2013; The University of Hawaii Center on Aging 2015). Older adults may also feel uncomfortable or unsafe in parks because of the other park users and homeless individuals (The University of Hawaii Center on Aging 2015). According to a countywide community leisure interests survey administered by the Miami-Dade Parks Recreation and Open Space Department, insufficient security, lack of knowledge of what is offered, poor maintenance of facilities, distance and lack of numerous quality programs

with high frequency were the top five reasons that prevent people from using parks (Age Friendly Initiative Miami Dade County 2015).

Publicizing these programs is also a challenge. Many agencies rely on social media to promote events, but this may exclude older adults who are not as familiar with social media. It is also particularly hard to reach and provide programs for the most at risk populations, including frail and homebound elders, due to the mobility impairments of this group (The University of Hawaii Center on Aging 2015).

Boston's Population and Park Usage

Many cities have undertaken initiatives to increase accessibility and attract older adults and people of all ages to parks, including Boston. The average life expectancy in Boston is 80 years old (Boston Public Health Commission 2015) and by 2050, almost 20% of Bostonians will be over age 60 (City of Boston's Commission on the Affairs of the Elderly 2014). Parks provide opportunities for leisurely activities or physically active pursuits for people of all ages. Parks are especially important for the 21% of Bostonians over age 60 who live in poverty (City of Boston 2015) and do not have the resources to spend on recreational opportunities or health clubs (Massachusetts Healthy Aging Collaborative 2014). Additionally the population of people under age 17 in Boston has dropped 11% since the 2000 and so parks must be adapted to meet the needs of this changing population (City of Boston 2015; Sutherland et al, 2015). Fortunately, Boston is already helping to address this issue by studying which areas are lacking open space and by ensuring that all park renovations and improvement projects comply with the Americans with Disabilities Act (City of Boston 2016).

Boston is fortunate to have many organizations that own open space and provide activities for residents. The City of Boston publishes a seasonal guide listing all of the current park events which include coffee hour with the Mayor, concerts, movies, puppet shows, fitness classes and more (Boston Parks and Recreation Department 2016). The Summer Fitness Series runs from June to August and offers free classes in Boston parks including: High Intensity Interval Training (HIIT), boot camp, line dancing, salsa, Tai Chi and yoga. A gentle yoga class and Tai Chi class are specifically for older adults and/or people with mobility impairments (Boston Parks and Recreation Department 2016). The city also offers free weekly fitness workshops through Troops for Fitness which takes place in community centers and parks and involves boot camp, running and more (Boston Parks and Recreation Department 2016), but this appears to target a younger audience.

In addition to Boston's Parks Department, there are four other large organizations that provide events to encourage people to make use of Boston's open space. The Esplanade Association privately funds many different events on the Charles River Esplanade which is owned by the Massachusetts Department of Recreation and Conservation (The Esplanade Association 2016). Most events take place during the summer months and include movies, concerts, Zumba, crossfit, yoga and a running club. Mass Audubon recently opened the Boston Nature Center and Wildlife Sanctuary which encompasses 67 acres and includes two trails that are fully accessible for people with mobility and vision impairments (Mass Audubon 2016). There is also a nature center with classrooms and the center holds many weekly classes about environmentalism, wildlife and gardening. The center also has a wide variety of volunteer projects (Mass

Audubon 2016). The Rose Kennedy Greenway hosts a range of different events throughout its connected parks that include: volunteer horticultural projects, farmers markets, children's games, exercise classes, block parties, tango classes, concerts, movies and many annual festivals (Rose Fitzgerald Kennedy Greenway Conservancy 2016). The Boston Natural Areas Network, an affiliate of The Trustees of Reservations, owns or leases 40 community gardens in Boston and offers volunteer opportunities, walks and educational programs with a particular focus on gardening and horticulture (Trustees 2016).

A 2015 Boston Parks and Recreation Department community survey found that 35% of respondents chose programs/events and organized activities as the primary change that would encourage them to visit a Boston park more often. Fortunately, the Parks Department is already working to address this result. One of the objectives in its 2015-2021 Open Space Plan is to "Provide programming that promotes wellness, environmental stewardship, and builds a sense of community" (City of Boston 2015 p. 400). To meet this objective, the Parks Department plans to partner with the Public Health Commission to provide more programming related to healthy behaviors that can be enjoyed by people of all abilities (City of Boston 2015).

Chapter 3: Methods

As described in the literature review, parks are an excellent public health resource and providing programs in parks is essential to ensuring this health resource is utilized. Parks are an essential part of an age-friendly city and older adults can reap many health benefits from being in parks. In order to answer my thesis question of how to increase park usage in Boston by older adults through recreation based programming, I need to meet the following objectives:

Objective 1: Understand the experiences of other cities' attempts to make parks more age-friendly and how programming is involved.

Objective 2: Identify recreational programs that encourage park usage among older adults and understand if/how these programs can be successfully replicated.

Objective 3: Understand how recreation programs are currently run in Boston parks and identify parks in Boston where programs for older adults would likely be successful.

These objectives were met through targeted research, case studies, interviews and GIS. The methodology used to address each research objective is described in detail below.

Objective 1: Understand the experiences of other cities attempts to make parks more age-friendly and how programming is involved.

To understand how different cities are creating age-friendly parks, I first explored data from the WHO's age-friendly network. As of March 2015, 258 cities and communities in 28 countries are in the process of developing, implementing or evaluating their age-friendly plans as part of their commitment to the WHO network (World Health Organization 2015). As of February 2016, there are 77 communities in the USA that have joined the AARP Network of Age-Friendly Communities, which is the US affiliate of the WHO Age-Friendly Cities Network (AARP 2015a). I focused on cities and programs in the United States because these programs will probably have a better chance of being replicated in Boston since the United States has its own unique culture and customs regarding how people have historically used parks. In order to narrow down these results further, I only examined age-friendly plans from cities that joined the Age-Friendly network prior to December 2013 to ensure an Age-Friendly action plan and/or a community survey has been completed (AARP 2015b).

I also reviewed the age-friendly park ideas for the five US counties that are part of the Grantmakers in Aging (GIA) Age-friendly communities and community AGEenda because this organization has a similar mission to the WHO Age-Friendly City Network. These counties include: Greater Atlanta, Georgia; Maricopa County, Arizona; Greater Kansas City, Missouri; the state of Indiana and Miami Dade County, Florida (Grantmakers in Aging 2016). A list of cities I researched along with a summary of what information was found can be found in Appendix A.

Objective 2: Identify recreational programs that encourage park usage among older adults and understand if/how these programs can be successfully replicated.

The combined research from age-friendly cities and national recreation agencies identified five program ideas to be explored in depth through case studies and interviews, including park prescriptions, walking groups, older adult fitness classes, adult fitness structures/playgrounds and intergenerational programming. Although community gardens have also been used to increase park usage and were mentioned in the age-friendly plans, this research will only focus only on park programs that specifically encourage and involve some sort of structured physical activity. Even though caring for community gardens involves exercise, these are often located outside of parks, require special infrastructure and require very specific types of programs regarding planting, weeding and caring for the gardens, and may not be accessible to older adults with disabilities.

Based on the programs and ideas mentioned in the age-friendly action plans explored as part of Objective 1 and completing additional internet research, I identified national organizations that already run, sponsor and/or research park programs. These organizations include: AARP, Active Living Research, the Centers for Disease Control and Prevention, The Healthy Living Center of Excellence, Institute of the Golden Gate, Project for Public Spaces, National Audubon Society, National Council on Aging, National Parks Conservation Association, National Park Service, National Recreation and Park Association and Trust for Public Land. Successful local programs mentioned by these national organizations are examined in greater depth. Lastly, particular emphasis will be placed on parks and recreation department offerings in New York City and Miami-Dade County, since the involvement of the local parks and recreation departments was mentioned in their age-friendly plans.

After completing additional internet searches on the five focus areas noted above, I chose at least two specific programs within these focus areas to explore in greater detail. I focused on the details of how the programs were promoted, developed and run in the community and contacted at least three people involved in running the selected programs.

Fortunately, I was able to conduct interviews with at least one person knowledgeable about implementing a program in each of the five focus areas. The list of people I interviewed, introductory statement along with the interview questions can be found in Appendix and Appendix C. The information I obtained from the interviews is triangulated with the results of my research to give a comprehensive overview of each program. Additionally, I created a chart summarizing the key information for each program idea to make comparison between program ideas easier.

Objective 3: Understand how recreation programs are currently run in Boston parks, what has led to success and identify parks in Boston where programs for older adults would likely be successful.

Boston is fortunate to have many outdoor cultural and fitness activities and organizations to run them. Unfortunately, there is no comprehensive list of all the activities that occur since they are run by so many different organizations. To find out what programs existed in the past two years, I first researched the Boston Parks and Recreation Department, which publishes a summer catalog of all the activities run by the city and friends groups in the parks. I also looked at the programs offered by the Age-Friendly Boston, Esplanade Association, the Franklin Park Coalition, The Rose Kennedy

Greenway and the Massachusetts Port Authority. Based on this research, I discovered Boston Fitness Series' gentle chair yoga class at Symphony Park which caters to older adults and people with mobility impairments. This is the only class I found that specifically catered to older adults in Boston. In order to learn more about this particular program and the role of Boston Parks and Recreation Department in programs like this, I interviewed the program's instructor, Nicole Ferraro and the Director of External Affairs for Boston Parks and Recreation Department, Ryan Woods.

To identify possible locations for future park programs, I first studied the Prepublication Draft of the City of Boston's Open Space & Recreation Plan 2015-2021, which includes detailed maps by neighborhood. Their maps show open space by type, ownership and protection status. Additionally, there are maps showing the location of parks in relationship to environmental justice populations and need score by census block group. Lastly, they have maps locating playgrounds, water spray features, fields and courts, and community facilities (YMCA, community centers, libraries and schools) (City of Boston 2015). I mapped all the open space by type to see where programs might be located. I also mapped major roadways in relation to parks because being able to walk to a local park is a major factor in an age friendly city and having a major roadway next to a park may impede park accessibility.

Building upon these maps and using information from interviews, I chose to map parks based on proximity to libraries, pools and nursing homes as well as parks near large populations of people over 65 years old. I chose to map libraries based on age-friendly park data because libraries offer amenities like bathrooms and water fountains, which are important factors to have near an age friendly park (Philadelphia Corporation on Aging

2011). In feedback during interviews, libraries were mentioned as good program partners since libraries already have programs for older adults and often attract an older population (Navala et. al. 2016). Pools were chosen based on the interview with Ryan Woods who stated the Boston Parks and Recreation Department's goal is to have more programming for older adults at pools (Woods 2016) and having a combined park and aqua programs may be a unique way to attract more older adult participants. Also, one of New York City's most successful older adult recreation programs is Senior Splash in which pools have dedicated hours for people over age 65 (New York City Department of Parks and Recreation. 2016a). Nursing homes were mapped since they have a high proportion of older adults with varying abilities. While I did not find any information about running park programs near a nursing home, there may be opportunities for partnership to enable the nursing home residents and staff to spend more quality time outside.

Many interviewees mentioned that programs located near older adults' homes have better attendance. This was especially true for the chair yoga class in Boston that takes place outside a senior housing apartment complex (Ferraro 2016). Therefore, I mapped open space in relationship to the population of people 65 and older and 75 and older. Census tracts from 2010 were used since the map encompasses all of Boston and census tracts better identify larger areas where the greatest number of older adults live. I used data from American Fact Finder to locate households with at least one member over age 75 and again for households with a member over age 65 to find the largest concentrations of these age groups. I then layered the open space data to discover what

parks are nearest to high concentrations of older adults to make recommendations on where to host programs for this age group.

Chapter 4: Results

Through extensive research and interviews, I was able to meet my three objectives of understanding how cities have attempted to make parks age-friendly, learning about recreational park programs in other cities and how they achieved success, and how these programs might be replicated in Boston. The results section is organized around these three objectives.

Objective 1: Age-Friendly Cities and Parks Results

This section includes a summary of infrastructure and programming recommendations for creating age-friendly parks based on a review of twenty US city/county age-friendly plans. The information from this research can be found in Appendix A. This section concludes with an analysis of the common themes and the quality of the data.

Objective 2: Recreational Programs Results

This section focuses on the five different programming ideas which were discovered during the research conducted for objective 1. Each program idea is described in depth and includes information from interviews with people who have experience running these programs. This section ends with an analysis of the similarities, and differences between the five program ideas as well as a summary of the programs mutual successes, challenges and recommendations.

Objective 3: Current park programming in the City of Boston

This section explains what types of programs are currently offered in Boston parks and information from interviews with two people involved in Boston park programs. As part of this goal of providing recommendations to Boston, I use GIS to map parks in relation to amenities and population to identify locations where recreational programming might be successful.

Objective 1: Age-Friendly Cities and Parks Results

I reviewed the websites, plans, agendas, power point presentations and documentation from all the United States cities that joined the WHO Age-Friendly cities program prior to December 2013, and the five counties from the Grantmakers in Aging Age-friendly communities and community AGEenda program (Grantmakers in Aging 2016). Table 1 in the appendix provides a list of 20 cities/counties, information about their age-friendly plans and their goals and programming ideas to increase park usage for this demographic. Excluded from Table 1 are cities/counties that have no published information about their age-friendly initiatives despite joining the WHO prior to 2013. The cities that are excluded are: Los Altos, California; Roseville, California; Bowling Green, Kentucky; Suffolk County/Brookhaven Long Island, New York; Westchester County, New York and Austin, Texas. Unfortunately only fifteen cities/counties had any public information available that specifically addressed how to make their parks age-friendly and only thirteen cities/counties mentioned adding/increasing programming in parks. Miami-Dade County, Florida; New York City, New York; Honolulu, Hawaii and Brookline, Massachusetts provided the most information and ideas about creating age-friendly parks.

Looking at Table 1, the infrastructure improvements most frequently mentioned include: adding restrooms, adding seating, adding water fountains, creating a safe environment (by adding lighting and reducing vandalism) and ensuring parks are accessible. There is significantly less information/ideas about recreational park programming mentioned in the age-friendly documents. The most commonly mentioned and/or most replicable programing ideas include: park prescriptions, walking groups, specific parks and recreation activities for older adults, adding specific activity areas for older adults and intergenerational programming.

During the WHOs initial research for determining what makes a park age-friendly, the most common concerns expressed by older adults in regards to parks included, safety, accessibility, availability of seating, bathrooms, shelter from the weather/shade, separation from bikes/skateboards and proper maintenance (World Health Organization 2007). These results correspond to what I found in the US age-friendly plans. The City of Honolulu's needs assessment discovered that many older adults congregate at fast food restaurants and malls which have comfortable seating, are clean, accessible, feel safe and have bathrooms and therefore concluded that parks should try to replicate these aspects to encourage people to use parks (The University of Hawaii Center on Aging 2015). These same themes of accessibility, safety, and availability of restrooms were reiterated in thirteen of the age-friendly plans that I reviewed. Miami-Dade County, Philadelphia and Brookline, Massachusetts all created age-friendly park checklists which enabled these cities to rate their parks based on the parks' accessibility and infrastructure (Philadelphia Corporation on Aging 2011, Age Friendly Initiative Miami Dade County 2015, Brookline Age-Friendly City Program 2015). Unlike other age-friendly plans,

Honolulu's plan focused on needing to address the issues of homelessness, crime and vandalism of parks since this discourages older adults from using parks (The University of Hawaii Center on Aging 2015).

Many cities' age-friendly plans mentioned a desire to increase programing for older adults but did not have an implementation plan. Some cities listed possible programs but these programs mainly took place indoors. Two common themes for goals listed for creating new programs included creating intergenerational programs and partnering with health care providers (Orca Planning 2013). New York City and Miami-Dade County had the most available information about park programs, which is described in detail in a later section of these results. One unique idea not included in the five main programming topics but worthy of mentioning is the "walk a hound, lose a pound" program in Indianapolis, Indiana offered through Grantmakers in Aging. Although this is not specifically for older adults, it encourages people of all ages to go to a local park to walk a dog that is in need of a home. Participants can go to the same park every Saturday to walk a dog as little or long as they would like from 9am-12pm. Unlike many of the other programs which involve instructors, a prescription, equipment or a class, this program is individual and the motivating influence is being able to spend time with a dog (Levy 2009). A program like this would benefit older adults who might not feel comfortable being in a class, who do not consider themselves to fit in with "seniors" and/or who wants to be active but at their own pace.

