

SECTION 7

**ANALYSIS
OF NEEDS**

SECTION 7.1

RESOURCE PROTECTION NEEDS**INTRODUCTION**

Boston is fortunate to include a broad range of natural resource areas. Protecting, restoring and expanding these resource areas ensures that they can provide their full range of ecological functions and benefits now and into the future.

Key issues and concerns:

- Meeting operating needs
- Proactive care for the urban forest
- Expanding stewardship partnerships
- Managing cross-collaboration with agencies and departments that share jurisdiction of these spaces
- Inviting the public to use these public lands in ways that do not adversely impact the sometimes sensitive ecosystems they support

OPEN SPACE EXPANSION AND LAND ACQUISITION

BPRD is building an Open Space Acquisition Program that's informed by planning and public input to begin to address the gaps in the existing open space system. Expansion of the park system has not kept up with the increase in population which means that the current open space system is being increasingly burdened. The existing park system serves the city well, but does not meet all of the open space needs of city residents (see Section 7.2). Natural resource areas, including woodlands, are at risk of loss without a complementary City program to acquire and protect these properties.

The foundation for BPRD's Open Space Protection and Acquisition Program is the *Parcel Priority Plan (PPP)*, an analysis and information-gathering project that provides the framework for decision-making and priority-setting. The multi-year PPP planning effort created tools for analyzing property throughout the city for suitability for open space protection. The *Parcel Priority Plan* helps shape an understanding of

where to acquire or protect open space for the future use of Boston residents. By explicitly examining the value of parcels relative to various benefits, open space protection and acquisition can be based on thoughtful criteria rather than responding opportunistically.

Benefits considered by the PPP include, but are not limited to, providing respite from heat, managing flood waters, expanding access in underserved communities, enhancing wildlife habitat, and connecting existing parks to each other. By advancing these priorities using data modeling, interdepartmental collaboration, and public recommendations, the PPP informs an understanding to target our efforts for open space expansion to be implemented in part through the Open Space Acquisition Program.

The overarching goal of the PPP is to understand where the best opportunities are for enhancing and enlarging Boston's network of parks. The planning process included development of a geospatial model that layers and analyzes information to help BPRD understand where there is an opportunity and/or significant need to provide or protect open space for the future use of Boston residents. Importantly, while the model provides important data-driven information, BPRD recognizes that using data alone to inform open space expansion efforts has limitations. The model will be used in conjunction with other critical sources of information including the institutional knowledge of staff and the wisdom of residents within our neighborhoods.

The PPP uses the framework of Boston's *Open Space and Recreation Plan* challenge areas (or goals) as an analytical structure by addressing open space access, equity, and climate resilience. The model integrates an overlay of environmental criteria through all of these analyses to ensure that the value of existing canopy, natural resource areas, and topography are part of all parcel prioritization efforts. With so many parcels in the city of Boston to consider, the tool can provide a "first pass" at ranking parcels for acquisition or protection. The tool can also be

HOW CAN THE PARK SYSTEM BE EXPANDED?

Protecting and expanding parkland will rely on work of government entities, non-profits, residents, landowners, and more.



Protection - legal protection is added to sites to limit development and ensure permanent and public access.



Acquisition - new protected parks are established or more acreage is added to existing parks.

HOW ARE SITES IDENTIFIED?



Community recommendations



Geospatial modeling



Institutional knowledge and additional factors

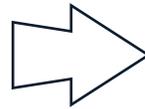
WHAT WAS INCLUDED IN THE GEOSPATIAL MODELING PIECE?



Heat



Flooding
(coastal and stormwater)



Combined Score



Landscape



Park access



Demographics

Why is landscape separate? There are a variety of landscape-based elements to consider when determining where parks might be sited (e.g., topography, wetlands, and state wildlife habitat priorities). Both the nature of landscape dynamics and the available data makes this consideration less suitable for a parcel-by-parcel scoring method.

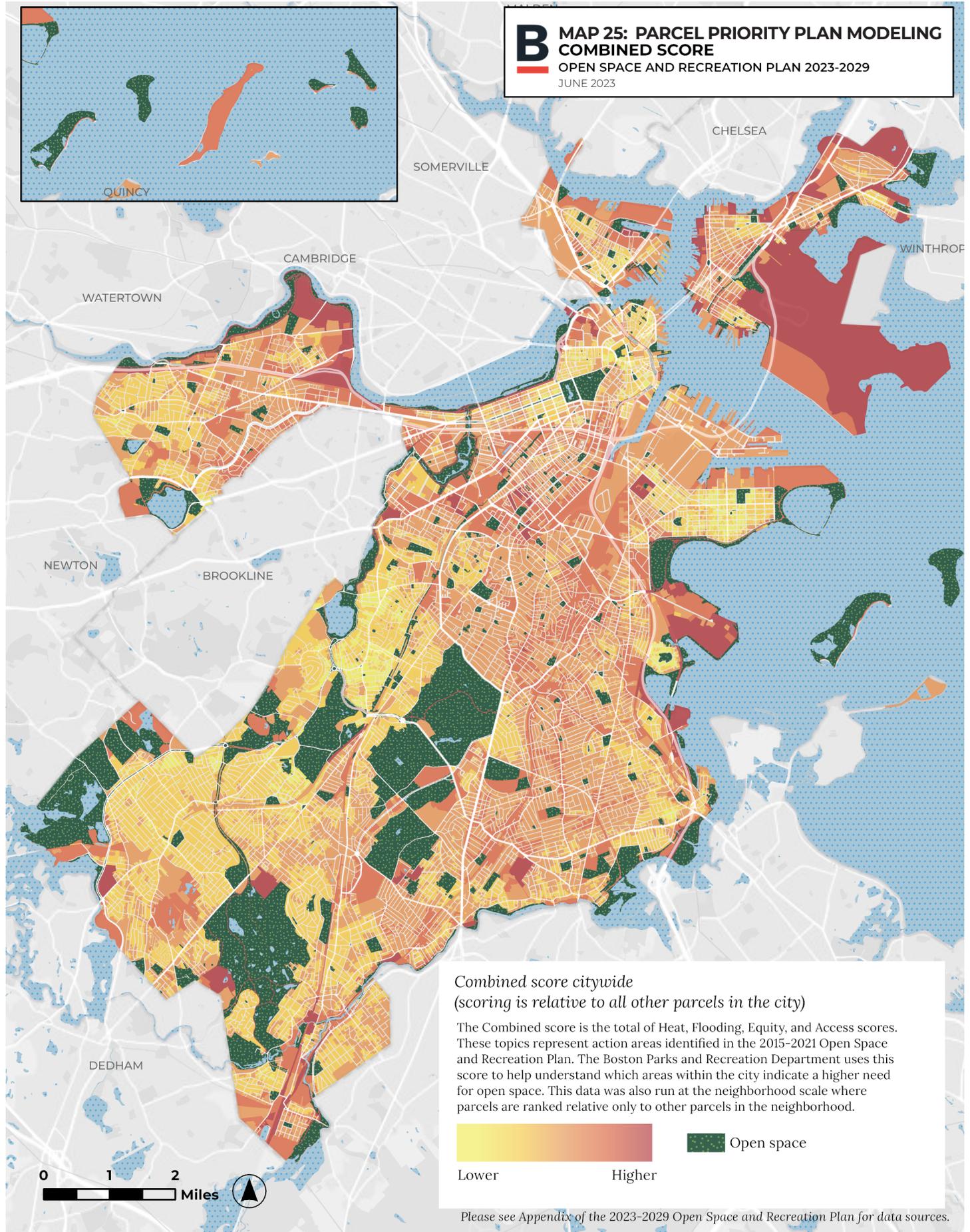
Top: Permanent and public access is critical to any city's park system. It ensures that residents have a thriving park system now and 100 years from now, regardless of ownership or development pressure.

Middle: Identifying sites for future parks relies on bringing together multiple sources of knowledge.

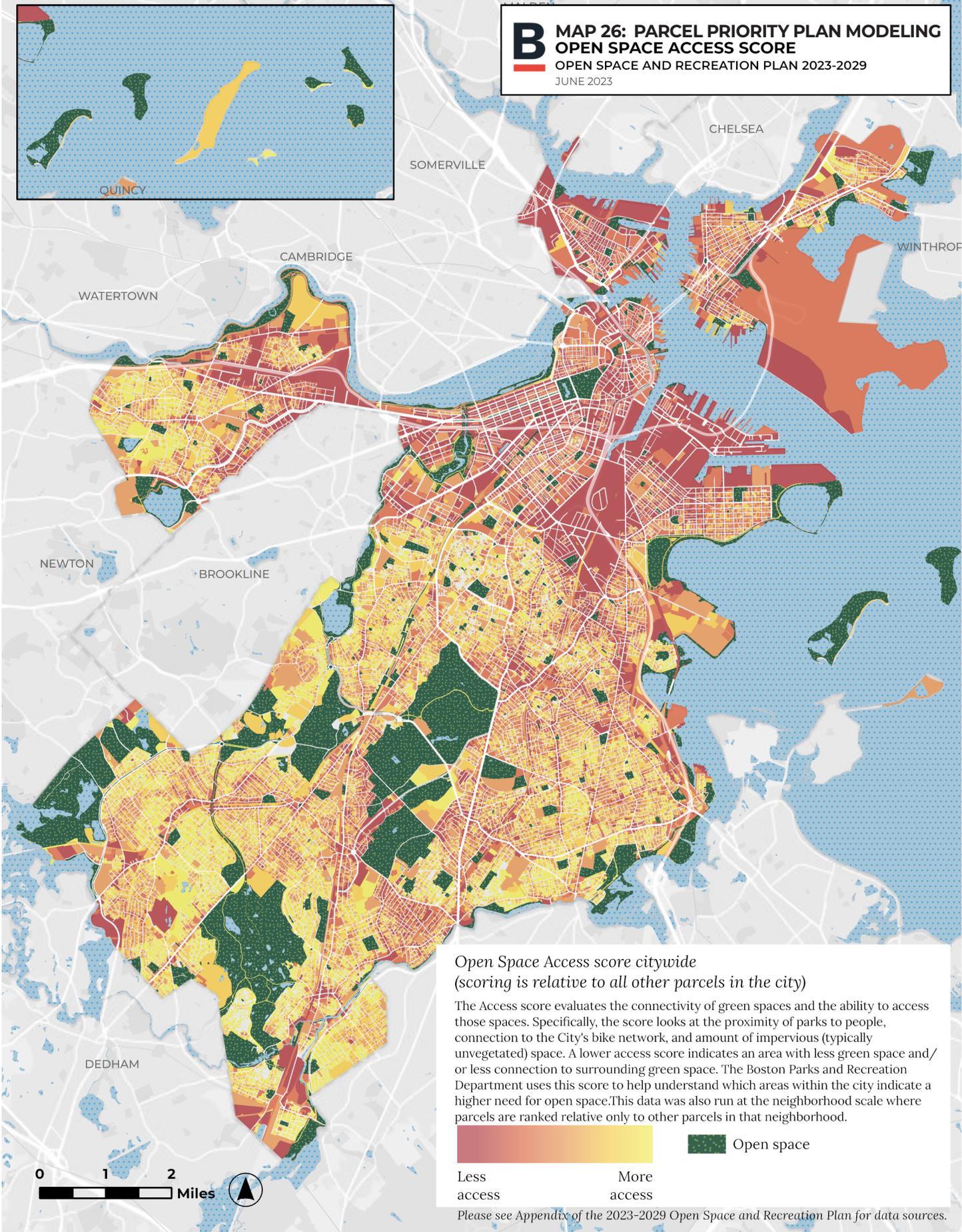
Bottom: Geospatial modeling, one element of identifying sites, is a helpful way to bring together many sources of data into a more digestible format and narrow down potential sites from nearly 100,000 parcels in Boston.

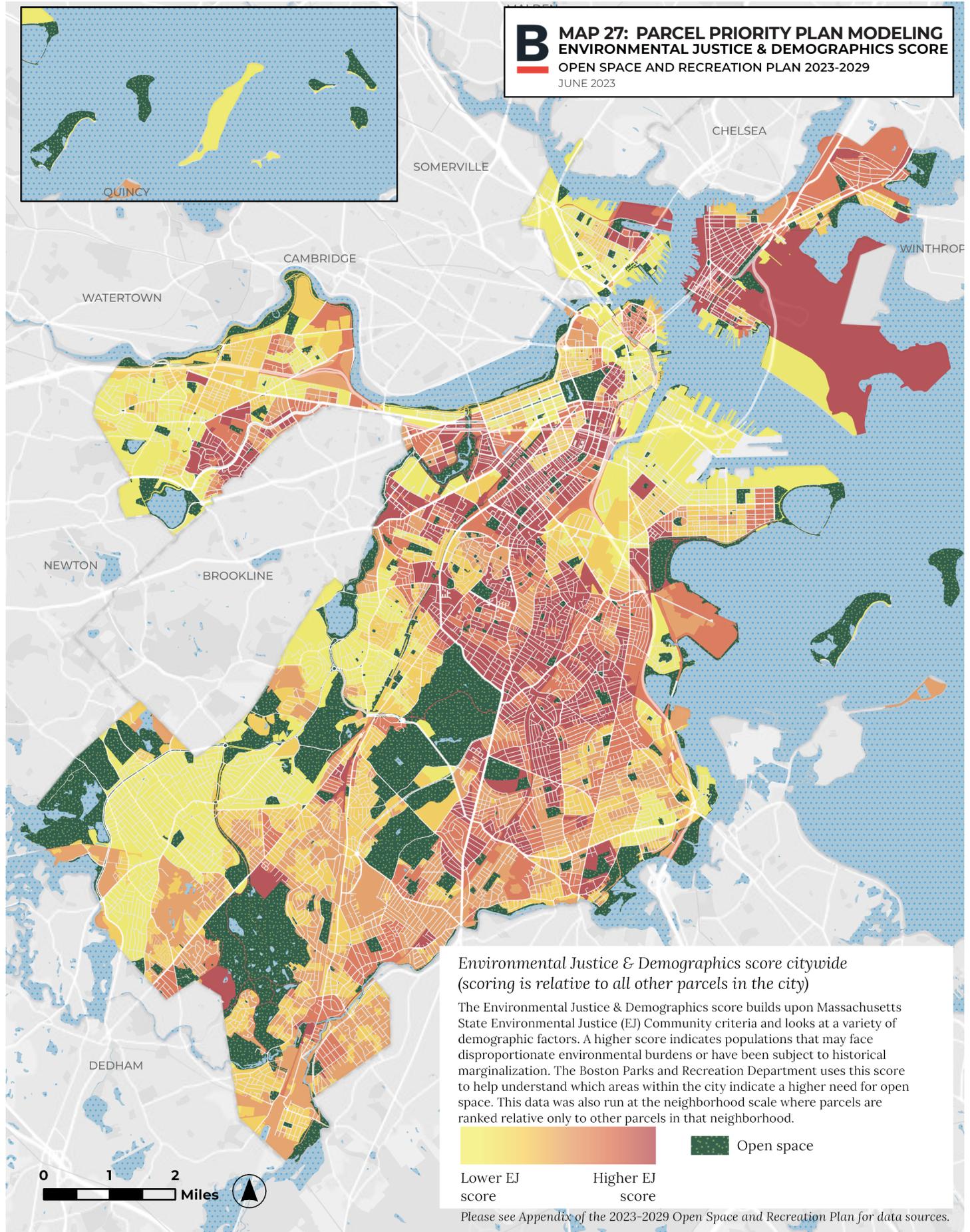
used to provide information on parcels that may be brought to the attention of BPRD from residents or stakeholder groups. See Section 6: Community Vision for maps and more information on community recommendations for park system expansion.

For more information: boston.gov/environment-and-energy/open-space-acquisition-program



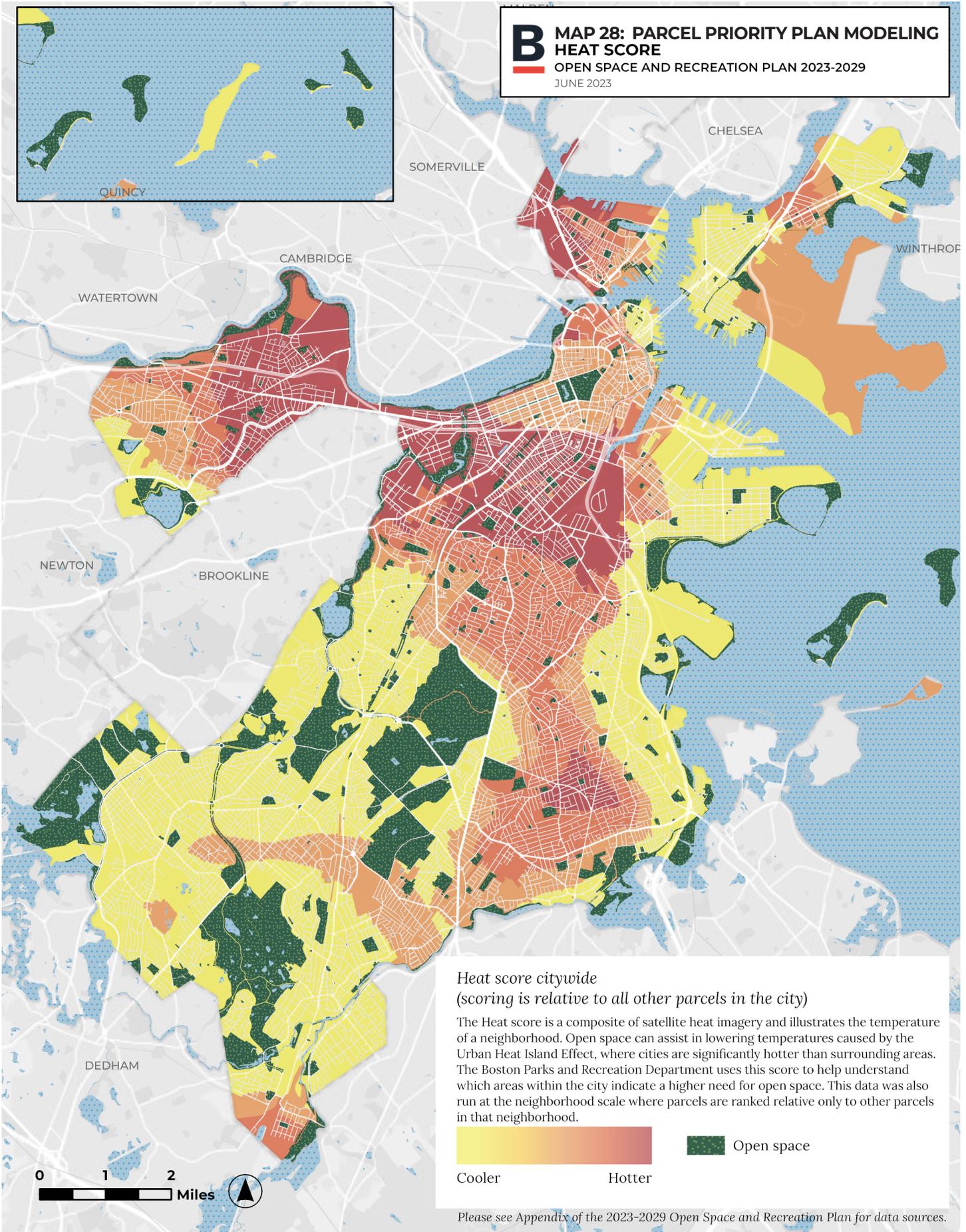
B MAP 26: PARCEL PRIORITY PLAN MODELING
OPEN SPACE ACCESS SCORE
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023





Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.

