



SOMERVILLE
OPEN
SPACE
& RECREATION
PLAN 2016-2021



DRAFT



City of Somerville, Massachusetts
OPEN SPACE & RECREATION PLAN 2016-2021

Mayor Joseph A. Curtatone

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TABLE OF CONTENTS

SECTION 1: Plan Summary	5
SECTION 2: Introduction	7
2. A. Statement of Purpose	7
2. B. Planning Process and Public Participation.....	7
SECTION 3: Community Setting	10
3. A. Regional Context.....	10
3. B. History of the Community.....	24
3. C. Population Characteristics	28
3. D. Growth and Development Patterns	32
SECTION 4: Environmental Inventory and Analysis	40
4. A. Geology, Soils, and Topography	40
4. B. Landscape Character	41
4. C. Water Resources.....	47
4. D. Vegetation	52
4. E. Fisheries and Wildlife	54
4. F. Scenic Resources and Unique Environments.....	55
4. G. Environmental Challenges.....	58

SECTION 5: Inventory of Lands of Conservation and Recreational Interest..... 66

SECTION 6: Community Vision..... 82

6. A. Description of the Process..... 82

6. B. Statement of Open Space & Recreation Goals..... 86

SECTION 7: Analysis of Needs 96

7. A. Summary of Resource Protection Needs 96

7. B. Summary of Community’s Needs..... 101

7. C. Management Needs, Potential Change of Use 104

SECTION 8: Goals and Objectives..... 107

SECTION 9: Five-Year Action Plan..... 112

2016 - 2021 Action Plan for Open Space and Recreation 113

SECTION 10: Public Comments..... 119

SECTION 11: References and Reports 199

APPENDIX A: Maps 201

APPENDIX B: Parks Inventory..... 216





DRAFT

PLAN SUMMARY

This 2016-2021 Open Space and Recreation Plan (OSRP) reflects Somerville's commitment to expanding, maintaining and protecting open-space opportunities for its residents. Although Somerville is a dense urban environment, its density only adds to the social and ecological value of its open spaces. The city's vibrant plazas and streetscapes provide places to gather, relax and to watch city life unfold. Its public parks, fields, and "green-spaces" satisfy a diverse set of recreational needs, from active play and gentle exercise to social interaction and quiet contemplation. Indeed, the quality of life of Somerville residents is enhanced by the quality of the open space in city neighborhoods. It is this latter correlation which guides – and will continue to guide – the City's vision for open-space development.

The 2016-2021 OSRP offers an overview of Somerville's history, physical development, and environmental characteristics; explores open-space needs based on present data; articulates the goals of the community; and outlines the City's open-space priorities in consideration of those goals. In addition to this Plan Summary,

- **Section 2** provides an introduction and description of the process by which the Plan was generated
- **Section 3** describes Somerville's history and development, at both a regional and local level, and discusses major trends and changes occurring during the past eight years, since the last OSRP in 2008
- **Section 4** describes and analyzes the city's physical environment (past and present) in order to establish a baseline of environmental opportunities and challenges
- **Section 5** details the city's inventory of publicly accessible open space
- **Section 6** discusses the public engagement processes that helped generate the overall open space and recreation goals
- **Section 7** includes a summary of Somerville's open-space needs, including open space type needs, community needs, and management needs
- **Section 8** defines a vision for open space planning and synthesizes community feedback and data analysis to define the city's goals, strategies and objectives
- **Section 9** proposes a five-year action plan to guide open space planning, including measurable strategies and action steps
- **Section 10** records public comments and feedback collected from the multiple open-space focused processes occurring in Somerville in recent years
- **Section 11** list the reports and referenced used in writing this plan

All of Somerville's open spaces are heavily used by nearly 80,000 residents and consistently identified as a priority in the City's long-range and neighborhood planning processes. Because of the lack of opportunities for dramatic expansion, each of Somerville's parks and open spaces is a precious resource.

Approximately 160 acres, or 6%, of Somerville's 4.1 square miles meet the definition of open space laid out in this Plan. All of Somerville's open spaces are heavily used by nearly 80,000 residents and consistently identified as a priority in the City's long-range and neighborhood planning processes. Because of the lack of opportunities for dramatic expansion, each of Somerville's parks and open spaces is a precious resource.

This Plan, and the processes that informed it, clearly support the need to acquire additional open space. This need is consistently expressed by the community and clearly stated in the long term planning goals articulated in SomerVision, the city's comprehensive plan.

Another key finding of this Plan is that the City must continue to study how its open spaces are being used and respond to the open space needs of the community. The data shows that there is a high demand for athletic playing fields and for community garden spaces. These community needs must

guide the creation of new open spaces and, when possible, the renovation of existing ones.

Although much progress in renovating parks has been made since the last Open Space & Recreation Plan in 2008, there is a need for continued focus on the quality of our park system. The intensity of use of all of Somerville's parks demands an equal intensity of maintenance to keep them clean, healthy and safe. The assurance of quality applies to the renovation of parks in poor condition; the maintenance of our recently renovated parks as a way to protect City investments; and, continual efforts to improve maintenance as it applies to plant material, be it natural turfgrass fields, park plantings or the City's trees.

Underlying the design and quality of parks in Somerville, is the recognition of the value of sustainable practices in parks planning as a way to mitigate existing environmental problems and as part of a strategy towards building climate change resilience. While many innovative sustainable features have been implemented in Somerville's parks in recent projects, the City is committed to being at the forefront of sustainable park design.

A final note about the 2016-2021 Open Space and Recreation Plan: In addition to narrative and analyses, this Plan includes a number of "Success Stories," which describe recent achievements related to Somerville's open spaces, including the adaptation of best practices, the formation of new partnerships and the construction of creative new open spaces. An important component of planning is to celebrate (and learn from) recent achievements so as to inspire more success.

INTRODUCTION

2. A. STATEMENT OF PURPOSE

The purpose of the 2016-2021 Open Space and Recreation Plan is to:

- increase awareness of open and recreational spaces in Somerville
- evaluate current needs and prioritize them within the City's vision, goals and strategies for open space and recreation
- outline a five-year strategic action plan for the creation, protection, management, and enhancement of open space in the City
- encourage thoughtful planning and a sustained commitment to open space
- build on past plans to create a comprehensive, centralized document

The 2016-2021 OSRP includes elements of a physical plan (existing and proposed properties, facilities, and infrastructure), an organizational plan (the City's formal and informal structures for maintenance, management, and overall decision-making related to open space and recreation), and also serves as an educational resource (parks resource inventory, history of open space and land use changes, spotlights on past successes and present opportunities and challenges).

It is hoped and expected that the 2016-2021 OSRP will be a living document to guide the City, consulted on a regular basis by citizens and decision-makers, and subject to periodic evaluations and updates. It is the framework for additional data gathering, short and long term open space planning and further community conversation. Public feedback on this plan is welcome and encouraged at any time.

2. B. PLANNING PROCESS AND PUBLIC PARTICIPATION

This update builds on the significant work of the 2008-2013 OSRP. The 2008 document served as an excellent model throughout the revision process for the current Plan, and the project team was able to build on this work to create the present plan.

In March of 2014, the Mayor's Office of Strategic Planning and Community Development (OSPCD) began the revision process. A public process called "Green Spaces, Community Places" was initiated as a series of public engagement events falling under the City's civic engagement moniker "Somerville by Design." An internal and interdisciplinary OSPCD team was appointed to work on this Plan. Concurrently, OSPCD was also engaged in a number of public participation processes where open space was at the forefront of the

discussion. The feedback from those community conversations were folded into this Plan. An Open Space Advisory Committee was formed in January of 2016, to review and respond to early drafts of the plan and the draft plan was introduced in a public meeting on July 6, 2016.

Strong, diverse and significant public participation was a central tenet of the revision process. This Plan update strives to include and address the needs and concerns of the varied open space and recreation interests in the city, including City boards and departments, local and regional environmental groups, and the community at large. This Plan also responds to a level of open space data that was formerly unavailable.

Since the draft was released publicly on the Somerville by Design website, (section updated to reflect further public feedback).



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COMMUNITY SETTING

3. A. REGIONAL CONTEXT

Located in the Boston Basin coastal plain, Somerville is bounded to the north by the Mystic River and the communities of Medford, Malden, and Everett; to the west by the Alewife Brook and Arlington; and to the east and south by the cities of Boston and Cambridge. Physical topography is a defining characteristic of Somerville: seven hills create drainage divides and transportation corridors, while lowlands and filled marshlands have influenced historical and current development patterns. Although Somerville is part of a vast regional network of natural resources and open space, the city retains its own uniquely urban character, distinct from the communities surrounding it.

Because of its proximity to the state's largest city and important waterways, Somerville has always been part of the greater regional transportation infrastructure. Five major railroad corridors and three high-volume traffic arteries crisscross the city. These roads and rails connect Boston to northern suburbs, but they also pollute the air and create barriers that separate Somerville neighborhoods from each other and from some of the city's largest open spaces. Interstate 93 slices through historic parts of Winter Hill and East Somerville, offering few crossing points underneath its elevated sections. State Route 28 (locally known as the McGrath Highway) isolates East Somerville and the Brickbottom district from the rest of the City and from Foss park and the Mystic River. These roads, like Route 16 along the Alewife Brook parkway, isolate neighborhoods and make the reality of access to open space difficult. Although the legacy of highways has divided the city, progress in transportation equity is being made. By 2020, with the addition of 5 new MBTA



stations, 85% of Somerville’s population will have access to public transportation. This will significantly improve the city’s air quality and connectivity, while strengthening the regional transit network. (See Appendix A: Regional Context Map.)

Due largely to development and subdivision patterns during the first half of the 20th century (see “Section 3B: History of the Community”), Somerville today has comparatively little open space. There are roughly 160 acres of publicly-accessible open space within its borders, which represents roughly 6% of the City’s total land area. Measured by population, this translates to roughly 2.3 acres of open space for every 1,000 Somerville residents. Only 37% (58.3 acres) of this area is actually owned by the City of Somerville. The remainder is owned and managed by the state Department of Conservation and Recreation (81 acres), the Massachusetts Bay Transportation Authority (8 acres, Community Path), and Middlesex County (.50 acres, Somerville District Court). There are also approximately 20 acres of privately held open space, including Tufts University athletic fields, as well as private school and church properties.

Although open space resources in the city are scarce, Somerville is located in near proximity to many regional open space resources. DCR’s 2,060-acre Middlesex Fells Reservation lies less than a mile north of Somerville’s northwest border. The Upper and Lower Mystic Lakes are two miles to the northwest; and the Mystic River creates its northeastern border. The 115-acre Alewife Reservation is located a half mile beyond the western boundary of the city, and the popular Charles River shoreline and parklands are two miles south of Somerville. In addition, the Atlantic coast, with all its New England

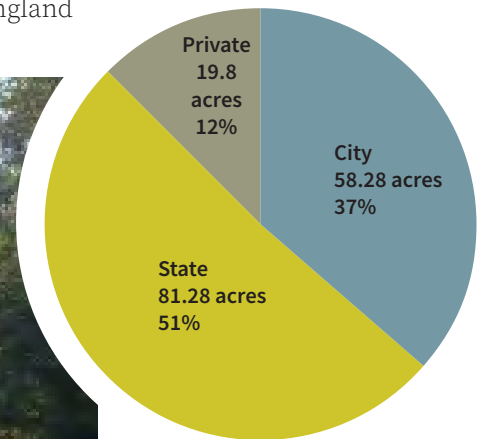


FIGURE 3.1
TOTAL ACRES BY
OWNERSHIP

Although the City only owns 37% of Somerville’s open space, travel connections like this recently completed bridge, facilitate access to the regional network of open spaces.

beaches and parks, is just a short trip away.

Recreational travel corridors such as the recently extended Community Path and other regional bikeways have restored connections to some of the waterfront and wetland resources. Since the last OSRP, access to the banks of the Mystic River in Somerville has improved dramatically with the completion of Massachusetts Department of Conservation and Recreation's (DCR) 5.4 acre Sylvester Baxter Riverside State Park and the continuation of the biking/walking path under State Route 28 to the Mystic River Reservation network.

In Somerville, the acquisition of large pieces of new land has always been extremely challenging due to fiscal constraints and a lack of available parcels. Past efforts have focused on three primary objectives: 1) meeting the maintenance and renovation needs of existing parks and open spaces; 2) acquiring small residential sites for pocket parks or community gardens; and, 3) developing stronger connections to local and regional open space resources.

Today, the City is exploring ways in which to leverage the desirability to live and work in Somerville with the shared community goals of creating more public space, either privately or publicly owned, and enhancing the vibrancy of the City's streets and plazas while improving access to the network of public spaces. This shift in strategy is the outcome of "SomerVision 2010-2030", the city's comprehensive plan. During the process of creating a comprehensive plan, residents identified open space as a top community priority. Discussed in more detail below, SomerVision has become the guiding document for the City's open space planning.

Residents find a variety of ways to enjoy the open space at Nunziato field.



FIGURE 3.2 OPEN SPACE AS % OF TOTAL LAND AREA

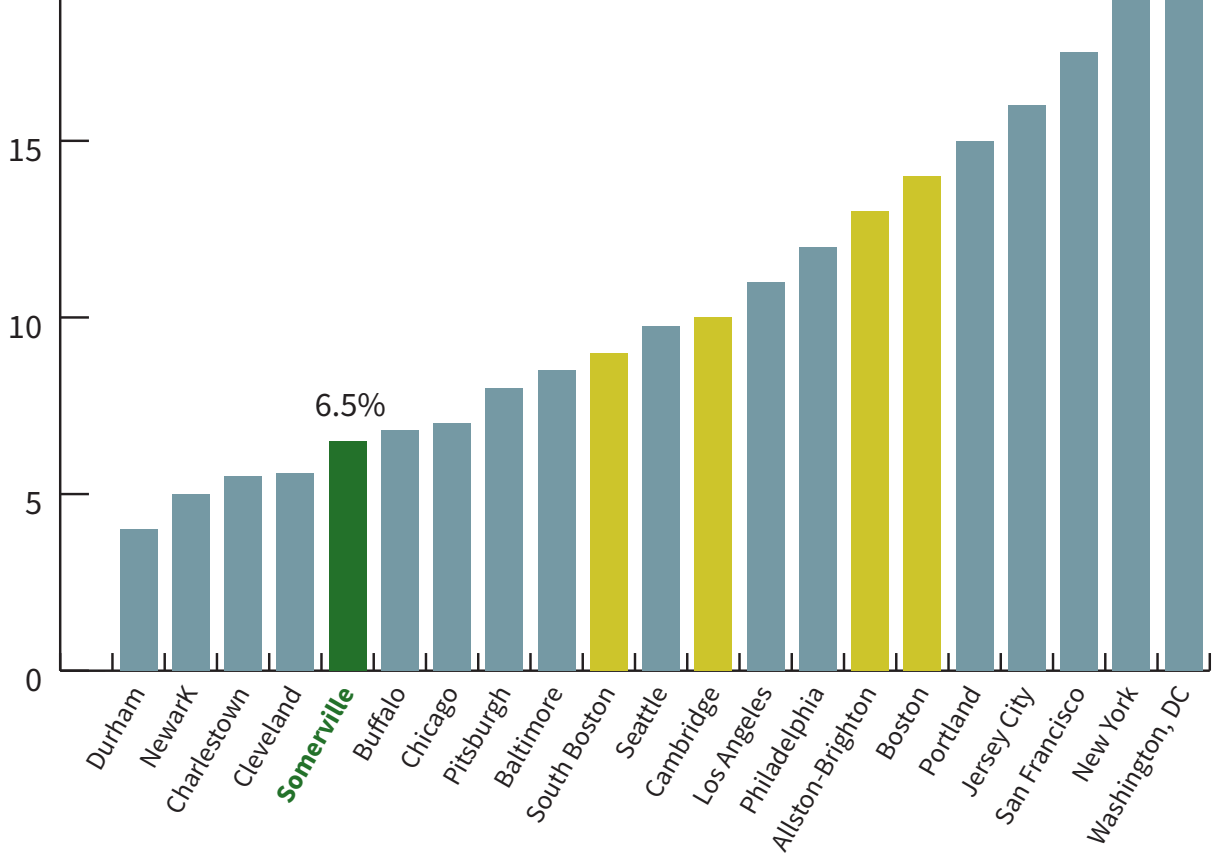
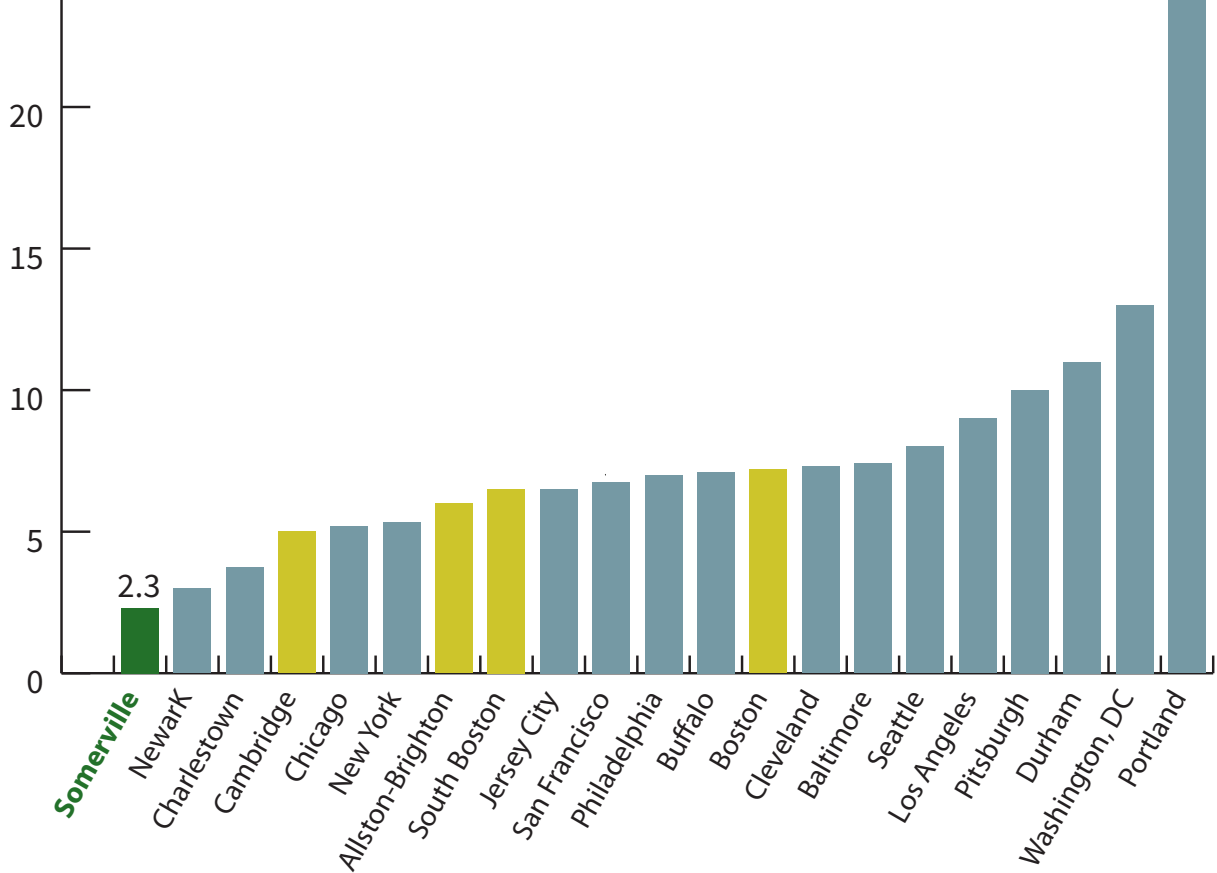