The quantity and quality of data I found about each age-friendly city varied greatly. All of the cities are in different phases of the age-friendly planning process and some of the cities, like Philadelphia, have no current data about their age-friendly plans

and many of the links to reports on the WHO website no longer work. Although all of the cities discussed the WHO's eight domains of livability, and parks and outdoor space are one of the domains, often there was the least amount of information about this domain and information about programming was listed under another domain like social engagement or health. Additionally, much of the information I found about parks was the same and perhaps I would have discovered more varied ideas if I looked at age-friendly cities around the world. Lastly, there are many other age-friendly organizations in addition to the WHO Global Network that have their own guidelines and recommendations. These include: AARP Livable Communities, the European Commission Action Group D4 on AgeFriendly Environments (which is part of the WHO), the AdvantAge Initiative, The National Association of Area Agencies on Aging (n4a) livable communities initiative, Partners for Livable Communities, Building Healthy Communities for Active Aging (BHCAA) Award Program and the Village Movement (Fitzgerald, K. G., et al. 2014). I reviewed these programs' information about parks and added this to my age-friendly city research, but it proved difficult to ensure that I was able to find all the information that currently exists about age-friendly cities and parks.

Objective 2: Recreational Programs Results

Looking at the park programming ideas mentioned in the age-friendly plans, there are five types of programs that appear most common and best able to be replicated. These programming ideas include: park prescriptions, walking groups, specific parks and recreation activities for older adults, adding specific activity areas for older adults and intergenerational programming. Each program idea is explored in depth with information

from content analysis and interviews. I will conclude by discussing the commonalities, differences, challenges and successes among and between these programs.

Park Prescriptions

Park prescriptions is a program in which healthcare providers prescribe outdoor physical activity to their patients in an effort to improve patients' physical and mental health through exposure to nature (Institute at the Golden Gate 2010, National ParkRx Initiative 2016a). Initially, prescriptions were only given to children due to the rise in childhood obesity, but some healthcare providers have expanded the program to include adults. Exercise has many potential benefits for older adults including alleviating the symptoms of chronic conditions as well as reducing the risk of colon cancer, Alzheimer's disease, heart disease, stroke, type II diabetes and depression (Exercise is Medicine 2015). Additionally, adults who are 80 years or older and are active have a lower mortality rate than inactive people who are twenty years younger (Exercise is Medicine 2015). Parks offer a convenient and affordable way for people to get exercise and offer the added benefit of being exposed to nature (National Recreation and Park Association. 2016b).

Prior to 2012, communities around the country independently developed their own park prescription programs, methodology and written materials. In 2012, the national park prescription program (also known as ParkRX) was establish to develop standards for new and existing programs to ensure these programs are able to maximize the benefits for providers and patients. (The National ParkRx Initiative 2016a). The fundamental idea of park prescriptions is that healthcare providers assess their patients' physical activity levels during their visit. The healthcare provider then prescribes physical

activity based on the patients' current activity levels and health risks. Lastly patients are given resources about programs and parks where the patients can meet their physical activity goals. Parks are chosen because they provide free places for people to recreate and exposure to nature, which has been shown to improve mental, physical and social health (National ParkRx Initiative 2016a). The important role that parks can play in improving health and the benefits of parks prescriptions has been gaining support. On April 24, 2016, the National Park Service coordinated the first ever National Park Rx day to help bring awareness to the park prescription movement (The National Park Service 2016, Bashir 2016).

The National Park Rx is currently creating specific instructions to encourage health care providers to prescribe parks and would like health care providers to ask patients about time spent outdoors as part of the routine health questioning (National ParkRx Initiative 2016b). Health providers would then take into account a patient's particular medical conditions and limitations to determine the type of park prescription that would most likely be followed and provide benefits (National ParkRx Initiative 2016b). Prescribers must also follow up with the patient regularly to determine if the patient is following through with the park prescriptions in order to determine if this is a successful intervention for the patient. Some common reasons people do not fulfill the prescriptions include: lack of time, lack of a social component and lack of knowledge about the park. These issues can be addressed by the health care provider by reviewing the participants' daily schedule to determine when time could be made to visit a park, referring the patient to parks that have group activities (ranger walks, exercise classes) and/or giving the patient specific information about the park and how to get there

(National ParkRx Initiative 2016b). Success of park prescriptions can be measured subjectively by asking patients about their park experiences and objectively by seeing if the patients' blood pressure, AC-1 levels, body mass index, etc. have improved (National ParkRx Initiative 2016b).

Zarnaaaz Bashir, Vice President of Health and Wellness at the National Recreation and Park Association (NRPA), provided additional information about the national Park Rx movement and the role of the NRPA (Bashir 2016). The NRPA co-leads the national Park Rx initiative with the Institute at the Golden Gate (IGG) and the National Park Service. The 50,000 members of the NRPA include local park and recreation agencies, academics, students and citizens; the Park Rx concept is promoted to the members through magazine articles, e-newsletters, webinars, conferences and social media (Bashir 2016). The NRPA provides strategic oversight and serves as the primary contact for the national initiative to the media and all interested parties. The National Recreation and Park Association launched the national ParkRx website in April 2016, which provides detailed information about how to start a park prescriptions program and describes fifteen case studies from across the country; there is no cost for an organization to join the National ParkRx movement (Bashir 2016, ParkRx 2016). The NRPA is helping develop a master toolkit on how to start, run and evaluate a park prescription program, but it remains incomplete due to lack of grant funding. The NRPA is hoping to hire a consultant to complete this work if/when funding becomes available (Bashir 2016). The cost of creating and running a park prescription program varies by community and the major cost is the development of the park database, which depends on the level of

detail incorporated in this database. Washington D.C. used volunteers and university students to assess all the parks, thereby reducing development costs (Bashir 2016).

Ms. Bashir was not aware of any reluctance of health care providers to provide prescription for adults but agreed there is more interest among pediatricians to adopt this idea and the implementation of the program depends on the needs of the community. One of the major challenges of running a prescription program is getting health care providers interested and agreeable to support it. In fact, establishing relationships with healthcare providers in the initial planning phase and having them involved in developing and implementing the program is essential for this program to work. Communities that have not collaborated with health care providers from the start and instead created prescription pads and posters have been frustrated that health care providers have not used these tools. Additional challenges include funding, evaluating the impacts of the programs, and liability issues. Unfortunately, there have not been any evaluations of the park prescription program for adults and a lack of evaluation may make it more difficult to expand this program. Fortunately, there are at least fifteen park prescriptions programs, and Ms. Bashir advised that anyone interested in starting a park prescription program speak to people who have experience creating and running this type of program (Bashir 2016).

Another program that involves prescribing outdoor activity specifically for people with chronic conditions is the New Mexico Prescription Trails programs. This program provides tools for health care professionals to prescribe walking and wheelchair routes to their patients (New Mexico Health Care Takes on Diabetes 2016). An interview with Charmaine Lindblad, executive director at New Mexico Prescription Trails provided

in depth information about this program (Lindbland 2016). The program began in 2006 as a result of a partnership of the Albuquerque Alliance for Active Living, the National Park Service and New Mexico Takes on Diabetes. Using parks as a health resource was not as common an idea in 2006, so a committee, which included health plan professionals, diabetes educators, park professionals and more, was convened to determine how to best promote parks for health. The committee came up with an assessment tool for rating trails within parks with a "1, 2 or 3" so that health care providers know exactly what they are prescribing to their patient. All of the trails recommended in the New Mexico program are based on ADA accessibility requirements so these trails are flat, accessible, and free of obstacles. They are better suited for people using walkers, wheelchairs, or people pushing strollers. Therefore, health care providers can feel comfortable recommending these trails. Of the 500 parks in Albuquerque, only 30 parks had trails that met the qualifications of the prescription programs. Ms. Lindblad stated that there have been some communities in which no parks meet the strict criteria and in that situation, the communities are advised to work with the municipal government and the parks department to improve the parks.

The key components of this program are creating a database with rankings of accessible trails with descriptions, and ensuring health care providers know how to effectively prescribe trails. The major expense is creating and maintaining the park database. The parks are evaluated every two years since weather can impact trails but people are always encouraged to contact New Mexico Prescription Trails or the Parks Department if there is an issue with a trail. In order to reduce costs, partners assist with in-kind donations and volunteers assists with assessing parks and updating the website.

The University of New Mexico is a key local partner since students help assess parks and maintain the website.

When the program began, patients were given a booklet that includes maps of trails with lists of amenities, pictures and descriptions of trails; but due to the cost of printing, patients are now directed to the website. Some medical offices have set up computers to allow people to print the information from the website after they receive the prescription. The trail description is very detailed to ensure people feel comfortable using the trail and information about restrooms, parking, public transportation and benches are also included. Participants can now create a MyPrescriptionTrails account to track their physical activity and favorite trails; however, Ms. Linblad did not know how many people use this resource. Unfortunately, due to lack of funding the New Mexico program has not been formally evaluated. However, anecdotal evidence suggests that after patients receive a prescription trail they are much more likely to start walking and using parks (Lindbland 2016).

Some of the challenges that this and other programs have faced have include health care providers being concerned about liability issues. Since health care providers only write the prescription for the patient to exercise and the patient chooses the park, the provider is not liable. The individual park would be liable for any issues caused by unsafe conditions in the park. The switch to electronic medical records has also negatively impacted the prescription trail program since some providers stopped writing park prescriptions as this may not be an option as part of the computer program. This can be resolved by encouraging health care providers to write paper prescriptions and then note it in the electronic record (Lindbland 2016).

Although the New Mexico Prescription Trails started out targeting participants with chronic conditions, now everyone is encouraged to use this resource. The program is not only promoted to primary care providers, but also to midwives, podiatrists, senior centers, cardiologists, schools, hospitals, pharmaceutical companies and veterinarians. Including veterinarians is due the rise in obesity among dogs and both the dog and the owner benefit greatly when they are encouraged to walk. Having a diverse group of partners and proponents is key to the success of the program. Partners from all different fields bring a wide range of perspectives, additional insights and promotion opportunities. The New Mexico Prescription Trail Program has twenty partners ranging from health insurance companies to non-profit organizations focused on health (New Mexico Health Care Takes on Diabetes 2016).

The prescription trail idea has been spreading around the country and Charmaine Lindblad has been providing support and information to these new programs. The New Mexico prescription trail program and assessment tool is available as a learning tool and was the foundation for the Washington DC park database. People have built upon the notion that walking in parks is a vital health resource and have created opportunities to promote a culture of walking. For example, some doctors and city councilors schedule "walking appointments". Charmaine Linbland is currently working with the Institute of the Golden Gate to create a toolkit that will instruct any community on how to create their own park prescription program (Lindbland 2016).

Park Prescriptions Summary

Genesis of the program: Started as a program for youth to battle the increasing obesity crisis because parks provide free areas for people to recreate and exposure to nature has proven health benefits. Program was expanded to include adults in Washington DC and Miami-Dade County. The New Mexico Prescription Trails was the first program specifically targeted for adults.

Goals of the program: Increase outdoor physical activity to prevent or treat health issues; encourage behavior change; enable more people to connect with nature; increase use, enjoyment and protection of public land.

Length of and type of program: Individualized program that can be done at any time by participants.

Elements of the program: Physicians give prescriptions for older adults to spend time outdoors engaging in some sort of physical activity like walking, swimming or doing aerobics.

Cost of program: The major cost of running the program is creating the database. It is free for health care providers to join National Park Rx and to receive materials and support. Visiting a park is usually free. Additional costs include paying staff to advertise and educate health care providers about this program.

Funding source: The National Recreation and Park Association (NRPA), the Institute at the Golden Gate (IGG), and the National Park Service are supporting the National ParkRx initiative. Partnerships with health insurance companies bring in additional funding.

Required staff: Physicians need to be agreeable and need to be educated on how to prescribe parks.

Required materials: Provides access to information about local parks, trails and their amenities. Washington DC has a database of over 350 parks.

Marketing plan: Extremely important to get support of health care providers before implementing this program. In April 2016, the first National Park Rx day was celebrated to bring more attention to the movement.

Target Participants: People with chronic diseases like diabetes, heart disease and/or people who are overweight and/or inactive.

Where the program has been implemented: New Mexico, Washington DC and Miami-Dade County have programs that have included older adults. Other programs only provide prescriptions to children.

Participant feedback/Evaluation results: No information available regarding evaluation for older adults. New Mexico Prescription Trails stated this is due to lack of funding.

Keys to success: Incentives increase participation.

Future of the program: Develop national program standards, evaluate current success and challenges and increase the number of park prescription programs throughout the country. National Park Rx is developing a master toolkit with detailed information about inspiration for the program, partnerships and stakeholders, needs assessment, marketing and communication, trainings and collateral, implementation, funding, evaluation and challenges and barriers.

Websites: About ParkRX: http://www.parkrx.org/about-parkrx; New Mexico Prescription Trails: https://prescriptiontrails.org/

References: Institute at the Golden Gate 2010, New Mexico Health Care Takes on Diabetes 2016, The National ParkRx Initiative 2016, National Recreation and Park Association 2016b, Bashir 2016, Lindblad 2016.

Walking Programs: Walk With Ease

Many age-friendly cities mentioned establishing walking groups as a way to encourage park use among older adults. New York City and Washington DC mentioned increasing urban park ranger programming, which is possible since many parks in these two cities are designated as national historic landmarks and therefore have access to funding for rangers (Age-Friendly NYC 2013, Age-Friendly DC 2014).Yet smaller cities with less financial resources can benefit by implementing evidenced-based programs that provide instruction about how to start, expand and maintain a successful walking program. One such program is the Arthritis "Walk with Ease" program, which is co-sponsored by National Recreation and Park Association, the National Association of Chronic Disease Directors and the Centers for Disease Control (National Recreation and Park Association 2016a). An interview with Colleen Pittard, partnership manager at the National Recreation and Park Association, provided detailed information about this program. This program consists of a six-week exercise course developed by the National Arthritis Foundation shown to reduce arthritic pain and improve health (Steward 2016). The course meets three times per week and each session includes a warm up, an educational component, and 10-30 minutes of walking and stretching (Pittard 2016). It was decided that this program should take place in parks since parks are located in almost every community, are usually free to use, and provide additional health benefits of exposure to nature (National Recreation and Park Association 2015a). Additionally, Walk With Ease now offers a smart phone application that links to fitbit and allows participants

to track their progress and set goals (National Recreation and Park Association 2016a), yet there is not much evidence about the use or success of the application (Pittard 2016).

Since 2013, The National Recreation and Park Association (NRPA) has awarded $4,000 grants to communities to enroll at least 100 participants in their local Walk With Ease program (Pittard 2016). The NRPA strives to award grants to diverse communities with underserved populations and requires grantees to report quarterly with metric and demographics through an online survey tool (Pittard 2016). Participants are also asked about the impact of the program, many of whom report improved mobility (Pittard 2016). Approximately 60% of communities continue to provide the program after the grant money has run out (Pittard 2016). Although this program is meant to take place in local parks, it can take place in indoor malls, churches, etc., which is imperative because of weather fluctuations. In some warm weather communities, participants have the option of walking outdoors or indoors (Pittard 2016). Some of the challenges of running this program include encouraging older adults to participate if this is new to them, ensuring participants continue to attend sessions, and finding the best time to run the program to ensure maximum participation (Pittard 2016, Wisner 2016).

The key ingredients to running a successful Walk With Ease program were identified by an evaluation by the NRPA using questionnaires and interviews from 28 participant communities. Promoting the program through word of mouth, participant testimonials, newspaper articles, social media and broadcasting all had some success. Another key marketing strategy was having the Walk With Ease instructor speak about the program at senior Centers, assisted Living Facilities, lunch sites and other exercise class venues (National Recreation and Park Association 2015a). Specifically mentioning the Arthritis

Foundation and the evidenced-based nature of the program also was important to some participants (National Recreation and Park Association 2015a). Lastly, creating a supportive and social environment was crucial to allow people who suffer with arthritis to learn from each other and encourage people to continue to participate (National Recreation and Park Association 2015a, Wisner 2016). Ashley Wisner, Adult Program Coordinator for the City of Mustang Oklahoma also mentioned that having upbeat, energetic friendly instructors really improved the retention rate for participants (Wisner 2016). Additionally, some programs offer incentives, like pedometers, to participants who attend a certain number of classes (National Recreation and Park Association 2015a).

An interview with Alex McKinney, Recreation Supervisor for the Outdoor Recreation School at the Three Rivers Park District, Minnesota provided insight into how to successfully incorporate the Walk with Ease program into other park program offerings to ensure participation. The Three Rivers Park district started offering Nordic walking classes (walking with poles) in 2009 and this grew into what is now the Green Fit Club. This club runs throughout the year in three month sessions and offers different activities each season. The club meets three times per week; one day is devoted to Nordic walking, one day is devoted to yoga, and the last day is devoted to an alternate activity that can include stand up paddle boarding, kayaking, log rolling etc. The Walk With Ease curriculum, exercises and stretches are incorporated into the Nordic walking days. The walking and yoga always takes place in the same park, but there are clubs in multiple locations so participants can choose the club that is most convenient for them. All of the parks have parking, restrooms and water fountains.