B MAP 28: PARCEL PRIORITY PLAN MODELING
HEAT SCORE
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023

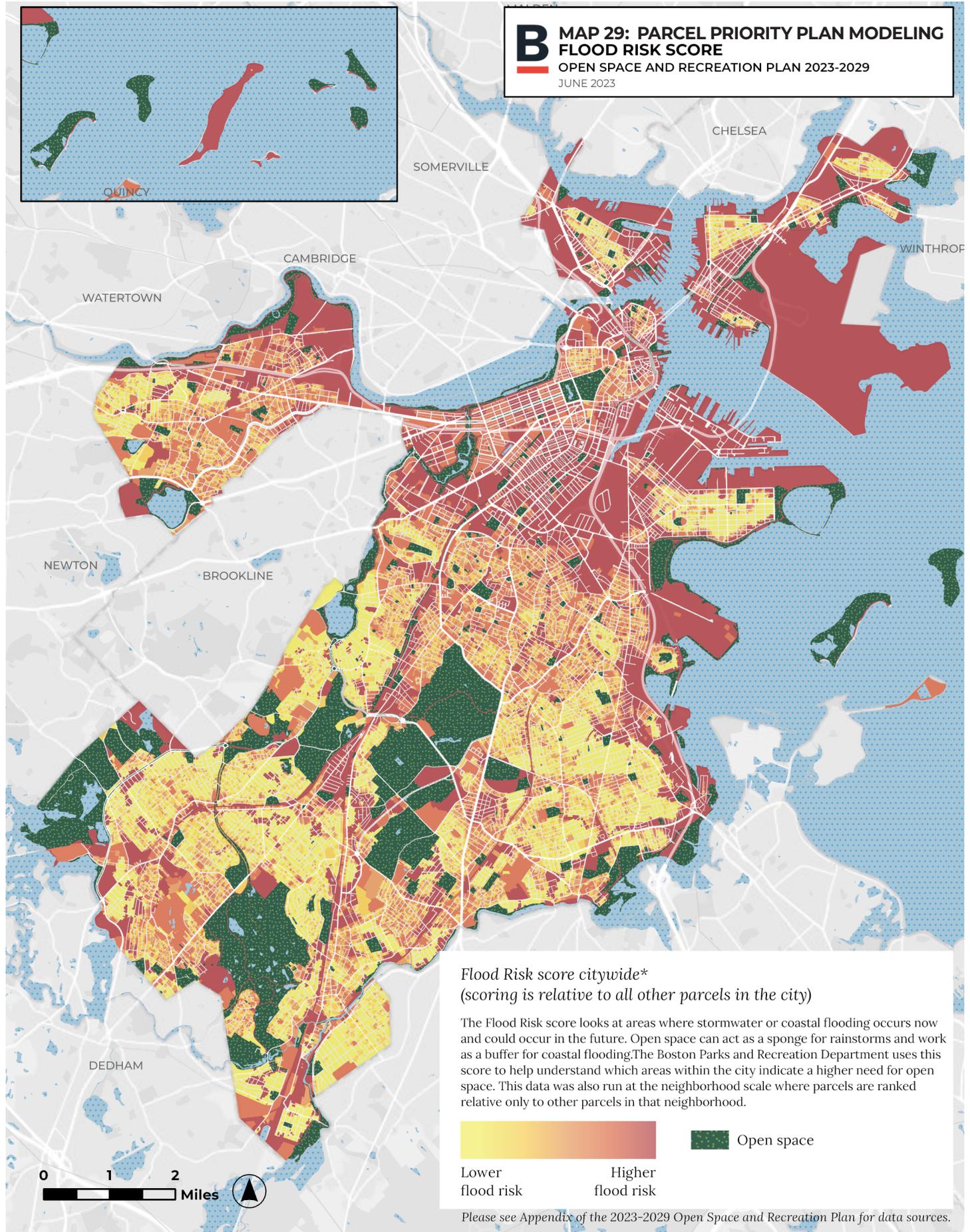


*Heat score citywide
 (scoring is relative to all other parcels in the city)*

The Heat score is a composite of satellite heat imagery and illustrates the temperature of a neighborhood. Open space can assist in lowering temperatures caused by the Urban Heat Island Effect, where cities are significantly hotter than surrounding areas. The Boston Parks and Recreation Department uses this score to help understand which areas within the city indicate a higher need for open space. This data was also run at the neighborhood scale where parcels are ranked relative only to other parcels in that neighborhood.



Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.



URBAN WILDS AND NATURAL AREAS

Boston's urban wilds and natural areas are essential components of the City's open space system. They preserve the remaining native biodiversity and perform a host of ecological services including floodwater storage, carbon dioxide uptake, urban cooling, and stormwater filtration.

Additionally, they provide important resources for residents and visitors. They offer a variety of landscapes for passive recreation, quiet contemplative spaces for people seeking a refuge from hectic city streets, and environmental education.

For the last 25 years, BPRD's Urban Wilds Program (UWP) has been largely responsible for the day to day management and maintenance of most City-owned urban wilds. While staff and funding levels have continued to be very limited, landscape maintenance needs have increased with the acquisition of more conservation land and higher levels of stewardship at newly renovated sites. As a result, site maintenance is still highly dependent on corporate and non-profit volunteer stewardship and partnerships with organizations such as the Southwest Boston CDC and the Student Conservation Association.

ANALYSIS OF NEEDS: RESOURCE PROTECTION

In 2002, the UWP developed Boston's *Urban Wilds and Natural Areas Management Plan*, a comprehensive master plan for urban wild and natural area site management, program development, and administration. In addition to detailed site descriptions and assessments, the plan outlined a prioritized maintenance and management scheme, and presented a programmatic strategy for outreach, resource development, increased site protection, and enhanced levels of stewardship and program administration. Since this plan was developed, the urban wild portfolio has expanded considerably with the acquisition of land from other City departments, the Boston Planning and Development Agency, and private entities (see Section 5) (BPRD 2002).

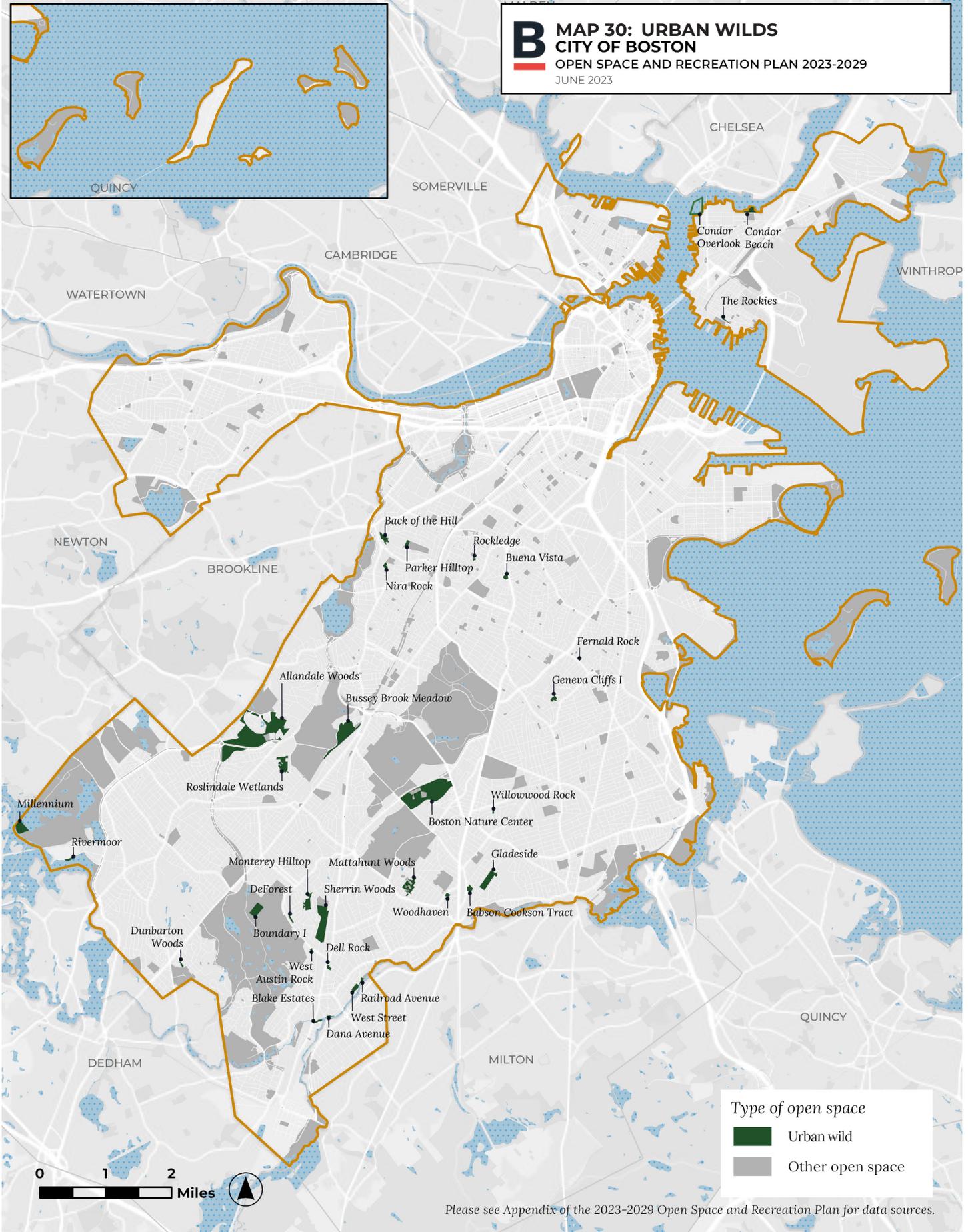
In order to fully assess current resource needs of both existing and new properties, capital funding has been requested for the development of a new management plan. To support a new management plan, the UWP has conducted property boundary and topographic surveys at many sites, and has worked with abutters to resolve associated encroachment. Additionally, the UWP has partnered with the Conservation Commission in designing a new site identification/rule sign with a goal of installing signs at each of the properties by the end of 2023.

RECENT AND ONGOING SITE-SPECIFIC INITIATIVES

In the past seven years, various ecological restoration and trail improvement projects have been successfully completed. In addition to the 2017 trailhead renovation and wayfinding project at Allendale Woods, subsequent trail and wetland restoration projects have been initiated in multiple phases at Sherrin Woods, Roslindale Wetlands, and, most recently at Mattahunt Woods. The ecological restoration components of these projects have been carefully implemented based on their cost effectiveness, potential to provide enhanced habitat for native plants and animals, and ability to perform other ecological functions.

Beyond capital projects, the City has made considerable gains in conservation land protection. Over this same seven-year period, the City has finalized protection of environmentally and archaeologically sensitive areas such as the Rivermoor site along the Charles River in West Roxbury, the 108 Walter St. wetland buffer adjacent to the Roslindale Wetlands site, the native quarry at the Babson-Cookson Tract in Mattapan, and substantial hillside land holdings at Monterey Hilltop in Hyde Park. Collectively, these acquisitions have constituted the most active period of land conservation since the 1970s and 1980s.

B MAP 30: URBAN WILDS
 CITY OF BOSTON
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023



Type of open space
 Urban wild
 Other open space

Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.

PROTECTING AND EXPANDING THE URBAN FOREST

In 2022, the City of Boston released the first comprehensive Urban Forest Plan to guide equitable protection and expansion of the urban canopy to mitigate against the increasing risks associated with climate change, including extreme heat and flooding. The plan includes four overarching goals which will guide investments and decisions in the years to come:

1. Equity first
2. Community-led
3. Proactive care and preservation
4. Prioritized and valued trees

Data collection and analysis for the plan included a citywide five-year canopy change analysis, a comprehensive inventory of all City street trees, extensive GIS mapping and analysis, public input through a community advisory board, an interdepartmental working group, and the general public, as well as input from expert consultants and contributors. This inventory, analysis and input informed seven plan strategies:

1. *Expand and reorganize urban forest management:* create an Urban Forestry Program
2. *Proactively protect and care for existing trees:* take care of what we have
3. *Strategically and equitably expand tree canopy:* the where, what and how of planting
4. *Make space and improve conditions for trees:* specifics around streets and right-of-ways
5. *Improve communications:* key steps both internally and externally
6. *Data improvements:* keep building on what was started during the planning process
7. *Utilize and develop local talent:* urban forestry career pathways

For each of these strategies, the plan offers concrete next steps and detailed recommendations including:

- Neighborhood strategies for the entire city that highlight priority planting zones
- Detailed analysis of the City right-of-ways including current street trees, open tree pits, and sidewalk widths to inform the approaches that will need to be deployed to add street trees in those areas
- Species selection information to expand diversity and adaptability
- Partnership strategies
- Workforce development recommendations
- Peer city benchmarking

The implementation table within the plan provides an action plan for next steps including timeline, leadership responsibility, and staffing requirements.

For more information: boston.gov/urban-forest-plan

RESOURCE PROTECTION AND CLIMATE ACTION

The City of Boston's *Climate Vulnerability Assessment and Climate Action Plan* identify major climate hazards including extreme heat and flooding. They set goals and guide actions for addressing these risks while meeting the City's 2050 carbon-neutrality target.

EXTREME HEAT

As average temperatures rise, the city is vulnerable to health impacts of extreme heat, increased urban heat island effect, and stress on the energy supply and related infrastructure. In 2021, Boston received a *Municipal Vulnerability Preparedness Program (MVP) Grant* to study and create a heat resilience plan. *Heat Resilience Resolutions for Boston* is a plan that identifies a range of strategies for creating cooler communities including the following related to parks, trees and open space:

- 6.1 Enhance cooling in pocket green spaces and street-to-green conversions
- 6.2 Increase shade on municipal sites
- 6.4 *Planning for Future Parks*

Other park design strategies to address the impacts of extreme heat include access to cooling features, expanded tree canopy, and consideration of heat retention in materials selection. Park programming and hours of operation can also become part of the City’s strategy to promote safe, healthy access to outdoor spaces in areas of high heat.

For more information: [boston.gov/departments/environment/preparing-heat](https://www.boston.gov/departments/environment/preparing-heat)

STORMWATER FLOODING

The frequency and intensity of wet weather events continues to increase with climate change. Combined with rising sea levels, intense precipitation can overwhelm existing stormwater infrastructure and result in localized flooding. To address this, Boston Water and Sewer Commission’s (BWSC) inundation models analyze which parts of the city are most vulnerable to future flooding during different storm event scenarios and projected depth and duration of potential flooding. The City of Boston and BWSC are working to reduce the quantity of storm run-off and improve the water quality by supporting the use of green infrastructure and other approaches to absorb and infiltrate run-off.

COASTAL FLOOD PROTECTION

The *Resilient Boston Harbor Vision* and *Coastal Resilience Solutions* studies for each of Boston’s waterfront neighborhoods provide a framework for adapting to the impacts of climate change as a coastal city. Coastal flood risk is a combination of sea level rise, storm surge, and associated wave-action and erosion. Each neighborhood has different risks and requires a specific, publicly informed, research based response that will guide future investments for adaptation. The toolkit of strategies for coastal resilience range from nature-based solutions to elevated open space, floodwalls, deployables, and adapted structures.