FIGURE 3.3 OPEN SPACE PER 1,000 RESIDENTS



REGIONAL PLANNING EFFORTS

Detailed below are some of the regional open space initiatives which have helped guide Somerville's planning vision and implementation:

MetroFuture

Between 2007 and 2009 MAPC conducted a robust public process resulting in "MetroFuture", the official 30-year strategic land use plan for greater Boston. MetroFuture is a smart growth plan with a strong emphasis on open space planning as a tool to advance public health, social equity, and environmental quality goals. The plan established six major goals that support open space planning in the Greater Boston region:

1. Cities, towns and neighborhoods will retain their sense of uniqueness and community character
2. All neighborhoods will have access to safe, well-maintained parks, community gardens, and appropriate play spaces for children and youth
3. A robust network of protected open spaces, farms, parks and greenways will provide wildlife habitat, ecological benefits, recreational opportunities and scenic beauty
4. The region's landscape will retain its distinctive green spaces and working farms
5. Residents in all communities and of all incomes will have access to affordable, healthy food
6. More residents will build regular physical activity into their daily lives

As a member municipality of MAPC, the City of Somerville actively works with neighboring municipalities as well as regional and state partners to implement the goals of MetroFuture. Key examples include integrated, inter-municipal planning of the Mystic River Greenway; regional pathway and trail connections including the Somerville Community Path Extension; and, partnerships with the Massachusetts Department of Conservation and Recreation (DCR) to manage, maintain, and reinvest in key open space facilities like Dilboy Stadium and athletic fields, Saxton Foss Park and Draw 7 Park.

Inner Core Committee (ICC)

MAPC's Inner Core Committee consists of 21 cities and towns within the metropolitan Boston area. ICC emerged as a forum through which issues of mutual concern could be explored and joint and cooperative action fostered. Communities in the ICC region are among the most urban and populous within the MAPC planning area and deal with a host of unique challenges. The ICC is also MAPC's largest subregion, representing over 1.6 million residents. The City of Somerville is an active participant in MAPC's Inner Core Committee.

Metro Mayors Coalition (MMC)

MMC is a groundbreaking coalition made up of 14 communities in Greater Boston. Established by MAPC in 2001, the MMC is presently chaired by Somerville's Mayor Joseph Curtatone. The voluntary forum enables members to exchange information and create solutions that affect their over 1.3 million constituents. The Coalition launched an ongoing Taskforce to address vulner-



Established by MAPC in 2001 and presently chaired by Somerville's Mayor Curtatone, the Metro Mayors Coalition enables members to exchange information and create solutions that affect their over 1.3 million constituents.

abilities in the region's shared critical infrastructure, such as transportation, food systems, energy, clean water, telecommunications, and health and safety protections. The Taskforce will identify, evaluate and implement strategies for preparing the Metro Boston region for climate change. As a first step, The Metro Mayors Coalition is presently working with the Trust for Public Land (TPL) on a Climate Change Assessment that will provide leaders and policy makers with a parcel-level sustainability analysis for both storm water and heat island effect.

Mystic River Assessment and Action Plan

In fall 2006, the Mystic River Watershed Association (MyRWA), released its Mystic River Assessment Action Plan, a comprehensive examination of the environmental and recreational value of the Mystic River, and its preservation needs. Recommended actions include:

1. develop Integrated Regional Flooding and Water Quality Management Strategies
2. monitor and control bacteria pollution
3. develop consensus around Smart Growth principles for projects in urban areas that consider the need to reclaim open space, repair inadequate sewer infrastructure, control flooding, and address traffic and other community concerns
4. develop a "Meta Plan" for parks and pedestrian/bike paths for the Lower Watershed that identifies all on-going waterfront redevelopment and planning, and identifies areas where coordination among plans would enhance the value of individual components
5. expand the MyRWA River Use Survey of recreational uses to include additional portions of the watershed in order to identify locations where swimming and fishing might present public health risks
6. conduct outreach and education for youth on safe recreation practices in environmental justice communities

Mystic River Corridor Strategy Project

Somerville's Mayor Curtatone initiated this project in 2006 when he approached MAPC with the idea of bringing the cities of Chelsea, Everett, Malden, Medford and Somerville together to work on Mystic River issues. Mayor Curtatone secured partial funding for the project with a contribution from the Massachusetts Water Resources Authority (MWRA). MAPC supplemented the MWRA's contribution with funding received under the District Local Technical Assistance Program. This project is a collaborative effort between MAPC, Boston Redevelopment Authority (BRA) and the Cities of Chelsea, Everett, Malden, Medford and Somerville. This project helps to fulfill the MetroFuture goals of creating healthy environments and increasing community vitality. It also acknowledges the health of the Mystic River to be a major contributor to the economic vitality and quality of life for the cities that it passes through.

Mystic River Master Plan

The Massachusetts Department of Conservation and Recreation's (DCR's) 162 page Mystic River Master Plan provides steps for preserving and restoring the area surrounding the Mystic River from the base of the Lower Mystic Lake in Arlington and Medford to the Amelia Earhart Dam in Somerville. The comprehensive plan, published in 2009, promotes restoration of river banks, and increased recreational use of the park land surrounding the river including the development of a continuous multi-use pathway system. The plan also calls for the protection and enhancement of wildlife habitat and increased opportunities for water-related activities such as fishing and non-motorized boating.

On June 30, 2014 the House and Senate Conference Committee released a consensus budget that includes funding for the DCR of not less than \$250,000 to finalize the designs and permits necessary for implementation of the Mystic River Master plan, including aquatic invasive species control on the Mystic River. This funding will allow DCR to prepare shovel ready drawings and specifications for the important improvements outlined in the Mystic Reservation Master Plan. Ultimately, construction of these improvements to DCR parklands will provide beautification to the parks, improve access to the river, and will enhance other recreational opportunities along the Mystic River.

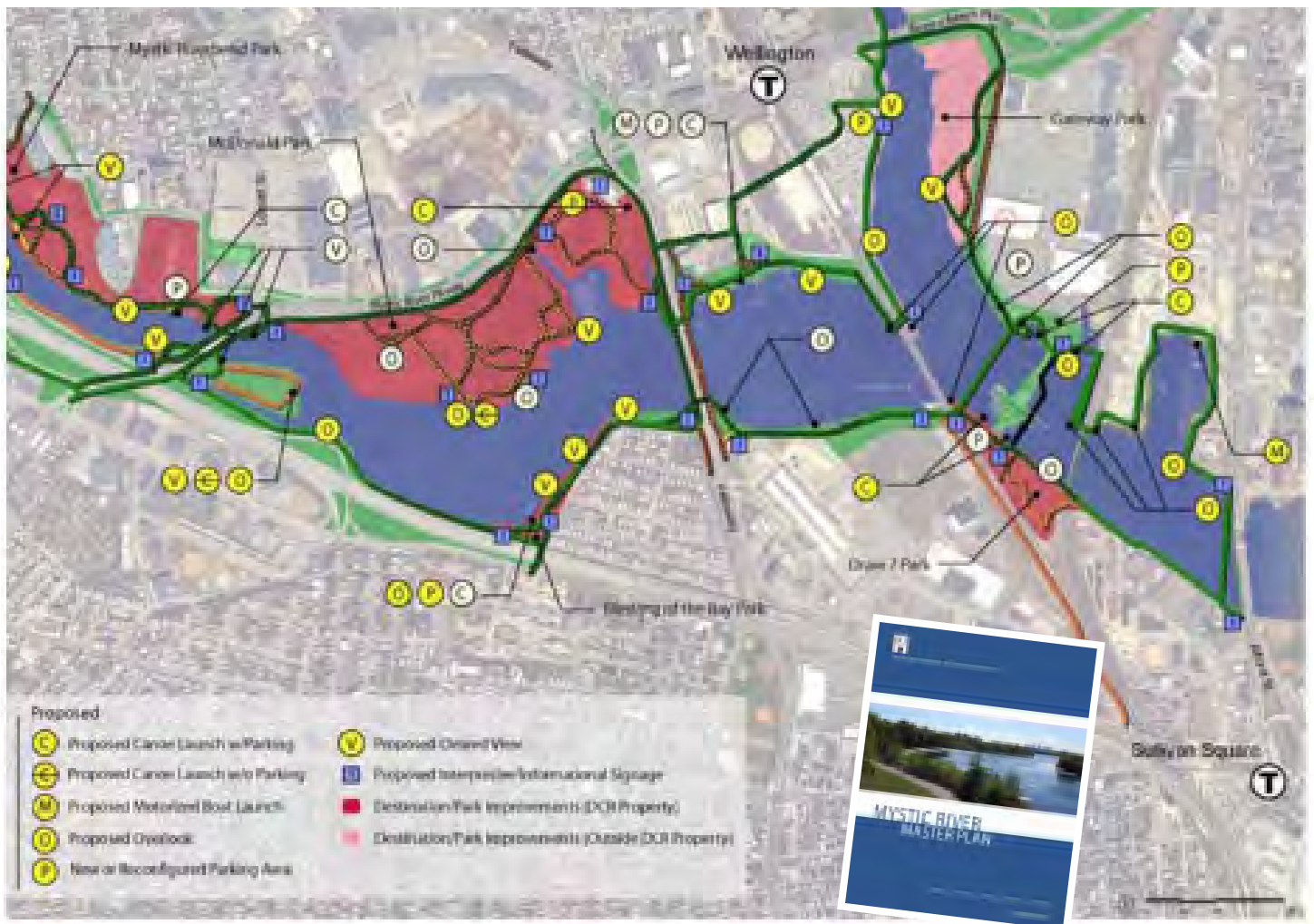
Mystic River Active Transportation Initiative 2010 Active Transportation

The Rails-to-Trails Conservancy requested that Somerville join a national campaign to expand efforts to promote a new federal "Active Transportation" program. The program would provide resources to communities to develop infrastructure that encourages walking and bicycling as forms of transportation. In response to the Conservancy's request, Somerville has joined with the communities of Boston (Charlestown), Chelsea, Everett, Malden and Medford to create a coalition focused on active transportation along the Mystic River. Specific goals of the initiative include:

1. create an interconnected trail network along the Lower Mystic River
2. improve waterfront access in order to support the revitalization of adjoining neighborhoods and business areas
3. establish an urban river ring linking the Charles River, the Alewife Brook and the Mystic River
4. connect to statewide and national trail systems.¹

1 <http://www.somervillema.gov/sites/default/files/A2MyVAST-Network.pdf>

FIGURE 3.4 MYSTIC RIVER PLAN



Alewife Brook Master Plan

In June 2003, DCR created a Master Plan for the Alewife Brook Reservation which calls for:

1. an improved trail system along the length of the Reservation through Somerville
2. elimination of fencing along the Brook to provide boating access from the Dilboy Stadium parking lot
3. removal of the concrete-lined channel
4. planting more native plants and grasses within Reservation boundaries
5. maintenance practices that encourage a more naturalistic landscape such as mowing grasses to be 6 – 12 inches high
6. a gateway park and improved play structures north of Broadway ²

² <http://www.mass.gov/eea/agencies/dcr/conservation/planning-and-resource-protection/alewife-master-plan.html>

COMMONWEALTH OF MASSACHUSETTS INITIATIVES

In addition to the regional planning initiatives mentioned above, various state agencies have developed (or are developing) statewide plans which, if implemented, will impact Somerville's access to open-space opportunities. These include:

State Bicycle Plan

The 2008 Massachusetts Bicycle Plan envisions the Commonwealth as a leading State in bicycle transportation with a system that better balances transportation modes and provides infrastructure networks to increase the number of bicyclists. It includes proposals to extend the Massachusetts Central Rail Trail along the route of the Somerville Community Path and the Mystic River Reservation Bike Trail, and along the Somerville waterfront from the Blessing of the Bay Boathouse to Sullivan Square in Charlestown. It also proposes extending the Community Path infrastructure and outreach to promote cycling.³

Commonwealth Connections

In 2002, the Department of Environmental Management prepared a state-wide plan for greenways called Commonwealth Connections. A key recommendation of the plan was to create a "cross-state, multi-use" greenway extending from the Berkshires to Boston along the proposed route of the Massachusetts Central Rail Trail. The proposed route of the Massachusetts Central Rail Trail follows the existing and proposed route of the Somerville Community Path into Boston.⁴

State Comprehensive Outdoor Recreation Plan (SCORP)

In 2012, the Executive Office of Environmental Affairs' Division of Conservation Services prepared a draft plan that examined statewide and regional recreational facility needs. The four goals of the 2012 Massachusetts SCORP are as follows:

1. Increase the availability of all types of trails for recreation
2. Increase the availability of water
3. Invest in recreation and conservation areas that are close to home for short visits (playgrounds, community gardens, parks)
4. Invest in racially, economically, and age diverse neighborhoods given their projected increase in participation in outdoor recreation

The report cites open space trends that Somerville has been in a leader in, including anti-obesity programs, community gardens, farmers markets, urban agriculture initiatives and urban forestry.⁵

MUNICIPAL PLANNING EFFORTS

Since the 2008 OSRP, three important processes have developed that are shaping the City's planning for open space: SomerVision and neighborhood planning, Zoning Reform and the passage of the Community Preservation Act.