The Green Fit club is very popular and only thirty participants can be enrolled in each session, which reportedly always fill up. Participants pay $95 per session and this fee covers 100% of the cost of running the program. There are also scholarships available for people who cannot afford the fee. All the equipment is provided by the parks and recreation department and is free for participants to use. The program does not target a particular age group but does promote itself as having a social aspect and not being as vigorous as boot camp type workouts. The program intentionally avoids using the term "seniors" because they have realized that older adults do not like to be called or identified as seniors as the term often connotes the image of a nursing home. The average age of participants is mid 40s to mid 60s and 80-90% of participants are women. The program is successful because people are eager to participate and the program enables people to socialize while being physically active, learn about healthy behaviors, and try new activities. Many participants join the club for multiple seasons. The Three Rivers District also ran a separate, free Walk With Ease program for one session, but this was less popular and only attracted 10-12 participants.

According to Mr. McKinney, the Green Fit Club model and inclusion of the Walk With Ease program can be successful in other communities. The key to creating a successful program is to start with an exciting component that will attract the initial participants. For the Green Fit Club, yoga was the activity that garnered the most attention and from this, additional components were added, including the Walk With Ease program. It is also essential to set the expectations of the program in the beginning so participants know what to expect, whether it be socializing, arthritis education or stretching. The club caters to people of all different fitness and experience levels. While

this is beneficial for participants, it is difficult for instructors who have to figure out how to teach the basics to beginners as well as provide challenging activities for experienced participants during the same session. Like other Walk With Ease communities, the instructors in the Three Rivers Park district are Parks Department staff who have completed the Walk With Ease training. Having consistent, dedicated instructors is vital to creating a successful and popular program.

Walk With Ease Summary

Genesis of the program: Developed and designed by the Arthritis Foundation.

Goals of the program: Improve health by reducing arthritis pain and discomfort and increasing balance and strength.

Length and type of program: Group exercise program focused on walking. Classes are one hour long and held three times per week for six weeks.

Elements of the program: Health education, warm up, 10-30 minutes of walking and cool down with stretching.

Approximate cost of program: The total cost of running the programs varies among communities. A $4,000 grant is awarded to communities to run the Walk With Ease program for 100 participants and this money is used to train staff, pay staff, provide materials etc. Training consists of an on-line course that costs $89 per trainer.

Funding source: Chronic Disease Directors and the Centers for Disease Control provide funding for evidenced-based arthritis interventions, which is then awarded through grants by the National Recreation and Park Association.

Required staff: One to three certified staff members per course with up to 25 participants.

Required materials: Health education materials about arthritis and health. Pedometers and walking maps can be provided but are not necessary.

Marketing plan: Programs report that word of mouth was a successful way of promoting the program. WWE staff/leaders went to nursing homes, assisted living and senior centers to promote the program. Some cities have also used print advertisement, broadcasting information, incentives and social media campaigns.

Target Participants: People with arthritis, which is usually an older population.

Where the program has been implemented: As of 2015, 67 communities have been given grants to run the Walk With Ease Program and 60% of these communities continue to run the program after the funding has ended.

Participant feedback/Evaluation results: Most participants have provided positive feedback, which includes enjoying being outside, meeting new people, social support, weight loss, increased stamina and energy, less pain and decrease in anxiety. No formal evaluations.

Future of the program: New mobile app for smart phones that links to fitbit and allows participants to track their progress and set goals. The National Recreation and Park Association will award 15 grants for Walk With Ease in 2016.

Keys to success: Modifying the sessions to meet the needs and abilities of the group, providing social support, exploring a variety of walking areas/paths, providing material in different languages and encouraging the social aspect to ensure people return. Charge a small fee to increase participation by participants.

Websites: Arthritis Foundation's Walk with Ease Online Tools: http://www.arthritis.org/living-with-arthritis/tools-resources/walk-with-ease/, Arthritis Interventions in Park and Recreation Agencies: http://www.nrpa.org/uploadedFiles/nrpa.org/Grants_and_Partners/Health_and_Livability/Arthritis-Case-Study.pdf

References: Pittard 2016, McKinney 2016, National Recreation and Park Association 2015b, National Recreation and Park Association 2016a, Steward 2016, Strong 2015 and Wisner 2016.

Dedicated Resources from Parks and Recreation Departments

In many age-friendly cities, municipal parks and recreation departments play a vital role in providing park programs for older adults. The parks and recreation department in Miami-Dade County and New York City appear to provide the greatest number of and most well publicized indoor and outdoor activities for older adults, while other cities have also dedicated resources towards improving programing for older adults (Age Friendly Initiative Miami Dade County 2015; New York City Department of Parks and Recreation 2016a). For example, the City of Dallas in 2016 created a senior division at the parks and recreation department to increase the number of programs that will specifically meet the needs of older adults and reduce the barriers older adults face accessing these programs (Steward 2016). Other cities, like Brookline, Massachusetts and Portland, Oregon have increased the number of programs specifically for older adults and/or reduced fees for activities to encourage more participation (Age-Friendly Brookline 2014 and Orca Planning 2013). The Parks and Recreation Department in the city of Seattle has gone one step further by offering numerous weekly activities specifically for people with dementia and their caregivers (Lifelong Recreation: Dementia-Friendly Recreation 2015). Since the parks and recreation departments in Miami-Dade County, New York City and Seattle have devoted the most resources towards offering outdoor programs to older adults, their efforts will be explored below.

In order to encourage healthy behavior and physical activity among people over age 55, the Miami-Dade County Parks and Recreation department created an Active Older Adults program in September 2013 (Age Friendly Initiative Miami Dade County 2015). The program has a dedicated part-time staff person and varies its program

offerings depending on the requests of neighborhood residents rather than offering county wide programs. Programs take place at different times throughout the day to cater to all schedules and to increase participation among people from different generations (Age Friendly Initiative Miami Dade County 2015).

The New York City Department of Parks and Recreations also has designated programs for seniors, which they usually define as people over 60 years old (New York City Department of Parks and Recreation. 2016a). The Department hosts a searchable online database of these programs, which include aquatic programs, hikes led by park rangers, tennis and yoga instruction. Senior Splash, in which only people over age 62 can use outdoor pools during designated hours, is the program that has received the most positive feedback (New York City Department of Parks and Recreation. 2016a).

The Metropolitan Parks District in the city of Seattle is unique in that it is the only city in the United States that provides programs specifically for older adults with dementia and their caregivers. The parks department is one of the partners of a grassroots movement, called Momentia, led by community members to make Seattle more supportive and inclusive for people with dementia. Cayce Cheairs, Dementia-Friendly Recreation Specialist for Seattle Parks and Recreation provided detailed information about this program which was piloted in 2014 and officially launched in 2015 (Cheairs 2016). Seattle began hosting events for people with memory loss in 2011, with a few walking groups and Alzheimer's cafes. The need for and interest in these programs grew rapidly, and led to funding for a dementia-friendly recreation program. This program is part of The Metropolitan Parks District's Lifelong Recreation unit which provides

activities for people over 50 years old, and was developed to provide more opportunities for people with dementia to be involved in the community.

The program strives to reduce the stigma of memory loss through enabling participants to interact with others within the community. A key element of this program is that people with memory loss contribute and collaborate in developing these programs. This is important because it enables people with memory loss to feel a sense of empowerment.

The program receives funds from the Metropolitan Park District to pay for a half-time coordinator. Fees from other lifelong recreation programs as well as fundraising finance the program's operating budget, which is approximately $5,000 per year. Ms. Cheairs also seeks grants and community sponsorships from home care agencies and residential facilities to help cover some of the operating expenses. The Momentia Seattle movement has many additional partners from all types of organizations, but the parks department most frequently partners with senior centers, the Alzheimer's Association, museums, theatres and local arts organizations. Ms. Cheairs reported that publicizing the program can be challenging at times, and word of mouth has been a successful way to inform people about the programs. The programs are promoted in the quarterly brochure, bi-monthly e-newsletter, emails invitations to past participants, the Momentia Seattle website, social media and flyers posted in community and senior centers (Cheairs 2016).

Most of the programs are free for participants and are located throughout Seattle. Locations include community centers, cafes/restaurants, gardens and parks. These locations must meet ADA accessibility requirements, have free parking or be close to

public transportation, and have accessible restrooms nearby. These dementia-friendly programs take place both indoors and outdoors, and the three most popular outdoor activities are Arts in the Park, Out & About Walks, Zoo Walks and Camp Momentia. Arts in Park takes place in the Japanese Garden and after walking in the garden, participants are provided materials and support to paint their surroundings (Cheairs 2016). Out & About walks is a volunteer led walking group that meets twice per month and walks through different neighborhoods in Seattle. Zoo Walks are led by the Alzheimer's Association and are weekly morning walks that include admission to the zoo (Momentia 2016).

The instructors and leaders for these programs are not parks department staff but rather are from partner organizations or community members who have existing experience and training. Ms. Cheairs reports she is currently creating a volunteer training curriculum to educate volunteers on how to successfully interact and work with people with memory loss (Cheairs 2016).

Challenges of running this program include outreach, publicity, involving participants with memory loss in helping to choose activities, and reaching a diverse audience. Ms. Cheairs believes this type of program can be successful in other communities. However, a dementia-friendly recreation program should first involve learning from what has been successful in other communities around the world. Engaging and collaborating with community members with memory loss and their caregivers to find out what types of programs they would like is an essential first step in developing dementia-friendly programs. Support groups, senior centers and the Alzheimer's Association can provide important feedback and can also be enlisted as partners.

Community support and involvement is vital for this type of program to succeed, as well as working with partners from all different types of organizations including parks, theatres, museums, advocacy groups, volunteer associations, etc. By starting small with a few select walking programs and socialization events, programs can better understand what would be most beneficial for people with memory loss in their communities (Cheairs 2016).

Dedicated Resources from Parks and Recreation Departments Summary

Genesis of the program: Part of the age-friendly movement to promote health, wellness and decrease the impact of chronic disease due to the aging of the baby boomer generation.

Goals of the program: Enable and encourage older adults to stay physically active by providing activities that meet the needs of this demographic.

Length of and type of program: Varies. Many cities offer yoga, fitness classes, group walks and aqua aerobics.

Cost of program: The cost to run the program varies based on the type of program and location. Some programs, like the dementia-friendly walks in Seattle, are free to participants.

Funding source: Parks and recreation departments, grants, membership fees, sponsorship.

Required staff: Depends on city and number of activities offered. May involve city staff and/or volunteers. Miami has a part-time staff person.

Required materials: Marketing materials to publicize programs. Specific programs may require different materials.

Marketing plan: Programs are listed in seasonal Parks and Recreation newsletters, social media, and Senior Centers.

Target Participants: Older adults. Cities vary regarding the minimum age. Seattle program targets people with memory loss and their caregivers.

Where the idea has been implemented: Miami-Dade County, New York City, Seattle.

Participant feedback/Evaluation results: In New York, older adults really enjoyed the senior hours at outdoor pools and this was program was expanded.

Keys to success: Increase availability of programs at a variety of times. Ensure that programs are well advertised within the community to increase attendance, find out what program participants would like in each neighborhood. Collaborate with community partners and local organizations which focus on older adult issues.

Future of the program: Seattle's goals include reaching more participants, lessen the stigma of memory loss and expand memory loss programs to other counties/cities.

Websites: City Park Foundation New York Senior Fitness: http://www.cityparksfoundation.org/sports/seniors-fitness, Momentia Seattle: http://www.momentiaseattle.org/

References: Age Friendly Initiative Miami Dade County 2015, Cheairs 2016, New York City Department of Parks and Recreation. 2016a and Lifelong Recreation: Dementia-Friendly Recreation 2015.

Specific Adult Oriented or Multigenerational Fitness Equipment/Areas

Installing specific adult-oriented and/or multi-generational fitness equipment within parks is a popular trend around the world, yet it was only briefly mentioned in the age-friendly plans from Honolulu, Hawaii; Wichita, Kansas and New York City, New York. The Trust for Public Land, a leader in the United States in researching the benefits of urban parks and how parks can improve community health has been a strong proponent of outdoor fitness equipment in parks. One major initiative by the Trust for Public Land is to install Fitness Zones® in local parks and as of 2015, 70 Fitness Zones® have been installed across the United States (The Trust for Public Land 2015). Fitness Zones® consist of 7-9 pieces of high quality, weather resistant gym equipment that uses body weight to provide resistance. The equipment is placed on decomposed rubber surfacing and meets ADA accessibility requirements (The Trust for Public Land 2015). Therefore, people with mobility impairments can use exercise equipment side-by-side with able-bodied users, which is uncommon in regular gyms (The Trust for Public Land 2012). The fitness equipment is chosen based on research done by the Mayo Clinic on physical activity. The equipment is durable, weather and vandal resistant, and does not require electricity (The Trust for Public Land 2015). Some cities have installed Fitness Zones® near senior centers and/or libraries hoping to increase the number of older people who will use the equipment (Trust for Public Land 2015). Based on the research done by age-friendly cities, ensuring that fitness zones are near accessible and clean restrooms, shade, benches and water fountains is necessary to increase older adults usage of the equipment (Philadelphia Corporation on Aging 2011).

Research by the Health Foundation of South Florida, University of Colorado Medical School and the RAND Corporation in Los Angeles found that Fitness Zones® are popular among residents, increasing the physical activity levels in parks and providing a cost effective way for residents to access free fitness equipment (The Trust for Public Land 2015). Although the RAND study showed there was not a statistically significant increase in park usage in parks with Fitness Zones® (Cohen et al. 2012), the Trust for Public Land has published many stories about the positive impacts of Fitness Zones® and continues to build Fitness Zones® across the county (The Trust for Public Land 2015). Additionally, Kaboom and Humana have partnered together to build at least 61 "multigenerational" playgrounds, which consist of similar weight-resistant, low-impact equipment found in Fitness Zones®. These are usually built near a children's playground so that the generations share an activity space and parents and grandparents can watch their children while exercising themselves (Governing Generations 2013). In Wichita, Kansas a "grandparents" park was created and designed by the city and AARP Kansas specifically to ensure older adults and children had opportunities to be physically active together. The park includes a Life Trail Advance Wellness System with equipment similar to Fitness Zones® (Tritsch 2014). Installing non-electric exercise equipment as part of outdoor fitness parks or wellness playgrounds in pre-existing parks is an extremely popular trend around the world. As of 2016, there are 300 such parks in Spain and even countries with harsh winters, like Finland, have installed exercise equipment in parks (Governing Generations 2013).

Unfortunately there is a lack of information about programming for older adults using the Fitness Zone® area, even though this can motivate participants and provide

opportunities for socialization (The Trust for Public Land 2012). In some cities, like Cleveland, a group organically formed that meets weekly to use the exercise equipment (Governing Generations 2013). Other cities have partnered with local physical therapy schools to have physical therapy students show residents how to use the equipment and design circuit workouts (The Trust for Public Land 2016). Programs could take place during mid-morning weekdays since children and working adults will not be using the park, as some older adults are discouraged from using parks when there are many other people present due to safety concerns (Age-Friendly NYC 2009).

Diane Silva, a field representative at The Trust for Public Land in Los Angeles provided additional information about Fitness Zones®. The Trust for Public Land began installing Fitness Zones® nationally in 2006. Although The Trust for Public Land helps with funding and installation, the operations and maintenance of the Fitness Zones® is taken over by the city/county once the project is complete. The location of Fitness Zones® is not dependent on parks having bathrooms but it is important that Fitness Zones® are near shade, lighting and in parks where people feel safe. Usually, the city/county provide training sessions to show people how to use the equipment but regular class offerings vary by location. Some Fitness Zones® are purposefully installed near senior centers so that current programming could be expanded to make use of the Fitness Zones®. Placing Fitness Zones® in places where older adults frequently go, providing training on the equipment, and involving older adults on the selection of the equipment are all ways that help encourage older adults to use Fitness Zones® (Silva 2016).

Specific Adult Oriented or Multigenerational Fitness Equipment/Areas

Summary

Genesis of the program: An innovative way to provide free access to gym equipment in neighborhoods that may not have access to gyms in an effort to fight obesity.

Goals of the program: Provide free, accessible, fun and social fitness areas to help physical activity and improve health among residents in the community. Also provides a way to model healthy behavior to children.