For more information: [boston.gov/departments/environment/preparing-climate-change](https://www.boston.gov/departments/environment/preparing-climate-change)

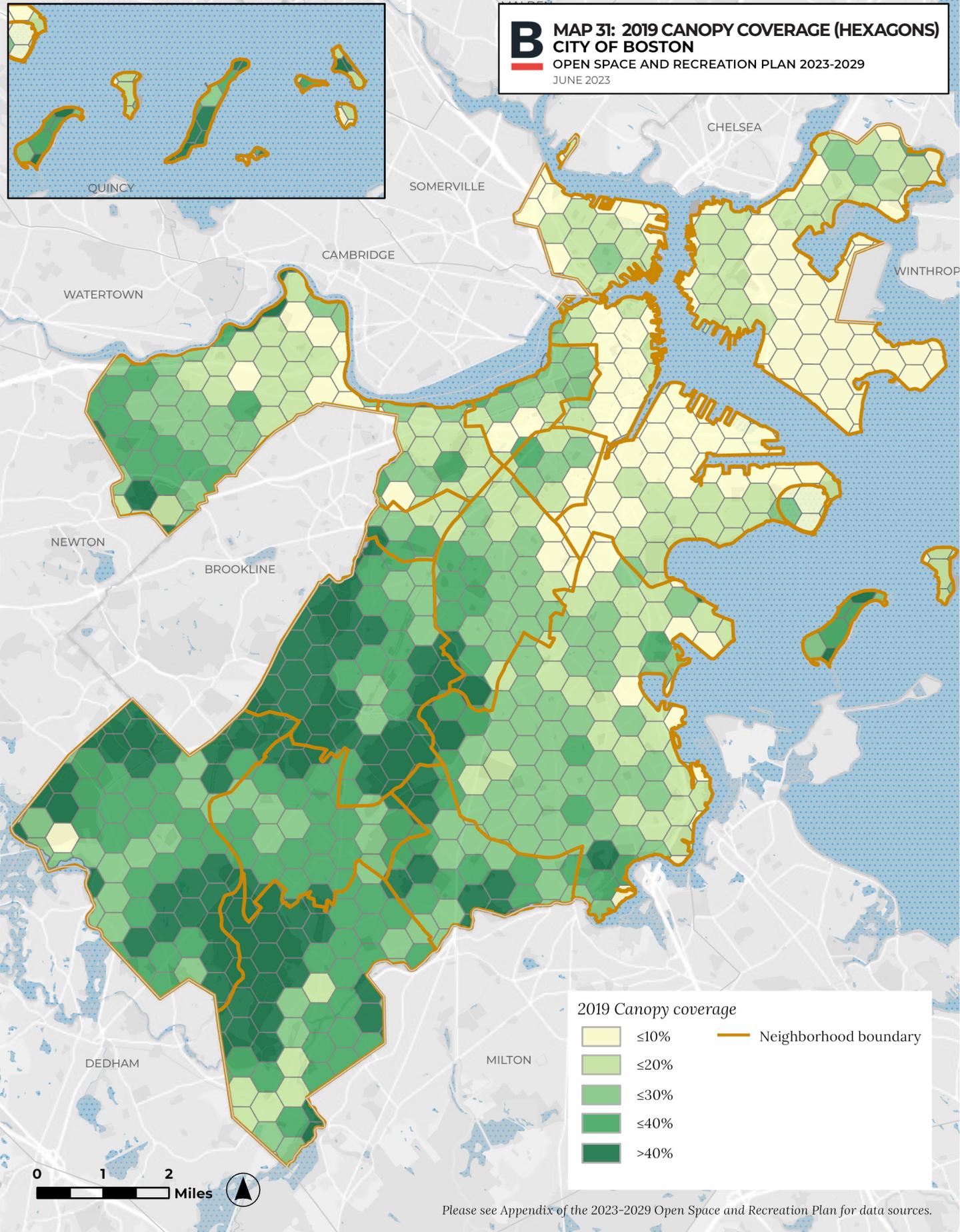
PARK SYSTEM

An expanded park system provides physical buffers to increasingly powerful coastal storms and mitigation of the health risks associated with warming urban environments. Parks are central to the future health, climate resilience, and livability of the city. Park design strategies can ensure that these open space resources are able to bounce back after flood events and some properties can play a key role in providing flood protection for larger neighborhood flood pathways. Coastal flood protection projects are underway or complete at park properties including Moakley Park in South Boston, Ryan Playground in Dorchester, Langone Park in the North End, McConnell Playground in Dorchester, Fort Point/Channel Center parks, and others to come.

Other park considerations for climate adaptation include:

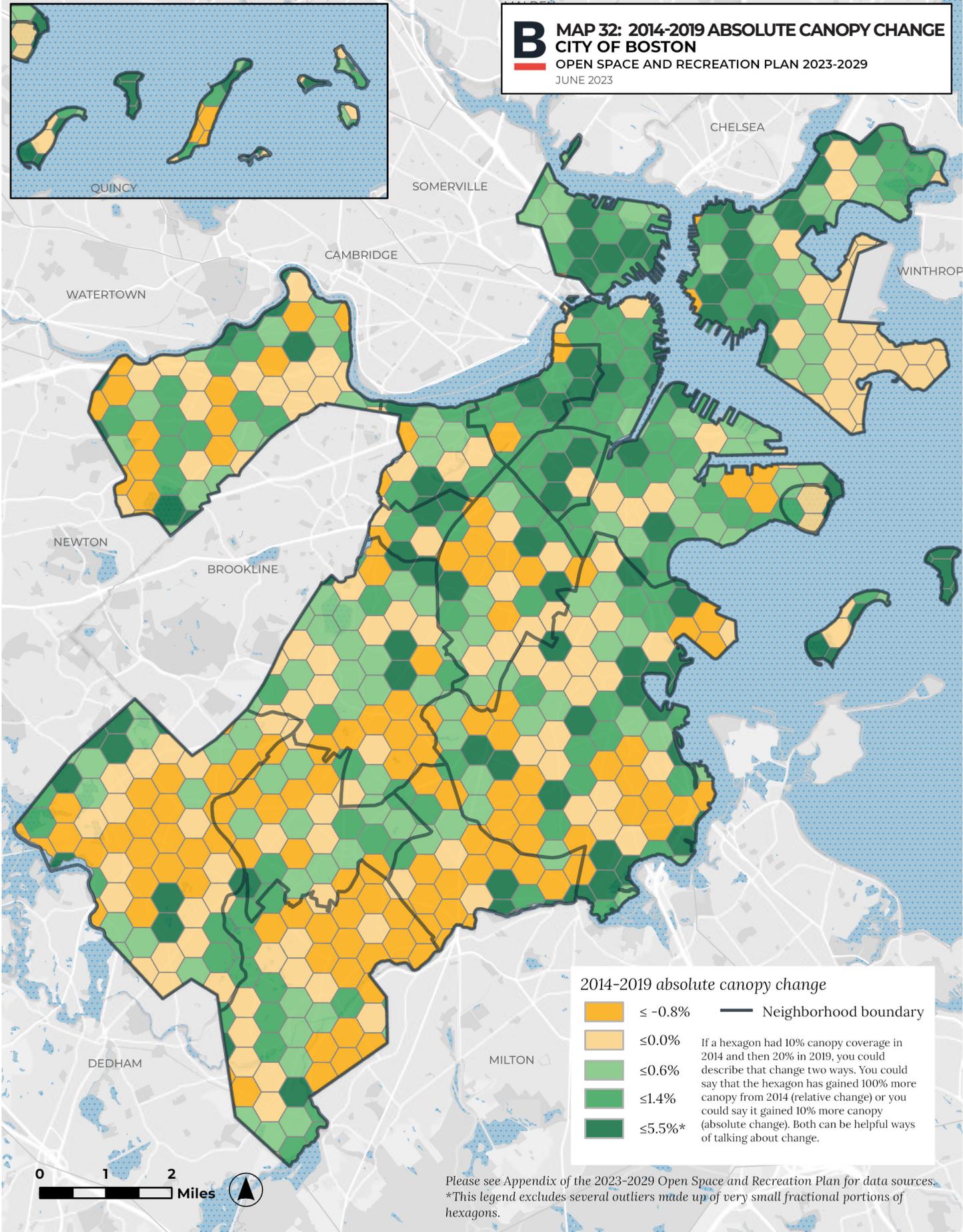
- Natural areas management for canopy succession
- Invasive species and pest management
- Strong biodiversity
- Improved energy management
 - Lighting upgrades
 - Conversion to electric vehicles and equipment
 - Integration of lower-maintenance vegetation

B MAP 31: 2019 CANOPY COVERAGE (HEXAGONS)
CITY OF BOSTON
OPEN SPACE AND RECREATION PLAN 2023-2029
JUNE 2023

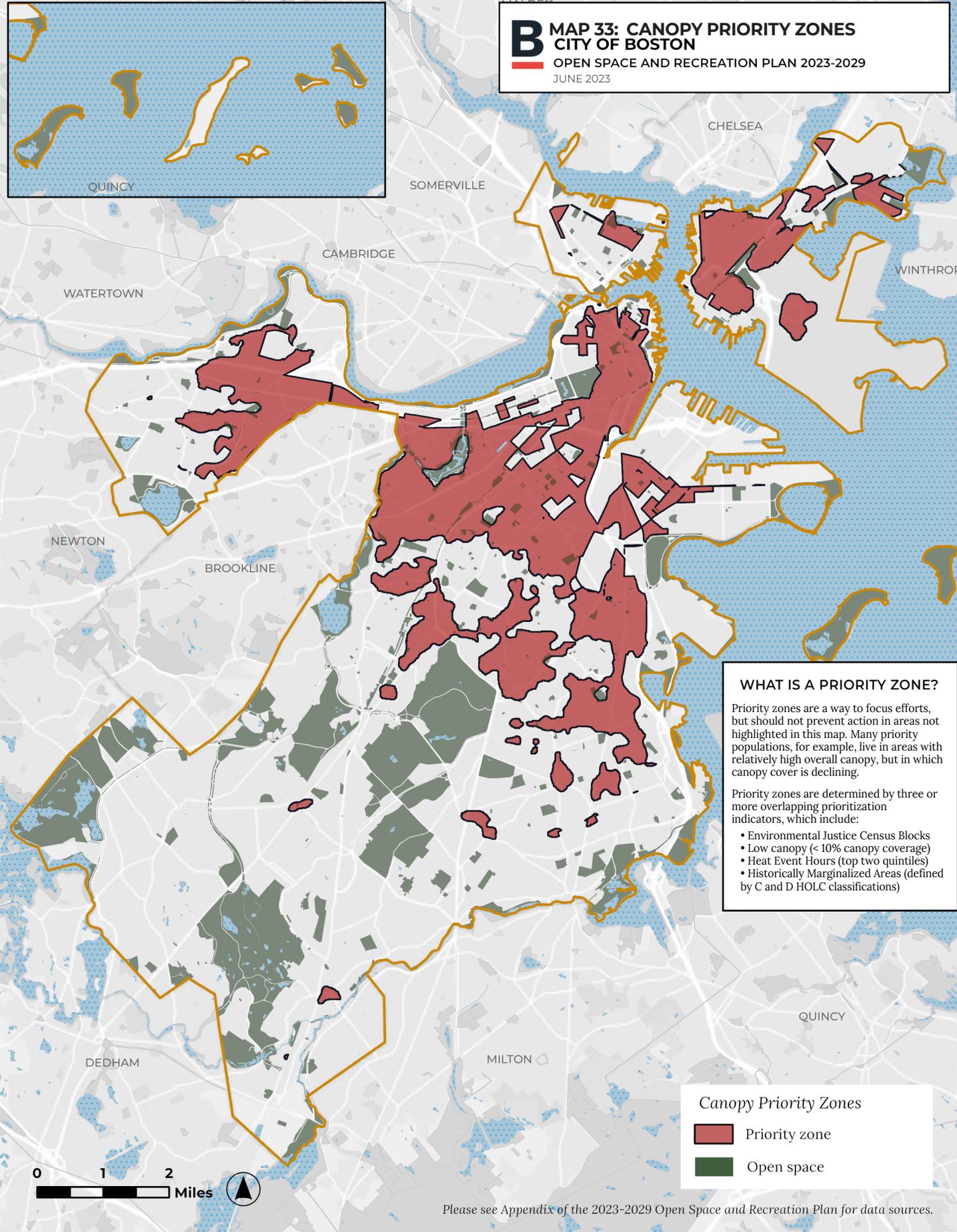
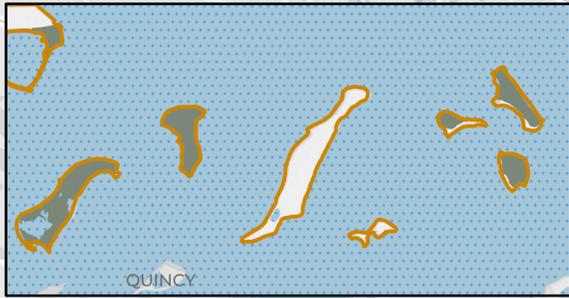


Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.

B MAP 32: 2014-2019 ABSOLUTE CANOPY CHANGE
 CITY OF BOSTON
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023



B MAP 33: CANOPY PRIORITY ZONES
 CITY OF BOSTON
 OPEN SPACE AND RECREATION PLAN 2023-2029
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WHAT IS A PRIORITY ZONE?

Priority zones are a way to focus efforts, but should not prevent action in areas not highlighted in this map. Many priority populations, for example, live in areas with relatively high overall canopy, but in which canopy cover is declining.

Priority zones are determined by three or more overlapping prioritization indicators, which include:

- Environmental Justice Census Blocks
- Low canopy (< 10% canopy coverage)
- Heat Event Hours (top two quintiles)
- Historically Marginalized Areas (defined by C and D HOLC classifications)

Canopy Priority Zones

- Priority zone
- Open space

Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.

SECTION 7.2

COMMUNITY NEEDS**INTRODUCTION**

The open space system in Boston provides recreational space for youth and adults, community gathering space for neighbors, natural areas that support wildlife and connect urban dwellers with natural systems, gardens that provide beauty and seasonality, historic landscapes that connect us to the city's past, waterfront parks, coastlines, and resource areas that open up access to our region's waterfront assets and provide critical infrastructure in the face of climate change, event and cultural spaces that enrich our communities and our connections with each other. Evaluating the services and needs within this complex urban system is challenging. The approach of the Needs Analysis is to share an understanding of how we account for the resources we have and what the open space system provides to the public through its current distribution and facilities. From there, we identify the gaps in services and summarize what residents would like to see for improvements as informed by public input. Lastly, we evaluate how city growth impacts the demand on park resources and how we can strategically meet those demands through park investments and thoughtful expansion of the open space system.

BOSTON PARKS AND RECREATION DEPARTMENT

Note that while the OSRP includes a comprehensive analysis that extends across property ownership, the OSRP is produced by the Boston Parks and Recreation Department (BPRD) and as such best represents City's perspective on challenges, needs, programs, facilities, and expansion.

BPRD owns and maintains clean, safe, and accessible public parkland. The department owns 2,196 acres of permanently protected open space, 1,000 acres of which make up the

historic Emerald Necklace. This inventory includes 283 properties across the city, two golf courses, 72 squares, 17 fountains, 210 courts, 12 street hockey rinks, 16 historic burying grounds, and three active cemeteries. Additionally, BPRD maintains 27 urban wilds, four high school athletic fields and a total of 37 other properties which it does not own. BPRD also manages the care of more than 38,000 public street trees in addition to the trees within its parks.

<i>Protected Open Space by Ownership</i>	
	Acres open space owned*
City of Boston	2,412
BPRD	2,196
Other City Departments or Agreements	117
Conservation Commission	99
Commonwealth of Massachusetts	2,116
DCR	2,048
MBTA	49
MassDOT	12
MassPort	7
Private	312
Boston Planning and Development Agency	22
Federal	12
TOTAL	4,874

*Figures rounded to the nearest whole number.

KEY ISSUES AND CONCERNS

The work in the Design and Construction Unit of BPRD in the past seven years has focused on facility upgrades and capital improvements, improving public participation in park renovation projects, and developing planning project work. BPRD is engaging in citywide planning and development review efforts to ensure that the provision of open space and an understanding of open space impacts are part of this work. An environmentally just park system depends on *how* the work is done and the *outcomes* of that work. The Department aims to work from a foundation of equity and is evaluating our processes and revising practices, building and sustaining our operational capacity for park programming, recreation, maintenance, urban forestry, and the delivery of capital improvement projects.

PARK ACCESS

The baseline evaluation for park system services across the city is distribution and size of properties in relation to the city's residential population. Nationally, the Trust for Public Land's (TPL) 10-Minute Walk Campaign has highlighted the importance of having park lands distributed throughout a city so that all residents can walk to usable, public open space within 10 minutes from where they live. TPL's analysis is a good initial overview, but it does not account for park size, location of park entrances, or open space access in areas of the city with low residential populations. At a high level, TPL ranks Boston as offering 100% of residents access to a park or schoolyard within a 10 minute walk from home. TPL's analysis includes Boston's Public Schools schoolyards as publicly accessible open space areas which provide essential access to residents in some parts of the city not well-served by traditional public park land.

Building from that analysis, BPRD has developed its own walkshed analysis framework that provides a more fine-grained look at the

city's open space system and who it serves. There are a range of benefits that come from nearby access to open space including shade and cooling, community gathering areas, access to natural features, and access to spaces for physical activity, all of which should be brought in closer proximity to people than a baseline of a ½ mile. BPRD's walkshed analysis distinguishes between three different types of parks based on size. The service area for each park type expands from 0.1 miles up to 0.5 miles as the park size increases. This analysis is built on a baseline 0.5 mile walkability standard (consistent with TPL's, and identified as a 10 minute walk for most people), complemented with an understanding that smaller parks (<5 acres) with fewer features likely draw users who live closer by. The smallest parks (those <¼ acre) likely only serve people who live immediately around the park.