SomerVision

Long-range planning in Somerville is guided by SomerVision, a grassroots-produced, legally adopted Comprehensive Plan. SomerVision is a 20-year plan

3 <http://www.massdot.state.ma.us/portals/0/docs/bike/bikeplan2008.pdf>

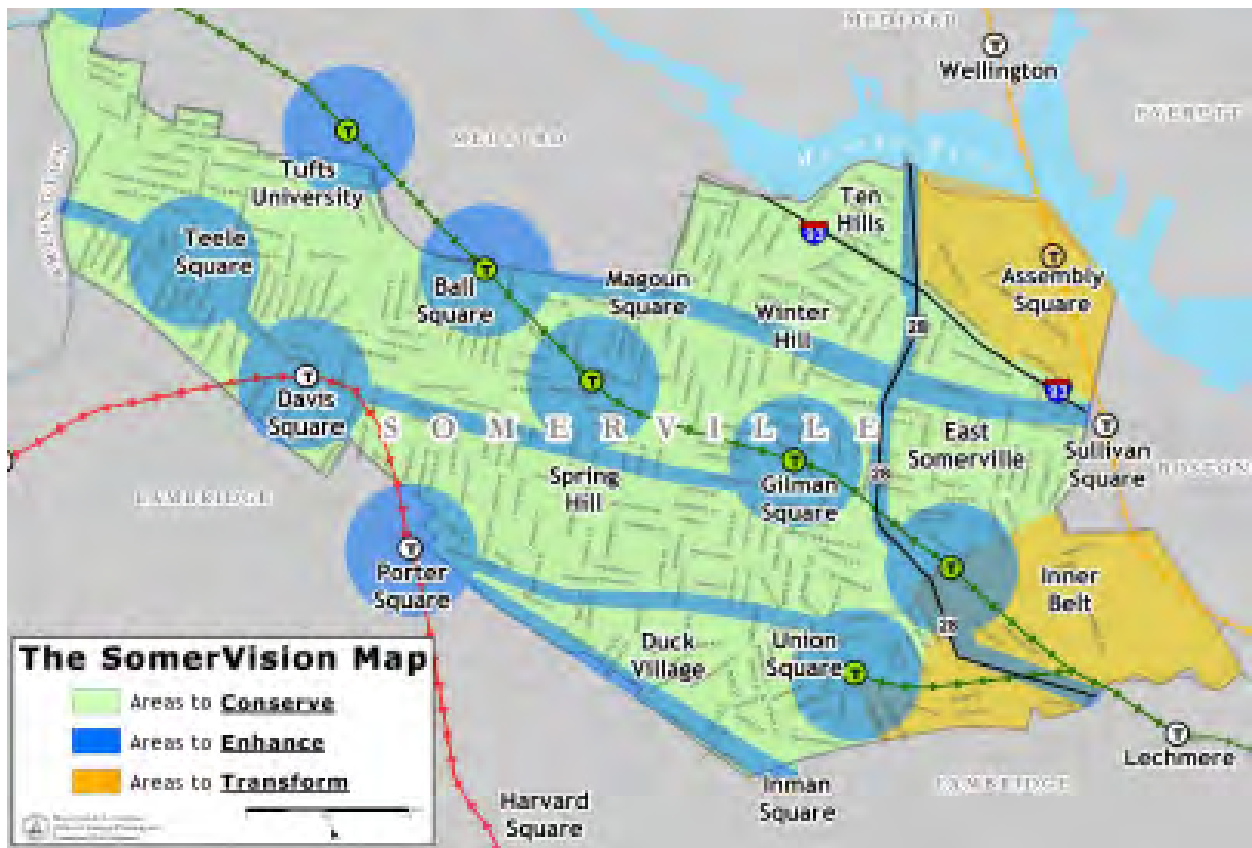
4 <http://www.mass.gov/eea/docs/dcr/stewardship/greenway/pdfs/connections.pdf>

5 <http://www.mass.gov/eea/docs/eea/dcs/fy13-gr/draft-scorp-2012.pdf>

that establishes a framework for municipal decision-making on issues ranging from housing affordability, to core government services like public education and public infrastructure. The plan also guides land development by delineating areas to transform, preserve and enhance (see SomerVision map below). SomerVision was produced by resident volunteers and City staff during an intensive, three-year public process from 2009 to 2012.

Among its many ambitious goals, SomerVision calls for the creation of 125 acres of new publicly accessible open space in the city over the next two decades. Policy recommendations contained in the plan emphasize the planning and design of flexible public spaces that are: dispersed across neighborhoods; unique and resilient in their design and construction; and well-maintained and managed to serve the maximum number and diversity of users.

FIGURE 3.5 SOMERVISION MAP: Areas to Conserve, Enhance and Transform



Somervision Goals:

30,000 New Jobs as part of a responsible plan to create opportunity for all Somerville workers and entrepreneurs

125 Acres of Publicly-Accessed Open Space as part of our realistic plan to provide high-quality and well programmed community spaces

6,000 New Housing Units - 1,200 Permanently Affordable as part of a sensitive plan to attract and retain Somerville's best asset: its people.

50% of New Trips via Transit, Bike, or Walking

85% of New Development in Transformative Areas as part of a predictable land use plan that protects neighborhood character

Neighborhood Planning Efforts

To implement the goals of SomerVision, the City launched its progressive “Somerville by Design” neighborhood planning process in 2012. These participatory planning processes harness resident expertise at the neighborhood scale to articulate plans for public and private investment around Somerville. To date, two neighborhood plans have been finalized and published, and another four are underway.

Each Somerville by Design neighborhood plan identifies potential locations for new public open space. In some cases, these are vacant or underutilized lots in public or private ownership that could be improved as parkland or plaza space. In other cases, radical re-imagining of streets and intersections has yielded entirely new spaces that could be designed and engineered as public squares. For sites imagined as locations for new development to occur, the Somerville by Design process serves as a guide for how private developers could improve new public open spaces as part of their investment programs.

Zoning Reform

The greatest obstacle to achieving the SomerVision goal of creating 125 new acres of open space is the acquisition of land. Somerville is 4.2 square miles in size and most of its land has been ‘built out.’ Opportunities to directly purchase land for new open space projects are rare. With this limitation in mind, the primary means of creating new open space is private redevelopment, and, therefore, the City’s zoning ordinance plays a key role in achieving SomerVision’s open space objective.

Although Somerville’s current zoning ordinance, largely cobbled together from updates and amendments to the original 1925 ordinance, has certain standards that create new usable open space when private property is redeveloped, application of these tools is limited to certain districts while broad definitions and a lack of design standards create unpredictable results. (See Appendix A: Zoning Districts Map.) In 2015, the Mayor’s Office of Strategic Planning and Community Development (OSPCD) proposed a comprehensive overhaul of the Somerville Zoning Ordinance that is now before the Board of Aldermen. Included within this new zoning proposal is a redesigned and more targeted approach to producing open space.



To create this new approach, OSPCD staff used the Landscape Use Types outlined in section 4B to create a system of open space typologies called ‘Civic Space Types’ delineated in the new ordinance. First, planners identified three types of spaces characterized by their scale and the anticipated area from which their users are drawn: regional park, community park, and neighborhood park. These spaces can facilitate any or all of the landscape use types and each can be thought of as a ‘mixed-use’ open space that meets the needs of a variety of people. Next, a series of spaces were identified primarily based on their urban design differences: public common, public square, plaza, green, and pocket park. These spaces have certain characteristics that differentiate one from another in relation to the street and block pattern of the city. Each of these types of civic spaces can generally accommodate more than one of the landscape use types, although single landscape use civic spaces do exist. Lastly, a number of spaces were identified that are designed for just one of the landscape uses: playground, community garden, athletic field, dog park, landmark, and urban farms. The ‘Civic Space Types’ in the proposed ordinance accommodate different landscape uses in different ways, which provides the City with a flexible system that can be calibrated to produce the appropriate types of spaces to meet different community needs in different areas of the city.

With this system of Civic Space Types, the proposed ordinance generates open space in two ways. First, the ordinance includes a useable open space requirement of 15% of lot area for all mixed-use zoning districts. These districts are located in the “Area to Enhance” map in SomerVision. If the open space requirement results in eight thousand (8,000) square feet or more of area, the development is required to design it as one of the Civic Space Types described above. If the calculation results in less than 8,000 square feet, development has the option to provide a payment into an open space fund in lieu of building a Civic Space Type, or provide useful outdoor features such as widened sidewalks, forecourts, courtyards, or outdoor seating areas. This eight thousand square foot threshold ensures development creates spaces of adequate size, because numerous small spaces do not add up to one quality open space. Additionally, since each of the Civic Space Types has individual design standards, including minimum size requirements, this mechanism ensures development does not produce an excess of smaller, less expensive to produce space types, such as dog parks or greens, in areas that do not need these types.

Second, in parts of Somerville designated as “Areas to Transform” in SomerVision, the proposed ordinance uses a Special District strategy to incentivize the large scale redevelopment of currently underutilized areas such as Boynton Yards, Brickbottom, Inner Belt and Twin City Plaza. Through the application of standards typically found in subdivision control, the Special Districts permit increased development entitlement when land is subdivided to create a smaller, walkable block and street pattern than what exists today. When this new street network is laid out, the ordinance requires that 15% of the land area in total be designed as one or more Civic Space Types to meet the needs of these future residents and workers that redevelopment will bring.

Lastly, but perhaps most importantly, the design of any civic space produced through the zoning ordinance requires review by the urban design commission, a new review body included in the proposed zoning overhaul. This administrative process allows the city to provide guidance to developers to ensure not only high quality design, but also that the appropriate landscape use type of civic space is chosen for each location based upon ongoing efforts to assess both city wide and neighborhood open space needs.

TABLE 3.1

Zoning: Civic Space Types
Regional Park
Community Park
Neighborhood Park
Public Common
Public Square
Plaza
Green
Pocket Park
Playground
Community Garden
Athletic Field
Dog Park
Landmark
Urban Farm

SUCCESS STORY

2012

- ▲ Year that the Community Preservation Act was passed by Somerville voters

\$8 million

- ▲ Amount raised for CPA projects since 2013

51%

- ▲ Amount of Somerville open space acreage that is state-owned. CPA funds can be used to improve these spaces.

15%

- ▲ Minimum CPA funds dedicated to open space and recreation.



COMMUNITY PRESERVATION ACT

WITH THE PASSAGE of the Community Preservation Act (CPA) in November 2012, the City of Somerville joined over 150 other communities in Massachusetts that have a steady funding source dedicated to preserving and improving their character and quality of life. Over three quarters of the voters of Somerville voted for the act, which provides the City with a new revenue stream to invest in affordable housing, historic preservation, open space, and outdoor recreation.

FUNDING

Somerville has raised over \$8 million for community preservation projects since the program launched in July of 2013. The CPA has three key funding sources: 1) a 1.5% surcharge on net property taxes, 2) discretionary appropriations by the City, and 3) matching funds from the state. The CPA Fund also generates a few thousand dollars a year in interest and penalties.

OVERSIGHT

The CPA is overseen by the Community Preservation Committee (CPC), which is composed of four general public representatives and five ex officio members from other City boards and departments, including the Conservation Commission, Historic Preservation Commission, Housing Authority, Planning Board, and Parks & Open Space Department. The Committee uses a competitive application process to recommend awarding CPA funds to City departments and community groups for specific projects. Board of Aldermen approval of these recommendations is required to finalize the award.

IMPACT ON OPEN SPACE

The potential for the CPA to improve Somerville's existing open spaces and acquire new ones is tremendous. State law requires a minimum of 10 percent of annual CPA funds be devoted to current or future open space and outdoor recreation projects. The CPC went beyond this requirement to devote 15 percent of FY14

and FY15 CPA funds to open space and outdoor recreation, 25% of which was awarded to actual projects and 75% of which was reserved for future projects.

The Committee has not awarded funds in the FY16 funding cycle to date, but it has again devoted a minimum of 15% of FY16 CPA funds to open space and recreation. Furthermore, the CPA is a more flexible funding source than the state grants the City has traditionally used to fund its parks projects, which opens additional opportunities for improving our open spaces. For example, CPA funds can be used to improve state-owned parks and fields in the City, which account for over half of Somerville's open space acres. CPA funds can also be awarded directly to community partners piloting innovative approaches to open space, like Groundwork Somerville and the Community Growing Center.

PROJECTS FUNDED TO DATE

The City distributed CPA funds for the first time in 2015. In that year, the Committee awarded funds to all four of the open space and recreation project proposals received, including the design of Prospect Hill Park, an important passive park which is also the site of the raising of the first US flag; the design to upgrade the Community Growing Center; Groundwork Somerville's improvements to the educational gardens at eight Somerville Public Schools; and a master plan for a new recreational corridor connecting the Arthur D. Healey School, the Mystic River Housing Development, and the Blessing of the Bay Boathouse. In addition, the Committee awarded funds to rehabilitate the tombs at the City's historic Milk Row Cemetery, which are currently in such a fragile state that the Cemetery is not open to the public.

All of these projects, ranging from big to small, have a positive impact on the quality of the city's open space resources and serve to bring more opportunities for residents to engage with parks, gardens, and waterbodies.

DRAFT



PRESERVE & ENHANCE

In 2015 Community Preservation Act (CPA) funds were awarded to four open space projects: Prospect Hill Park, the Somerville Community Growing Center, Groundwork's eight Somerville Public School gardens and the Healey School/ Mystic Master Plan.

DRAFT

3. B. HISTORY OF THE COMMUNITY

Somerville's location in the Boston Basin coastal plain has guided its development over the last nearly four centuries. Historically, European settlement and land-use patterns in Somerville were driven by the physical relationship of the land to maritime colonial Boston (see Figure 3.1). Colonists first settled the narrow neck of land connecting Somerville to Charlestown, and the Pawtucket Nation deeded present-day Somerville to the Massachusetts Bay Colony in 1639. Ten Hills, the location of Governor Winthrop's estate along the Mystic River, provided a defensible position for forts, and an early trade path (now Broadway) strengthened the connection to Charlestown and Boston.

As Cambridge grew, another important route (now Washington Street) was established, connecting Cambridge to Boston through Somerville. Somerville's ridgeline of hills naturally defined east-west travel routes (now Broadway and Somerville Avenue), and 11 north-south connecting roads were built between 1681 and 1685 (see Figure 3.2).

Land in early Somerville was used primarily as grazing commons and small farms. Residential development first centered in the Charlestown Neck, along present-day Broadway and Washington Streets.⁶ Early industry included sawmills, gristmills and quarries, but most of the landscape remained agricultural throughout the 1700s. Somerville's "seven hills" and its river routes were important strategically to the Colonists throughout the American Revolution. In fact, Prospect Hill was a key site in a string of fortifications created by Washington and the Continental Army in their siege of British troops in Boston during the first year of the American Revolution. The first official flag, featuring thirteen red and white horizontal stripes, was raised atop Prospect Hill on New Year's Day, 1776.

After 1800, Somerville expanded its industrial base, notably with the establishment of a bleachery and several brickyards. The strong road network and the new Middlesex Canal provided the means for dairy farmers in western towns to move their products through Somerville to Boston, and Somerville agriculture shifted largely to small crops and fruit orchards.⁷ In 1835, railroad construction began, resulting in the establishment of both the Boston and Lowell, and Fitchburg lines within a decade. The railroads heralded both the industrial and residential expansion that would define Somerville's growth throughout the mid-1800s.

In 1842, the Town of Somerville, with a population of 1,013, formally separated from Charlestown. New passenger rail service drove the subdivision of land into house lots, though the cost of railroad travel was prohibitive to all but the wealthiest citizens. While Somerville's population growth would not soar until after the Civil War, the railroads did have a significant early impact on the landscape. Industry erupted along the railroad corridors, particularly in the southeast where several lines crossed. This low floodplain, the Miller's River marsh, was turned into rail yards, slaughterhouses, and other large-scale land uses. The uncontrolled filling and industrial occupation of these tidal flats between Somerville and Cambridge caused enough pollution that the Commonwealth decreed that the river be filled.

After the end of the Civil War, Somerville's population increased rapidly. While the densest residential areas were historically in East Somerville, the

6 Zellie, Carole, et.al. *Beyond the Neck: the Architecture and Development of Somerville, Massachusetts*. St. Paul, MN: Landscape Research, 1982. 11.

7 *Beyond the Neck*, 18.