Length of and type of program: Equipment is permanently installed. Some cities, like Los Angeles, provide exercise classes using the equipment on a weekly basis.

Elements of the program: Outdoor exercise equipment that is easy and for adults to use. Equipment is ADA compliant and wheelchair accessible which ensures all residents can operate the equipment.

Cost of program: Cost is approximately $25,000 to $30,000 but varies based on location and number of pieces of equipment. Equipment is free to use for participants.

Funding source: Trust for Public Land provides some funding and often partners with local organizations.

Required staff: Staff to install equipment is necessary but all equipment comes with instructions. Fitness Zones® that employ physical therapists to show and help people use equipment and run programs increase the usage of the equipment.

Required materials: Fitness Zones® include 7-9 Pieces of high quality gym equipment that is weather and vandal resistant and requires no electricity. The equipment is placed on decomposed rubbers surfacing and is ADA accessible.

Marketing plan: Usually have a grand opening event which includes staff to show how to use the equipment. No other information about how to encourage people to use the equipment.

Target Participants: Fitness Zones® are usually put in neighborhoods that have poor health statistics and/or have little access to exercise equipment.

Where the program has been implemented: There are 70 locations across the USA.

Participant feedback/Evaluation results: Increases physical activity in parks, creates a positive connection between parks and health, is cost effective for people who use the equipment. Yet there was no statistically significant increase in park usage in parks with

Fitness Zones® (Cohen et al. 2012). Valued among the mobility impaired population since all the equipment is wheelchair accessible. Participants appreciate the fact they are free. Users report having increased energy.

Keys to success: Locate near senior centers, facilities with programming, business with public access and near playgrounds so adults can continue to watch their children/grandchildren while exercising. Provide programming and classes using the equipment to increase the social component. Translate the instructions in different languages.

Future of the program: Cities continue to be interested in installing this equipment.

Websites: The Trust for Public Land Fitness Zones® Program: https://www.tpl.org/our-work/parks-for-people/fitness-zone-area%C2%AE

References: Harnik and Welle 2011, Silva 2016, The Trust for Public Land 2012 and 2015.

Intergenerational Programs

Many cities' age-friendly plans stated a desire to increase intergenerational activities/programs. Despite this, actually hosting these activities in parks was only mentioned once, in the St. Louis County age-friendly plan. Intergenerational programs foster social participation, respect and social inclusion, two other domains of an age-friendly city (World Health Organization 2007). Parks are ideal venues for intergenerational programs since parks are free, accessible and both children and older adults benefit from being outdoors. Other cities like Honolulu, Hawaii and Wichita, Kansas, purposefully installed fitness equipment near playgrounds so adults and children could exercise together, yet there was no mention of programming to increase interaction between the two age-groups.

Reviewing the intergenerational programs mentioned in age-friendly plans, the Trust for Public Land and the National Recreation and Park Association uncovered only one program that met my criteria. This program, the Habitat Intergenerational Program (HIP) is a volunteer program in which people of all ages work together on outdoor projects to protect, maintain and improve the environment. The program takes place at the Habitat Wildlife Sanctuary in Belmont, Massachusetts which is part of the nonprofit Mass Audubon. Although this program includes a community garden component, and I chose to exclude all other community garden programs, I focused on the HIP program because this program offers a variety of activities in addition to gardening, including trail maintenance, working with animals and environmental/conservation education.

Erika Whitworth, a teacher and HIP organizer, provided detailed information about HIP (Whitworth 2016). The program was founded by Phyl Solomon in 1997 with a

goal of building intergenerational relationships, encouraging environmental stewardship and providing leadership opportunities for students. The two weekly programs are Pulling Partners and the Courtyard Club. Pulling Partners meets every Wednesday for two hours and participants work together on a variety of activities under the instruction and supervision of sanctuary staff. Activities revolve around the goal of people getting outside and helping the sanctuary, and include weeding, tending to the goats, putting out woodchips, going on a walk to look at animals and more. The activities are not rigorous and everyone is welcome to participate. The programs are determined by the needs of the sanctuary staff and in the case of bad weather, the program is cancelled or moved inside. An average week draws about twelve participants, with half being students and half being older adults. The Courtyard Club is the other weekly activity and this takes place in the courtyard of Belmont's middle school. This program began in 2002 as a joint effort between HIP and the middle school to revitalize the unused courtyard with gardens and landscaping. Now every week for two hours, middle school students along with at least three dedicated older adult volunteers work to maintain the garden.

The HIP program is extremely flexible and people can come as frequently or infrequently as they like. This flexibility is beneficial to participants, but since people constantly come and go this can be challenging to maintain an accurate list of active volunteers. Many of the students in both programs are from Belmont Middle School since the school has a community service requirement, yet Ms. Whitworth explained that many become committed to the program and continue to participate even after meeting their community service requirement. The program has a core group of dedicated older adult volunteers, but one of the main challenges of the HIP is getting more older adults to

participate. Many people learn about the program through word of mouth but the sanctuary and previous HIP founder also promote the program at senior centers, church groups, exercise groups, Belmont town events and the Mass Audubon newsletter. Another way the program is publicized is at the bi-annual trails day event. During the three hour weekend event approximately 200 volunteers participate in numerous different activities that involve learning about, enjoying and helping to maintain the sanctuary. The event is advertised as being intergenerational, open to everyone and encourages to people bring their grandparents and children.

The only costs for the program are administrative and involve promoting the program. Fortunately the program does not require any sort of waiver or liability since people are choosing to volunteer, which reduces the administrative costs. The full-time sanctuary staff is paid through Mass Audubon and must dedicate time to set up, manage and supervise the HIP group. Yet the work that the HIP participants accomplish more than makes up for the time the staff loses. The sanctuary also raises more than enough funds for HIP during their yearly herb sale and often has a surplus of money from this sale.

The program is successful because people enjoy being outside, being helpful and feel a sense of accomplishment after participating. The sanctuary is a peaceful and beautiful place so participants are able to simultaneously experience nature and help the environment. Ms. Whitworth also commented that the older adults like being around the energy of the children (Whitworth 2016). The Boston Nature Center in Mattapan is also part of Mass Audubon and perhaps a similar program could be started in this venue.

In order to find more intergenerational programs that take place in parks and may be successful in Boston, a general internet search using the terms intergenerational programs, parks and outdoors in different orders was conducted. This search resulted in a list of over thirty different intergenerational programs offered throughout San Diego county during 2014- 2015 (County of San Diego 2016). San Diego County officially joined the WHO Age-friendly city network in 2016 and therefore was not included in the previous table and research (Sotelo-Solis 2016). Yet, San Diego County has committed to creating more intergenerational opportunities as part of their age-friendly strategy and Live Well San Diego campaign (County of San Diego 2016). While many of San Diego's intergenerational programs primarily take place indoors, the San Diego County Intergenerational Games represent one type of intergenerational program that involves youth and older adults participating together in outdoor activities that could be replicated in Boston (County of San Diego 2016).

The Intergenerational Games started in 2002 by San Diego's Area Agency on Aging as a way to address the rising rates in childhood obesity and chronic conditions among older adults. A joint interview with San Diego's three full-time intergenerational coordinators Brynn Viale, Pam Plimpton and Jennifer Navala provided specifics on the history of the program and how to plan, promote and implement a successful Intergenerational Games event (Navala, Plimpton and Viale 2016). The goal of the Intergenerational Games is to encourage physical activity, healthy living and mutual respect between generations by using active older adults as role models for youths during an Olympic themed half-day event of outdoor games and activities. The event begins with an opening ceremony and then young people are paired with an older adult for 60-90

minutes during which time they participate together in 15-20 different activities (County of San Diego 2016). The pairing of youth and adults is extremely informal and people just line up to find a partner (Navala, Plimpton and Viale 2016). Activities are structured, non-competitive and include softball throw, football throw, basketball shoot, paddle tennis, Frisbee throw, soccer shoot, field hockey, bocce ball, Zumba, foam javelin throw, T-ball, hula hoop, volley ball, bean bag toss as well as some educational activities regarding health and wellness (County of San Diego 2016). To ensure safety, everyone must sign a liability waiver, all activities take place in supervised, public areas and volunteer nurses or EMTs are present at all times. The event ends with lunch and a ceremony in which everyone receives a medal for participating. The matching T-shirts and medals are important to create a bond between the youth and the older adults. Oftentimes youth are given pre and posts tests to see how the youths' perceptions about older adults have changed, yet no other formal evaluation of the program has been done (Navala, Plimpton and Viale 2016).

This annual event is a good way to see if there is community interest in intergenerational programs and, if so, the games can help facilitate partnerships among interested parties. The first intergenerational games took place at schools with third grade students as participants. Most of the games take place during the school day and have classroom lessons to go along with what is learned on the field. In other regions, like San Marcos, the senior center wanted to host the intergenerational games so they worked with the youth programs to create successful intergenerational events during spring break for the students. Partnering with the local parks and recreation department, libraries, schools,

senior centers and youth centers is key to reaching a diverse audience of stakeholders, volunteers and participants (Navala, Plimpton and Viale 2016).

Preparation is essential to running a successful intergeneration games event. Planning the event takes about four months and requires a variety of volunteers and sponsors. The site must be reserved and equipment for the games must be obtained from schools or the parks and recreation department. The major cost is for lunch, T-shirts and medals for all participants and this cost varies depending on the size of the event. Aiming for approximately thirty youth, thirty adult participants and thirty volunteers is a manageable goal for organizations running the event for the first time. In the past, lunch has been donated and the county has paid for the T-shirts and medals. In order to save money, groups that run the games in different sites can combine T-shirt and medal orders. Fortunately volunteers and older adults do not have to complete background checks, which can be costly and time consuming since all activities take place in public and county and/or school employees supervise the event (Navala, Plimpton and Viale 2016).

On the day of the event, all volunteers and participants should meet for an orientation so everyone knows what to expect and feel comfortable. Older adults should be encouraged to participate in the games with the youth and not just observe. For games that take place at schools, teachers inform the students as to what to expect. Providing medals and having the participants say '"good job" and "thank you" to their partners is a wonderful way to end the event and helps everyone feel like they contributed to the event. Another way to foster greater connection between the intergenerational partners is to have one of the activities solely involve interviewing one and other. Lastly, having the youth participants write thank you letters to their partners as part of the classroom portion

of the day is a very effective way to encourage older adults to continue to participate and promote the program (Navala, Plimpton and Viale 2016).

Many older adults continue to participate year after year, yet recruiting older adult participants is one of the major challenges of this program. The program must be promoted as being fun, engaging non-competitive and non-strenuous since some older adults might believe they are not physically fit enough to keep up with children. Reaching out to organizations like sports teams, Silver Sneakers, the Senior Olympics, religious institutions, senior centers, exercise classes, YMCAs, walking groups, civic groups, recreation centers, senior living communities, service clubs and libraries, is essential to ensuring there are enough older adults participants (Navala, Plimpton and Viale 2016).

The games are evolving and expanding and take place in up to six different sites round San Diego County. The Intergenerational Games model is easy to follow and adapt and San Diego is creating a toolkit to help communities use the model successfully. The model has been used for non-sports related activities in the past, like for an Earth Day themed event with activities focused around the environment. The intergenerational coordinators definitely believe that this model can be successfully replicated anywhere and hope that this idea expands because it offers so many benefits, including enabling youth and older adults to interact and learn from each other, dispelling negative stereotypes about older adults and exposing participants to new outdoor activities (Navala, Plimpton and Viale 2016).

Intergenerational Programs

Genesis of the program: The HIP program developed in order to encourage intergenerational opportunities and environmental stewardship. The Intergenerational games developed as an innovative program to help combat the increase in obesity in youth and the increase in diabetes and heart disease in older adults.

Goals of the program: Develop a sense of community and help different generations develop respect for each other while simultaneously promoting health living, exercise and/or environmental stewardship.

Length of and type of program: The HIP program occurs weekly for 2 hours. The Intergenerational Games occurs one time per year in each community and lasts 3-5 hours.

Elements of the program: The HIP program meets one time per week and participants and the sanctuary staff leads the activity. Participants do not need to sign up in advance to come. The Intergenerational Games occur in the morning and starts with registration and an opening ceremony. Youth are then paired with older adults and they spend 60-90 minutes participating in 15-20 non-competitive games like Frisbee, hula hoop, basketball toss, etc. The program ends with a healthy lunch.

Cost of program: The HIP has administrative costs and required funds for promoting and managing the program. The sanctuary staff assist with the program as part of their job. The cost for Intergenerational Games depends on the community and size of the event. Cost for 100 participants and 50 volunteers in San Marcos, California cost $2,350.

Funding source: For HIP, Mass Audubon pays the sanctuary staff and an annual plant sale raised funds to cover the administrative costs. The Intergenerational Games receive funds from cities/towns, Senior Centers, schools, etc. Facilities, food, water, etc. can be obtained through donations.

Partner organizations: Schools, sanctuaries, nature centers, senior centers, assisted living facilities.

Required staff: For HIP, the sanctuary staff plans and supervises the activities. Currently, one staff person works to promote, organize, grow and oversee the program. For the Intergeneration Games a committee and volunteers are needed to help plan, publicize and host the event. During the event, two volunteers are needed at each game station as well as volunteers at registration, lunch distribution, etc.

Required materials: For HIP, all materials are provided by the sanctuary. For the Intergenerational games, liability waivers and photo releases, marketing materials, game

supplies, tables, chairs, sound systems, T-shirts (for participants and volunteers), medals, breakfast, lunch and water.

Marketing plan: For HIP, promoted as being non-rigorous and a way to be outside and care for the environment amongst a diverse age-group. For Intergenerational Games, promoted as being fun, engaging non-competitive and non-strenuous. Schools promote the program to get youth participants. Reach out to sports teams, Silver Sneakers, the Senior Olympics, religious institutions, senior centers, exercise classes, YMCAs, walking groups, civic groups, recreation centers, senior living communities, service clubs and libraries for older adult participants.

Target Participants: For HIP, anyone is welcome but specifically reach out of older adults and middle school students. For Intergenerational games, adults over 50 years old and elementary school students (usually ages 7-9).

Where the program has been implemented: For HIP, Mass Audubon Sanctuary in Belmont Massachusetts. For the Intergenerational games, **a**ll across San Diego County and has been run 25 times since 2002.

Participant feedback/Evaluation results: There has been no formal evaluation of either program. For Intergenerational games, children do a pre and post test about their attitudes towards older people and usually children discover their "older buddies" can do more than they expected.

Keys to success/Future of the program: For HIP, the program continues to be run weekly and it is success is based on the partnership with schools, committed volunteers and a commitment to the sanctuary. For Intergenerational games, the program continues to be run throughout San Diego. Goal is to create a toolkit so any school and/or senior group can replicate the successful model.

Websites: Mass Audubon Habitat Education Center and Wildlife Sanctuary: http://www.massaudubon.org/get-outdoors/wildlife-sanctuaries/habitat/get-involved/hip-program Live Well San Diego Intergenerational Games: http://www.livewellsd.org/content/livewell/home/community/intergenerational/games.html

References: County of San Diego 2016, Navala, Plimpton and Viale 2016 and Whitworth 2016.

Summary of Programs and Interview Results

Information from the interviews uncovered some common, vital characteristics among the five program types, including the importance of partnerships, the difficulty in attracting and retaining new participants, and the complexity of conducting evaluations. These results confirm what was discovered in the literature review as well as providing anecdotal information about the importance of these characteristics. All of the programs can be replicated in any park but almost all programs utilize parks that have amenities like bathrooms, shade and benches. All interviewees believed that the City of Boston could adopt and implement any of these programs in a local park.

Seeking out a diverse array of partners was a universal and extremely important commonality among interviewees. First, programs must partner with organizations that serve the target audience in order to understand the population and get input about what the community would like. Partners can provide volunteers, promotion help, expertise, medical support (like EMTs or nurses during an event), money in the form of sponsorships and much more. For the park prescription program, it is absolutely necessary to partner with health care providers and even health insurance companies to ensure that prescribers have the knowledge and time to write prescriptions and encourage park usage among patients. Additionally, working with non-traditional partners, like schools, churches, holistic health care providers, etc. can provide opportunities for learning, collaborative programming and enable participants to use private property. National organizations, like the Institute of the Golden Gate, the National Recreation and Park Association and Trust for Public Land provide vital partnerships for these programs, as well as a multitude of resources including toolkits, media graphics, manuals and more.