BPRD's walkshed maps illustrate where park access should be improved in order to meet our goal of access to a high-quality park system for all. Service area gaps mean that residents in those areas cannot readily access the benefits of nearby parkland whether that is a children's play area for connecting with other families, a recreational space for sports and exercise, a casual-use space for gathering with friends and neighbors, or a woodland trail for access to nature. Each of these kinds of open spaces offer significant value to urban quality of life, and gaps in access can also be indicative of environmental injustices. Parks provide cool spots with access to shade, and often water, in hot urban environments. Permeable surfaces in parks capture rainwater and can reduce the likelihood of neighborhood flooding. Being able to readily enjoy outdoor experiences and the health advantages they offer, even in extreme climate conditions, is a benefit which should be extended to all of the city's population.

To understand the walkshed maps, it helps to see that information is layered.

This map shows an example of the service area for a mini park (parks less than 0.25 acres in size and given a service area of 0.1 mile distance):



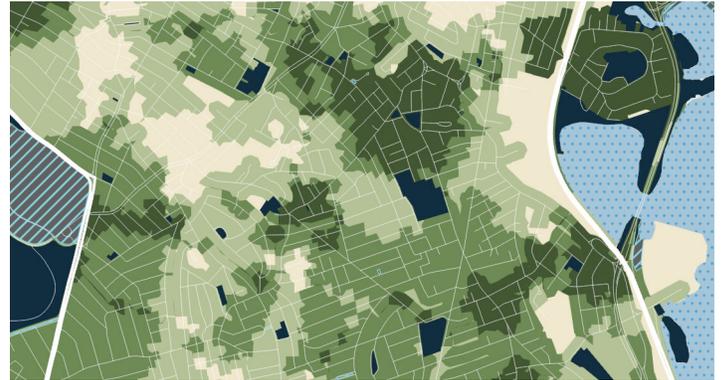
This map shows the service area from a neighborhood park (parks between 0.25 and 5.0 acres in size and given a service area of 0.25 mile distance):



This map shows the service area from a community park (parks greater than 5.0 acres in size and given a service area of 0.5 mile distance):



When these Service Areas are layered together, we can see which parts of the neighborhood have walkable access to one park, several parks, or no parks at all:



For the purposes of this analysis, community gardens and cemeteries are not included. This decision was made because community gardens provide an open space resource to their communities, but the facilities are dedicated to a particular use and oftentimes users are limited to only those who are assigned plots.

While many cemeteries provide passive open space to their surrounding community, their primary function is to provide or preserve burials, and there is much variability in each cemetery's public access and passive recreation opportunities.

ADDRESSING THE GAPS

While most of Boston's residents benefit from access to open space of varying types throughout the city, there are gaps. The gaps can be categorized in the following ways:

- Areas of the city that are outside of existing park walksheds. These are parts of the city that are predominantly supporting industrial uses, or have converted from industrial uses to more residential or mixed uses over recent decades. Park access gaps in these areas illustrate that permanent public open space has not been established as part of these redevelopment efforts. Gaps also exist in areas that simply haven't benefited from the public investment to establish larger, multi-purpose parks. This is illustrated in the Park Walksheds map (see MAP 34: WALKSHED

SERVICE AREAS) and the Gaps in Service Areas map (see MAP 35: GAPS IN SERVICE AREAS).

- Areas of the city where a minimum level of park distribution exists, but the population densities and park needs are so great that the demand on existing parks is significant. This is illustrated in the Acres of Open Space per 1,000 People series maps (see map series beginning with MAP 36: POPULATION DENSITY).

GAPS IN SERVICE AREAS/WALKSHEDS

Walkshed mapping clearly illustrates the areas in the city that do not have walkable access to adequate open space. Not all gaps are equally problematic: gaps in areas with high population densities, increasing development, significant urban heat impacts, or greater distances from park spaces in neighboring communities are more adversely impactful for residents who live within these areas. Understanding and responding to these myriad factors requires a layering of analysis to inform strategic responses.

POPULATION DENSITY AND ACRES PER THOUSAND ANALYSIS

Calculating the ratio of acres of protected parkland per 1,000 residents provides another metric for open space access and service across the city. There are different geographies that can be used to visualize population density: neighborhoods, zip codes, census tract, and so on. When population density is correlated with open space acreage in the same geography, patterns of how the existing open space system serves the city's residents emerge. Each analysis has its limitations in how the data is categorized and represented, so it's best to look across multiple maps and geographies to form a sense of the information being conveyed.

The analysis of protected open space per 1,000 people shows that while some neighborhoods or zip codes may look to be well-served in

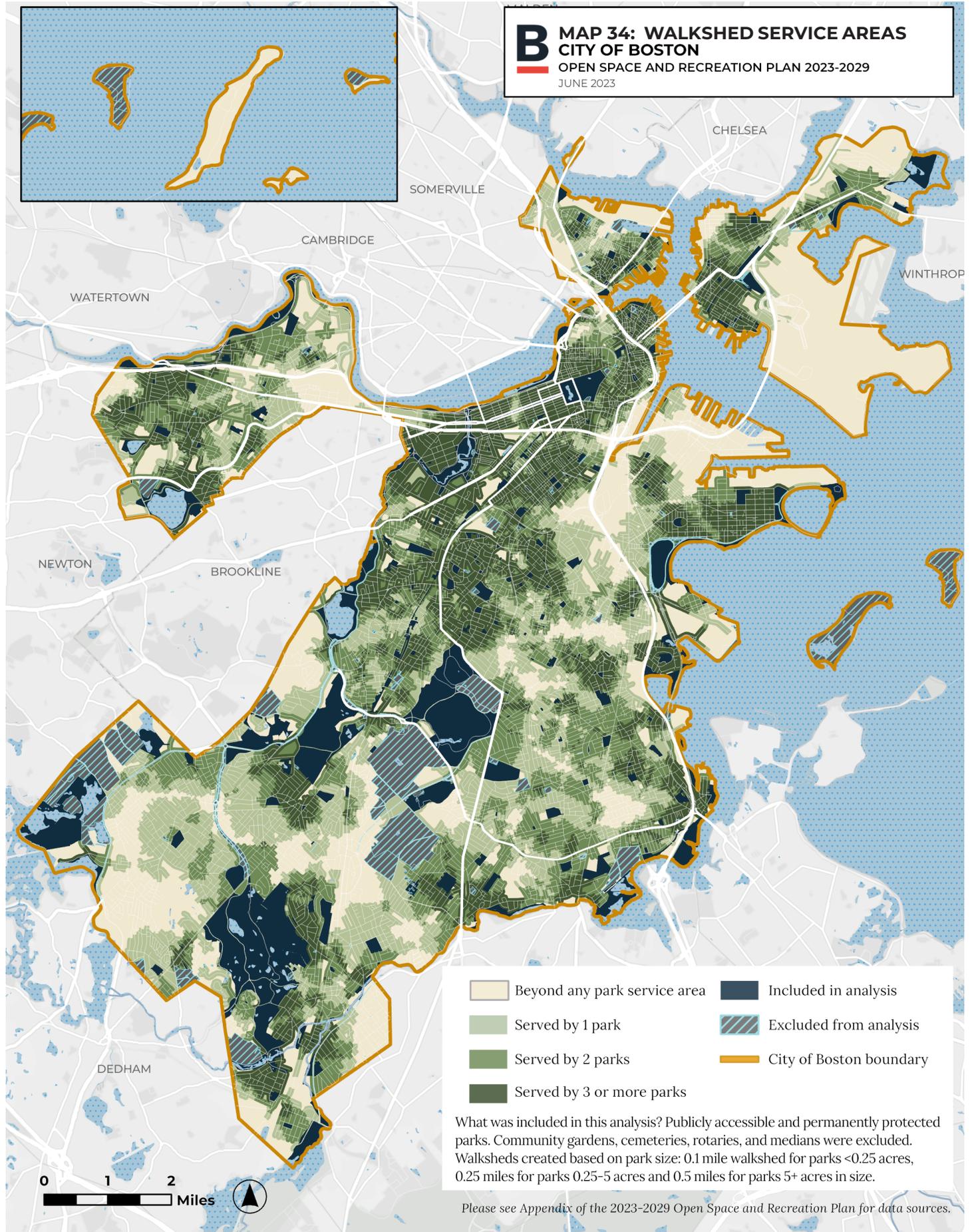
overall park acreage, the distribution of that acreage results in considerable disparities in open space per 1,000 people when reviewed at the census tract scale. Neighboring census tracts can have vastly different open space per capita ratios which emphasizes the importance of addressing not just open space distribution, but overall acreage/quantity of protected public park land in densely populated areas of the city. Small parks help address access, but can fall short on providing the full range of open space needs for urban populations.

LEVEL OF SERVICE

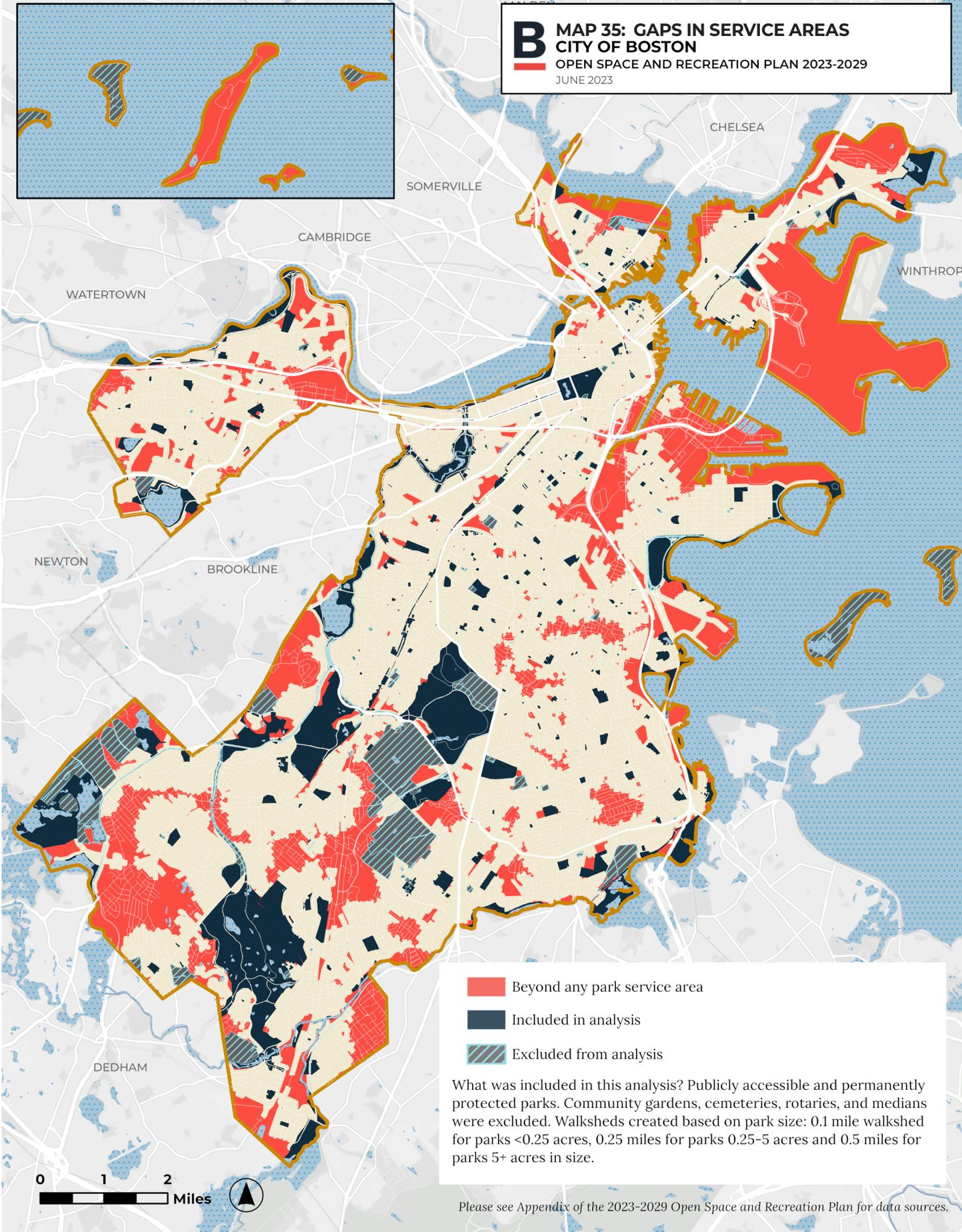
An analysis of park acreage and general distribution needs to be complemented with a study of level of service: where are various park and recreation amenities located and who has access to them? Level of service considers the features within parks, as well as the demographics of the people served by those features. It is understood that not all areas of the city can have the same access to recreational amenities. Historic fabric, development density, transportation infrastructure, and natural resources (among myriad other factors) all affect park size and distribution. Nonetheless, stewardship and expansion of the park system and its features requires an understanding of the distribution of these features so that inequities can be strategically addressed.

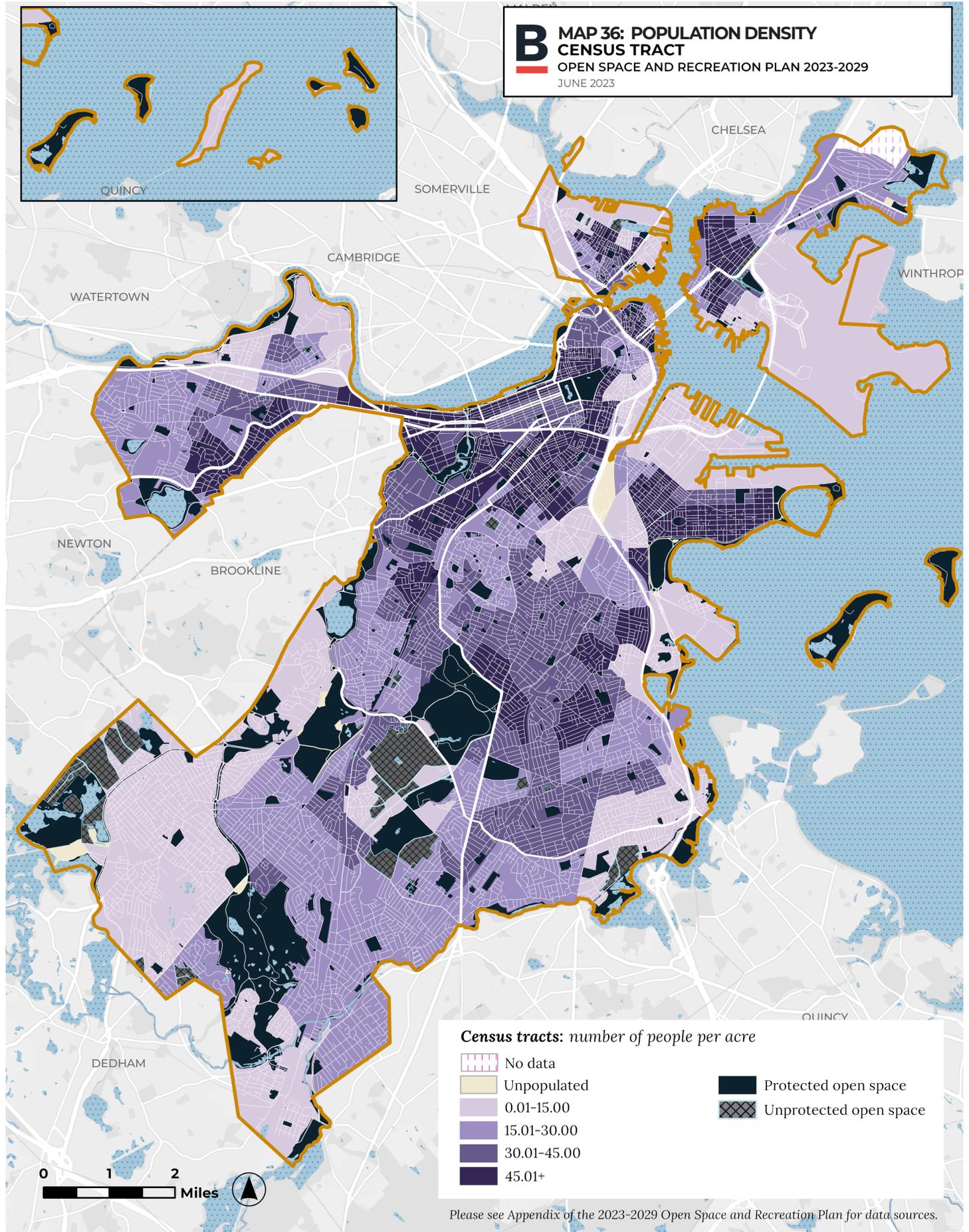
BPRD's Level of Service analysis currently focuses on seven park amenities/features. This analysis will continue to be expanded as our datasets grow.

Future planning work within BPRD will focus on establishing benchmarks for level of service for specific facilities, and strategic plans for meeting those benchmarks through park improvements and facility expansion over time. Access to amenities will not necessarily be the same across the city. Facility distribution, walksheds, and population density all need to be used together to understand how many park facilities are needed and where.