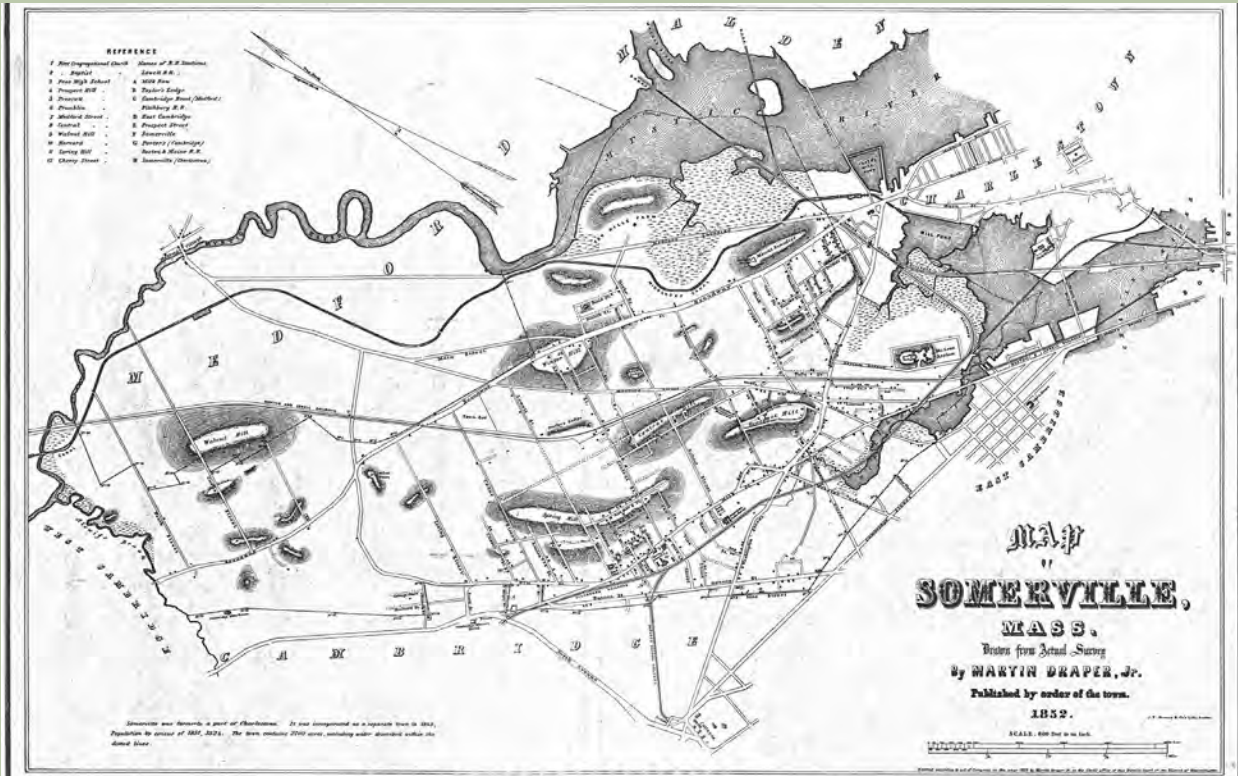


FIGURE 3.6 DRAPER MAP OF SOMERVILLE, 1852. Source: City of Somerville Map Collection

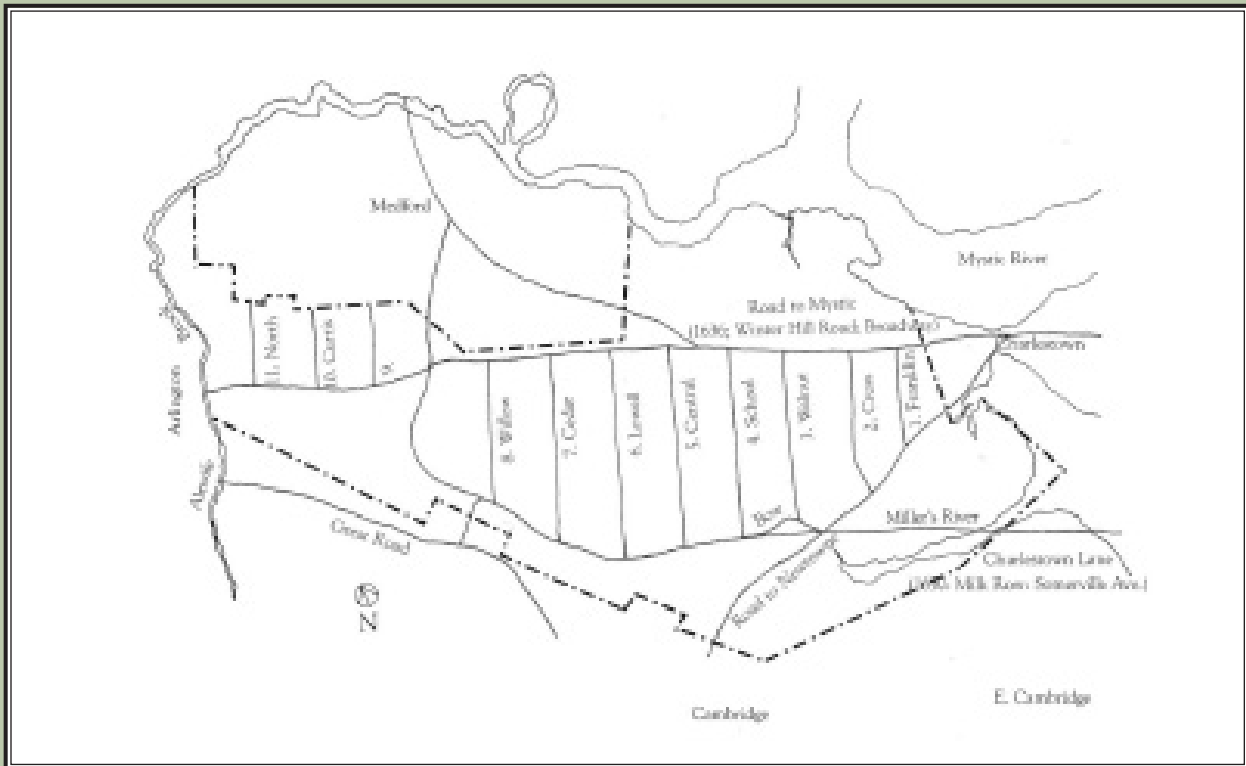


FIGURE 3.7 MAP OF COLONIAL ROADS. Source: Landscape Research, Beyond the Neck (1982)

advent of streetcars brought development to areas further west, as the easy commute to Boston made the area attractive to new residents. Previously, lands along the tops of Somerville's hills had seen limited development because of a lack of available water and limited roads, but a water tower built on Spring Hill (now Bailey Park) in the 1880s solved the problem of municipal drinking water at higher elevations. Sewer lines were built throughout the city as the Metropolitan District Commission provided a pumping station along the Alewife Brook. Infrastructure improvements facilitated a housing boom among immigrants looking for affordable rental units within easy commuting distance of employment in Boston.

In 1872, as the top of Prospect Hill was being lowered to fill the area of flats along Union Square, Somerville was incorporated as a city. A period of rapid municipal growth began, with civic buildings constructed along the ridge of Central Hill and the police and fire stations in Union Square. The land-use pattern that the City would follow for the next 50 years had been established, with commerce and industry located in the lower elevations and along major travel routes, and residential lots on the hillsides and higher elevations.

Between 1880 and 1890, Somerville's population exploded, growing from 24,933 to 40,152⁸. As the western part of the city opened up, orchards, farmlands, brickyards and marshlands were redeveloped into dense tracts of predominantly two-family housing. Larger residential properties were subdivided to accommodate speculative infill lots, and the pattern of long street blocks with shorter dead-end spurs became more common during this time.

At the time, this rapid subdivision was publicly criticized as development that combined relatively cheap construction with a lack of landscaping. In response, the Somerville Improvement Association was founded in the 1880s and began to rally support for planned trees and open space. The Heptoreans, a women's organization, also focused on park acquisition and zoning ordinances, and was instrumental in the creation of Prospect Hill Park in 1903.⁹

8 Beyond the Neck, 39.

9 Beyond the Neck, 58.

Broadway Park (now Foss Park, at right, and currently owned and operated by the DCR) was one of only two major parcels that were dedicated as permanent open space in the 1870's. The other was Central Hill Park, the present location of Somerville High School, City Hall and Central Library.





Union Square bustled with street cars and activity in 1915. Approximately 50% of Somerville housing stock was constructed between 1890-1910.

Only two major parcels were dedicated as permanent open space in the 1870's before the massive housing boom at the turn of the 20th century: Central Hill Park (current home of Somerville's High School, City Hall, and Central Public Library) and Broadway Park (now Foss Park, currently owned and operated by the DCR, – see Figure 3.3). Private estates were largely sold for development; and, only one tract of land was donated to the City for public use – Nathan Tufts Park in 1890.¹⁰

Between 1890 and 1910, 50% of today's housing stock was constructed. This intense development and subdivision pattern left Somerville with little remaining available land for public parks. By 1900, only 52 acres (4.7%) of Somerville's land had been dedicated to parks or playgrounds.¹¹ A lack of strategy for creating or preserving open space was seen at the state level as well – in 1900, the Governor vetoed a bill for the extension of the Metropolitan Park System, which also included an appropriation for a boulevard across Somerville (a potential green corridor).

Tracing the history of Somerville's public parks is an interesting exercise in urban land-use history. The City dedicated only two major parks during this time of rapid residential expansion: Lincoln Park (1900) and Trum Field (1903). The rest of the city's parks, playgrounds, and open spaces were constructed with little administrative master planning. For this reason, many of Somerville's open spaces are less than a half acre in size, and scattered throughout the city in a "patchwork" or irregular pattern (see Appendix A: Open Space Inventory map). Some of today's parks were undeveloped house lots, while the more sizeable parks are typically former schoolyards or other municipal lands that were converted to parks in the latter half of the 20th century, as public demand for open space grew and housing needs declined.

Soon after the turn of the 20th century, almost all of Somerville had been developed. According to U.S. Census records, Somerville's population reached its apex of 103,908 in 1930. The 2014 population is estimated at 78,901, roughly 76% of the City's peak. Somerville, in line with major national trends in the 20th centuries, had seen steady population declines, largely due to smaller family size and the de-densification of housing, along with a decreasing presence of industry and a move to the suburbs. Interestingly, census data shows that since the turn of the century this trend is reversing and population has begun to rise slowly.

10 Beyond the Neck, 58.

11 Beyond the Neck, 58.

3. C. POPULATION CHARACTERISTICS

Somerville's population reached an historic peak in 1930 and then decreased consistently for the next 60 years. The most significant population decline occurred between 1950 and 1980, when the city lost an estimated 25,000 residents, largely from the neighborhoods of East Somerville, Spring Hill, and Union Square. This population shift is consistent with national trends toward suburbanization and smaller family size during these decades. In 1990, the U.S. Census recorded Somerville's population at 76,210 individuals.

By 2000, however, the number of residents in Somerville had rebounded to 77,478, a 1.7% increase during the previous decade. This influx of new residents was attributable to many factors, including increased immigration and the availability of affordable housing options in Somerville. Since 2000, there has been an attendant shift in demographics and growth patterns, giving rise to a modern mix of families, youth, retirees, and students, and producing one of the most diverse cities in the Commonwealth. From 2000-2010, the population decreased to 75,754. Several dynamics may explain this including shrinking household size, new housing supply as well as a surge in housing prices. The US Census estimates that from 2010 to 2015 the population has increased to 80,318 as people return to cities and the Somerville becomes a desirable place to invest and live in.

Somerville attracts a modern mix of families, youth, retirees, and students—producing one of the most diverse cities in the Commonwealth.



Density

As has been well-documented, Somerville possesses a large population relative to its area (19,590 persons per square mile, or 30.6 persons per acre based on 2015 estimates). This density, however, is not evenly distributed across the city. Typical residential neighborhoods have a population density of 40-60 ppl per acre, but several former industrial areas, including Boyton Yards and Innerbelt, have very few to no residents.

Household Size

Between 2000 and 2010, Somerville experienced a slight decrease in average household size from 2.38 persons to 2.32 for owner occupied homes and 2.23 for renters. Higher income neighborhoods, in the western and central parts of the city, contain smaller household sizes than moderate income neighborhoods on the eastern side.

Race, Ethnicity, and Language

According to the 2010 U.S. Census, 26% of the city's population is non-white, making Somerville more racially diverse than the state as a whole (20% non-white). The data also confirms Somerville's long-standing role as a gateway community for newcomers to the United States: In 2010, foreign-born residents represented 27% (or 20,140) of the population, of whom roughly half had arrived since 2000. Between 2000 and 2010, the Hispanic population increased by 8.8% to approximately 8,017 residents and comprised nearly 18% of Somerville's population. From 2000-2010, the Asian population increased by 32% to 6,601 residents. At the same time, the White population declined by 6% to 55,994 residents.

In light of the city's diversity, it is not surprising that 33% of Somerville residents speak a language other than English at home, and more than 50 languages are spoken in the city. The most commonly spoken foreign languages in Somerville are Portuguese and Spanish, respectively. Smaller yet significant populations of Haitian Creole, Italian, Chinese and Nepali speakers are also present.

Age

Somerville's reputation as a young city is reinforced by 2014 U.S. Census estimates: the median age was 31.3 (a slight change from 31.1 in 2000). 43% of the city's residents (or 33,051 residents) are between the ages of 20 and 34 years of age, while 13.6% are 18 and under and 5.3% of the population is under 5 years old. The 65 and older population is estimated to have dropped to 7.1% of the population in 2014 from 10.5% in 2000.¹²

Education

In 2010, 52.3% of the population aged 25 years and older had attained a bachelors degree or more, and 24.8% had a graduate or professional degree. This is a change from 2000 numbers that saw 40.5% with a bachelors degree or more, and 17.6% with graduate or professional degree.¹³

Income

In the 1990s the median income in Somerville had increased to \$46,315. More



Somerville is racially diverse and its parks attract multi-generational users.

¹² <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

¹³ <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

TABLE 3.2 INCOME DISTRIBUTION

US Census: Household Income Distribution (% of households within each bracket)	
	2014 estimated
Less than \$10,000	6.1%
\$10,000-\$14,999	5.1%
\$15,000-\$24,999	6.1%
\$25,000-\$34,999	5.8%
\$35,000-\$49,999	13.4%
\$50,000-\$74,499	17.4%
\$75,000-\$99,999	13.7%
\$100,000-\$149,999	19.8%
\$150,000-\$199,999	7.2%
\$200,000 or more	5.4%

recently, 2014 census estimates the median household income in Somerville as \$66,866, slightly lower than the statewide median of 67,846.¹⁴ Although nearly a third of households have incomes of \$100,000 or more, the percent of persons in poverty is higher in Somerville (15.5%) than the Massachusetts average (11.6 %)¹⁵. Geographically, the neighborhoods of East Somerville and parts of Winter Hill, in particular, have some of the lowest household incomes in the city and constitute the largest Environmental Justice Populations. (See Appendix A: Environmental Justice Areas Map.)

Housing

Consistent with the metro Boston area, housing costs have skyrocketed with the median value of owner-occupied housing units from 2010-2015 rising to an estimated \$449,100 compared with the statewide average of \$329,900¹⁶. Additionally the city's 2009-2013 home ownership rate, 34.5%, is considerably lower than the rest of the state, 62.7%. Housing has become so expensive that residents across different income groups all pay more than industry standards for housing affordability. In Somerville, 35% of owners with a mortgage pay more than 35% of their income as housing costs (compared to 21% Statewide) and 33% of renters pay more than 35% of their income for housing costs (compared to 41% Statewide).

Persons with Disabilities

According to the US Census Bureau, 4.9% of people under age 65 years, have a disability (2010-2014) in Somerville. This is a population with unique issues and challenges. Fortunately, it is also an increasingly organized community that advocates for the types of comprehensive, cohesive, and individualized services that it needs.¹⁷

Employment and Industry Trends

According to the Executive Office of Labor and Workforce Development, approximately 49,425 of Somerville residents are labor force participants, an increase from 44,468 in 2010. Employment in Somerville increased from

14 <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>

15 <https://www.census.gov/quickfacts/table/PST045215/25>

16 <https://www.census.gov/quickfacts/table/PST045215/2562535,25>

17 <http://www.census.gov/quickfacts/table/PST045215/00,2562535>

21,082 jobs in 2009 to 26,689 jobs in 2014. Even with this employment growth, however, Somerville still remains a commuter city. 85% of working Somerville residents leave the city for work.

As of August 2015, Somerville’s unemployment rate (3%) is below Massachusetts’ (4.5%)¹⁸ and national rates (5.1%)¹⁹. Weekly wages are on the rise, though they remain below pre-recession levels. According to the Executive Office of Labor and Workforce Development, from 2009 to 2014, average weekly wages in Somerville grew from \$823 to \$867.