Encouraging and increasing participation is a challenge mentioned by every interviewee. All of the programs promote themselves through a variety of media but also heavily rely on word of mouth. A few interviewees explained that if there is a vocal advocate/participant at local senior center, church, community group, etc. that is very helpful in increasing participation. Having good and varied partners can help spread the word among a diverse audience. The parks prescription program is a bit unique since it first must convince health care providers to participate by writing prescriptions to encourage older adults to frequent parks for exercise. Some interviewees believe that charging a fee increases participation since people will be more committed if they pay, while other interviewees believe that offering the program for free attracted more participants. Incentives, like pedometers for walking programs and medals for the intergenerational games, were deemed to be an effective way to encourage participation as long as the incentive was not offered at the very beginning of the program. Lastly, creating an inviting social atmosphere through dynamic instructors or organizing post-program social activities was also mentioned as key way to increase participation.

None of the local programs I researched have completed formal evaluations and they have not been required by their funders to do so. Since these programs have a very limited budget, there is also no funding to do an evaluation. The Trust for Public Land requires that Walk With Ease grant recipients meet specific participation targets and elicit feedback from participants; however, this program has already been designated as evidenced-based and effective. Most of the interviewees believe that as long as the program is encouraging people to go outside and be active, then formal evaluations are not necessary.

The differences among the programs mostly revolved around cost, staffing needs and scope. Park prescriptions and fitness zones have the highest up-front cost; but once the parks have been surveyed and the database has been created and/or equipment have been installed, then the ongoing costs are minimal. The Walk With Ease program is the least expensive to start since paying a trained instructor is the only real cost. Employing staff dedicated to work only on older adult friendly programs can vary in cost and many cities only fund a part-time position. Intergenerational programs vary in cost but the two programs I researched rely on sponsorship for much of their funding, and the staff participating in these programs are paid through their employer for their time. Staffing needs vary by program and some programs utilize volunteers or instructors from their partner organizations. The greatest difference in the programs is the implementation: park prescription is an individual ongoing activity and the intergenerational games are an annual half-day event.

Objective 3: Current Park Programming in the City of Boston

Parks throughout the City of Boston host a multitude of events from arts experiences to Zumba classes. The City of Boston's Parks and Recreation Department helps facilitate programs run in the city-owned parks. Parks owned by other entities, like the Esplanade Association and the Massachusetts Port Authority are responsible for all programming on their land and offer many events in addition to what the city offers. Although each organization works independently, they share the same goal of making parks welcoming and increasing positive activities in parks (Woods 2016).

In order to learn more about how programs are developed and run in city-owned parks, I spoke with Ryan Woods, Director of External Affairs for the City of Boston Parks and Recreation Department. (Woods 2016). The Parks Department is committed to access, equity and excellence and has recently been working with Age-Friendly Boston to fulfill this goal. The department is evaluating parks to make sure they are ADA compliant and accessible. Mr. Woods stated that in 2016, there are 760 programs scheduled to take place in city-owned parks. Some of the primary partners that run and/or fund these programs include the 171 local "friends of the park" groups, Blue Cross/Blue Shield, Berkley College of Music, Bank of America and the Highland Street Foundation.

Many of these programs are part of the Boston Parks Summer Fitness Series, which takes place in 22 different parks in 11 neighborhoods. There are 21 free outdoor fitness classes per week during the summer to encourage people to exercise. The classes range from chair yoga to boot camps. Another more intense but year-round exercise program called Troops For Fitness is funded by a grant from Coca-Cola and involves boot camp classes taught by US military veterans. Participants of these programs do not

need to sign up or sign a waiver because the park/city has its own insurance. The parks department provides the space, set up, maintenance and support for the classes. The major cost of running these classes is hiring instructors and primarily funded by the title sponsor, Blue Cross/Blue Shield. The city hires instructors from the community, many of whom lead classes elsewhere and these instructors often promote the park program to people who attend their regular classes. Yoga and line dancing are two of the most popular classes and Mr. Woods believes that location, class time and the particular instructors account for this popularity. The yoga class takes place in the Boston Common after work hours so people working in downtown Boston can easily walk to this class. Line dancing takes place in Franklin Park, which has parking and bathrooms and the teacher has a very large network of followers.

According to Mr. Woods, effective marketing for the programs and contending with the weather are the two biggest challenges of running the Summer Fitness Series. The series is publicized on the website in the Parks and Recreation Department Summer Guide but people must be proactive to read through the guide to learn about the program. The Parks Department works with community groups to help promote the program and post flyers. Weather can play a big factor in the turnout for an event. Cancelling events numerous times due to weather can negatively impact turnout.

The Parks Department is constantly trying to come up with new ideas to encourage people to use parks. The department will soon be launching a new website which will provide information about each of the 331 parks in Boston so visitors will know what amenities are offered in each park. The Parks Department has also recently received a grant from the Trust for Public Land to install a Fitness Zone in the recently

remodeled Lopressor Park in East Boston. Additionally, Franklin Park, which is the largest park in Boston, has received $5 million from the City to help revitalize the park. Mr. Woods would also like to provide aquatic programs for older adults, but this may take time to implement since all city pools are run by the Boston Centers for Youth and Families.

The Parks Department hosts some programs specifically targeted to older adults. The City of Boston Elderly Commission provides transportation for older adults to weekly summer concerts on City Hall Plaza. Golden Zumba, which is Zumba particularly for people age 55+, has been offered by the Parks Department in the past as a one-time event in twelve different neighborhoods, but this did not prove to be very successful. Mr. Woods believes that if this class took place in the same location for all twelve weeks, it may attract more participants.

To learn more about one of these programs specifically geared towards older adults, I spoke to Nicole Ferraro, active living and program manager for the Boston Public Health Commission and yoga instructor (Ferraro 2016). For three years, the Boston Public Health Commission has partnered with the Parks Department to run the Summer Fitness Series. Ms. Ferraro leads a weekly gentle chair yoga class in Boston's Symphony Park. This park is outside a senior housing complex and many residents in the building participate in the class. Ms. Ferraro believes that close proximity to senior housing helps make the program successful, because participants just have to walk outside and can see that it is popular among their peers. The fact that the class is outdoors helps promote it to passersby. Ms. Ferraro stated that she has not heard of anyone being reluctant to join the class because it is in public. The first class of 2016 had 23

participants. Many participants return every week and participants do not need to bring anything because the chairs are already in the park. Participants do not need to sign a waiver but do need to sign in for the class. Ms. Ferraro reported there are very few challenges to running the programming; the only real difficulties are language barriers among participants, which can be solved with non-verbal cues. Another challenge is promoting the program but Ms. Ferraro stated having an effective advocate or the park is essential for spreading the word about the program.

Marie Fukuda is a well know advocate for parks in Boston and was specifically mentioned by Ryan Woods and Nicole Ferraro as playing an important role in spreading the word about programs in Boston's Symphony Park. Ms. Fukuda is on the board of the Fenway Civic Association and played a crucial role in working with community members to ensure Symphony Parks renovation would meet the needs of its users. Ms. Fukuda explained that the park users had safety concerns and so planning programs in parks was intentionally done to replace the negative activities with positive ones. Ms. Fukuda reports that programs in Symphony park, like the chair yoga class, have helped empower people to feel like the park is theirs to enjoy and she often sees older adults from the nearby senior housing complex walking, stretching and even doing a choreographed fan dance in the park (Fukuda 2016).

Mapping Boston Parks and Identifying Prime Locations for Programs

Boston has more than 7,000 acres of public and private open space within city limits. This public and private open space is owned and managed by a variety of entities including: City of Boston parks, Boston Natural Areas Network, Boston Water and Sewer Commission, Commonwealth of Massachusetts (including the Department of Conservation and Recreation and the Massachusetts Port Authority), community/non-profit land (owned by colleges, churches, etc.) and the National Park Service (City of Boston 2015). Figure 1 provides an overview of all the types of open space in Boston. I included all open space in this map to provide an overview of where the largest and greatest number of parks are located. I included every type of open space on this map since each area is unique and may have the potential to host a program. For example, while many historic burial grounds are locked, larger cemeteries like Forest Hills Cemetery and Oak Lawn Cemetery would be excellent places for walking programs or prescription trails due to the lack of traffic, shaded pathways and accessible bathrooms.

Figure 2 shows open space in Boston in relation to major roadways. This is important because ensuring parks are accessible is vital to running a successful program. The map shows that the largest public open spaces in Boston, including Franklin Park, The Arnold Arboretum, and Forest Hills Cemetery are all along major roadways and accessible by car or bus; however, walking to these areas might be difficult because of the large roads. Many parks along the water in the southern end of Boston are separated from the rest of the city by an interstate highway. Additionally, the Charles River Esplanade can only be accessed at limited points due to the presence of a major roadway

between the city and the park. Therefore, access to these parks is limited by overpasses and underpasses and the ability to walk to the park may be severely limited.

Figure 1: Open Space in Boston

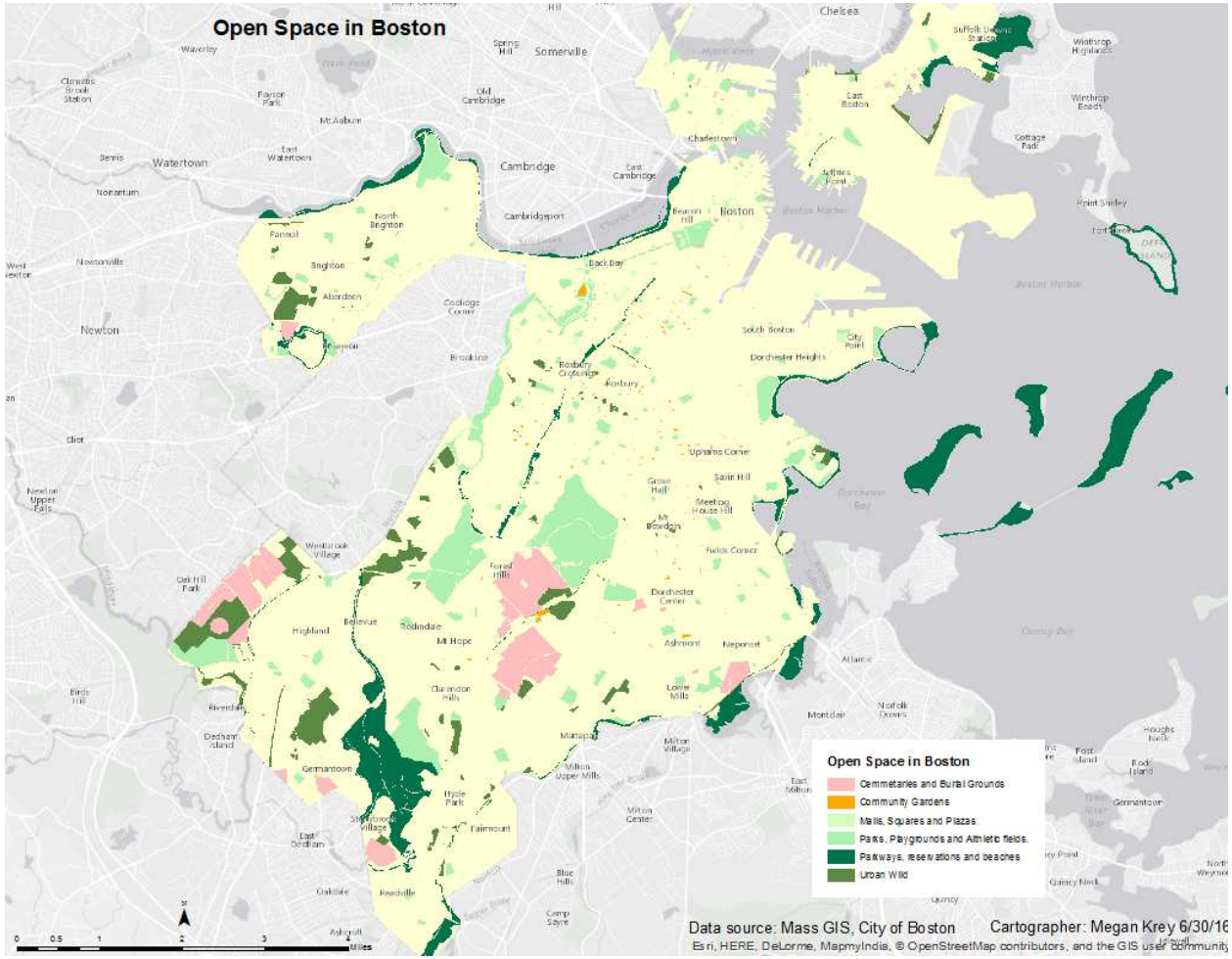


Figure 2: Open Space in Relationship to Major Roadways in Boston

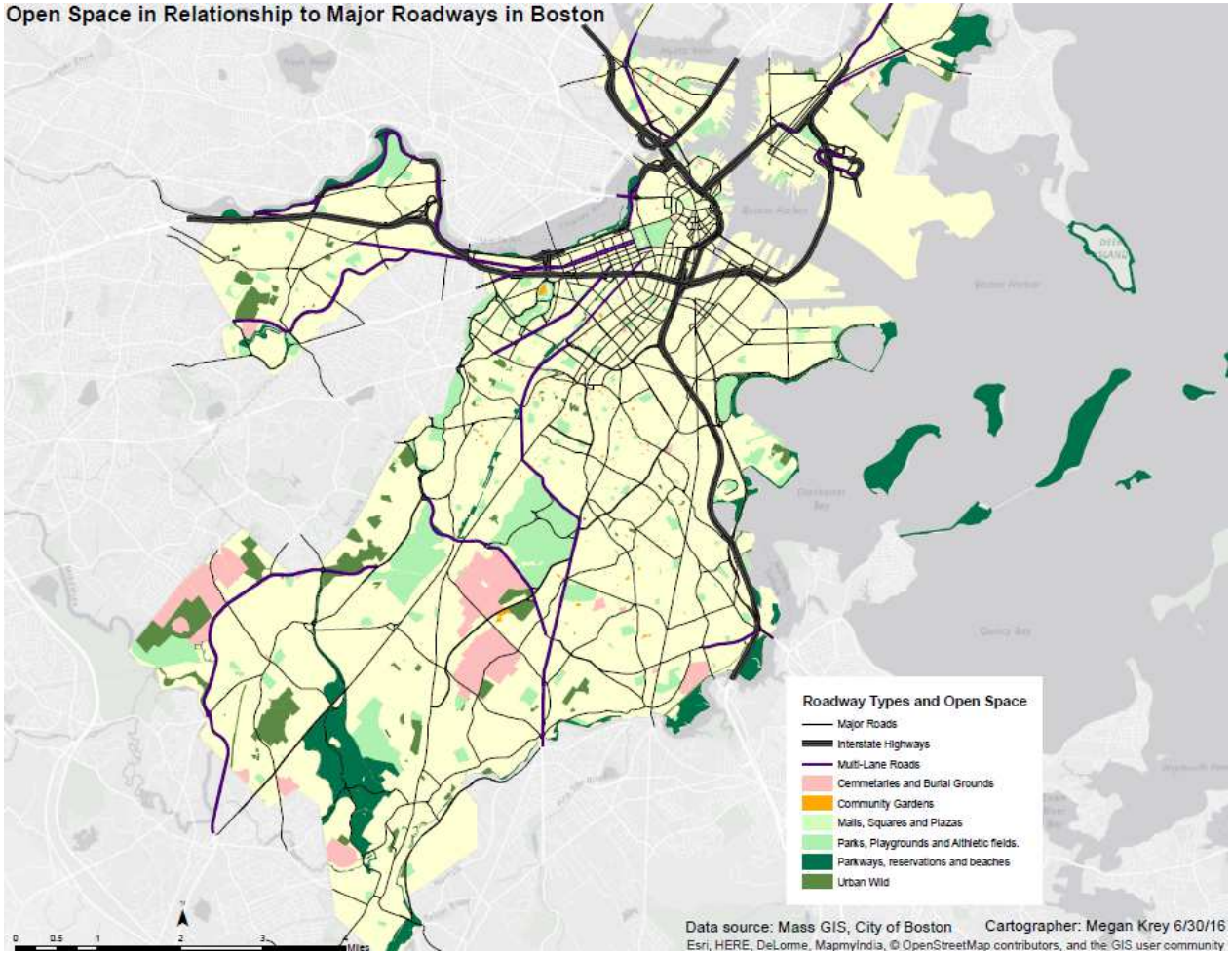


Figure 3 shows parks in Boston in relationship to libraries, nursing homes and pools. Libraries and pools provide good partnership opportunities as well as restrooms. Nursing homes were chosen because of the high concentration of older adults living there. Figure 4 maps the census tracts with the highest density of households with adults over age 65. Since the census tracts with the highest density of older adults are exactly the same for households with residents over age 75, I focused on the map with residents over 65 but the map for households over age 75 can be found in Appendix D. The area closest to Reilly Playground in Allston/Brighton is the tract with the highest density of older adults. Therefore, providing older adult programs at Joyce playground, Reilly Playground, Cassidy Playground or Fidelis Way Park and advertising them in the area would hopefully attract a large number of nearby participants. Additionally, there are two libraries and two nursing homes nearby that could provide partnership opportunities and indoor space in the case of bad weather. The Allston/Brighton neighborhood is unique in that it is almost completely surrounded by other cities that may have more parks and programming, so it would be important to see what other programs are offered nearby to avoid duplication.