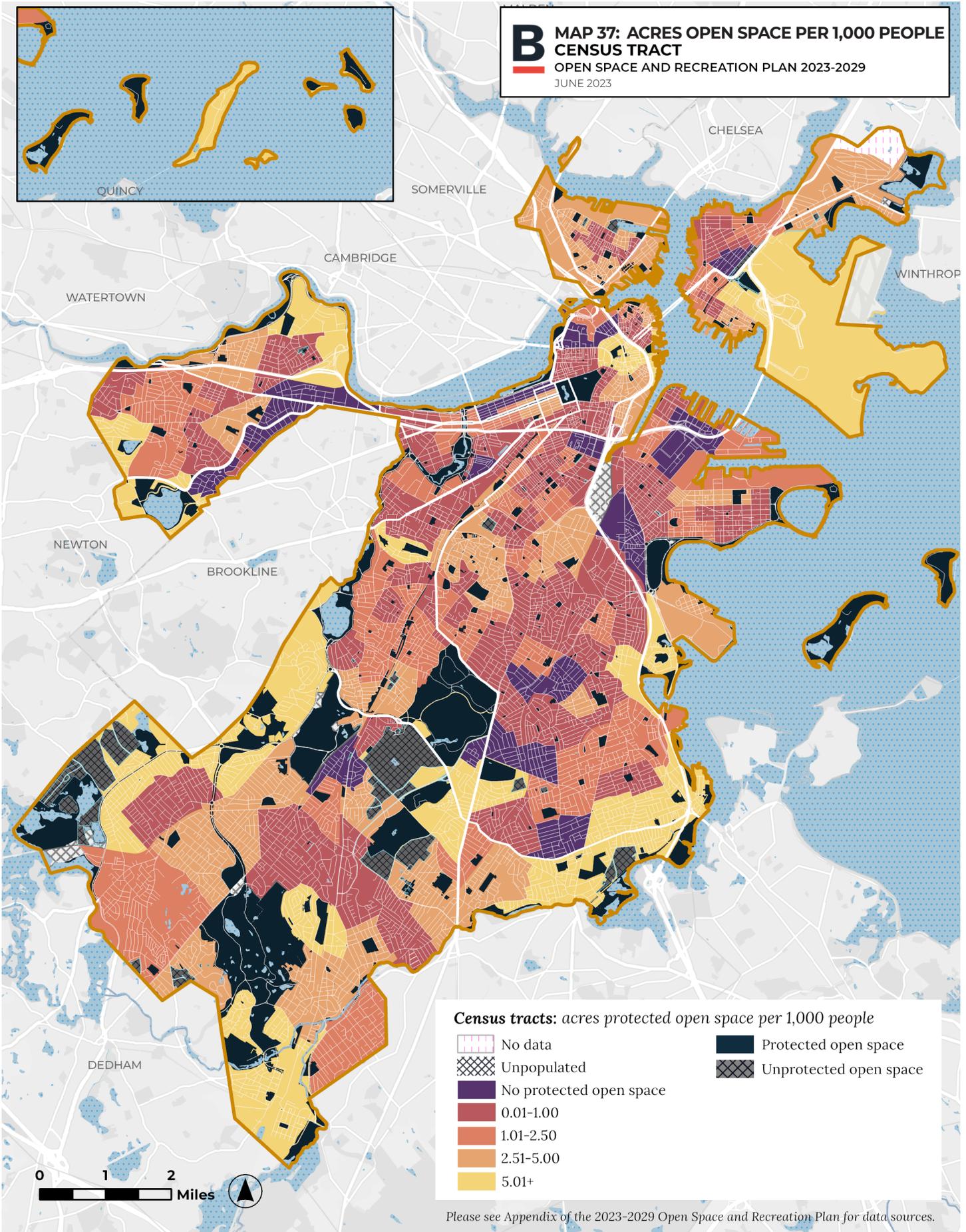


B MAP 35: GAPS IN SERVICE AREAS
 CITY OF BOSTON
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023

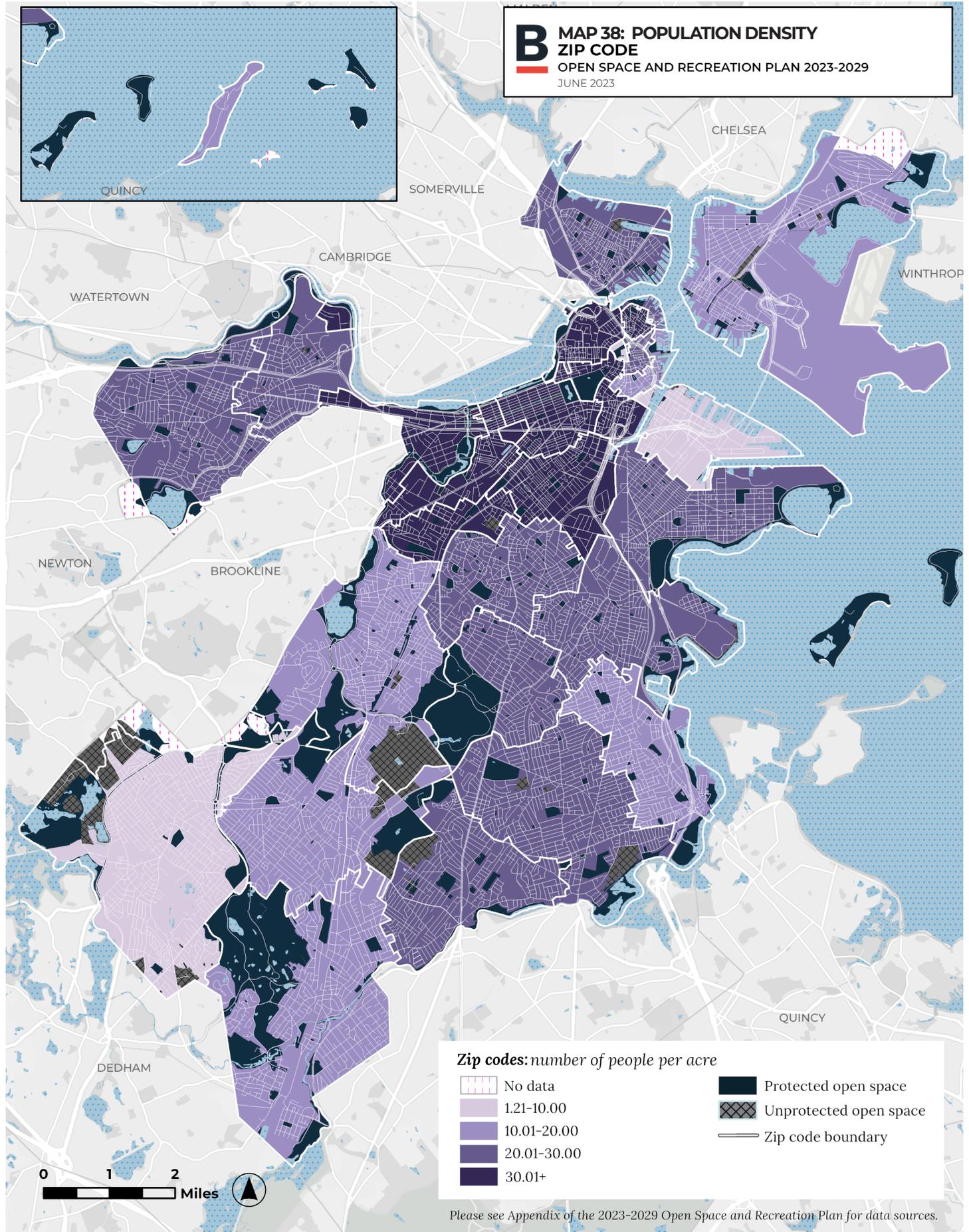


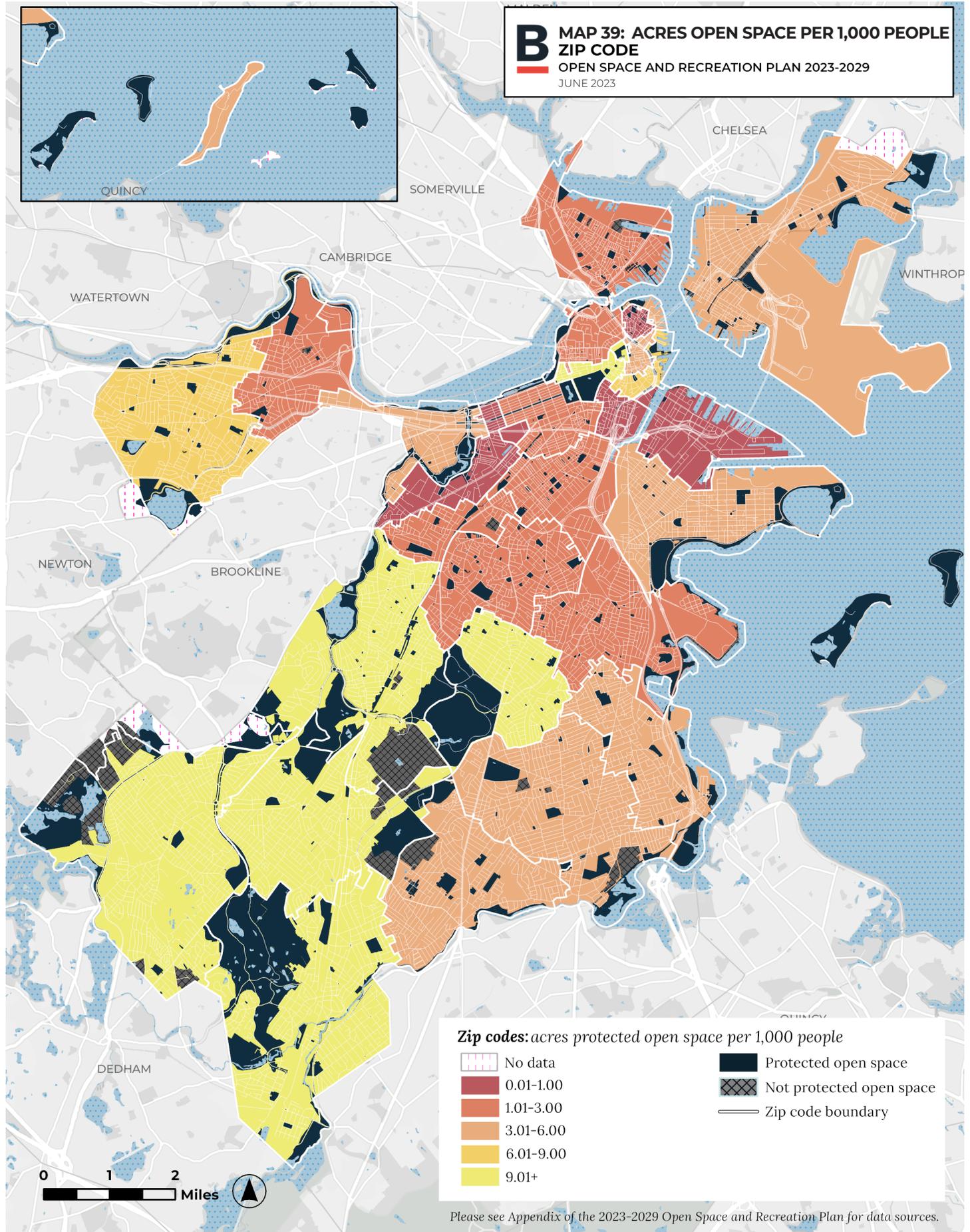


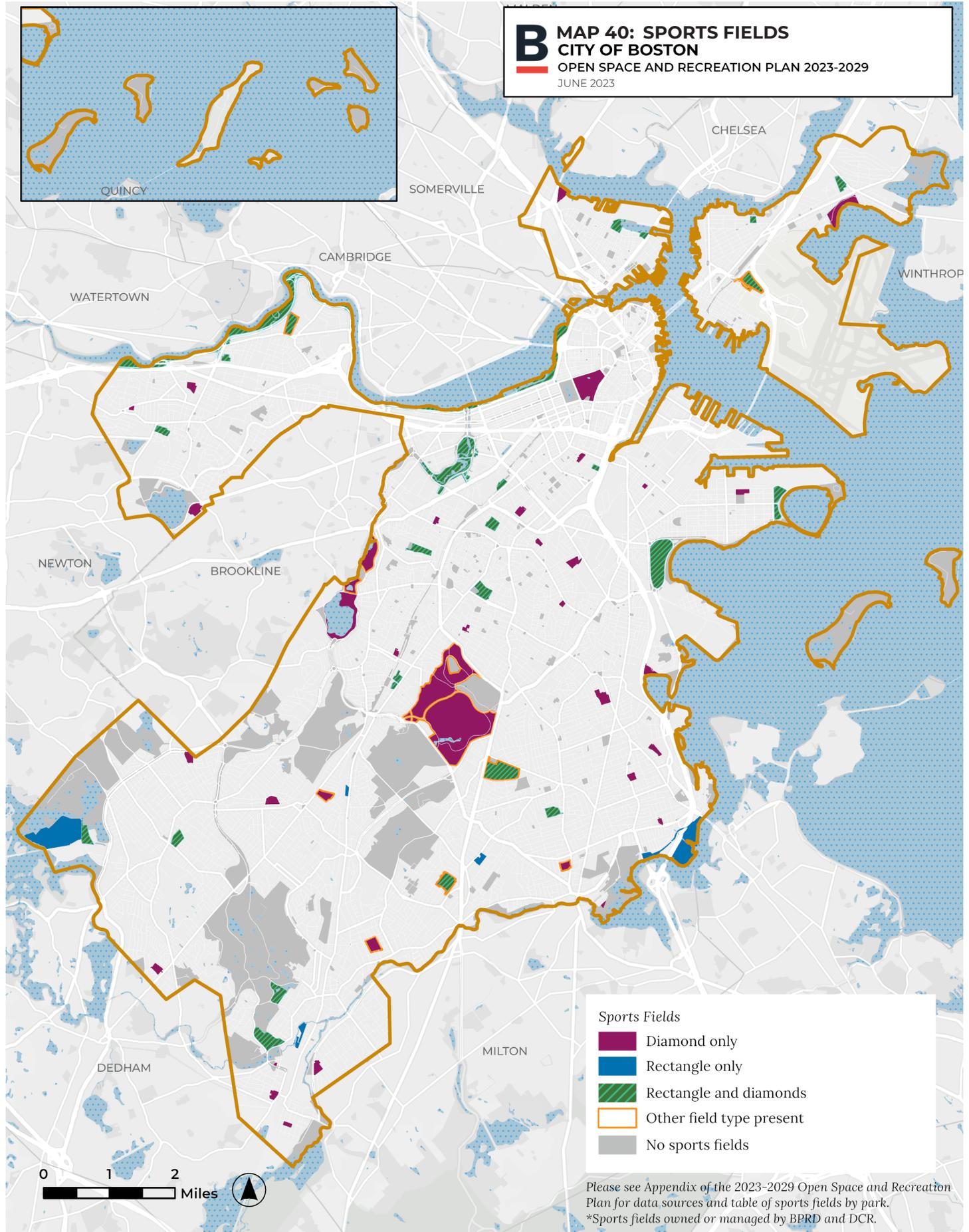
B MAP 37: ACRES OPEN SPACE PER 1,000 PEOPLE
CENSUS TRACT
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023



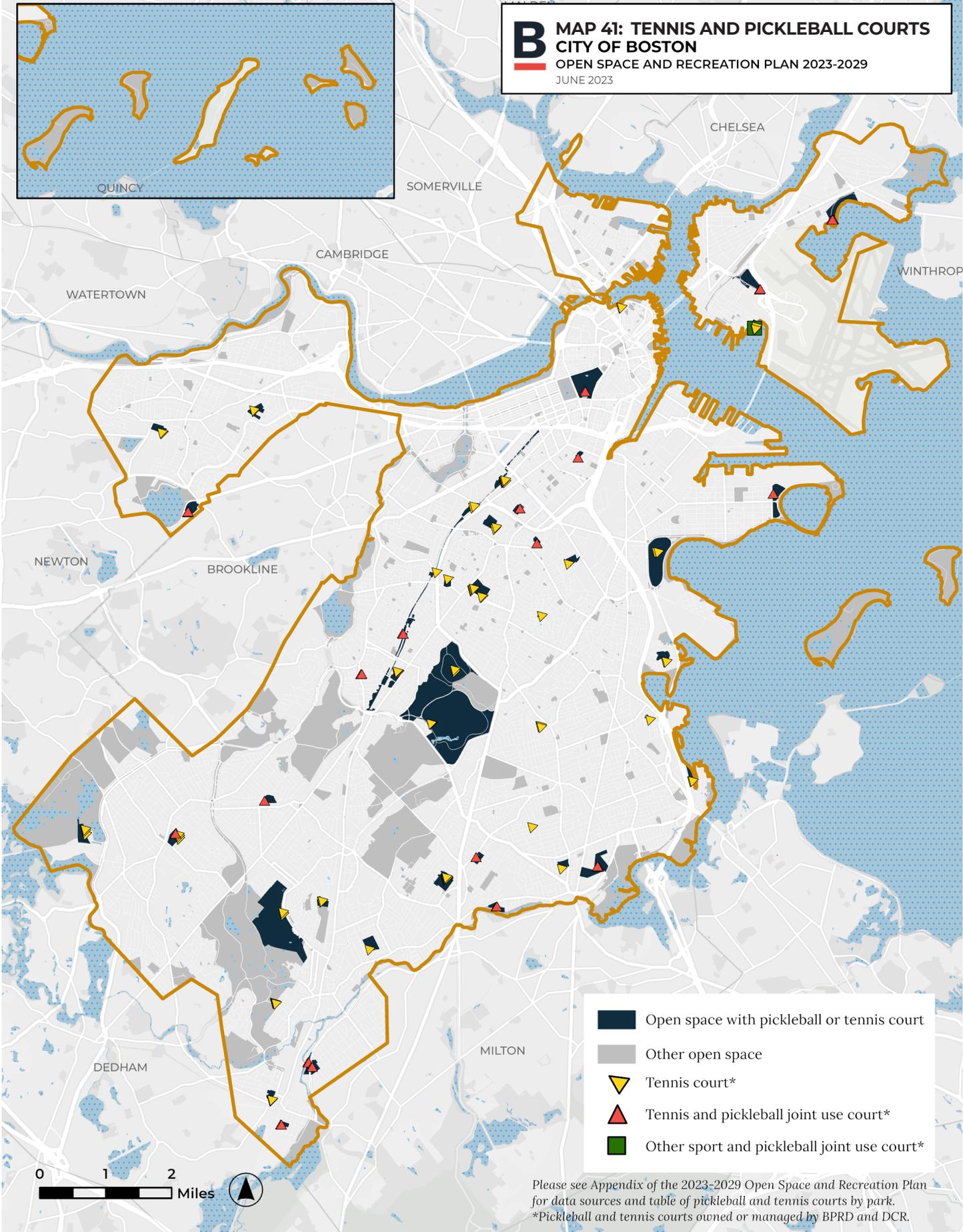
Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.