Somerville, much like the broader metro Boston region, has bounced back well from the global recession. This has been driven by an influx of young professional to the inner urban core, the growth of life science and biotech jobs in the region, and growth in real estate valuations in Somerville driven by the planned Green Line MBTA rail extension across the city. There has also been growth in the local innovation economy, including one of the first on-speculation office buildings in the region in many years in Assembly Square. Partners Healthcare has also begun construction on a \$280 million, 1.1 million square-foot administrative space which will house 4,500 employees and provide employment and career-development opportunities for Somerville residents. Across town, cleantech incubator Greentown Labs relocated in 2012 to a 33,000 square-foot location near Union Square, growing from hosting 4 companies in 2007 to 49 in 2014.²⁰ As of 2011, Healthcare and Social Assistance, Administrative and Waste Services and Retail trade are the top 3 areas of employment in Somerville.²¹

18 <http://www.mass.gov/lwd/>

19 <http://data.bls.gov/timeseries/LNS14000000>

20 <http://www.somervillema.gov/sites/default/files/documents/somerville-fy2014-cafr.pdf>

21 MA Executive Office of Labor & Workforce Development <http://commons.clarku.edu/cgi/viewcontent.cgi?article=1024&context=mosakowskiinstitute>

TABLE 3.3 CHANGE IN EMPLOYMENT SECTORS

Change in number of employees and share of total employment by 2-digit NAICS code						
	2001 Avg Employees	2001 % of Total	2011 Avg Employees	2011 % of Total	Avg Employees Difference	Avg Employees % change
Total All Industries	22,948		22,402		-546	-2.4%
23- Construction	622	2.7%	461	2.1%	-161	-25.9%
31- Manufacturing	2,038	8.9%	843	3.8%	-1,195	-58.6%
Durable Goods Manufacturing	461	2.0%	323	1.4%	-138	-29.9%
Non-Durable Goods Manufacturing	1,577	6.9%	521	2.3%	-1,056	-67%
42- Wholesale Trade	786	3.4%	396	1.8%	-390	-49.6%
44-45 Retail Trade	3,198	13.9%	3,147	14.0%	-51	-1.6%
44-45 Transportation and Warehousing	1,125	4.9%	941	4.2%	184	-16.4%
51- Information	825	3.6%	401	1.8%	-424	-51.4%
52- Finance and Insurance	492	2.1%	319	1.4%	-173	-35.2%
53- Real Estate and Rental Leasing	530	2.3%	257	1.1%	-273	-51.5%
54- Professional and Technical Services	983	4.3%	1,069	4.8%	86	8.7%
55- Mgmt of Companies and Enterprises	180	0.8%	80	0.4%	-100	-55.6%
56- Admin and Waster Services	3,506	15.3%	3,155	14.1%	-351	-10.0%
62-Health Care and Social Assistance	2,968	12.9%	4,675	20.9%	1,707	57.5%
71- Arts, Entertainment and Recreation	224	1.0%	165	0.7%	-59	-26.3%
72- Accommodation and Food Service	1,576	6.9%	2,134	9.5%	558	35.4%
81- Other Services, Ex Public Admin	1,316	5.7%	1,896	8.5%	580	44.1%
92- Public Administration	NA	NA	1,090	4.9%	NA	NA

3. D. GROWTH AND DEVELOPMENT PATTERNS

Early colonial settlement in Somerville occurred in the seventeenth and eighteenth centuries, linked to development in adjacent Charlestown and Cambridge. During the nineteenth century, railroads were extended through Somerville, following the lowlands between the City's hills, and new neighborhoods were built alongside the routes. Industry and commercial uses often located in lowlands adjacent to the rail corridors, while residential subdivisions occurred on nearby hillsides.

Somerville's historic commercial squares developed at the junction of major thoroughfares. By the late 1800's Union Square, Gilman Square and Davis Square had become established centers of small-scale commerce. A second type of commercial district was linear in geometry: the "main street" corridors along Broadway, including East Somerville, Ball Square and Teele Square.

Large industrial landscapes developed along the eastern and southern edges of Somerville during the same era, often on filled tidelands. Assembly Square, the Innerbelt, and Boynton Yards were characterized by heavy railroad uses, meatpacking, and industrial production businesses. As the industrial activity increased, new residential building types were introduced, with many large classical apartment blocks constructed around Somerville between 1900 and 1920. Somerville's urban fabric by this point would closely resemble the present day: roughly 75% of the city's building stock dates from 1920 or earlier.

By mid-century, national and local economic conditions became less favorable, and public policy decisions at the federal, state and local level discouraged growth and investment in Somerville. Rail and trolley service was discontinued, elevated highway projects sliced through historic neighborhoods, and suburban competition eroded the vibrant retail squares of the city. Widespread disinvestment took hold, and for several decades, the municipal government struggled to provide basic services.

Somerville's late-century renaissance was closely tied to the return of public transportation. In the late 1970's and early 1980's, regional subway service was extended to Somerville's borders, with Orange Line service at Sullivan Square and Red Line service at Porter Square and Davis Square. Redevelopment of land near the stations (especially in Davis Square) was guided by participatory planning among Somerville residents, business owners, civic organizations and public officials.

In the early twenty-first century, development is building on those successes. Public policy, and the SomerVision comprehensive plan, steers large-scale growth toward old industrial areas well-served by public transit, and medium-scale reinvestment to Somerville's commercial squares and main street corridors. Over-development of the traditional residential neighborhoods of two- and three-family homes is discouraged. Emphasis is placed on access to quality open space, and on a mix of employment, goods and services within walking distance of homes. See SomerVision Map, Section 3A.

PUBLIC TRANSPORTATION

Public transportation services in Somerville are provided by the Massachusetts Bay Transportation Authority (MBTA). The city is principally served by fixed-route buses which facilitate east-west travel across the City and two rapid-transit stations: 1) Davis Square Red Line Station service connects west



The new Assembly Square Orange Line station, funded with a combination of federal, state and private funding, was the first new MBTA station since 1987.

Somerville with destinations in Cambridge and Boston; and 2) Assembly Square Orange Line Station (opened September of 2014) connects a new mixed-use neighborhood with destinations in Boston, Medford and Malden.

The new Assembly Square Orange Line station, funded with a combination of federal, state and private funding, was the first new MBTA station since 1987. While the Assembly Square station promises to bring about critical smart-growth economic development, the MBTA's light rail Green Line Extension (GLX) through Somerville will, along with existing Red Line service, bring rapid transit to 85% of residents – thereby significantly improving the city's air quality, connectivity, and economic stability. Opening of the Lechmere (in Cambridge), Brickbottom, and Union Square Stations is scheduled for late 2017. The remaining four station, Gilman, Lowell St, Ball Square, and College Ave, are scheduled to open in 2020. (See Appendix A: Public Transit Map)

INFRASTRUCTURE

Somerville's water supply and sewage disposal systems are supplied by the Massachusetts Water Resources Authority (MWRA). Water supplies are transported from surface reservoirs in western and central Massachusetts by pipeline. There are no surface impoundments within the city that are utilized for drinking water. Sewer services consist of a series of sanitary/stormwater lines that convey effluent to a regional treatment plant at Deer Island, operated by MWRA. City records do not indicate that any private water supplies or sewage disposal systems are in use.

Sewer System

The city has approximately 165 miles of sewers – approximately 68 miles are combined sewers (handling both sewer and stormwater), approximately 62 miles are separate sanitary sewers, and approximately 35 miles are separate storm drains. The majority of Somerville's sewers were constructed in

the latter part of the 19th century; consequently, aging infrastructure and increased demands burden the current system. Listed below are some major highlights and challenges to the city's stormwater and sewer infrastructure system:

- The majority of Somerville sewers were built over 125 years ago; nearly one-half are combined sewers, carrying both stormwater and household waste in severely aging, undersized pipes.
- Somerville has two active combined sewer outfalls (CSO) – one at Alewife Brook Parkway near the Cambridge border (maintained by the City of Somerville) and one on the Mystic River in East Somerville (jointly maintained by the City of Somerville and MWRA). These CSOs emit effluent into the waterways when heavy rains exceed the system's capacity, thus polluting the rivers with raw sewage. The Alewife Brook CSO overflows 12 times a year.
- Somerville's existing sewer system was not designed to handle today's high levels of stormwater runoff. More streets and paved parking lots exist presently than at the end of the 19th century when the sewers were built. These impervious surfaces exacerbate the effects of a storm as the runoff water is unable to filter into the ground and is quickly moved off-site to the nearest drains, and then into the sewer system. East Somerville has the largest area of impervious surface in the city, and also the greatest drainage troubles.

Union Square is one neighborhood where localized flooding is a problem during storm events.



- East Somerville’s drainage problems are largely caused by the filling of the Millers River which originally served as the city’s natural outlet to the Charles River. The “Main Drain,” the backbone of Somerville’s sewer system and CSOs, is aging and is undersized for the current magnitude of the city’s needs. This combined sewer was built in 1873 and manages two-thirds of the city’s present day land-area water flows.

Somerville’s combined sewage system is largely land-locked within the city with little to no drainage to other systems or natural water bodies. Additional challenges are created by legacy drainage issues on MBTA property adjacent to the Boston Engine Terminal (BET). Those challenges have a ripple effect throughout the eastern portion of Somerville.

At one time, the construction of a 120-inch relief drain and subsequent sewer separation was the primary solution recommended for addressing the majority of the city’s flooding exposure. New approaches look for opportunities to retain/detain and infiltrate stormwater while continuing to seek opportunities to get stormwater to a nearby waterbody.

The MWRA anticipates that its Long-Term Control Plan will result in a region-wide CSO discharge reduction volume from 3.3 billion gallons in a typical year to 0.4 billion gallons when the plan is fully implemented in 2015. Significant improvements for Somerville include tighter floatables regulation (i.e., plastics, papers) at the CSO points and improved de-chlorination mechanisms to comply with new residual chlorine discharge limits.

Significant improvements in the last two decades from CSO closures and sewer separation have improved conditions throughout the region. Sewer discharge volumes have fallen 83% in the Mystic River and 78% in the Alewife Brook.

Water System

All water in Somerville is purchased by the City’s Water Department from the Massachusetts Water Resources Authority (MWRA). The water is delivered through seven MWRA master meters into the distribution system, which consists of pipes, valves, hydrants and service lines. This system delivers water to homes, businesses and other facilities for drinking and other uses. The system consists of approximately 120 miles of pipes, laid mainly in the late 1880s to early 1900s.

Beginning in September 2008, the City implemented a new, state-of-the-art Automatic Meter Reading (AMR) system that reduced city meter reading costs. The system immediately identifies leaks, resolves billing conflicts and prepares a bill based on actual, accurate readings, rather than estimates, while eliminating the need for meter readers to access private properties.

<http://www.city-data.com/city/Somerville-Massachusetts.html#ixzz3jw9lXyHk>
 from <http://www.census.gov/quickfacts/table/PST045214/2562535,00>
 United States Census Bureau <http://www.census.gov/quickfacts/table/PST045214/2562535,00>

SUCCESS STORY

STORMWATER MANAGEMENT: PARKS MATTER

IN SOMERVILLE, LIKE ALL densely populated cities with high percentages of impermeable surfaces, the problems created by stormwater runoff are becoming more urgent as the frequency of intense storms increases. Minimizing stormwater runoff, controlling flooding, and eliminating pollutants that are carried to regional water bodies are important goals for planners and engineers. One of the tools for achieving these goals are innovative retention and catchment features in parks and open spaces.

Chuckie Harris Park (CHP), completed in 2013 captures all stormwater runoff in lush rain gardens that run the length

of the park. The new park increased the permeability of the site sixfold, and 70 water absorbing (and air cleaning) trees were planted. In addition, the water generated from the low-flow water feature travels into an underground pipe where it passively waters the street trees.

At Symphony Park, located in East Somerville and completed in 2015, an underground storage tank with a 2,000 gallon capacity, helps the environment in two ways: 1) it captures and recirculates stormwater and water from the low volume water feature for irrigation (which also means less water used from municipal supplies) and 2) it serves as a holding

tank for 2,000 gallons of water during severe storms. Capturing and slowing down rainwater is an important way to ameliorate flooding, minimize pollutants in our waterways and recharge our groundwater supply.

In addition to these innovative features, there are underground retention basins at North St Veterans Playground, Marshall Street Playground and Ed Leathers Community Park. Lincoln Park and Nunziato Field are two planned projects with large stormwater retention capacities (1.25 million gallons) designed into them. Somerville parks are not only beautiful, they are also doing important work.

Right: a 2,000 gallon stormwater retention tank is buried beneath Symphony park.

Opposite: The raingardens that run along Chuckie Harris Park capture and filter stormwater.



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INNOVATE

When planning Somerville parks, aesthetics and recreation are not the only considerations. Planners and engineers include stormwater run-off and flood mitigation in their designs.



6x

- ▲ The new Chuckie Harris Park increased the site's permeability by six-fold

2,000 gallons

- ▲ Amount the stormwater catchment systems at Symphony Park retains

70 trees

- ▲ Number of water-absorbing trees planted at Chuckie Harris park

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SUCCESS STORY

PLAN GOALS

125 Acres of Publicly Accessed Open Space

- ▲ Provide high-quality and well programmed community spaces

85% of New Development in Transformative Areas

- ▲ Predictable land use plan that protects neighborhood character

30,000 New Jobs

- ▲ Create opportunity for all Somerville workers and entrepreneurs

50% of New Trips via Transit, Bike, or Walking

- ▲ Equitable plan for access and circulation to and through the City

6,000 New Housing Units

- ▲ 1,200 Permanently Affordable as part of a sensitive plan to attract and retain Somerville's best asset: its people.

SOMERVISION

IN 2009, A STEERING COMMITTEE of sixty Somerville residents, business persons, advocates and elected officials came together with one common goal: to lead a three-year public process that would chart the course of the community's future for the next generation. Seats on this Steering Committee were reserved for each of Somerville's unique neighborhoods, nonprofit organizations, diverse business interests, and elected officials. Monthly meetings of the Steering Committee began in April 2009, and were advertised to the public, held in accessible locations and broadcast on public access television.

The result of this robust community process was "SomerVision" – the City of Somerville's first-ever official Comprehensive Plan under Massachusetts General Law. In April 2012, after more than fifty meetings, visioning sessions and public workshops, the final plan document was formally endorsed by the Somerville Board of Aldermen and approved by Somerville Planning Board in April of 2012.

As a comprehensive plan, SomerVision was completed in a time of great growth and change in Somerville. Massive demographic shifts, coupled with historic investment in new public transit infrastructure are re-shaping the physical and cultural landscape of the city. Housing prices and real estate assessments have skyrocketed and companies and employers are choosing to locate in Somerville. The city's vibrant public life, proximity to Boston and solid investment potential has made the city and incredibly desirable place to live, work and raise a family. Somerville stakeholders recognized that a consensus-based strategic plan would improve the community's capacity to manage these changes in a predictable and equitable fashion.

Although it addresses diverse issues, SomerVision is at its heart a land-use plan. The plan uses a three-part hierarchy to communicate its core goals: traditional residential neighborhoods are identified as "Areas to Conserve"; intermediate-scale commercial squares and main street districts are designated as "Areas to Enhance"; and, large industrial districts on the southern and eastern edges of Somerville are called "Areas to Transform."

The SomerVision Comprehensive Plan includes tangible, quantitative targets for new housing production, new job creation, and new open space acquisition. These goals are incredibly ambitious, and are mutually-reinforcing. The plan calls for the City and its partners in the public and private sectors to deliver 125 acres of new publicly-accessible open space over the plan's 20-year time horizon. For a community with only 180 acres of open space today, this is a remarkably visionary goal. It is also incredibly expensive: analysis of recent parks projects suggest that producing a single acre of new public open space requires some \$4 million in land acquisition, design and construction costs.

To achieve this goal, the City must align the interests of private development interests with the public interest. The Comprehensive Plan calls for roughly 365 acres of transitioning industrial land to be redeveloped into mixed-use, transit-oriented neighborhoods. As development occurs, private landowners are required to build new public spaces ranging from plazas to pocket parks to playing fields. District plans and zoning regulations in Somerville must be updated to ensure a predictable framework for these partnerships. In Assembly Square, a successful example can be seen at Sylvester Baxter Park, where

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COLLABORATE

As a comprehensive plan, Somerville Vision was completed in a time of great growth and change in Somerville.

the district’s master developer built 5.5 acres of new parkland along the Mystic River shoreline, and deeded the private land to the Massachusetts Department of Conservation and Recreation. This model must be successfully replicated in districts like Union Square, Boynton Yards, Brickbottom and Inner Belt.

Additionally, the City must strengthen its financial and administrative capacity to purchase privately-owned land. The City has had several successes over the past ten years in buying property and converting it to new public open space; noteworthy examples include Ed Leathers Park (2008); Quincy Street Open Space (2014) and Symphony Park (2015). But the overheated real estate market in greater Boston suggests that the City needs new and diversified funding sources in order to compete, and needs more nimble

and flexible financing to react quickly when opportunities arise. The passage of the Community Preservation Act in 2012 established a new financing source for potential parkland improvements; a project proposal is currently under consideration to provide seed funding for a dedicated land acquisition fund using CPA financing.

A final key element of the City’s implementation strategy is to leverage public infrastructure projects to create new public open space resources. For example, the Massachusetts Department of Transportation completed the first phase of its Community Path Extension project in 2015, extending the Somerville Community Path from its previous terminus at Cedar Street several blocks east to Lowell Street. Landscape design of the path was prepared by the City,

and emphasized the need for the path to serve as a linear park. At completion, this small segment yields over 2.25 acres of new public open space. When the full Community Path Extension is completed as part of the MBTA Green Line Extension, another five acres of linear parkland will result. The Green Line stations themselves will include small public plazas that can be integrated into the City’s open space network. Another transformative project is the MassDOT McGrath Highway removal project, which will redesign the antiquated elevated freeway running through Somerville and replace it with an at-grade boulevard. Surplus road right-of-way will be converted into usable public open space, and may represent another five acres of net gain for the community.

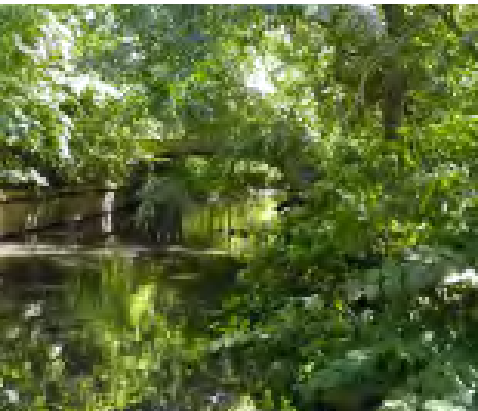
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ENVIRONMENTAL INVENTORY AND ANALYSIS

4. A. GEOLOGY, SOILS, AND TOPOGRAPHY

At the edges of the city are the Mystic River (above) and Alewife Brook (below), forming the western and northern boundaries, respectively.