Figure 3: Parks in relationship to Nursing Homes, Libraries and Pools

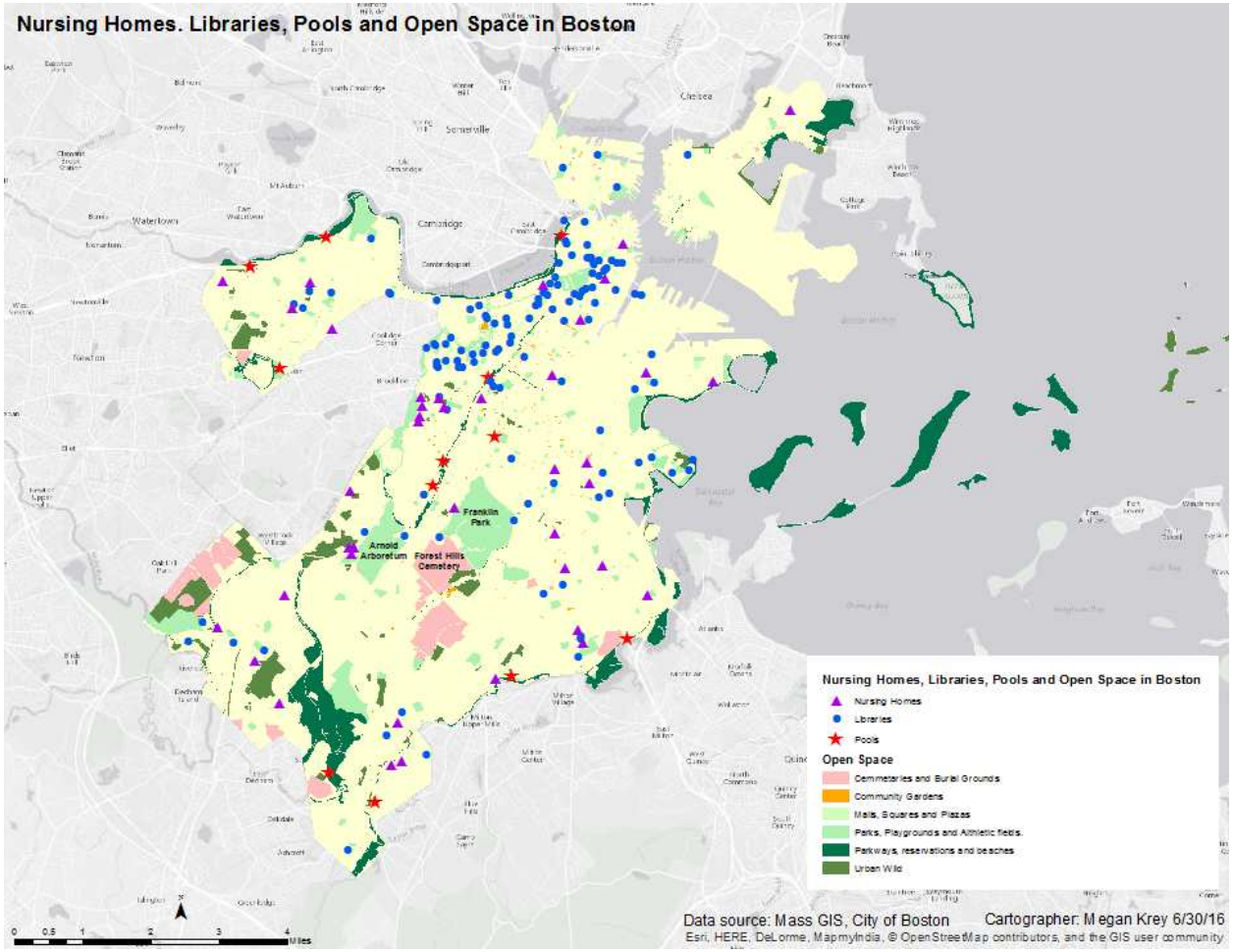
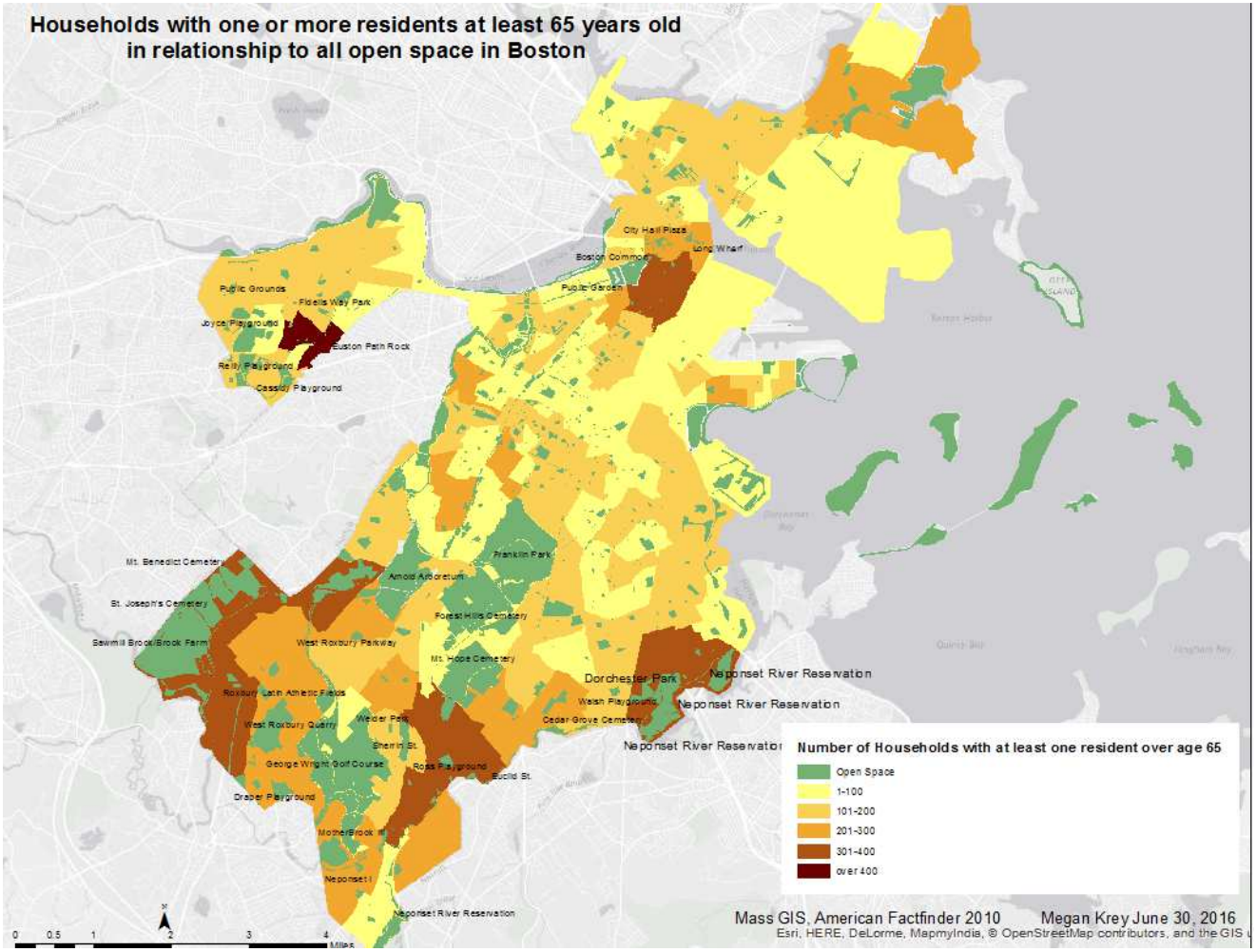


Figure 4: Households with one or more residents at least 65 years old



In order to find parks that have the optimal location for programing, I selected for parks within a quarter mile of nursing homes, libraries and census tracts with more than 300 households with residents over age 65. The quarter mile distance was chosen since this is an acceptable walking distance for many older adults. Table 2 shows the different types of open space located within a quarter mile of the three search criteria. Open space classified as a community garden or dog park was not considered since this type of land has particular uses that would not be conducive to host the type of programming mentioned above. While each type of open space offers different programming opportunities; urban wilds, cemeteries and burial grounds offer places to walk and smaller spaces like outdoor malls, square and plazas can be used as a gathering space for classes, like Tai Chi. Based on my findings, there are 112 open space facilities classified as parks, playgrounds and athletic fields which are located within a quarter mile of a library. These areas may provide the best locations for adding Fitness Zones® since libraries provide bathrooms, water fountains and oftentimes parking which could be utilized by older adults who user of Fitness Zones®

Table 1: Count of open space facilities by category within a quarter mile of nursing homes, libraries and high density census tracts

Category of open space facility	Number within a quarter mile of Nursing Homes	Number within a quarter mile of Libraries	Number within a quarter mile of High density Census Tracts
Parks, playgrounds and athletic fields	61	112	53
Parkways, reserves and beaches	6	13	11
Cemeteries and burial grounds	8	15	17
Outdoor malls, squares and plazas	25	58	21
Urban Wilds	36	29	49
Number of open space areas out of the 645 total	136	227	151

Figure 5 maps the open space within a quarter mile of census tracts that have more than 300 households with a resident over age 65. This shows that Franklin Park and Forest Hills cemetery, places that offer numerous walking paths and programs, are not within a quarter mile of many older residents. Therefore, it is important that programming is provided in parks closer to these residents. For example, open spaces like the Neponset River Reservation, Cedar Grove Cemetery, Dorchester Park, Allendale Woods and Arnold Arboretum would all be good locations for walking programs due to

their size. Only 64 open space areas meet the criteria of being quarter mile away from both a library and a census tract and therefore programs located in this open space have a greater chance of being successful. Figure 6 maps the open space that meets this criteria and the list of these areas can be found in Appendix H. Most of the open space areas that meets this criteria appear to be in downtown Boston, Allston/Brighton, South Dorchester and West Roxbury areas, so providing programs in these areas have a greater chance to be successful based on what was learned in the literature review and interviews.

Yet, looking at proximity to older adult populations and libraries to choose locations for programming is only the first step. This research demonstrates how to locate open space that would be best suited to host programs based on nearby facilities and number of older adults living nearby. Further research could also be done shortening the distance to open space to find parks even closer to residents and/or identifying open space that is located near train or bus stops that are frequently used by older adults. Additionally, identifying senior housing complexes that have suitable outdoor space on their own grounds or are located near open space would also be beneficial in determining where park programs could be located in order to be convenient for a large number of older adults. It is also necessary to research if the identified open space has the facilities necessary to run successful park programs like restrooms, parking, seating and ADA accessibility. The Boston Parks and Recreation Department is planning to launch a new database in 2016 describing all of Boston's open space along the available amenities and hopefully this database will make this research easier.

Figure 5: Open space near high density census tracts

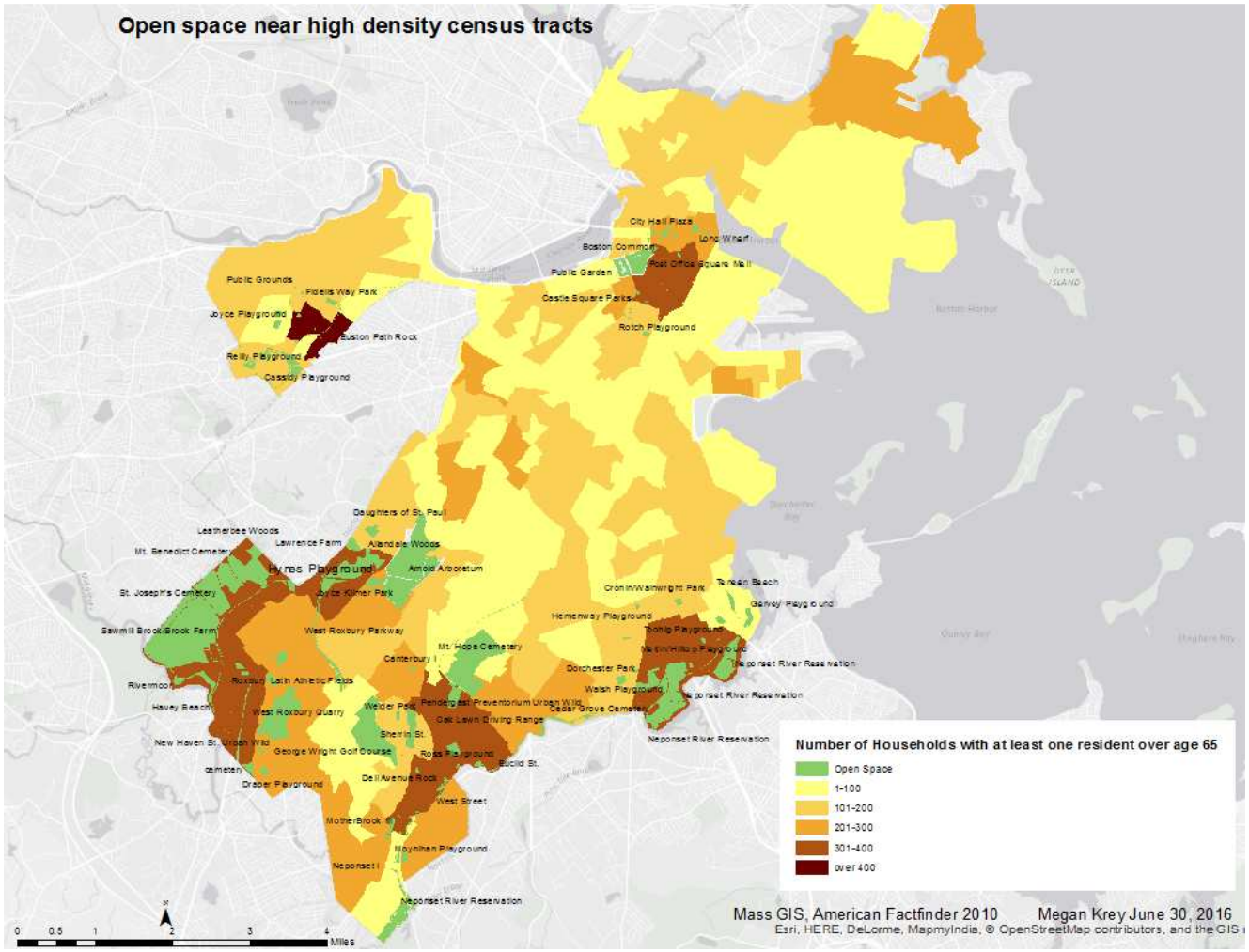
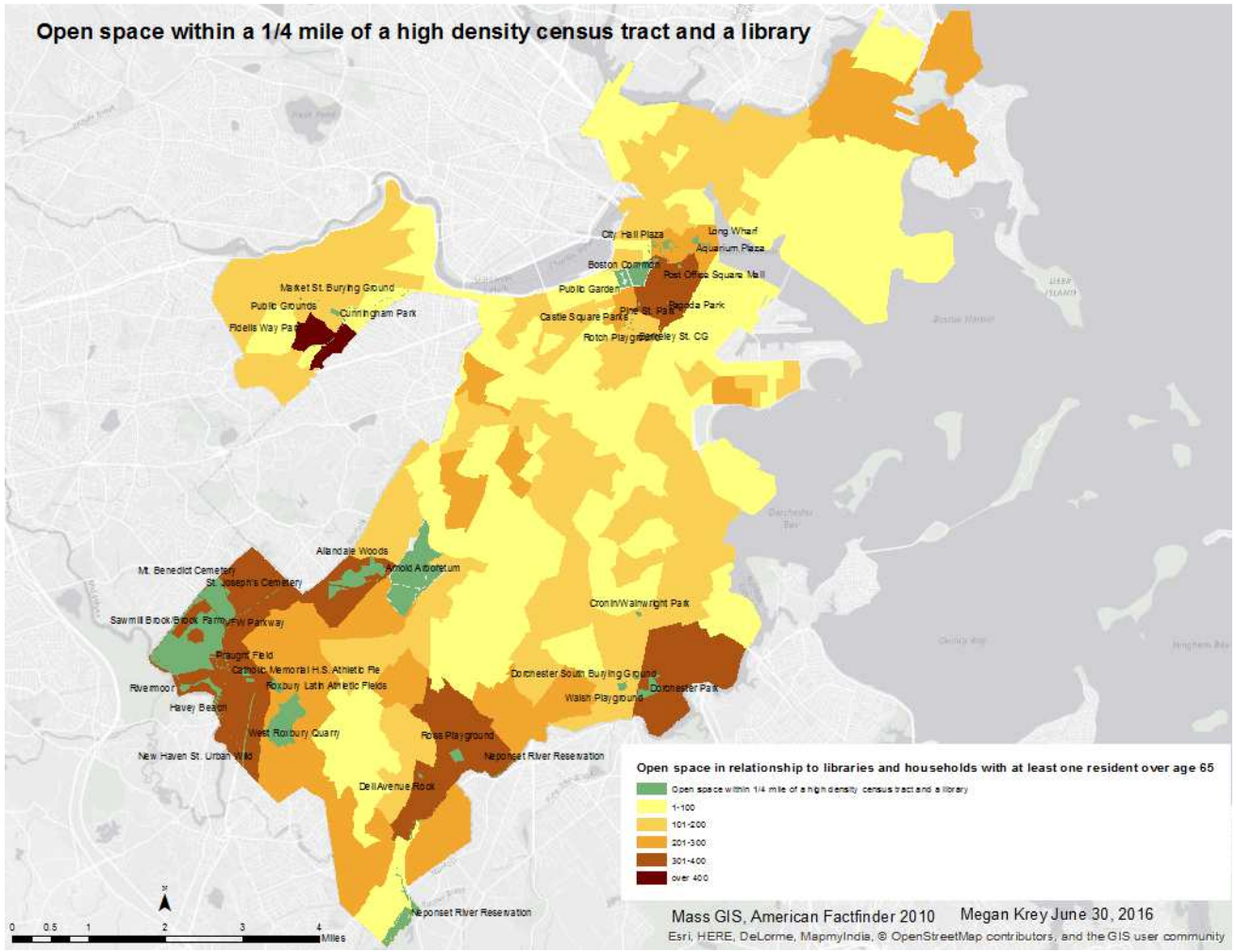