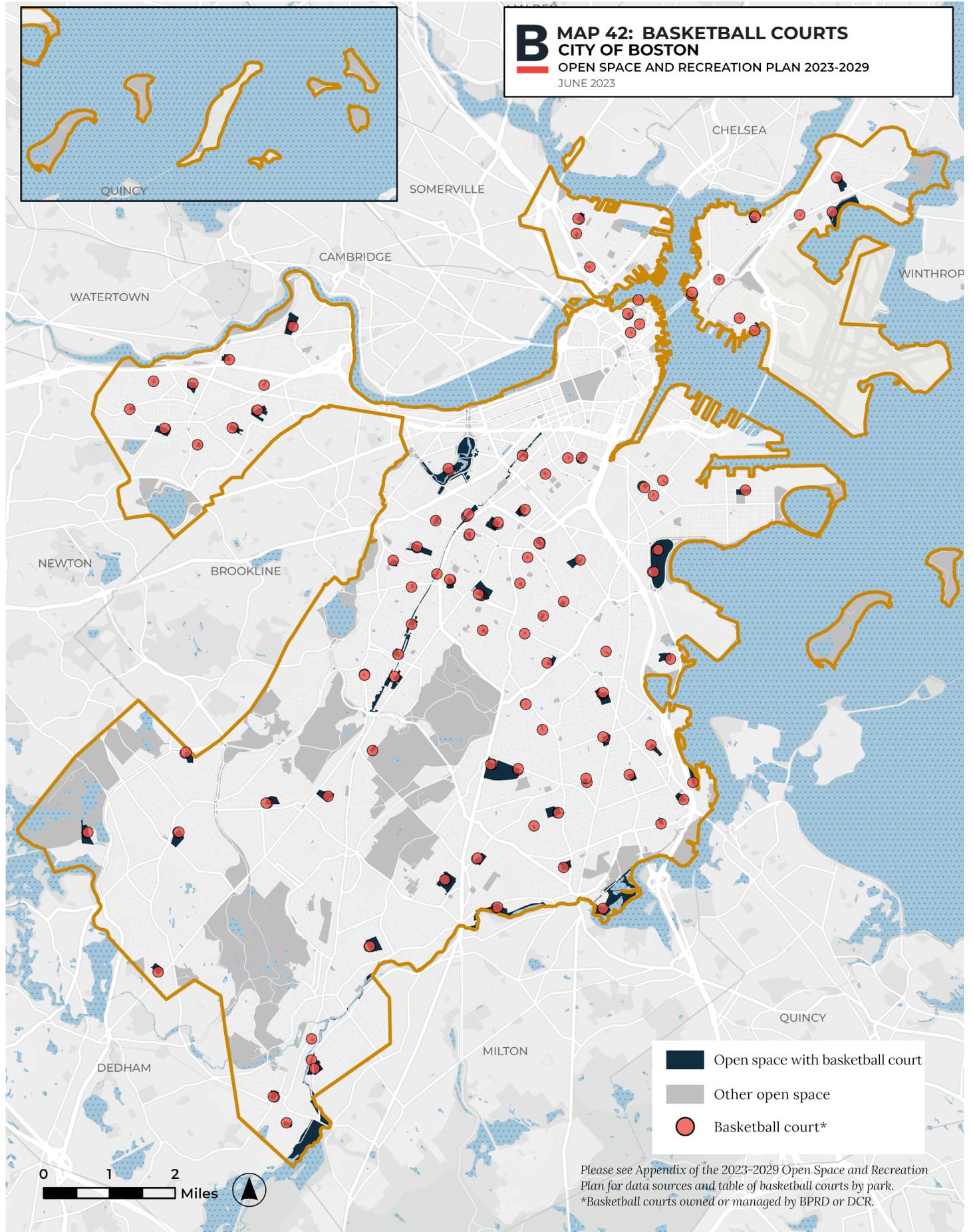


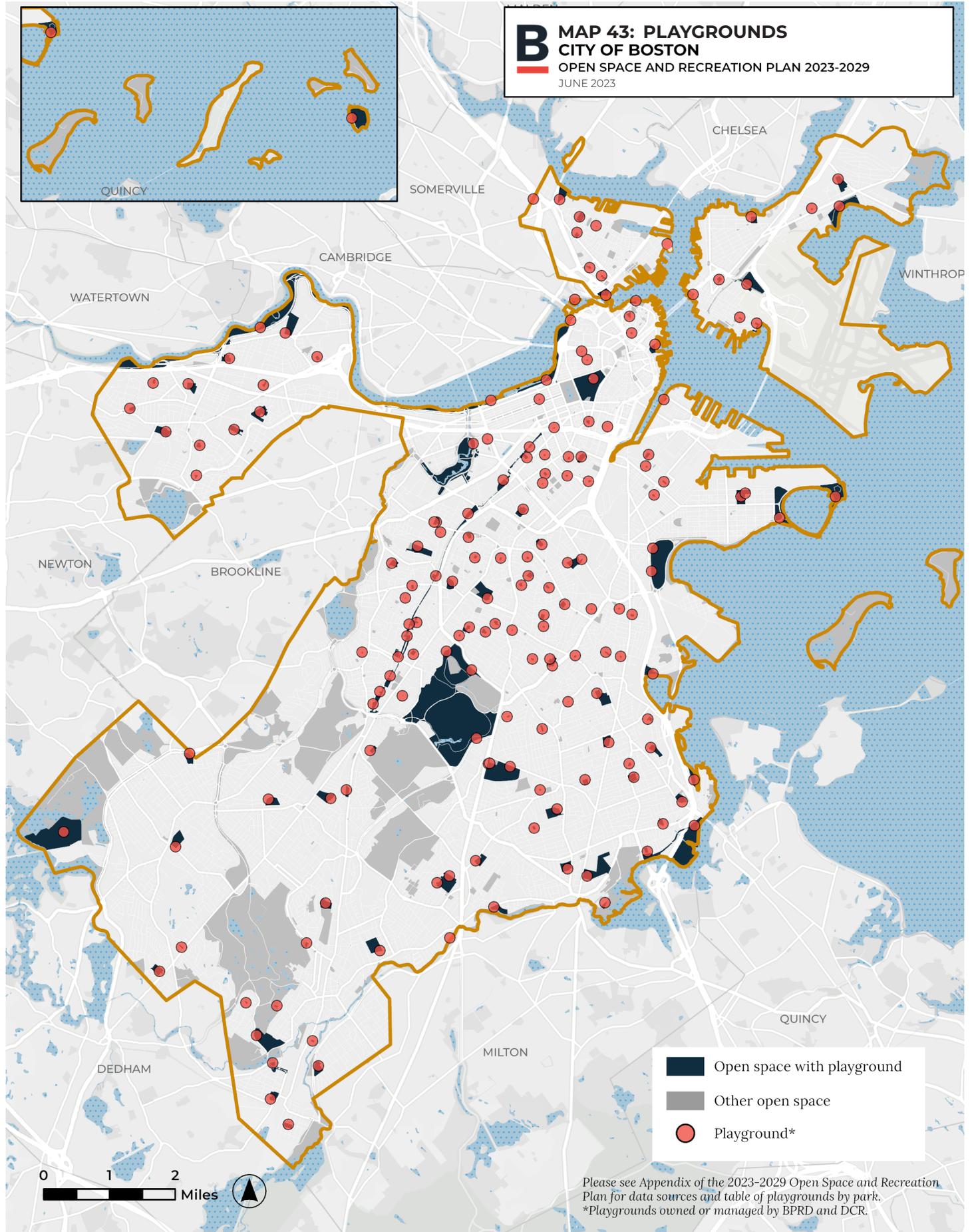


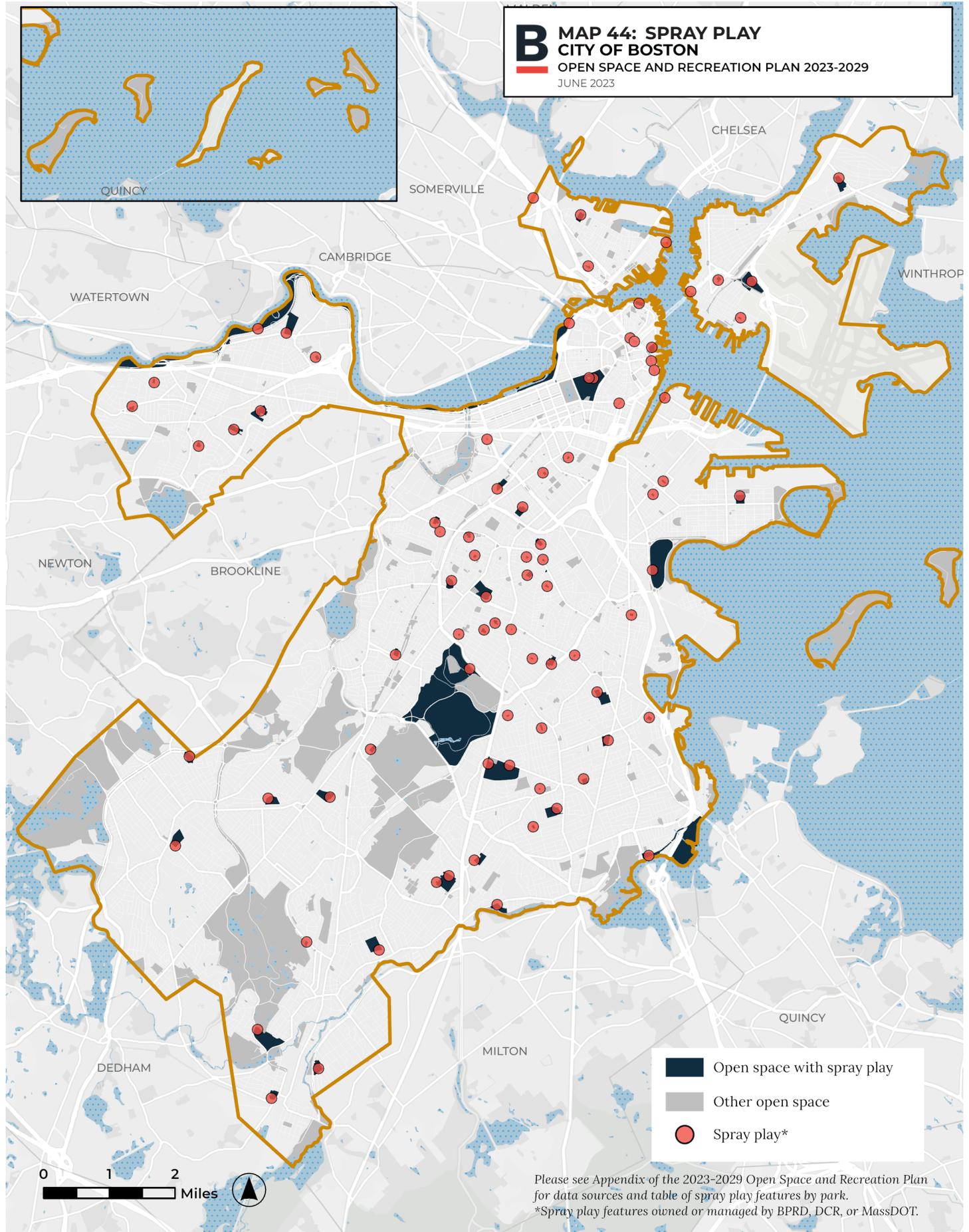
B MAP 41: TENNIS AND PICKLEBALL COURTS
 CITY OF BOSTON
 OPEN SPACE AND RECREATION PLAN 2023-2029
 JUNE 2023

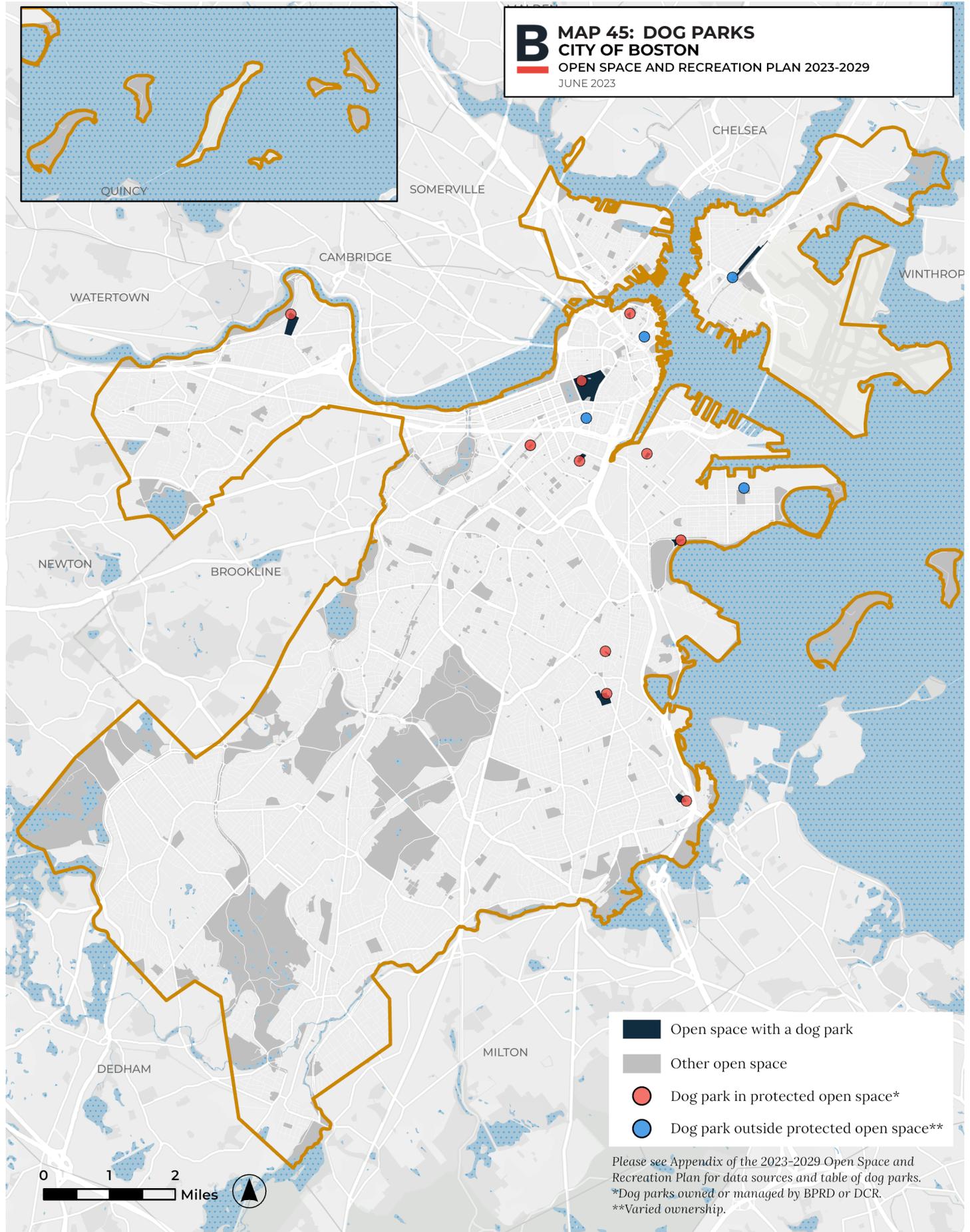


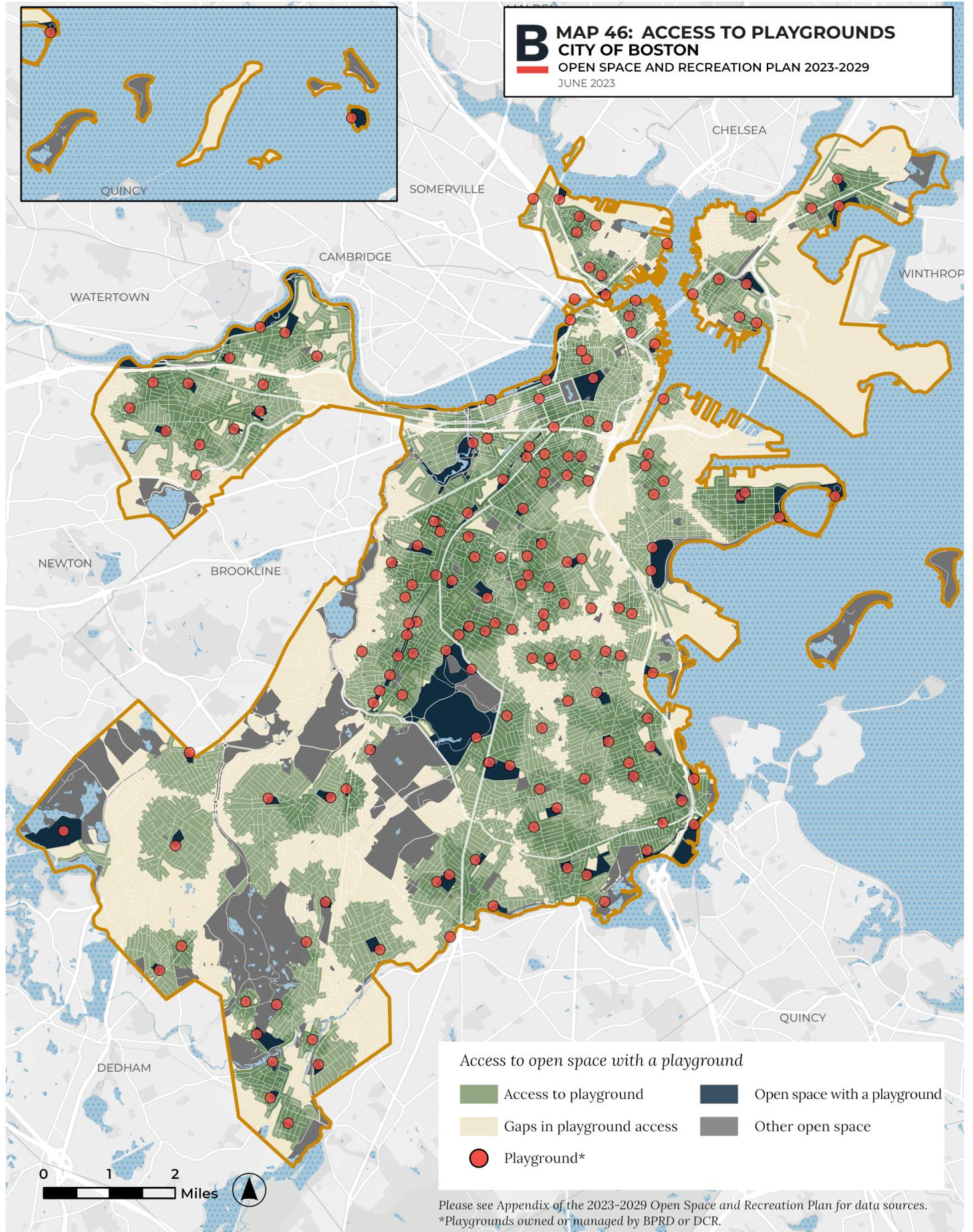
Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources and table of pickleball and tennis courts by park.
 *Pickleball and tennis courts owned or managed by BPRD and DCR.