Ten to twelve thousand years ago, glacial retreat left drumlins running west to east across the New England landscape. These predominant features, literally, “little hill ridges” composed of glacial till, would later become known as the “seven hills of Somerville.” The drumlins rise in elevation from sea level to an approximated 140 feet above sea level at their highest points.

When the glacial waters receded from the Boston Basin, the clay-lands were replaced with forest and then a layer of peat. Several millennia later, when Europeans settled in Somerville, the clay was exposed only in nearby streams or tidal creeks. At that time, marshes could be found in lower lying areas at the eastern, southern and northern edges of the then-named Charlestown mainland, while meadowland and grassland interrupted by marsh grew at the western edge near the Alewife Brook. Physical boundaries were also defined by prominent waterways: the Mystic River to the north, the Alewife Brook to the west, and the Miller’s River (now underground) to the southeast.

Until the late 19th century, the relatively flat tract between Charlestown Neck and Alewife Brook was used largely for agriculture. Before the onset of intense development in the early 20th century, large tracts of forested land could still be found in isolated upland regions in and around Somerville.

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SOILS

Within the city's boundaries, soil types range from sandy loam in the elevated areas of West Somerville to dense clay in the Ten Hills neighborhood and around the former Miller's River estuary near Union Square and Beacon Street. Much of the southern and eastern portions of Somerville are part of the Cambridge Floodplain, which fills the lower valley of the Charles River from Watertown to the Boston Harbor. Somerville's clay deposits were formed 14,000 to 15,000 years ago and contain fossilized shells of the saltwater Leda clam, extensive beds of which were created with the retreat of the glacier.

Because of Somerville's history of intensive land use, the soils in its parks and open spaces are designated as "Complex Urban Soil."¹ Commonly referred to as "urban fill," these soils must often be removed and replaced or amended in order to support healthy plant growth in parks projects. Soil is typically tested for nutrients, pH, and texture, as well as contaminants based on the land-use history of the site. In garden sites where the soil conditions cannot be ameliorated, raised beds provide clean soil for community growing and urban agriculture. (See Appendix A: Soil & Geologic Features Map)

4. B. LANDSCAPE CHARACTER

As discussed above, the Somerville physical landscape is characterized by a series of hills, with relatively steep sides and outcroppings of slate. Three of the most prominent drumlins can be found at Powderhouse Park, Spring Hill (western edge), and Winter Hill (northern edge). These hills rise from the floodplain of the Mystic River and Alewife Brook, and generally run west to east, providing panoramic views of the Metropolitan Boston area. (See Appendix A: Topography Map)

Today, the Somerville landscape is very much a cityscape. Neighborhoods possess distinct urban, human-scaled, and walkable character. Historic patterns of land subdivision created a regular rhythm of 4,000 square foot lots occupied by detached two- and three-family homes. Main-street style commercial districts generally run from east to west, and where these routes intersect, town squares have evolved over time. Nearly every Somerville neighborhood contains the key amenities for daily life: a public school, parks and playgrounds, convenience retail and service businesses, community centers and places of worship. With the planned expansion of the MBTA's transit system, 85% of the population in these neighborhoods will be served by the public rail service.

At the edges of the city are the Mystic River and Alewife Brook, forming the western and northern boundaries, respectively. Formerly a tidal estuary before the construction of the Amelia Earhart Dam in the 1960s, the Mystic River is now a slow-moving urban river with open parklands and riparian vegetation along its banks. DCR-owned riverside parks offer pleasing views of the Mystic and open stretches of sky; they also support



Neighborhoods possess a distinct urban, human-scaled, and walkable character. 95% of Somerville households are within a 5-minute walk of one of the city's playgrounds.

1 Craul, T.A., and P.J. Craul. 2006. Soil Design Protocols for Landscape Architects and Contractors. Hoboken, NJ: John Wiley & Sons, Inc.

a diversity of plants and animals. Just along its eastern banks is Assembly Square, a new mixed-use urban neighborhood and commercial district with access to public transportation and vibrant outdoor spaces. It is this juxtaposition of dense urban neighborhoods with precious natural resources that make Somerville unique. Both SomerVision and the proposed changes to the municipal zoning code are efforts to enhance and protect the unique Somerville landscape character during a period of potential growth and change (see Section 3 A).

Somerville contains 80,000 residents in only 4 square miles. The population density in Somerville has both positive and negative consequences. On the one hand, residents are well served by a variety of open spaces and are within a very short walk to them. On the other hand, acquiring large parcels of land to make larger parks and recreational fields is very difficult because they just do not exist and, at an average acquisition cost of 2 million dollars per acre, are very expensive to acquire.

LANDSCAPE USE TYPES

Somerville's open spaces can be categorized into Landscape Use Types (LUT). Studying the LUT's in different neighborhoods allows planners to understand which types of uses are needed in the different neighborhoods based on watershed data and neighborhood demographic profiles. These landscape types were created by studying existing uses and through a public process called Green Space Community Places (Discussed in Chapter 5.) Although there could be others, 10 LUT's have been identified:

- 1. Playground.** As defined in this plan, playgrounds are structured areas designed for children's play. The majority of the city's landscape use types are playgrounds, typically no more than half acre in size, and often smaller. There are 36 Playgrounds in Somerville. With 3,620 elementary-school-age children, that equals 1 playground for every 100 children or 4.8 playgrounds per 10,000 residents. In comparison to surrounding cities and other cities with similar population density, Somerville's playgrounds ratio is quite good.² This is not surprising considering that approximately 50% of the open space projects renovated since 2004 have been playgrounds. (See Appendix A: Playgrounds Map)

² http://parkscore.tpl.org/rankings_advanced.php

There are currently 11 community gardens in Somerville. Here, gardeners celebrate the opening of a new garden at Morse-Kelley Park.



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TABLE 4.1 SOMERVILLE WALKSHEDS

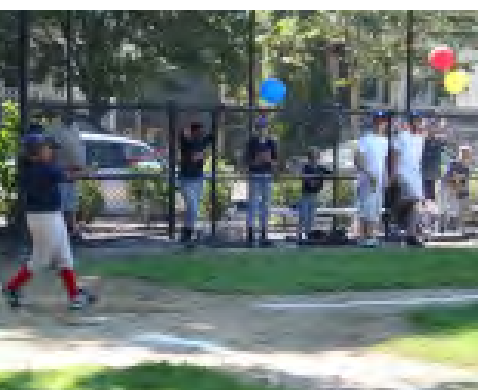


Percent of Households in Walkshed				
	1/4 mile 5 minutes	1/2 mile 10 minutes	3/4 mile 15 minutes	1 mile 20 minutes
Playgrounds	95.9%	99.9%	100.0%	100.0%
Passive Parks	41.4%	82.5%	96.1%	96.1%
Fields	58.8%	96.5%	100.0%	100.0%
Plazas	13.8%	41.1%	72.2%	91.2%
Community Gardens	49.5%	88.5%	98.8%	100.0%
All Open Spaces	99.5%	100.0%	100.0%	100.0%

* This data is based on a .25 mile radius around open spaces. In reality, there are physical barriers (highways, rail lines, etc) that make access to open spaces more difficult.

TABLE 4.2

Landscape Use Types (LUT)
Playground
Community Garden
Athletic Field
Passive Park
Dog Park
Landmark
Schoolyard
Urban Farm
Café Space
Performance Space



2. **Community Garden.** As defined in this plan, community gardens are areas divided into individual garden plots and used by residents to grow food. There are currently eleven community gardens in use throughout the city. Together they comprise over 225 differently sized plots, all of which are filled to capacity. Community garden plots are very desirable in Somerville with wait lists with more than 200 people on them. Each community garden has a garden coordinator who works with the Conservation Commission to ensure that the gardens are properly maintained. Some of these gardens have been in production for over 35 years, and all are sources of community pride. Two are privately owned (Tufts and Avon), one is on MBTA land leased by the City (Bikeway Community Garden), and one is on land owned by the Somerville Housing Authority, for the exclusive use of residents (Mystic). Many of the gardens are visually blocked off to the public. (See Appendix A: Community Gardens Map)

3. **Athletic Field.** Athletic fields are specifically designed for sports to be played on them. Three City-owned properties (Trum Field, Lincoln Park, and Conway Park), three DCR-owned regional parks (Foss Park, Dilboy Field, and Draw Seven Park), and the playing fields owned by Tufts University serve as the recreational backbone for the city’s sports-field users, both formal and informal. Smaller, City-owned fields such as Hodgkins Curtain Park, Capuano Field, and Nunziato Field provide more limited opportunities for field sports. These ten properties constitute all of the playing fields in Somerville. During peak athletic hours (weekdays 3-9pm, and weekends in the Spring and Fall) the current fields are booked to capacity by school and youth league teams playing and practicing on the fields. Demand for playing fields far outweighs the supply, causing the natural grass fields to be heavily programmed and used at levels that make maintaining a quality natural grass surface impossible. Recently, the shortage hours available during peak hours on the City’s large and medium rectangular fields has created a community conversation about accommodating youth recreation and the merits of natural grass and artificial turf. (See Appendix A: Athletic Fields Map)

4. **Passive.** Passive recreation areas accommodate a number of different uses that occur in many settings. These include walking, jogging or biking; picnicking; sitting on benches or at tables; and moving through (on bike or on foot) trails or paths. Given the restorative role of the naturalistic parks within Somerville’s densely populated, urban landscape, the city’s passive and waterfront parks are an important use type. Powderhouse and Prospect Hill Parks provide desirable views and meandering walks, while smaller pocket parks, like Ed Leathers, Quincy Street, and Symphony Park, provide quiet contemplative spaces. Although water quality in the Mystic River and Alewife Brook are not yet pristine, both water quality and the removal of invasive species have improved in the last five years. Additionally, completion of DCR’s Sylvester Baxter Park in 2013 has created a 5.4 acre park that reconnects people with the Mystic River. It is used for picnicking, recreation, community gatherings and exercise classes and has seen an incredible transformation from a derelict space to beloved riverfront park.

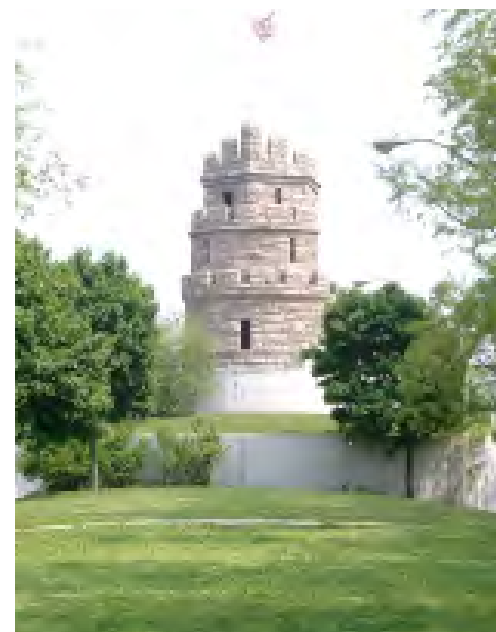
5. **Dog Park.** Often referred to as Off-Leash Recreational Area (ORLA), Somerville presently has four parks designed for dogs to interact off-leash. The most recently built, MaxPac Dog Park, is a Privately Owned Public Space generated through development. When properly planned and sited, Dog Parks are assets for community residents – dog owners and non-dog owners alike. OLRAs reduce the need for leash-law enforcement and, more importantly, provide a safe, secure environment for dogs and their owners to exercise and interact without needing to compete with other park users for open space.

6. **Landmark.** Parcels of land set aside to commemorate an historic person or event are called landmarks. These include historic cemeteries, small parks, like Henry Hansen Park, or landscaped areas like Paul Revere Park, as well as memorial structures and sculptures erected to commemorate people or events, such as the Union Soldier Memorial.

7. **Schoolyard.** Many of the city’s elementary/middle schools have a yard attached to them. In the past , these were often tarmac expanses where children would run around. The City has begun to turn its attention to schoolyards recently with the goal of building better play and learning environments adjacent to schools. One example is the recently completed East Somerville Community School which is used heavily by the community during school breaks and non-school hours. Many schoolyards are under a license agreement between the City of Somerville and the Somerville School Committee. This agreement permits the City to use the school grounds as neighborhood playgrounds. Schoolyards, however, are not protected open space.

8. **Urban Farm.** An urban farm is land used for the purpose of growing edible or sellable crops in the city. Different from a community

Somerville’s open spaces accommodate a wide range of users and facilitate the city’s vibrant outdoor life.





City spaces are used for a variety of uses, including growing food, socializing and the arts.



garden, an urban farm is run by a business or group with the goal of crop production. Presently, two parcels of land fall into this use category, both comprising the South Street Farm, which is farmed by Groundwork Somerville, a non-profit group focusing on at-risk youth.

9. **Café Space.** These spaces, equipped with tables and chairs, are used for seating, eating, game playing, and general gathering. Often located in urban plazas, which are not conventionally considered recreational or open space, this landscape use type is vital to the vibrancy of a city’s street life. In addition, cafe spaces can be accommodated in small parcels of land and can activate spaces, especially adjacent to commercial uses. Recently, pilot projects introducing movable furniture, parklets and participatory art projects, as well as tactical urbanism projects have worked towards re-imagining and activating street and plaza space. (See Appendix A: Plazas Map)
10. **Performance Space.** This landscape use type can often be accommodated in multi-use spaces, and is important in Somerville, given the vital role that art plays in the city’s public space. Street festivals, music performances and art exhibits are not only a local source of pride, but a regional draw to the city. Multi-use amphitheatres, stages and display areas are crucial to supporting the vibrancy of the arts in Somerville.

4. C. WATER RESOURCES

While Somerville’s water resources create a unique open space amenity and distinctive riparian environments, present day pollution of these water resources—although improving— limits their full potential for active water usage (see map 4C: Water Resources at the end of this section).

SURFACE WATER RESOURCES

Surface water resources, shared with Medford and Arlington, consist of the last mile of the Alewife Brook and the last mile of the lower Mystic River to the Amelia Earhart Dam. Both the Alewife Brook and the Mystic River are part of the Mystic River watershed, which encompasses approximately 76 square miles and contains 22 communities, in which over 400,000 persons live. (See Appendix A: Water Resources Map)

WATER QUALITY

Due to grassroots, municipal and regional efforts, water quality in Somerville has continued to improve. Local advocacy groups, the City, the Mystic River Watershed Association, the Metropolitan Area Planning Council (MAPC), and Massachusetts Water Resources Authority (MWRA) have worked to increase access to water resources, educate residents about the importance of urban waterways and implement various physical projects that have improved water quality.

Alewife Brook

As reported by the (MWRA) in 2009, “the water quality of Alewife Brook is often impaired due to bacteria and other pollutants from a number of sources, including cross connections between sanitary sewers and storm drains, urban stormwater runoff and Combined Sewer Overflows [CSOs]... and generally fails to meet state bacteria standards for fishing and swimming.” Since 1996, MWRA and the cities of Cambridge and Somerville have completed several projects in MWRA’s long-term CSO control plan for the Alewife Brook on schedules mandated by a court order. Today, these completed projects are predicted to reduce average annual CSO volume to Alewife Brook by 85% (from 50 million gallons in 1997 to 7.3 million gallons) and reduce the frequency of discharges from 63 times a year to seven times a year on average. Past accomplishments by the City of Somerville include the closure of numerous outfalls in the 1980’s and the 1990’s. Future work will continue to focus on reducing CSO volumes and activations in an effort to improve overall water quality and maintain Class B (“fishable/swimmable”) water quality standards 98% of the time.

Mystic River

Water quality in the Mystic River Watershed is comparable to many other urbanized watersheds where dense development on land is contributing pollutants to the water.

The MWRA’s 2014 Annual Progress report concludes that the Mystic River shows improvement in all areas of the Mystic after 2008, with the Lower Mystic and Mystic River mouth having the best water quality. These

Although water quality in the Mystic River has improved, localized flooding continues to be a problem in Somerville due to its outdated infrastructure.



areas meet water quality limits most of the time in all weather conditions for 2008 through 2014. Bacterial water quality in the Upper Mystic is also good, with bacteria meeting limits more than 90% of the time in all but heavy rain. While conditions worsen in heavy rain events, these rainfall conditions are relatively infrequent.

While water quality has improved, so have the methods for measuring it. In coordination with the Mystic River Watershed Association (MyRWA), EPA is utilizing an enhanced, more locally-specific analysis of water quality in the Mystic River watershed to illuminate environmental conditions for the public. Instead of one grade for the entire watershed, EPA and MyRWA are issuing grades for each segment of the watershed, totaling 14 separate stretches of river and its tributaries.