Figure 6: Open space within ¼ mile of a high density census tract and a library



Chapter 5: Discussion, Recommendations and Conclusion

Thanks in part to the age-friendly movement, there appears to be increasing interest in ensuring older adults are able to enjoy parks and providing programing to encourage park use is also garnering more attention. Learning how other cities are actively trying to make their communities age-friendly revealed that many cities have extremely similar goals. The prevalent recommendations were increasing accessibility and restrooms in parks but there was limited information about how to actually encourage people to use these parks. The amount of information about parks varied greatly, with Miami-Dade County providing an entire report about age-friendly parks and some cities devoting less than a page of information to this topic. Unfortunately, Boston's age-friendly data report was released after this research was complete which is unfortunate since it would have been interesting to compare Boston's report to that of other cities. The most active organizations involved with park programming are The National Recreation and Park Association and the Trust for Public Land. These organizations provide vital support for current programs. Cities attempting to become age-friendly should partner with these organizations to learn how to encourage park use since merely making a park accessible may not be enough to entice older adults to parks.

Conducting interviews was helpful in understanding the real-life challenges of creating and running park programs for older adults and validated my background research. The interviews confirmed that the first major challenge is to promote the idea that parks are an important public health resource that offers opportunities for people of all abilities to engage in healthy activities. The universal challenge of running these programs seems to be ensuring older adults are aware of these programs and feel

comfortable participating. The marketing strategies that seemed to be the most effective revolved around relying on word of mouth, having partner organizations reach out to a wide audience and working with health care providers. The name of the program is also important in that the term "senior" may dissuade some older adult participants who do not identify with that label. Conversely, avoiding mentioning that a program is specifically for older adults may discourage some older people who only feel comfortable doing exercise programs with their peer group. Perhaps, describing programs as being able to cater to all abilities and/or holding programs during the day on weekdays, when most non retired people are working, would be a successful way to cater to the older adult audience.

Partnering with medical providers to promote park usage is a becoming a successful way increase opportunities and funding for park infrastructure and programming. Ensuring that physicians are trained and dedicated to writing park prescriptions has some challenges but the park prescription model has been rapidly gaining traction based on the new national website and inaugural "Park Prescription Day" in 2016. Volunteers, students and interns from social work, public health and urban planning schools could help follow up with patients after a medical provider prescribes a park to lessen the responsibilities of the medical providers and provide more support for patients. Based on my research, nursing homes and assisted living facilities were rarely mentioned as possible program partners. These facilities appear to be untapped resources and, if located near parks, would be a great way to safely provide outdoor programs for the frailest older adults. There was a dearth of information about park programs specifically for older adults who may be in nursing homes or at risk of nursing home

placement due to illness or frailty. This population is hard to serve because of their limitations and liability issues but they might also derive the most benefits from being outside in a park. Encouraging and providing detailed information to physical therapists and occupational therapists who visit patients' homes on how to safely make use of local parks during their sessions could be a good start in reaching this population.

The dementia-friendly recreation programs also serve a vulnerable but growing population and this type of programming deserves more attention. With proper input from those suffering from memory loss, some current park programs could be adapted specifically for this population. For example, the Walk With Ease curriculum and walking routes could likely be adapted to cater to the needs of people with memory loss. The intergenerational games model could be tailored for people with memory loss and their caregivers and children. This would also help reduce the stigma of memory loss and provide opportunities for positive and pleasant interactions, which are sometimes lacking for this population. Additionally, partnering with geriatric health care providers to create, promote and potentially prescribe dementia-friendly recreation programs would be great way to create support for these types of programs.

Many of the park programs mentioned in this research could be combined, similar to what was suggested for the dementia-friendly programs and this would broaden the number of potential participants and save resources. Park prescriptions could be expanded so that health care providers prescribe specific programs like Walk With Ease or specifically instruct patients to use a park's Fitness Zones®. Dedicated park staff could provide programming using the Fitness Zones®, which could teach people how to use the equipment and add a social element. An intergenerational component could be added by

having playground activities for children at the same time and ending with everyone getting together to share what they learned and/or sharing a healthy snack. Parks departments could dedicate a staff member to work on both older adult programs and intergenerational programs since many programs could overlap.

A final option to increase park programming is to use parks as the location for the currently successful indoor evidenced based programs for older adults (The Health Living Center of Excellence 2016). If this is not feasible due to lack of infrastructure in some parks, classes could be hosted in churches that have outdoor spaces. This would ensure there is indoor space available in the case of bad weather and that there are accessible bathrooms nearby.

Recommendations for Boston

Boston has a wealth of wonderful outdoor programs but they are all run by different organizations and there is no master database of these programs. Currently, an adult would have to look at each organization's website to find out what events are taking place. The Boston Center for Youth and Families has created a "Boston Navigator" so people can use one search engine to find youth programs throughout the city. The Navigator includes programs run by Boston as well as different organizations so it is very comprehensive (City of Boston 2016). Perhaps in the future, all programs could be added to this database although complications could arise when defining which programs are specifically for older adults. The older adult population varies greatly in physical abilities. Therefore, it might be beneficial to rate the programs based on physical fitness level needed, such as for easy, moderate or rigorous. The Age-friendly Boston website already posts information about events that are geared toward older adults so perhaps a

more detailed database could be created or these events could be listed in the monthly Boston Seniority magazine. Unfortunately researching all the current information about all these programs could be very time consuming and might require a lot of space in the magazine.

Boston has many outdoor cultural activities and historical sites these could be enhanced by adding some sort of physical activity, like a walk, which is currently being done by the age-friendly Boston initiative. Expanding these opportunities and combining them with programs like Walk With Ease or adding an intergenerational element would also be beneficial. Boston also has many indoor programs for older adults and with support from the Parks Department these programs could take place in parks. Potential partners include Forever Fit, which provides exercise classes to people at nursing homes, assisted living facilities and senior housing complexes (Forever Fit 2016) and the Urbanity Dance Project which provides free dance classes for people with Parkinson's disease (Urbanity Dance 2016). Moving these classes to parks would enable participants to enjoy the benefits of being outside in nature.

Fortunately, Boston Parks and Recreation Department already partners with many agencies to put on events but there are many more partners that could be involved. The Boston Public Health Commission is already involved with the Summer Fitness Series and other installing Fitness Zones® (Woods 2016) so continuing and expanding this relationship is crucial. Most of the current events only take place for eight weeks in the summer but expanding these programs to the spring and fall would reach a broader audience and ensure participants make exercising a regular habit. The Appalachian Mountain Club (AMC) already runs 10 activities per week in the Boston area as part of

park prescriptions for children (Burbank 2015). Perhaps the AMC can provide more flyers/advertisements in places older adults frequent like senior centers and medical offices since the AMC already offers a wide range of activities for older adults from local walks to mountain hikes. Creating more partnerships between older adult agencies and youth organizations would also be beneficial in order to provide outdoor intergenerational programs. There are many opportunities for intergenerational programs, like working with the Boston Center for Youth and Families to provide aquatic programs and adding an intergenerational component to the annual Boston Senior Games.

Boston's greenways, also known as linear parks, provide off-street pathways through nature are excellent places for walking and should be better utilized by more programs. These greenways should be included in park prescription and Walk With Ease Programs. Based on the population maps, there are many older adults living near the Neponset River reservation trail so any greenway programs for older adults could be most successful here. The Rose Kennedy Greenway may also be a good location since it is easily accessible by public transportation, is near many restroom facilities and already offers a variety of programs.

Boston's commitment to becoming an age-friendly city will hopefully ensure that more outdoor programs can be created and adapted to meet the needs of older adults. Learning from and expanding currently successful programs, like the gentle yoga in Symphony Park, is a good first step. Developing partnerships with Boston's health centers, hospitals, nursing homes, senior housing complexes, non-profit organizations and private open space owners is also essential. Lastly, figuring out how to best advertise

and provide information about all these programs in one place would ensure all older adults can benefits from what Boston's parks and partners have to offer.

Conclusion

A small, but growing component of age-friendly cities and organizations are encouraging park usage by providing programming in parks for older adults. The five program ideas described in this thesis; park prescriptions, walking programs, dedicated park staff, outdoor fitness equipment and outdoor intergenerational programs, can be replicated and adapted to meet the needs of residents in any city and there are now many toolkits and resources to help start such programs. Since most of these programs have been implemented in many different cities throughout the United States, there is much to learn from their combined experiences. Before developing a park program it is important to investigate what has been successful and what has failed in the past. It is also particularly important to involve community members and partners to find out what programs would be most supported and needed and therefore have the greatest chance to be successful.

The information in this thesis can be useful for Boston and other age-friendly cities/organizations that want to increase use of parks by older adults and/or provide more recreational opportunities for older adults. However, while all of the programming information is current as of 2016, programs often change so there may be additional program information in the future. Most programs face similar challenges so the suggestions and recommendations in this report may be applicable to new programs. Also, each generation of older adults is different and in the future more older adults may rely on online information so marketing strategies will need to adapt.

Fortunately, Boston's population and housing stock is growing and changing so it is crucial to look at current population data when deciding where to host programs. This report used 2010 census data so the population maps may be out dated. Also this report did not look at what types of programs are being provided in nearby cities like Brookline, Milton, Cambridge and Winthrop. Boston residents who live near these cities might attend these events, which may reduce the need for Boston to host more programs. Working with these cities and creating a regional directory of older adult programs may be beneficial in the future.

Providing more outdoor recreational programs for older adults is an effective way of ensuring that all residents use and benefit from parks. These programs can be as simple as a walking group or sophisticated as a half-day intergenerational event. Yet, any type of program that encourages an older adult to get outside is important because of the many physical and emotional benefits of being in nature. Hopefully, as the number of older adults increase, there will continue to be more resources dedicated to ensuring that this older generation has plenty of opportunities to enjoy outdoor activities.

Appendix A: Table of US Cities that have committed to being Age-Friendly prior to December 2013

Table of US Cities that have committed to being Age-Friendly prior to December 2013					
City, State and website	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Fayetteville, Arkansas https://agefriendlyfayetteville.uark.edu/	November 2013	No	No	No information found	No information found
Maricopa County, Arizona (GIA) https://www.azmag.gov/Documents/MASP_2012-04-17_2012-Senior-Survey-Final-Report.pdf	2012	Yes – needs assessment	No – but connect 60 group and website formed	No information found	No information found
Washington D.C, District of Columbia http://agefriendly.dc.gov/sites/default/files/dc/sites/agefriendly/publication/attachments/afdcstrategicplan20141017website.pdf	October 2012	Yes – needs assessment	Yes	-Increase access to and utilization of parks, open spaced and public buildings by: -ensure all residents have parks within ½ mile of their home and recreational facilities within 1 mile of home -add benches, restrooms and water fountains in parks	-Expand the park prescription program to people over age 50. -Institute programs like neighborhood walks, tai chi in the park, environmental stewardship programs

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and website	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Greater Atlanta, Georgia file:///C:/Users/mkrey/Downloads/LLC_HW_book_2102--F-.pdf	2014	Yes	Yes	-Improve access to physical activity and thereby improve health and wellness	-Volunteers provide health and wellness outreach and education to older adults
Macon-Bibb (City of Macon, County of Bibb), Georgia http://downtowndevelopment.com/pdf/MaconBibbAgeFriendlyActionPlan.pdf	April 2012	Yes- Community Advisory Council	Yes	-There is a plan to increase safety, accessibility and activities in park but no mention of how to actually do this	No information found

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and website	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Honolulu, Hawaii http://www.kupunatokeiki.com/wp-content/uploads/2015/07/FINAL-FINAL-Honolulu-Age-Friendly-City-Action-Plan-2015.pdf	March 2013	Yes	Yes	Make outdoor spaces free of criminal activity and vandalism -Create accessible spaces that accommodate persons with a range of disabilities -Create outdoor spaces with services and amenities nearby -Create clean and attractive outdoor spaces -create multigenerational/ multiuse spaces -create dementia friendly spaces in parks	-No information about specific programming but mentioned a goal of creating dementia friendly spaces in parks and multigenerational fitness and play areas to increase park usage.
Chicago, Illinois http://www.cityofchicago.org/content/dam/city/depts/fss/supp_info/AgeFriendly/FinalAgeFriendlyReport021815.pdf	July 2012	Yes	No	-To diminish fear of crime so that people are not reluctant to go outside and use parks	-No information found but mentioned having programs for people over 60 (senior centers, bowling, lunch sites)

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and websites	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Indiana (statewide effort through Grantmakers in Aging) http://www.iidc.indiana.edu/pages/CommunitiesForALifetime http://lifetimecommunities.org/about/index.html	2012	Yes	No	No information found about parks	Walk a Hound, Lose a Pound- program that brings dogs to a local park every Saturday for volunteers to walk for as long as they like
Des Moines, Iowa https://extranet.who.int/agefriendlyworld/wp-content/uploads/2014/05/Des-Moines.pdf	April 2012	Yes	Yes- Phase 1 progress report	-According to outreach and surveys 79% of Des Moines older residents are satisfied with the number and cleanliness of parks	No information found

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and websites	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Greater Kansas City, Kansas http://www.marc.org/Community/First-Suburbs-Coalition/Assets/2013KCCFAA_ToolKitFORWEB.aspx http://www.marc.org/Community/KC-Communities-for-All-Ages/PDFs/KCC-Action-Agenda-2016-17-approved-(1).pdf	2012	Yes	Yes	-Develop creative ways to use parks as meeting places for community groups or neighborhood associations -Develop partnerships with organizations who use the parks so they help maintain the facilities to help reduce costs	-Recognized the need to develop fitness classes towards adults but did not mention this being in parks.
Wichita, Kansas http://www.aarp.org/livable-communities/info-2014/grandparents-park-wichita-kansas.html	March 2013	Not found	No	-Create a "Grandparents park" that is accessible and has amenities for children and older adults	-Installed a Life Trail Advance Wellness System, an exercise station for adults over age 50 -Created regular walking groups