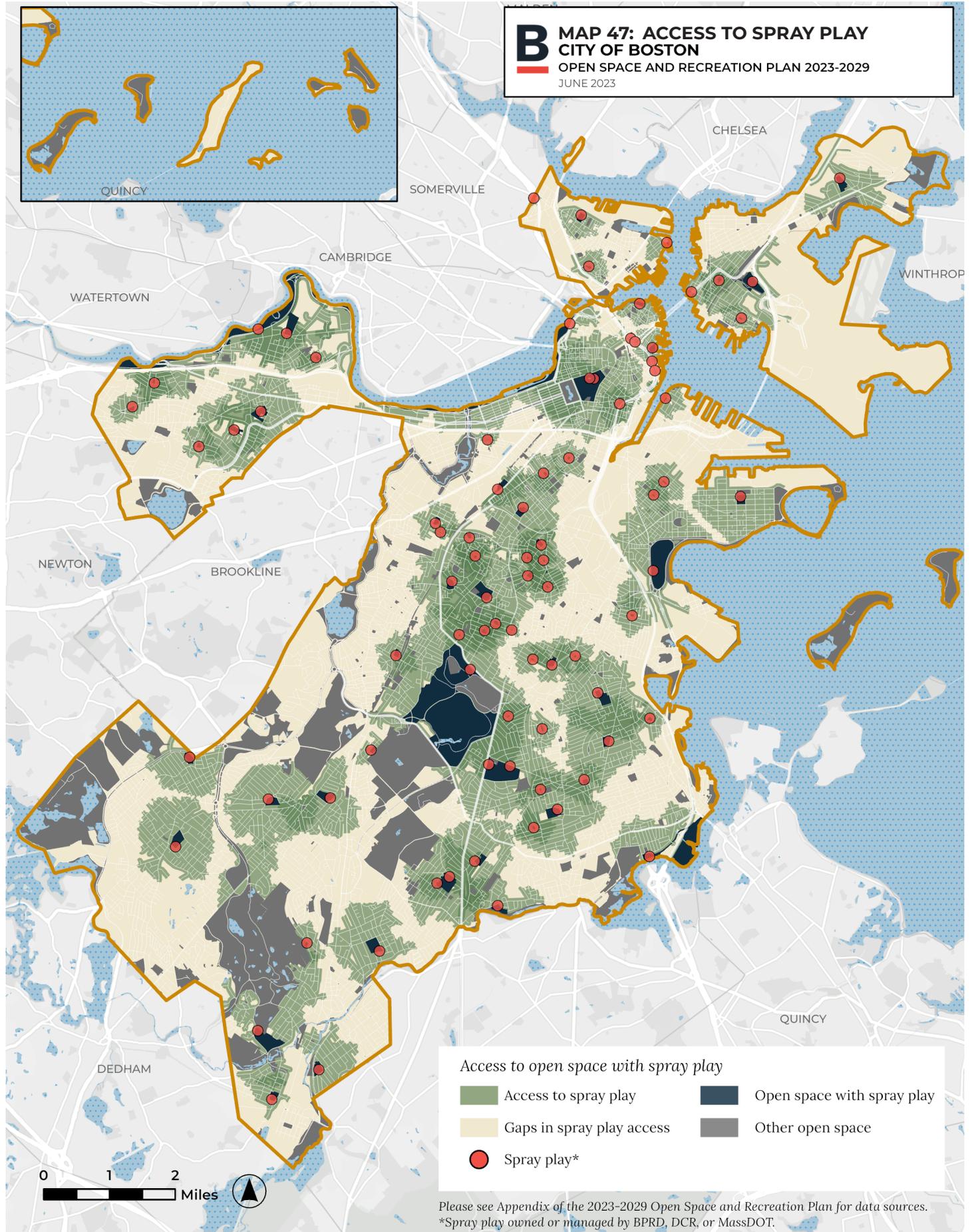


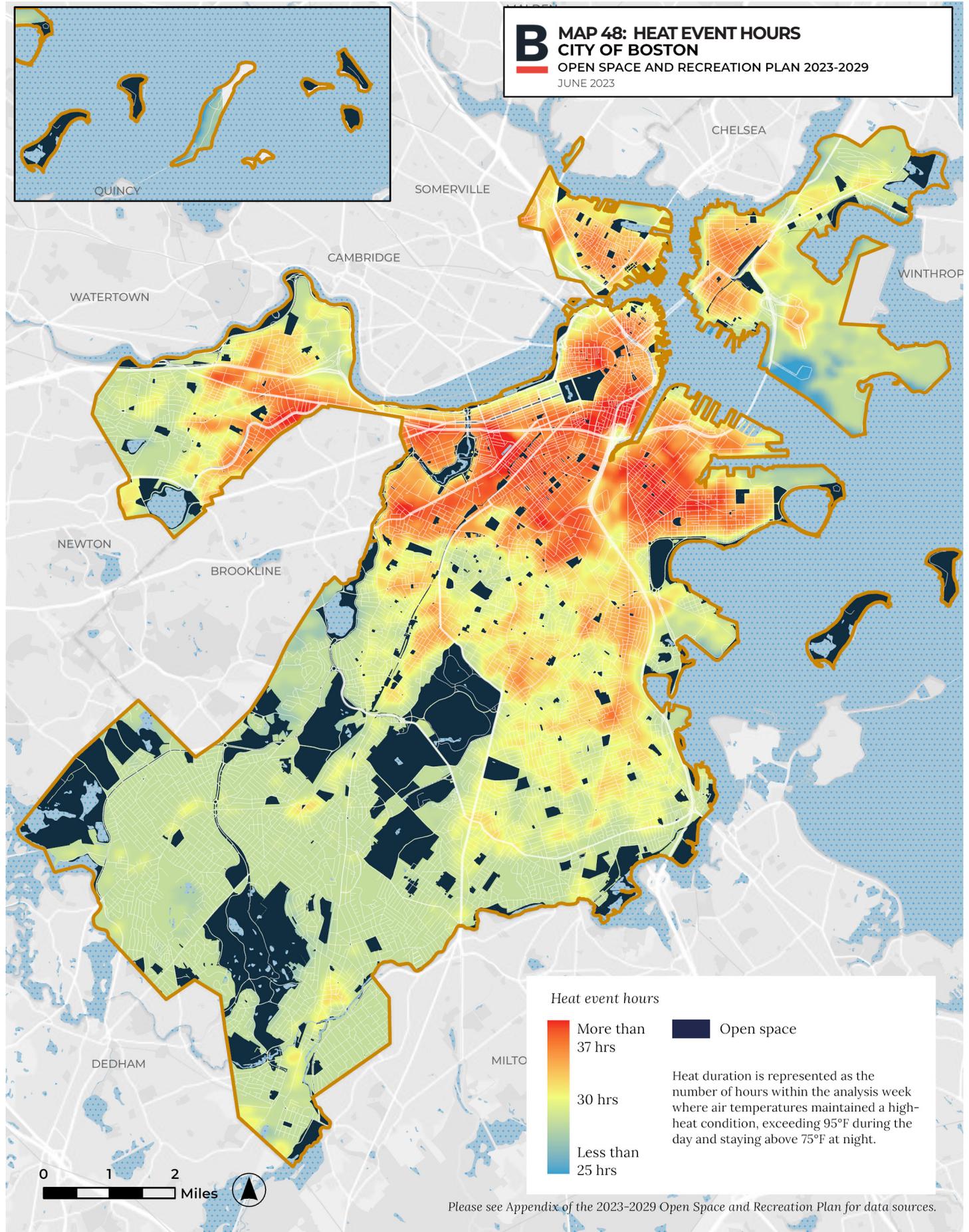




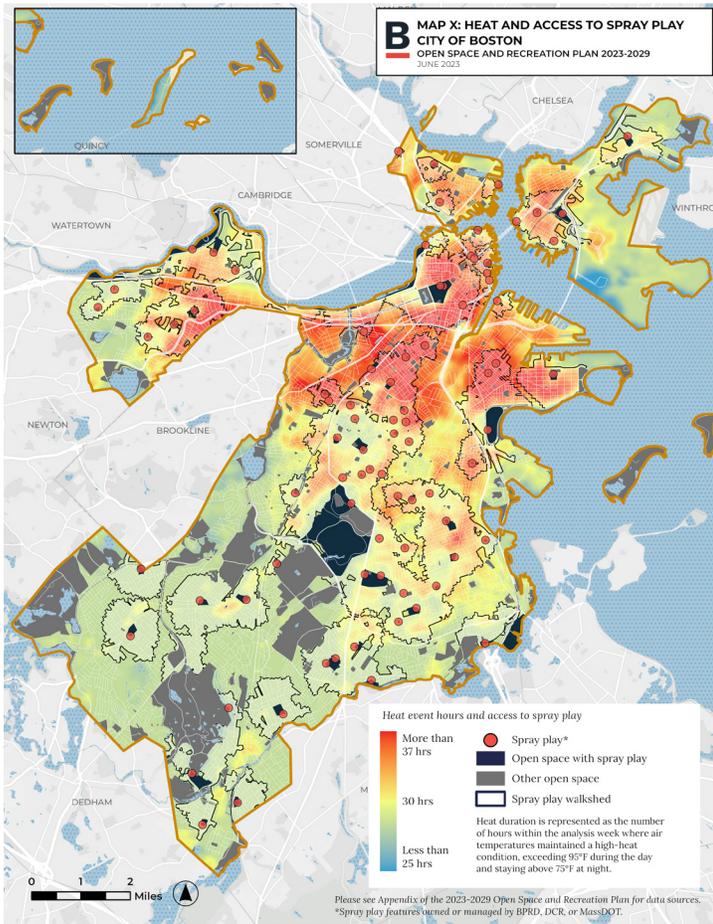








Please see Appendix of the 2023-2029 Open Space and Recreation Plan for data sources.



ABOVE: Walkshed and park feature data can be combined with other information such as heat risk or flooding to more comprehensively plan for a climate resilient park system.

NEEDS ANALYSIS: PUBLIC INPUT

BPRD pursued outreach for the *Open Space and Recreation Plan* through multiple strategies as outlined in Sections 2.2 and 2.3. Input from surveys and conversations with park users informs several elements of the plan including Resource Protection Needs, Community Needs, and Management Needs. Results from the surveys will be an important guide to how City funding should be spent in the next seven years. The survey input focused on the following:

- Understand how well the park system is serving residents

- Identify barriers and challenges to greater use of open space resources
- Understand awareness and satisfaction of the park services provided to residents
- Understand desired improvements to better meet needs and improve the quality of parks
- Understand priorities for potential park system expansion opportunities

The public survey that was focused on protection and expansion of open space resources through the Parcel Priority Plan asked the question: *What should the City of Boston prioritize in identifying lands for protection or acquisition?* The 1,218 respondents could select multiple answers which led to the following sense of prioritization:

- 948 respondents selected: Increasing open space in neighborhoods that have limited park access currently or are experiencing significant increases in population
- 708 respondents selected: Protecting areas of conservation or ecological value
- 704 respondents selected: Increasing areas that help address climate-related issues such as excessive flooding or heat
- 617 respondents selected: Providing areas that connect existing open spaces to each other
- 578 respondents selected: Increasing open spaces that provide opportunities for recreational activities and community events

The second survey focused on existing parks and services offered by BPRD, and specifically asked about community needs related to improving the quality of parks, reducing barriers to enjoyment of parks, and improving park features and facilities.

Responses to these questions highlight the following needs:

- Park infrastructure that allows users to spend more time outdoors, notably restrooms
- A diversity of park experiences
- Access to natural areas
- Accommodation of a variety of park facilities, including new programs like dog parks

The barriers that respondents identified that impact their use or enjoyment of parks were:

- Lack of information about events or activities happening in parks
- Limited access: parking, bike and walking.
- Feeling unsafe at the park
- Lack of restrooms in parks

Survey respondents were given an opportunity to write in what they thought would improve the quality of the parks in Boston, and similar themes of needs and priorities emerged from 675 individual write-in responses:

- Improve park maintenance by providing more frequent maintenance visits and better trash management
- More restrooms
- Improve overall access to parks (esp. for adults, seniors, those with disabilities, bikes, pedestrians)
- Enhance programming in parks
- Expand recreational assets
- Support community-run programming and artists, more art in parks
- Ensure equitable investment and maintenance.
- Improve overall safety through maintenance and enforcement of park rules and regulations
- Enhance areas with plantings, protect and preserve tree canopy and natural spaces
- Provide more dog-friendly spaces like dedicated off-leash areas, also better regulate and enforce rules around dogs in parks
- Increase budget for maintenance and staffing

Each of the current **Statewide Comprehensive Outdoor Recreation Plan (2017)** Goals and Objectives is represented locally from the input gathered in BPRD's outreach efforts.

1. *Access for Underserved Populations.*

- Support the acquisition of land and development of new open spaces in areas that lack existing or usable open spaces, such as Environmental Justice neighborhoods
- Develop open spaces that offer amenities that go above and beyond ADA requirements for people with disabilities

- Consider the needs of underserved demographic groups (i.e. senior citizens and teenagers) in park and open space designs
- Encourage establishment of programming endowments

BPRD's analysis of park access, gaps in access, and open space per capita all inform our understanding of where the service gaps are in Boston's park system. The critical nature of addressing these gaps is underscored in the survey responses that favor prioritizing investments in neighborhoods with limited park access or neighborhoods that are experiencing significant increases in population.

Specific strategies for meeting the open space needs of seniors are informed through coordination with Boston's Age Strong Commission, including their 2017 Age-Friendly Action Plan which offers specific recommendations for the design and use of public outdoor spaces. As a user group, needs of teenagers are often met through provision of active recreation spaces for organized team sports, as well as passive, unprogrammed spaces for flexible use. The Office of Youth Engagement and Advancement organizes the Youth Lead the Change participatory budgeting process which designates funding for specific park improvements that meet the priorities of the youth organizers. Recent youth-led projects include expansion of drinking fountains, shade features and accessible play equipment. Demographics analysis, accessibility assessments, and outreach to environmental justice populations all inform our work to meet the needs of underserved populations in Boston.

2. *Support the Statewide Trails Initiative.*

- Support the acquisition of land and development of new open spaces that can provide a trail network
- Fill in the gaps of existing trail networks
- Ensure that any existing or new trails are fully accessible to people with disabilities

While trail networks are more prevalent and extensive in less urbanized parts of the Commonwealth, Boston does support several trail systems for recreational opportunities and multi-modal transportation. Key existing trail networks include the Harborwalk, the Emerald Necklace park system, the Charles River, Neponset River, and Stonybrook Reservation systems, the Mary Ellen Welch Greenway, as well as the Southwest Corridor Park. Work by the Active Transportation group within the Boston Transportation Department focuses on expanding multi-modal transportation networks throughout the city and collaborates with BPRD to provide meaningful open space links.

3. Increase the availability of water-based recreation.

- Support the acquisition of land that will provide for water-based recreation
- Support the acquisition of land that will increase drinking water supply protection
- Develop water-based recreational facilities, including swimming areas, spray parks, boating facilities, fishing areas, etc.

As a waterfront city, Boston's open space system is already oriented towards water-based recreation through its extensive network of protected beaches and water access points. Ongoing improvements throughout the park system introduce water-based recreation in interior neighborhoods via spray features in parks. This effort aligns with climate resiliency goals to address the impacts of extreme heat by providing Boston residents with recreational spaces for cooling.

4. Support the creation and renovation of neighborhood parks.

- Promote the acquisition and development of neighborhood parks where none currently exist
- Develop amenities supported by neighborhood parks, such as playgrounds, off-leash dog parks, and community gardens
- Work with community development organizations to improve walking access to local parks

Neighborhood parks provide the widespread access to open space resources that Boston residents benefit from. Increasing access to these spaces in underserved areas was identified as the most supported priority for future investments in land protection and acquisition from survey responses. The annual capital investments by BPRD assess, renovate and replace park features according to facility life cycles, and work with community members to understand what new amenities should be added to best serve their needs.