This localized analysis of the data has confirmed that water quality in the main stem of the Mystic River, including the Upper and Lower Mystic Lakes, is quite good on a regular basis. On the other hand, water quality in many of the urban tributary streams in the Mystic River watershed is poor. Water quality in the main stem of the river from the Mystic Lakes, through Medford Square, and on to Boston Harbor, meets water quality standards nearly all of the time, especially in dry weather.

Millers River

The Millers River, which once ran from Union Square to the Charles River, was filled, ultimately eliminating potential opportunities to provide a stormwater connection to an adjacent water body. Sections of the river now flow underground through a series of drainpipes. These pipes, routed through the flats of Cambridge and emptying into the Charles River, affect the CSO volumes into the Mystic River and Alewife Brook due to interconnections throughout the City's drainage systems.

FLOOD HAZARD AREAS

Within Somerville, the 100-year floodplain – or the estimated lateral extent of floodwater that would theoretically result from the statistical 100-year frequency storm event – is restricted to the banks of the Mystic River and the Alewife Brook. Along the Mystic River north of the Amelia Earhart Dam, the floodplain boundary parallels the western and southern bank. South of the dam, the floodplain boundary extends west approximately 100-feet into DCR's Draw Seven Park. Along Alewife Brook, the floodplain area is larger, extending at its widest point approximately 500-feet from the bank. DCR parklands in both of these areas serve to provide water storage capacity during flood events.

Somerville's historical floodplain was likely much larger than the areas noted above. The filling of marshlands to make way for rail yards and other industries, combined with the channeling of Miller's River, consumed most of the City's flood storage capacity. The Amelia Earhart Dam, located at the confluence of the Mystic and Malden Rivers, has also reduced the area's flood storage potential. The dam is used to eliminate tidal influence upstream and to lower the river level in anticipation of coming storms.

Much of the city's lower elevation neighborhoods—including Union Square, Somerville Avenue, historic rail beds, and parts of Davis Square—suffer from localized stormwater flooding during sudden heavy storm events, because of large amounts of impervious surfaces, the piping of the Miller's River and the filling of its floodplain, and other alterations.

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The Mystic River continues to attract users pursuing a number of recreational interests, including boating, canoeing, kayaking, bird-watching, wildlife viewing, and fishing.

Wetlands

Most of Somerville's wetlands were lost due to extensive development during the first half of the 20th century. Those that remain are restricted to the 100-foot buffer zone on the shores of the Alewife Brook and the lower Mystic River and provide landscape diversity, natural habitat and recreational enhancement. Specifically, the Mystic River Reservation on the northern shore of the Mystic River in Medford is a vital and much used habitat and recreation area. An inspection by the Conservation Commission in 2007 determined there were no other existing wetlands within the city.

Aquifer Recharge Areas

Somerville's only aquifer recharge area is located mostly in Medford. This aquifer is classified by DEP as a "medium potential aquifer unlikely to be used." Somerville obtains its drinking water from the MWRA Quabbin Reservoir and therefore contains no drinking-water supply aquifer recharge areas.

RECREATION

With the improving water quality of the Alewife Brook and the Mystic River, both areas continue to attract users pursuing a number of recreational interests, including boating, canoeing, kayaking, bird-watching, wildlife viewing, fishing (in the Mystic), and other forms of outdoor activity. The Blessing of the Bay Boathouse, owned by DCR, offers public canoe rentals and is used both by private rowing teams and by the City's recreation department. The City, through an Environmental Trust Grant, recently made improvements including ADA ramps into the boathouse and to the parking lot, a mural along Shore Drive, way-finding signs from Foss Park to the boathouse, a new floating dock/gangway ramp and lighting, as well as the programming of events that celebrate the river. The Blessing of the Boathouse area is now connected to the rest of the Mystic River park system through a new DCR bridge.

SUCCESS STORY

The City of Somerville's URBAN FORESTRY INITIATIVE

SINCE THE COMPLETION OF the “Street and Park/Public Space Tree Inventory Management Plan” in 2009, Somerville has continued to increase and protect its tree canopy. The City is committed to developing initiatives and best management practices to preserve and expand the existing tree canopy and ensure that it continues to thrive for future generations.

Approximately 77% of Somerville's surface is impermeable. This high percentage, paired with Somerville's close proximity to major highways, has resulted in the urban tree canopy playing a fundamental role in resident wellbeing. From removing carbon dioxide and harmful pollutants from the air, to reducing storm-water runoff and urban heat island effect, to increasing property values and beautifying urban landscapes; trees are one of the most significant investments a city can make. Since the fall of 2010 Somerville has planted street trees in the fall and

spring, increasing its inventory by 1,279 public street trees. The public tree planting program was also re-designed in order to best care for the city's 12,341 trees. Instead of splitting plantings between Somerville's Department of Public Works (DPW) and the Office of Strategic Planning and Community Development (OSPCD), OSPCD has taken over tree installation, leaving all pruning and tree care to DPW. In addition to this operational change, greater attention has been paid to species selection and diversity as well as arboricultural best practices. Other urban forestry efforts include proactively treating for the Emerald Ash Borer and educating the public about tree pests and disease. OSPCD will also be working with DPW on training for proper tree care, pruning and best management strategies. Somerville's Urban Forestry Initiative has been highly successful and will continue to develop in response to the City's and the community's recognition of the importance of trees.



TREE CITY USA

Somerville's trees are a source of pride. “Tree City USA” is an Arbor Day Foundation program that was started in 1976 to support cities in planting trees and recognize the accomplishments of municipal tree initiatives. Somerville has been awarded the “Tree City USA” designation for 20 years. In addition to spending over \$7 per capita on public trees, the city has a community forestry program, a tree care ordinance and an official Arbor Day Observance and Proclamation. Elementary school kids, after school programs, and the Green Club at the Somerville High School have all participated in celebrating Arbor Day.



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77%

▲ of Somerville is impervious surface

12,341

▲ Total number of public trees in Somerville

1,279

▲ Number of street trees planted since 2010

20 years

▲ Years Somerville has received the “Tree City USA” designation from the Arbor Day Foundation



URBAN FORESTRY

The City is dedicated to developing initiatives and best management practices to preserve the existing urban tree canopy and ensure that it continues to thrive for future generations.

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4. D. VEGETATION

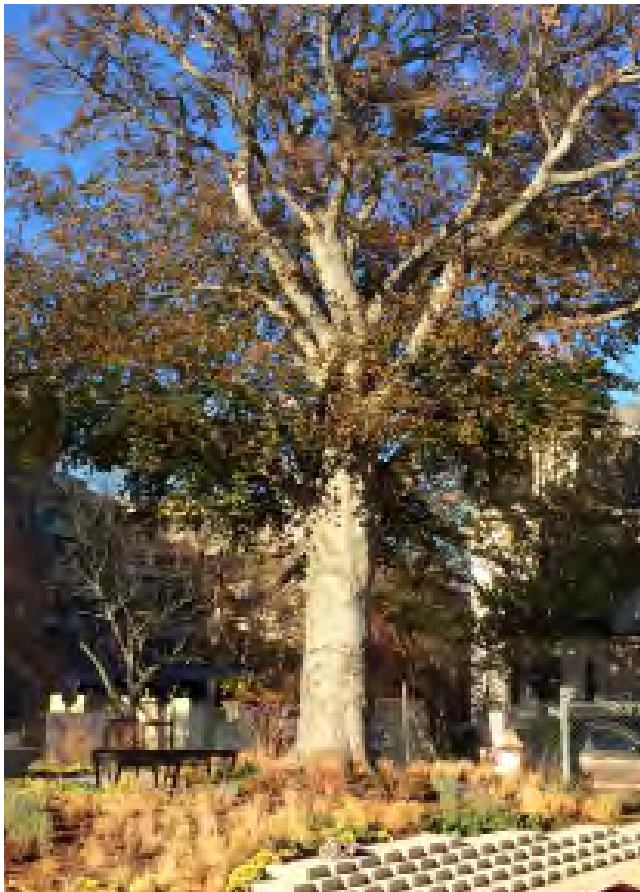
With the exception of slivers of land along railway corridors, there is little forest land in Somerville. The same can be said of agricultural lands; although there have been recent additions of urban agricultural parcels, they bear little resemblance to the city's traditional agricultural past.

The riparian soils along the Mystic River support a diversity of vegetation which provide habitat for urban wildlife. Many native tree and shrub varieties grow along the River, including silver maple, alder, American elm, white oak, poplar, birch, dogwood, sumac, black cherry and cottonwood. Yet invasive species, most notably water chestnut, tree-of-heaven, phragmites, oriental bittersweet, Norway maple, and false indigo bush have infested large areas along the Mystic shoreline. Invasive vegetation competes with native plants for limited natural resources, dominating habitats and reducing food and shelter for native wildlife. Although considerable invasive-species data has been collected in certain areas (e.g., along Mystic River and the Somerville Community Path), a citywide inventory of the types and density of invasive populations in Somerville has not been completed.

This 100 year old Beech, *Fagus sylvatica*, located at Symphony park is much beloved by the neighborhood. Root protection measures were implemented during park construction to protect it.

Somerville's parks are home to some of the most mature and stately trees in the city. Powderhouse Park, for instance, has a number of mature red oaks and white pines that tower to heights of more than 80 feet. Symphony Park was carefully designed around the protection of a beloved 100 year old champion Beech tree. Within the northern Mystic River parks,

one may find majestic black and white oaks. And, along the old railroad right-of-way, now the Somerville Community Path, there are several tree species, including silver maples, sugar maples, honey locusts, northern catalpas, and apple trees. Although the tree species are diverse, there are no known rare or endangered plant species in Somerville. By far, however, the largest number of public trees can be found in the city's streets.



URBAN FORESTRY

Despite Somerville's history of intense land use and development, over 12,000 trees grow in the public right-of-way (i.e., along streets, in parks, and on municipal property), and thousands of others are found on private residential and commercial property. Together, these trees comprise an often overlooked but vital urban tree canopy which provides a host of ecological, social, and economic benefits to individuals, neighborhoods, and the city. The Urban Forestry Initiative manages and supports the stewardship of the city's tree canopy.

In 2009, the City commissioned a "Street and Park/Public Space Tree Inventory Management Plan." The Davey Resource Group inventoried 11,062 (97.27%) trees. Of these,

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9,230 (81.16%) were street sites, 2,112 (18.57%) park/public space sites, and 30 (0.26%) are borderline right-of-way trees. The report estimated the total value of Somerville’s inventoried street tree population at \$15,903,566.21 and the average value per tree at \$1,437.68 (in 2009). In addition to their monetary value, trees provide innumerable environmental and aesthetic benefits that cannot be quantified. In recent years, the city’s trees have begun to receive the amount of attention they deserve and have been valued as an important asset.

Increasing Tree Canopy

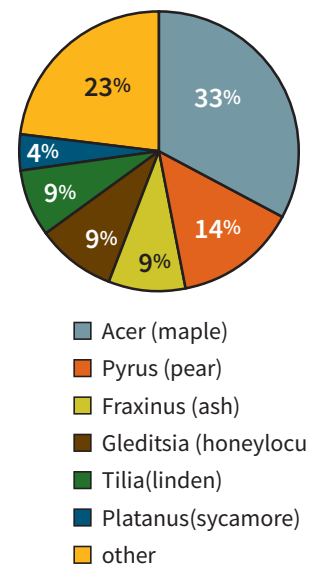
As a guiding document to the Somerville Urban Forestry Initiative, the 2009 Davey Tree Report has served as an invaluable resource. In 2011, the Tree Planting Program was moved from the DPW to OSPCD. Management of the program in OSPCD has allowed the DPW to focus on the maintenance and care of trees while outside contractors, managed by the Green Infrastructure Planner in OSPCD, focus on the planting of new and replacement trees. As the Tree Planting Program evolves, OSPCD is presently hiring an arborist to provide necessary training to DPW staff and to assist with furthering the recommendations of the 2009 Davey Tree Report.

The 2009 Davey Tree Report provides an inventory of the city’s existing tree population, comprised of 101 species representing 52 genera. Since 2009, the City has added 1,345 trees to the street tree population, bringing it to 10,575 street trees. Based on the recommendations in the report, tree species are selected or discouraged to increase biodiversity and age diversity in the overall population, to preserve seasonal interest, and to establish replacements for significant specimen trees. Tree placement has also focused on meeting ADA requirements on the city’s sidewalk and streets and on monitoring newly planted trees within the warranty period. The arborist will assist the Green Infrastructure Planner with creating an Urban Forestry Plan and the DPW crews with implementing it as well as a Young Tree Training Pruning Program and a Standard Operations Manual plan.

Care & Maintenance

The 2009 Davey Tree Report also assessed the physical condition of the trees, both by evaluating the health of the individual tree, and any safety concerns the tree could cause in its surroundings. This data provides a framework for addressing the needs of each tree and for prioritizing the safety of residents. Of the 2009 inventoried tree population, there were 2,801 (25.32%) rated in Good condition, 6,389 (57.76%) in Fair condition, and 1,777 (16.06%) in Poor condition. There were 95 (0.86%) Dead trees. With this data, the DPW has been able to prioritize tree removals and moderate and high risk level maintenance. Moving forward, the arborist will train DPW crews on proper mulching, tree removal and planting, safety risk assessment, tree health- including disease and pest management, proper trimming and pruning of all sized trees, soil health and pit maintenance as well as preventing mechanical damage to trees with lawn mowing equipment, string trimmers and snow removal equipment. In addition, with an updated data set, both departments will be able to implement a continual routine maintenance cycle for the tree population to ensure pruning of all trees every five years and a system of continues maintenance.

FIGURE 4.1 PERCENT OF TREE SPECIES TYPES IN SOMERVILLE



Education & Stewardship

An important component of the Somerville Urban Forestry Initiative, and one that needs further development, is building stewardship of the city's trees and educating the general public about the benefits of urban trees. The Green Infrastructure Planner, with assistance from the arborist, will develop a "Champion Tree Program" to encourage residents to nominate beloved trees. Educational efforts will also focus on teaching the general public about tree disease and pest prevention, and on importance of urban tree canopy in mitigating heat island effect, absorbing storm water and improving quality of life. All of these public relations efforts will bolster citizen interest and City support for the Somerville Urban Forestry Initiative.

4. E. FISHERIES AND WILDLIFE

Although Somerville lacks large areas of natural habitat, it does support a diversity of plant and animal species, typical in an urban environment. This biodiversity is greatest along the Mystic River and Alewife Brook and thins toward the city's center, where there are fewer desirable areas of nesting and feeding habitats. Yet, there are several railroad rights-of-way in Somerville that serve as important corridors for wildlife. These railways often have steep, heavily vegetated banks that offer protection as well as nesting and feeding habitat for birds and mammals and reptiles, like garter snakes.

Although the best mammalian habitat may be in the wooded rail corridors and the river banks, resident mammals are spread throughout the city, occurring in many of the neighborhoods, away from both parks and railroads. These mammals include gray squirrels, raccoons, opossums, skunks, mice, rats, and even brown bats. The river areas may provide access points for rabbits, foxes, muskrats, moles, shrews, and other mammals, but documentation of these species is lacking. It should be noted, however, that all of these latter species have been documented upriver from Somerville and therefore have the potential for occurring in the city.

Given its location along the Atlantic Flyway migration corridor, bird life is relatively varied in Somerville. Identified species include cardinals, chickadees, juncos, mocking birds, blue jays, downy woodpeckers, crows, mourning doves, robins, nuthatches, gulls, catbirds, grackles, mallards, Canada geese, red-tailed hawks, swans, herons, terns, osprey and woodcocks. All of these birds, however, are habitat specific and are not found throughout the city; many are limited in their occurrence and can only be found in specific habitats, such as along the Mystic River or in railroad rights-of-way. The Massachusetts Audubon Society has designated the Mystic River Watershed as an "Important Bird Area." (IBA). Each Spring, the herring run (discussed below), provides a tremendous food source for gulls, cormorants, and, most impressively, black-crowned night-herons.

From May to the end of June, blue-back herring and alewife migrate up the lower Mystic River to the lower Mystic Lake, and up the Alewife Brook. There, the fish spawn and then return to the ocean. While there are no documented sites of herring spawning in Somerville, because of their travel patterns, they are considered a fishery resource within the city. Other fishery resources include the freshwater fisheries of the Mystic River



The migration of the blue-back herring and alewife is preserved by volunteers who wade into the water each spring to boost spawning herring into buckets over the dam and into the Upper Mystic Lake.

and Alewife Brook system. The species that make up that system are not well inventoried, but it is known that carp have invaded both the river and the brook.

The major problem for fisheries and wildlife in Somerville is the fragmentation of available habitat areas. For instance, the normal upstream migration of blue-back herring and alewife into the lower Mystic River is inhibited by the presence of the Amelia Earhart Dam at Assembly Square. Although a fish ladder was installed at the dam, it is not in working condition. The migration is preserved only by the actions of DCR personnel who open the boat lock to allow fish passage several times during the spring, and by volunteers who wade into the water each spring to boost spawning herring from the Lower Mystic Lake into buckets over the dam and into the Upper Mystic Lake.