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and websites	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Brookline, Massachusetts https://extranet.who.int/agefriendlyworld/wp-content/uploads/2015/03/Age-Friendly-Brookline-----2013-Results.pdf http://www.brooklinecan.org/documents/BiennialReport2014-2015.pdf	2012	Yes	Yes	-Increase the number and accessibility of walking paths within parks -Renovate and add more bathrooms to parks -Add more seating within parks -Publish a brochure in 2016 identifying the age friendly features in parks	-Launched a new fee structure that offers a 35% reduced rates to swimming pools and health and wellness classes for seniors -Are attempting to create an outdoor Bocce court near the library -Offer employment and volunteer opportunities at the municipal golf club
Auburn Hills, Michigan http://www.auburnhills.org/community/age-friendly_auburn_hills/docs/Action_Plan_Draft_FINALnew3.pdf	March 2013	Yes	Yes	-Focus on adding benches, adding lighting, ensuring sidewalks and paths are accessible and clear of snow and debris and installing outdoor exercise equipment within the parks	-Walking groups/buddies -goal to increase intergenerational and volunteer activities but did specify doing this in parks

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and websites	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
St. Louis County, Missouri http://www.stlouisco.com/Portals/8/docs/document%20library/AgeFriendly/STLCO%20Age-friendly%20Action%20Plan.pdf	June 2013	Yes	Yes	-Create outreach materials to ensure older adults are aware of available opportunities	-Provide health screenings and workshops in parks Create intergenerational programs in parks Evaluate all recreation programs to make sure they serve a diverse audience
Chemung County including Elmira City and Elmira Town, New York http://www.aarp.org/content/dam/aarp/livable-communities/documents-2015/Chemung-Elmira-BigFlats-Action%20Plan.pdf	December 2012	Yes	Yes	-Offer safe and accessible opportunities for physical activity for persons of all ages and abilities by continuing to create, rehabilitate, improve, and maintain parks, recreation facilities, community gardens and other open spaces. Work with law enforcement to improve safety in parks	-Build capacity and programming at senior centers and also use schools for community functions -Offer health and wellness programs that promote healthy aging

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and websites	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
New York City, New York http://www.agefriendlynyc.org/ http://www.nycgovparks.org/seniors http://www.cityparksfoundation.org/sports/seniors-fitness/ http://www.nycgovparks.org/programs/rangers	2007	Yes	Yes	-Identify parks that meet the age-friendly criteria and encourage older adults to utilize them through programming -Add public bathrooms -Add Benches	-The New York City Department of Parks & Recreation has designated resources for seniors including accessible programs, adapted aquatics, and senior splash (outdoor pool hours for people age 62+). All information is on a searchable database online -Senior fitness – Free 8 week sessions that offer tennis lessons, yoga instruction and fitness walking in parks throughout NYC for people age 60+ -Urban park ranger programs feature walks, hikes, birding, etc. for all age groups

Table of US Cities that have committed to being Age-Friendly prior to December 2013 continued					
City, State and websites	**Date enrolled**	**Needs assessment completed or advisory council formed?**	**Action plan or strategic plan completed?**	**Age-friendly park ideas and goals**	**Programming ideas to increase park usage**
Portland, Oregon http://www.aarp.org/content/dam/aarp/home-and-family/livable-communities/2014-01/age-friendly-portland-action-plan.pdf http://agefriendlypdx.tumblr.com/REPORT	April 2012	Yes	Yes	-Improve accessibility -Foster gardening and local food production -Create smaller parks in more locations so everyone has easy access to green space -Expand outdoor fitness stations	-Increase the number of affordable outdoor recreation classes for older adults run by the Portland Parks and Recreation department -Collaborate with health care providers to promote recreational programs
Philadelphia, Pennsylvania http://www.pcacares.org/Files/PCA_Age-Friendly_AGE-FRIENDLY_PARKS_chapter.pd	April 2012	Yes	Yes	-Created and have implemented the age friendly parks checklist to improve parks near populations of older adults	-No information about particular programs but stated programs should be conducted at suitable times of all age groups.
Newport, Vermont http://www.pcacares.org/Files/PCA_Age-Friendly_AGE-FRIENDLY_PARKS_chapter.pd	April 2013	Yes	Yes	-Focused on increasing accessibility, infrastructure (bathrooms, benches, walking paths) and safety	No information found

Appendix B: Contacts for Interviews

Case Study	Program	Location or organization	Contact person
#1 Park Prescriptions	National Park Prescriptions	National Recreation and Park Association	Zarnaaz Bashir
	Prescription Trails	New Mexico	Charmine Lindblad
#2: Walk with Ease	National Walk with Ease	National program through the National Recreation and Park Association	Colleen Pittard
	Greater Minneapolis-St. Paul Area, Minnesota	Three Rivers Park District	Alex McKinney
	Mustang, Oklahoma	City of Mustang Senior Center	Ashley Wisner
#3 Municipal Parks and Recreation Departments	Dementia-Friendly Recreation	Seattle Park and Recreation Department	Cayce Cheairs
#4 Multigenerational fitness areas	Fitness Zones®	The Trust for Public Land, Los Angeles office	Diane Silva

Case Study	Program	Location or organization	Contact person
#5 Intergenerational Programs	Intergenerational Games, Aging and Independent Services	Live Well San Diego, California	Pam Plimpton
	Intergenerational Games, North County Regions	Live Well San Diego, California	Brynn Viale
	Intergenerational Games, East and North Central Regions	Live Well San Diego, California	Jennifer Navala
	Habitat Intergenerational Program	Belmont, MA	Erika Whitworth

Boston Interviewees	Organization	Location	Contact Person
	Fenway Civic Association	Boston, MA	Marie Fukuda
	City of Boston Parks Recreation Department	Boston, MA	Ryan Woods
	City of Boston Public Health Commission	Boston, MA	Nicole Ferraro

Appendix C: Interview Questions

Introductory statement for Interviews:

Thank you for taking the time to be interviewed. I am a graduate student in Urban and Environmental Planning and Policy at Tufts University. I am writing my thesis on how to encourage older adults to use parks through recreational programing. Parks provide so many benefits for individuals and communities and are essential to an "age-friendly" city, yet I know that parks are often underutilized by older adults. I have researched park programs that have involve physical activity and have had success in attracting older adults and that is why I have contacted you for this interview. I will use the information from this interview, along with research and other interviews to provide recommendations for creating and implementing successful park programs. I will also provide specific recommendations to the City of Boston for their "Age-Friendly" initiative.

Interview questions for national organizations:

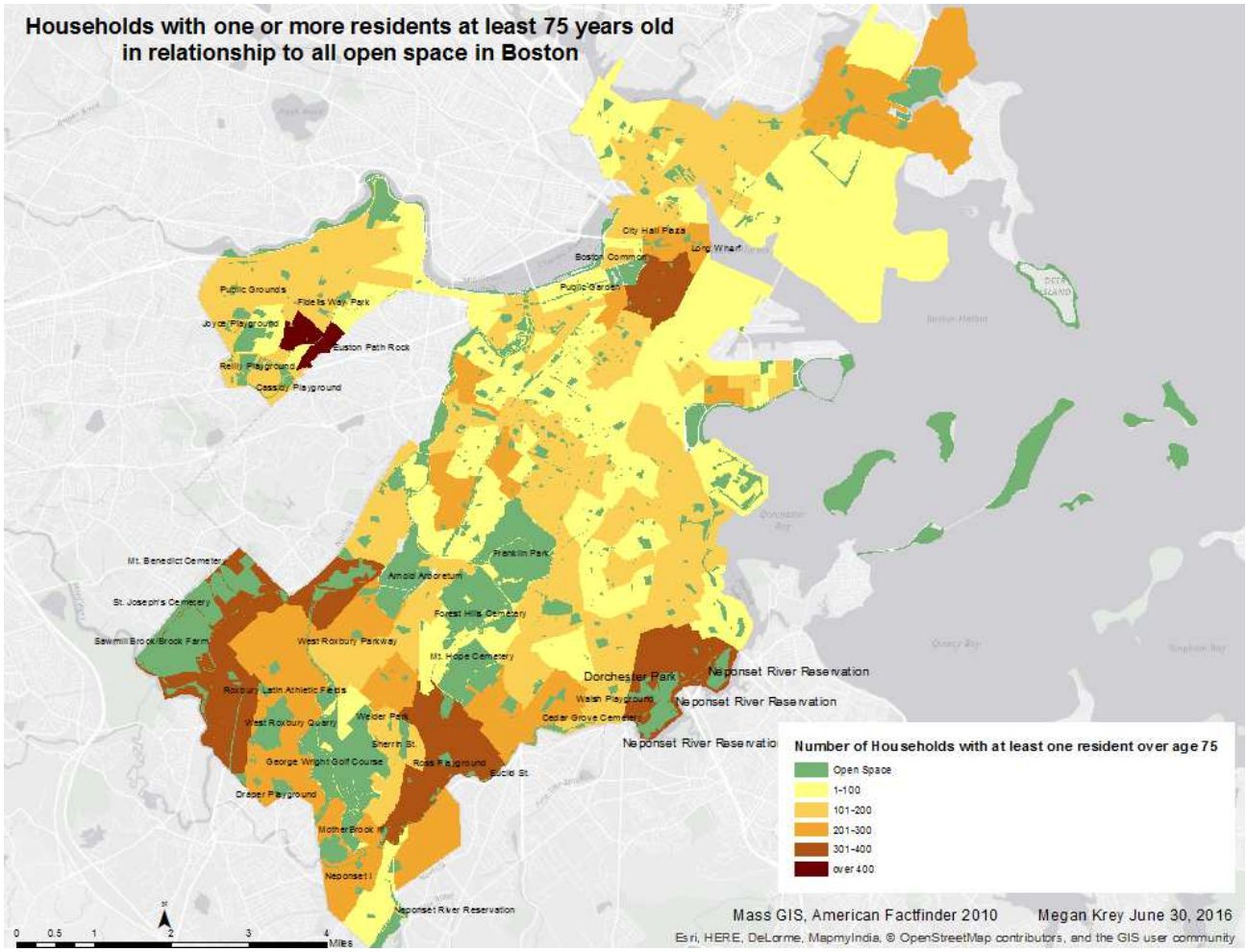
1. When did this program begin and how did your organization become involved?
2. Do you think running this program in parks contributes to the programs' success?
3. How many cities have run this program since it started?
4. How much does it cost to run the program?
5. Where does the money come from to run the program?
6. How are staff/instructors trained to run the program?
7. Is there a recommended instructor to participant ratio?
8. How did you choose the sites/parks for these programs, or is this done by individual cities?
    a. What infrastructure was needed in these parks?

9. How do the cities evaluate the success of the program
10. What are some of the challenges of running this program?
11. Have cities continuously run the program?
12. Where has this program had the most success?
    a. Are there certain factors (like weather, population, etc) that lead to better success with this program?
13. Are there any other future changes to the program?
14. What advice would you give a city and/or organization that would like to start this program?
15. Is there anyone you can recommend that I speak to that has locally run a {successful name of specific program}?

Interview questions for local programs include:

1. How did the program get started? Where did the idea come from?
2. Who funds/sponsors the program?
3. Do you partner with any local agencies/organizations for this program?
    a. If so, what were they and how did you find these partners?
4. What demographic are you targeting? Why did you choose this demographic?
5. How do you attract older adults to this program?
6. How do you publicize the program?
7. How do you choose the sites/parks for these programs?
    a. What infrastructure is needed in these parks?
8. What are your goals for this program?
    a. How well do you meet your goals?
    b. What do you think could have been done to achieve your goals?
9. What are the biggest challenges of running this program?
10. Will you be running this program again?
    a. If not, why?
    b. If yes, what will you do differently and what will you keep the same?
    c. What are the continuing challenges?
11. What can other cities learn from your program?
12. Do you think this program can be successful in other cities? Why or Why not?
13. What advice would you give to someone starting a similar program?

Appendix D: Figure 7: Households with one or more resident over age 75



Appendix E: Table of Open space that is one quarter mile from a library and high density census tract

Open Space Name	Acreage	Type	Ownership
Adams Rock	0.35	Urban Wild	Private
Allandale Woods	90.00	Urban Wild	City of Boston
Angell Memorial Square	0.15	Malls/Squares/Plazas	City of Boston
Aquarium Plaza	0.86	Malls/Squares/Plazas	Private
Arnold Arboretum	265.00	Park/Playground/Athletic Field	City of Boston
Boston Common	51.00	Park/Playground/Athletic Field	City of Boston
Broad St. Park	0.03	Park/Playground/Athletic Field	City of Boston
Cardinal Cushing Park	0.33	Park/Playground/Athletic Field	City of Boston
Castle Square City of Boston	1.11	Park/Playground/Athletic Field	BHA
Catholic Memorial H.S. Athletic Fie	3.42	Park/Playground/Athletic Field	Private
Central Burying Ground	1.39	Cemeteries/Burial Ground	City of Boston
Chistopher Columbus Park	4.30	Park/Playground/Athletic Field	City of Boston
City Hall Plaza	11.00	Malls/Squares/Plazas	City of Boston
Commonwealth Avenue Mall	237.80	Park/Playground/Athletic Field	City of Boston
Cronin/Wainwright Park	2.24	Park/Playground/Athletic Field	City of Boston
Cunningham Park	0.17	Park/Playground/Athletic Field	City of Boston
Curley Memorial Plaza	0.24	Malls/Squares/Plazas	City of Boston
Dell Avenue Rock	1.32	Urban Wild	BCC
Dock & Faneuil Square	0.92	Malls/Squares/Plazas	COB/Private
Dorchester Park	28.45	Park/Playground/Athletic Field	City of Boston

Dorchester South Burying Ground	2.19	Cemeteries/Burial Ground	City of Boston
Eliot Norton Park	0.99	Park/Playground/Athletic Field	City of Boston
Fidelis Way Park	5.06	Park/Playground/Athletic Field	City of Boston
Gardner St. Park	105.00	Park/Playground/Athletic Field	City of Boston
Gateway Park	0.13	Park/Playground/Athletic Field	City of Boston
Grain Exchange Plaza	0.03	Malls/Squares/Plazas	Private
Granary Burying Ground	1.88	Cemeteries/Burial Ground	City of Boston
Havey Beach	28.00	Urban Wild	DCR
Jenney Plaza	0.05	Malls/Squares/Plazas	Private
King's Chapel	0.67	Cemeteries/Burial Ground	City of Boston
Lincoln Square	0.06	Malls/Squares/Plazas	City of Boston
Long Wharf	2.10	Malls/Squares/Plazas	Private
Market St. Burying Ground	0.41	Cemeteries/Burial Ground	City of Boston
Neponset River Reservation	77.20	Parkways/Reservation/ Beach	DCR
New Haven St. Urban Wild	9.73	Urban Wild	MBTA
Old City Hall Grounds	0.76	Malls/Squares/Plazas	BRA
Pagoda Park	1.47	Park/Playground/Athletic Field	MBTA
Pemberton Square	1.25	Malls/Squares/Plazas	City of Boston
Phillips Street Park	0.13	Cemeteries/Burial Ground	City of Boston
Pine St. Park	0.00	Park/Playground/Athletic Field	BRA
Post Office Square Mall	2.00	Malls/Squares/Plazas	Private
Praught Field	2.70	Park/Playground/Athletic Field	DCR
Public Garden	24.25	Park/Playground/Athletic Field	City of Boston
Public Grounds	0.02	Park/Playground/Athletic Field	City of Boston
Radio Park	0.03	Malls/Squares/Plazas	City of Boston

Rivermoor	9.20	Urban Wild	U.S./Prv./C.O.B
Ross Playground	13.03	Park/Playground/Athletic Field	City of Boston
Roxbury Latin Athletic Fields	11.00	Park/Playground/Athletic Field	Private
Roxbury Latin Urban Wild	76.38	Urban Wild	Private
Saltonstoll Plaza	0.80	Malls/Squares/Plazas	Commonwealth
Sawmill Brook/Brook Farm	148.00	Urban Wild	DCR
School St. Park	0.18	Park/Playground/Athletic Field	BRA
Somerset Street Plaza	1.03	Malls/Squares/Plazas	Commonwealth
St. Joseph's Cemetery	131.00	Cemeteries/Burial Ground	Private
State House Park	1.20	Park/Playground/Athletic Field	Commonwealth
Statler Park	0.25	Park/Playground/Athletic Field	City of Boston
Tai Tung Tot Lot	0.00	Park/Playground/Athletic Field	City of Boston
Temple Street Mall	0.06	Malls/Squares/Plazas	Private
VFW Parkway	10.00	Parkways/Reservation/ Beach	DCR
Walsh Playground	6.97	Park/Playground/Athletic Field	City of Boston
West Roxbury H.S. Athletic Fields	13.00	Park/Playground/Athletic Field	City of Boston
West Roxbury H.S. Urban Wild	10.00	Urban Wild	City of Boston
West Roxbury Quarry	70.00	Urban Wild	Private
Winthrop Square	0.17	Malls/Squares/Plazas	City of Boston

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