MEETING OPEN SPACE DEMAND

The benefits of a well-distributed, high-quality park system are known by all who use and enjoy these spaces. During the Covid-19 pandemic, park access and use was essential for our physical and mental well-being, and reinforced our collective understanding of the value of public open space. As Boston's population grows, the need for access to high quality open space offering a range of uses also increases. Meeting this need is the focus of the work in the BPRD Design & Construction Unit and is addressed through three different strands of work:

- Investing in park improvements to ensure that our existing park system is high quality and aligned with the needs of the communities it serves. BPRD's capital plan identifies upcoming park improvement work and is evaluated and refined annually through the capital budgeting process
- Engaging in City planning and development review to identify open space impacts of proposed development at the site, district, and neighborhood scales, and evaluate mitigation as well as the value of proposed open space dedication
- Advancing our work in *Planning for Future Parks* which includes assessing open space expansion opportunities and progressing acquisitions as funding allows

PARK CAPITAL IMPROVEMENTS

Making the most of the park system we have is the predominant focus of both capital and operational investments by BPRD. Parks are renovated with public input on a cyclical basis with most parks with active features seeing significant investment every 15 to 20 years. As part of the park improvement process, many park properties are evaluated comprehensively rather than isolating specific features for upgrades. This holistic approach allows for public input on whether the existing park features are meeting current community needs.

Many parks can be reconfigured for more efficient use of space, which allows for the introduction of new features and reclamation of underutilized areas for public benefit. In addition to expanding features, there are opportunities to make the facilities within parks better able to accommodate expanded use, oftentimes by modifying single-use facilities into multi-purpose spaces. This can help address some of the increasing demand on open spaces as park users increase. Strategies for expanded use include making courts multi-purpose and adding sports lighting around fields and courts for evening use.

PARK SYSTEM EXPANSION

PROJECTED GROWTH AND THE NEED FOR PARKS

Efficient use of existing open space and expanded programming are only able to go so far in accommodating the growing open space demands in Boston. These efforts need to be complemented by equivalent efforts and resources towards expanding the park system.

Boston currently has 4,874 acres of permanently protected open space. With a city population of 689,326 people that means we have 7.1 acres per 1,000 people. This is equivalent to 309 square feet per person.

It is projected that the city will continue to grow in population over the coming decades. The 2030 population for the city is projected to be 740,000 and that number is anticipated to rise to 800,000 by 2050. As we plan for open space for the next

seven years, we need to address this projected 8.7% population growth and strategically develop comparable permanently protected public open space so that future Bostonians can expect a comparable level of service from the open space system as we enjoy today. Additionally, the expansion of open space resources in the city should be particularly focused on areas that are already faced with gaps so that these conditions are not further exacerbated.

Without the creation of meaningful new open spaces responsive to the level of growth and development in the city, as well as to areas that are historically lacking in high quality park access, quality of life for all city residents is adversely impacted. Park system expansion can be achieved through a number of different paths as outlined below.

PUBLICLY-FUNDED PARK CREATION PROJECTS

City-led park creation efforts are those that are not associated with private development or initiated by development mitigation or density bonuses. These park development projects can either utilize funds to acquire private land for parks or convert existing publicly-owned non-park properties into parkland. Properties can be used for conservation, recreation, or other open space purposes. City-led park creation projects can be funded through public and philanthropic dollars and are executed by the public agency responsible for the land. Examples of City-led park projects are Martin's Park in the Seaport and Menino Park in Charlestown both of which involved the establishment of Article 97 protected, public open space on City, State or BPDA-owned lands.

Examples of recent publicly-led acquisition projects include Norwell Street Park in Dorchester and the Walter Street acquisition at Roslindale Wetlands. Funding sources include the Community Preservation Act funds, State grants, and Capital funding. The greatest challenge with this approach to park system expansion is the high cost of land in Boston coupled with the limited availability of funding for such acquisitions.

PRIVATELY-FUNDED PARK CREATION PROJECTS

Publicly-owned and permanently protected parkland through private funding

These projects can create meaningful new public parks in the city by contributing privately-owned land to the public parks agency for public use and permanent protection under Article 97. In addition, these projects are typically funded from design, through construction, and with ongoing maintenance by the private partner. Recent examples of this include A Street Park in the Fort Point neighborhood of South Boston, Ray Mellone Park in Allston, and Frieda Garcia Park in the Back Bay.

Some park creation projects tap private funding sources (developers) to build out improvements on publicly-owned land for permanent park dedication and use. A recent example of such a project is Mahoney Memorial Park in South Boston. The parcel was converted from a Boston Public Works storage facility to a small neighborhood passive park and community garden. Funding for the preliminary design came from the City with final design and construction funded by a private developer as a community benefit associated with a nearby development project. The park is owned and operated by BPRD, and protected under Article 97. Park operations are supported through community partnership agreements to help with management of the community garden and maintenance of specialty park features.

Privately-owned land that is publicly accessible

This model of parkland development produces a different classification of open space. Instead of protected public parkland, these projects offer public access to outdoor spaces on private property. Such spaces generally serve those who live or work in the adjacent development but are not typically of sufficient scale to meet larger city open space needs or fill existing gaps in service. These spaces are fully privately funded and maintained, and the public access, public input, rules and regulations, and uses are all generally determined by the private landowner. Privately-owned land that is

publicly accessible is not typically protected under Article 97. For this reason, the OSRP inventory largely does not classify these properties as part of the park system.

Recent projects that have followed this model include the green at 401 Park Drive in the Fenway, open space approved as part of the Seaport Square project, Rena Park, and The Grove in Allston.

Some private open space projects propose the use of easements or conservation restrictions to legally enact public access or land protection. Similar to the properties described above, these are not protected under Article 97. For this reason, these properties are also not typically classified as part of the park system.

These models, with all of their varied processes, protections and funding mechanisms, convey the range of efforts that are being pursued to expand the park system in Boston. Each of these models requires navigation of complex negotiations and agreements across public and private entities, and results in a system of park spaces that are not all equally accessible, protected, or managed. Progress is slow, and efforts are a patchwork, due to the lack of a predictable, consistently-funded system for creating or expanding new public parks.

Since 2015 this array of models for creating publicly-owned open space has resulted in 16.2 new acres of permanently protected open space added to the City's inventory.

PARKLAND DEDICATION

During this same period (2015-2022), Boston has seen sustained development and growth. The BPDA approved over 89 million square feet of development worth more than \$45 billion between January 2015 and December 2022. This includes a net of 43,828 residential units.

With expanding housing, and particularly affordable housing, as top City priorities, BPRD knows there is a complementary need to provide sufficient, diverse parks in all growing and currently underserved areas. A meaningful provision of open space of every type, including

medium and large parks, as well as access to natural areas, is essential for the quality of life for urban dwellers.

Future efforts should establish an open space program that codifies parkland dedication as part of city development to correlate the rate and scale of building development with an appropriate quantity of public open space dedication (as land or as fee in lieu of land).

BPRD is working to propose metrics for determining how much parkland should be established through or as a complement to development projects to ensure that current and future residents benefit from the quality of life that access to public parks affords. A standard for parkland creation that can be applied to all projects (i.e. residential, commercial, lab/industrial) will help ensure that future Bostonians can count on having access to a park system that is responsive to city growth. This standard could become the foundation of a Parkland Dedication program similar to those in other major U.S. cities like Minneapolis, St. Paul, Portland (OR), and San Jose.

Implementing such a program would establish a predictable and consistent approach to supporting parkland acquisition and/or improvements. It would allow the City to more actively pursue and support the models for parkland expansion outlined above rather than rely on open space expansion coming only through public access to private land. The City is well-positioned to ramp up its parkland dedication efforts to address open space gaps in service by bolstering the Open Space Acquisition Program and augmenting what can be accomplished through the Community Preservation Program and City Capital funding. Ongoing open space planning work ties park needs to level of service, population density, walksheds, and other analysis so that opportunities for expansion of the park system and its amenities can be approached thoughtfully and equitably. A Parkland Dedication program will help meet the demand created for park and recreational facilities driven by development so that current park resources are not oversubscribed.

<i>Acres Protected Open Space (POS) Per 1,000 People by Neighborhood*</i>			
	2020 Population	Acres protected open space	Acres POS per 1,000 people
Allston-Brighton	74,620	347.5	4.7
Back Bay/Beacon Hill	27,158	118.6	4.4
Central Boston	35,983	65.5	1.8
Charlestown	20,504	51.8	2.5
Dorchester	127,680	642.1	5.0
East Boston	47,804	223.4	4.7
Fenway/Longwood	39,126	137.9	3.5
Hyde Park	39,359	793.9	20.2
Jamaica Plain	43,309	586.3	13.5
Mattapan	26,854	149.4	5.6
Mission Hill	16,380	28.8	1.8
Roslindale	32,707	266.5	8.1
Roxbury	52,856	197.3	3.7
South Boston	41,217	196.2	4.8
South End	29,298	20.1	0.7
West Roxbury	34,037	629.0	18.5

*Using BPRD neighborhood boundaries (see MAP 1: REGIONAL CONTEXT on page 15).

**Total protected open space in Boston is 4,874 acres. Difference in acres arises from open space along waterways that are not entirely captured by neighborhood spatial file.

***Acreage of a park may have been divided between multiple neighborhoods.

Acres Protected Open Space (POS)
Per 1,000 People by Zip Code*

	2020 population	Acres protected open space	Acres POS per 1,000 people
02108	4,520	50.5	11.2
02109	3,639	11.9	3.3
02110	2,340	16.1	6.9
02111	7,949	1.1	0.1
02113	7,339	6.2	0.8
02114	13,260	33.7	2.5
02115	29,134	24.5	0.8
02116	23,007	53.3	2.3
02118	28,892	32.0	1.1
02119	27,426	53.6	2.0
02120	15,210	29.4	1.9
02121	29,570	400.2	13.5
02122	24,874	125.6	5.1
02124	5,7128	199.7	3.5
02125	3,4725	80.0	2.3
02126	29,807	118.0	4.0
02127	36,941	194.7	5.3
02128	47,804	225.3	4.7
02129	20,504	51.9	2.5
02130	42,021	528.9	12.6
02131	34,048	306.7	9.0
02132	28,263	403.1	14.3
02134	19,552	36.1	1.8
02135	45,496	306.4	6.7
02136	36,417	946.1	26.0
02163	2,343	6.7	2.9
02199	1,435	0.0	0.0
02203	24	6.0	250.6
02210	4,538	3.3	0.7
02215	26,243	126.0	4.8

*Using zip code boundaries (see MAP 39: ACRES OPEN SPACE PER 1,000 PEOPLE).

*Total protected open space in Boston is 4,867 acres. Difference in acres arises from open space that's not entirely captured by zip code spatial file.

*Zip codes 02151 and 02467 not included in table because the portion living in which municipality could not be identified from census tract data and so zip codes where most of the population was living elsewhere were omitted. This results in approximately 4,800 fewer people being counted in zip code calculations.

New and Added Protected Open Space 2015-2022

	Square feet	Neighborhood	Year
A Street Park*	59,356	South Boston	2015
Amory Street Park	5,630	Jamaica Plain	2015
Bowdoin Street Tot Lot	3,069	Dorchester	2015
Brian R. Mahoney Memorial Park at Nook Hill*	10,450	South Boston	2021
Ceylon Park	21,191	Dorchester	2020
Children's Park	6,300	Dorchester	2015
Draper Playground	5,142	West Roxbury	2015
Egleston Square (Robert G. Lawson Park)	5,028	Jamaica Plain	2015
Fairview Cemetery Woods	65,000	Hyde Park	2015
Grove Hall Plaza	4,105	Dorchester	2015
Holborn Street Tot Lot (Glenburne Street)	790	Roxbury	2015
Hunt Playground	20,190	Mattapan	2015
Joseph Porzio Park	5,833	East Boston	2021
Martin's Park*	47,102	South Boston	2017
McConnell Park (Springdale Street)	2,710	Dorchester	2015
Mt. Hope Park*	4,802	Roslindale	2017
Nonquit Street Green	12,508	Dorchester	2022
Paula Titus Park*	8,269	Roxbury	2017
Puddingstone (Garden) Park	24,000	Dorchester	2015
Reservation Road Park parcel 1	382,290	Hyde Park	2018
Roberts Playground	1,826	Dorchester	2015
Watson Park	4,542	South End	2015
West Concord Street Park (Newland Street)	5,343	South End	2015
TOTAL SQUARE FEET	705,476		
TOTAL ACRES	16.2		

Unless otherwise noted, entries represent added acreage to existing parks or the transfer of existing parks to Boston Parks and Recreation Department care and custody.

*Newly established park.

SECTION 7.3

MANAGEMENT NEEDS**INTRODUCTION**

BPRD oversees a range of properties with different management needs. Park management responsibilities extend across multiple units and address both internal and external needs.

Key management considerations include:

- Funding levels for operating needs
- Expanding urban forestry work
- Park safety
- Managing increasing permitting demand for active recreation facilities
- Expanding external partnerships for park activation and stewardship

PROGRAMMING

The External Affairs division of BPRD oversees park partnerships, public relations, ParkARTS and other programming, and special events. Summer programming run through this division includes summer concert series, movie nights throughout the city, watercolor and arts and crafts workshops, and children’s festivals, all of which are free for all participants. In the winter season BPRD organizes holiday festivities including the televised Boston Common Tree Lighting event and performances.

The public survey showed that respondents were somewhat more aware than not of the programming offered by BPRD (54% aware/46% not aware). Those who were aware of the programs and events provided by Boston Parks and Recreation reported an average Satisfaction score of 3.5 out of 5.

The survey also asked respondents to identify which barriers prevent them from enjoying the programming offered by BPRD.

The following barriers were most commonly identified:

- Lack of information
- Limited parking, bike, or walking access
- Feeling unsafe at the park
- Lack of programs of interest

KEY NEEDS FOR THIS DIVISION INCLUDE:

- Better collaboration with recreation and permitting divisions to facilitate better public services and communication.
- Establish systems for feedback and information gathering to ensure that park programming and events support community interests.
- Expanded ability, through technology and staffing, to make community outreach and engagement as broad and deep as possible.
- Access to equipment to support programming and events and ensure efficient delivery of these services.

RECREATION

The Recreation Division provides high quality, free sports activities to Boston’s youth along with fitness programs for all ages. Youth and adult recreation leagues and clinics include street hockey, baseball, softball, ice hockey, golf, soccer, football, and other sports. Free summer programming throughout the city serves over 6,000 youth.

Only 40% of survey respondents were aware of the programming offered by the Recreation Division, but those who were aware reported an average Satisfaction score of 3.5 out of 5.

KEY NEEDS FOR THIS DIVISION INCLUDE:

- Ensuring that park designs incorporate features that allow for high-school level competitions
- Providing facilities that meet constituents expectations for high-quality recreation spaces including restrooms, scoreboards, and electrical hook-ups
- Support the needs of camps and programs that are based in BPRD properties by providing site infrastructure that makes the programs more successful and easier to execute

PERMITTING

The Permitting Unit serves a wide variety of park users by issuing permits for sports teams and leagues, special events, film productions, charity runs and walks, wedding photos, and more. Hallmark city events that are permitted through the parks department include the Boston Marathon, First Night, Shakespeare on the Common and the cross-country races held at Franklin Park.

The public survey showed that only 37% of survey respondents were aware of BPRD's online permitting system. This system is used for issuing permits for youth and adult athletics as well as special events. Those who are aware of the online permitting system reported an average Satisfaction score of 3.3 out of 5.

KEY NEEDS FOR THIS DIVISION INCLUDE:

- Providing more open access to active recreation spaces rather than having them be secured for dedicated use all of the time via the permitting system
- Better signage systems (complemented with online information) to communicate active recreation rules, policies, programs, and events
- An expanded online permitting software system to meet the ever-growing demand for permits and respond to public expectations around information access and transparency, and improve public awareness of the online systems
- Look for opportunities to expand capacity in active recreation facilities through permitting policies

MAINTENANCE

The operations staff in BPRD's Maintenance Division is responsible for the care and maintenance of park properties of all types including squares and plazas, athletic facilities, playgrounds, and passive areas. Property types with specialty maintenance needs including the cemeteries and golf courses have their own dedicated crews. Urban wilds are maintained through a mix of in-house staff, contracted services, and volunteers.

The public survey showed that over 80% of respondents are aware of the City's 311 system for logging and tracking maintenance requests. In 2021, the Boston Parks Department responded to almost 8,000 park property and street tree maintenance requests via the 311 system. When survey-takers were asked about their satisfaction with the maintenance of the parks they use, they reported an average Satisfaction score of 3.2 out of 5. This was one of the lower Satisfaction scores reported through the survey, but still shows a neutral to positive response to park maintenance efforts.

KEY NEEDS FOR THIS DIVISION INCLUDE:

- A fully staffed maintenance division that will allow us to keep our parks clean and safe and improve our response times to maintenance requests and needs
- New maintenance staff positions that allow us to meet the identified operational goals and strategies in the Boston Common Master Plan, Franklin Park Action Plan, and Urban Forest Plan
- Expand workforce development to offer professional growth opportunities for maintenance staff and incentives to pursue those opportunities
- Identify and procure the equipment necessary to properly maintain the high-performing, multi-functional park spaces we are creating.
- Expand programs to maintain green infrastructure working with City staff, in-house trained professionals, outside contractors and aligned agencies (like BWSC) to ensure success with these investments