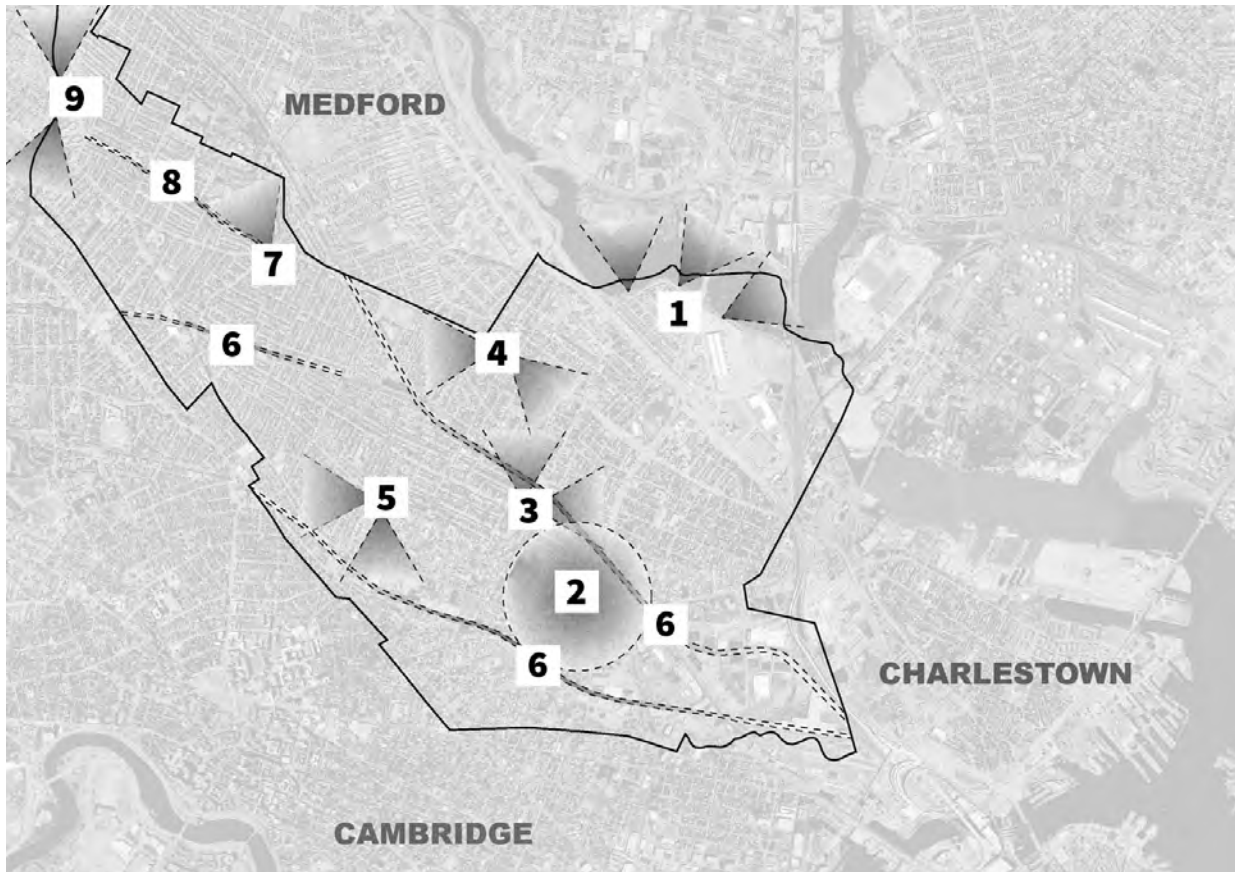
Although the Somerville Conservation Commission has participated in the Commonwealth's Biodiversity Days, the wildlife of Somerville has not been formally catalogued; therefore, official statistics about biodiversity populations and nesting areas are not known. It is assumed, however, that there are no rare or endangered species inhabiting Somerville.

4. F. SCENIC RESOURCES AND UNIQUE ENVIRONMENTS

SCENIC LANDSCAPES

As described in Section 3.B, Somerville's historic legacy of residential development without planned open space has resulted in a series of small, scattered parks that must meet demanding community needs. Large, scenic landscapes are few, and those that exist, such as Central Hill Park or Foss Park, have suffered from accommodating changing community needs without a master plan to support trees, preserve unique character, and provide adequate maintenance. (See Appendix A: Unique Features Map)

FIGURE 4.2 NOTABLE SCENIC VISTAS



Due to its unique physical geography, however, Somerville has an abundance of scenic perspectives in a very small land area. Some of the “seven hills of Somerville” command excellent views of the Boston metropolitan area, and hilltop open spaces offer cool breezes and respite in the summer. Protected lands along the Alewife Brook and Mystic River also provide valuable scenic views and a welcome refuge from the city’s urban character. Finally, there are street corridors that also provide important scenic perspectives. From east to west through the city there are nine notable scenic vistas in Somerville:

1. From the banks of the Lower Mystic River near Assembly Square looking north and east in the direction of the Amelia Earhart Dam, and along Shore Drive looking north and east across the Mystic River toward Medford.
2. From the summit of Prospect Hill (particularly from the Prospect Hill Monument) in all directions. Excellent views of the Cambridge and Boston skylines.
3. From Central Hill looking toward the northern suburbs (the site of original cannon defenses) and southeast in the direction of the Boston skyline.
4. From Winter Hill looking southeast toward the Boston skyline, and west at sunset.

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5. From the crest of Spring Hill (particularly along Summer Street at St. Catherine’s Church and at the corner of Craigie Street) looking south and west over Cambridge.
6. Former and current railroad corridors: from any of the railroad bridges looking down the tracks, and along sections of the Community Path looking west toward Route 2 in Arlington.
7. From Nathan Tufts (Powderhouse) Park overlook looking northwest over Tufts University.
8. From Powderhouse Boulevard looking in either direction, for the tree canopy/setback.
9. From the open space along the shore of the Alewife Brook on Somerville’s western boundary, in all directions.

HISTORICALLY SIGNIFICANT AREAS

Somerville greatly values and commemorates its significant historic holdings, including many parks and landmarks. Several public landscapes are used for historic reenactments, celebrations, and other educational events. The following open spaces are of particular historic and cultural interest:

Paul Revere Park

This park is located at the junction of Broadway and Main Street, at the crest of Winter Hill. Often referred to locally as the “smallest park in the world” the site is marked by a simple stone to commemorate the route taken by Paul Revere on his ride to Lexington and Concord. This is also the site of the Winter Hill Fort, a Revolutionary stronghold during the siege of Boston and a prisoner of war camp.

Milk Row Cemetery

Milk Row cemetery is located on the south side of Somerville Avenue opposite the terminus of School Street. Originally part of the Samuel Tufts farm, this land was established as a cemetery in 1808 with the condition that the land be used only as a burying ground and that it always be fenced. The City of Somerville was given control of the site in 1893. The cemetery is no longer in active service but is featured in local historical walks and events. The first Civil War Memorial in the country, erected in 1863, is the main focal point of this site.

Nathan Tufts Park (also known as “Powderhouse Park”)

This park is the site of a historic powderhouse, originally built in 1704 as a gristmill. In 1747 the mill was deeded to the Province of Massachusetts Bay for use as a public powderhouse. The first encounter of the American Revolution occurred here in 1774, when the British seized more than 200 barrels of gunpowder. The property was later owned by the Tufts family, which operated a large brickyard just east of the site. At the end of the 19th century the family conveyed the property to the City with the stipulation that a park be erected around the Powderhouse for public use. The Powderhouse was renovated by the City in the late 1990s and the renovation of Nathan Tufts Park completed in 2003.

Some of Somerville’s parks were locations of important historical events which are commemorated yearly.



Prospect Hill Park

Prospect Hill, one of the highest of Somerville's drumlins, was the site of camps and fortifications built after the Battle of Bunker Hill. The Battle of Prospect Hill occurred when the British troops were retreating from Lexington and Concord. The first flag of the United Colonists was raised on January 1, 1776, on the highest point of the hill. The top of the hill was later lowered to fill adjacent meadows and to form the Boston and Main Railroad yard in the Brickbottom area southeast of Prospect Hill. A monument erected at this site commemorates Somerville's involvement in the Revolutionary War.

ARCHAEOLOGICALLY SIGNIFICANT AREAS

Due to the extensive movement, extraction, and filling of lands that has occurred in the city in the past 200 years, there are no known areas of archaeological significance, although further research may reveal interesting industrial or municipal dump areas.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

According to DCR, as of 2010 there are no designated areas of Critical Environmental Concern within city limits³.

4. G. ENVIRONMENTAL CHALLENGES

CLIMATE CHANGE AND RESILIENCY

Somerville, like all cities, is entering a critical phase in planning for and reversing the effects of climate change. As the region sees hotter days, fewer but more intense precipitation events, and the possibility of more drought, planners have turned to thinking about how cities can become more resilient and more adaptable while implementing strategies to reduce greenhouse gas emissions. In so doing, it has become increasingly clear that there is a need for both local, regional and global efforts. One example of the a regional effort is Mayor Curatone's leadership role in the Metro Mayors Coalition (MMC) which seeks to bring about regional solutions to issues of climate change. (See section 3A.)

On the municipal planning level, in 2015, the City of Somerville began the process of formulating a Climate Change Plan with the goal of becoming carbon neutral and resilient by 2050. The two key goals of the plan are: 1) to decrease the contribution to climate change by reducing the collective carbon emissions of both the City and its residents, and 2) to prepare Somerville to thrive amid the potential impacts of climate change, such as increased flooding and intensified storms. As a first step, the City is working on identifying a baseline by measuring present energy use and assessing expected challenges climate change could bring. With that data, the City will reach out to community members, stakeholders, and experts to develop priorities and a plan for reaching the goals of being carbon neutral by 2050 and developing resiliency as a city. To date, the City has conducted:

3 Source: <http://www.mass.gov/eea/docs/dcr/stewardship/acec/listacec.pdf>

- a baseline greenhouse gas (GHG) inventory
- a resident survey on alternative energy and GHG emissions reductions
- a global crowd-sourcing exercise to generate innovative ideas on deep carbon reductions

Next steps are the completion of a Climate Change Vulnerability Assessment (CCVA) that prioritizes and ranks the risk of climate change impacts on the critical systems in Somerville, including built infrastructure, natural systems, populations and social services, and the economy. The GHG inventory and CCVA will serve as the baseline data for identifying mitigation and adaptation strategies to meet the 2050 goal.

Climate Change and Parks

It is anticipated that the CCVA will provide valuable information for park planners including data on:

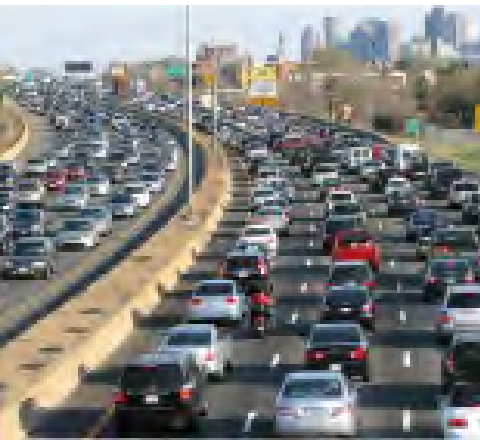
- Sea level rise
- Damage from violent storms
- Invasive species and pests
- Landscape succession

Temperature Related impacts

With this information, landscape planners can identify especially vulnerable areas, such as waterfront landscapes, geographically exposed landscapes, and park and open space sites with a history of flooding. Targeted strategies for increased resistance and resilience of specific park and landscape assets can then be developed. Conversely, this data also allows planners to consider how natural areas or constructed landscapes along waterways could serve as buffers to surrounding inhabited areas and how parks can serve as part of the solution to some of the identified problems.

While these valuable assessments are being conducted, OSPCD has already begun to implement best practices so that the city's parks can play a role in mitigating contributions to climate change and building resiliency to its effects. Although it is difficult to predict all the changes that are coming, Somerville parks planners and landscape architects are planning for and implementing the following:

1. Selecting plant and turf species that are more resilient to warmer/more severe climates and more drought tolerant.
2. Employing sustainable practices in the maintenance of parks as they relate to materials used, plant health and the ecosystems of parks.
3. Reduce water usage through plant species selection, sustainable maintenance practices, low-flow water heads in water features, as well as the reuse of capture of stormwater.
4. Improve storm water retention capacity in all parks through the use of permeable pavements, underground storage chambers to store water and rain gardens. (see page 30, stormwater success story)



5. Increase tree canopy on sidewalks, parks and open spaces to reduce heat island effect. Continue to survey health and level of tree canopy city-wide, and to direct resources for replanting and arbor-care as needed to ensure shade and healthy trees. Select species of trees that adapt to heat, drought, pests and wind. Continue to revise tree planting plans to adapt to disease that attack tree species.
6. Reduce energy consumption for park and field lights, and fountains by continually upgrading energy efficient systems and equipment.

BROWNFIELDS

Somerville's brownfields program is administered by the Economic Development Division in OSPCD, with support from the Office of Sustainability and Environment (OSE). The program comprises several innovative initiatives to remediate brownfields sites owned by public, private, and non-profit redevelopers. These initiatives have resulted in new housing, parks, and commercial-end uses within Somerville. Somerville has worked with the EPA on several brownfields-to-parks conversion projects. These include the Allen Street Community Garden , Somerville Junction Park and Ed Leathers Park.

ENVIRONMENTAL JUSTICE

The eastern portion of Somerville generally contains the highest proportion of low- and moderate-income residents in the City. It is also the area that bears the highest burden from transportation infrastructure, such as the elevated I-93, Route 28, several rail lines that do not stop in East Somerville, and various regional truck routes- all of which contribute to air and noise pollution. A recent Community Assessment of Freeway Exposure and Health Study⁴, shows that the populations along the interstate in East Somerville are living in areas with unacceptable levels of ultra fine particle pollution. Additionally, this poorly planned transportation infrastructure acts as a barrier to the area's many public parks, playgrounds, and open spaces, including Foss Park and other DCR parklands along the Mystic River.

LANDFILLS

All municipal solid waste generated in Somerville taken to a waste-to-energy facility in Saugus. All recyclable materials generated in Somerville are transported to a Materials Recovery Facility in Charlestown, MA. The City has no known defunct municipal landfills.

EROSION/CHRONIC FLOODING

Neither erosion nor chronic flooding has been an issue of relevance in the City of Somerville, though as water level rises, this could become a greater concern.

⁴ <http://sites.tufts.edu/cafeh/about/project-team/>

GROUND AND SURFACE WATER POLLUTION; POINT AND NON-POINT AND DEVELOPMENT IMPACT

Despite ongoing monitoring and containment efforts by City departments and Somerville's Conservation Commission, point and non-point source water pollution remains a major obstacle to the realization of the open space and recreational capacities of the City's water resources. The Mystic River is on MADEP's 2014 Integrated List of Waters⁵, for a variety of causes, such as metals, other inorganics, priority organics, unionized ammonia, organic enrichment/low DO, pathogens, oil & grease, taste, odor, and color.

Point-source pollution originates primarily from CSOs upstream from and outside the City's jurisdiction, as well as two remaining CSOs in Somerville, which make water bodies unusable for days following heavy rains. CSO impacts are magnified by the presence of illegal sewer hookups to stormwater collection systems. These problems are shared by most of Somerville's neighbors; however, significant improvements have been made in the last decade.

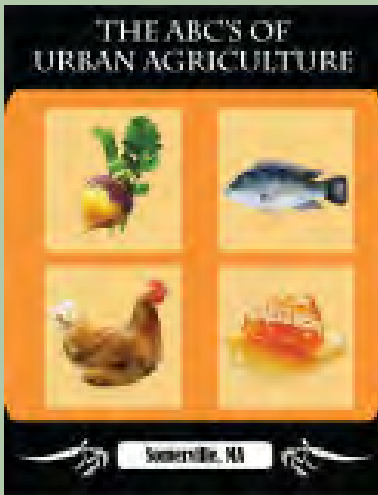
Non-point source pollution issues arise from Somerville's urbanized development, particularly its expansive impermeable surfaces, such as paved residential yards and commercial lots. These impervious surfaces generate large volumes of stormwater runoff, which is commonly contaminated with road and highway dirt, auto leakage, animal waste, trash, and other contaminants. Again, Somerville shares these non-point water pollution issues with most neighboring communities. The current Somerville Zoning Ordinance contains provisions limiting ground coverage with impervious surface on new developments and requiring landscaped areas on all lots. The proposed zoning overhaul will deal with stormwater in more proactive ways.

SEDIMENTATION

The accumulation of sediment on the concrete bottom of the Alewife Brook represents one of the most significant occurrences of sedimentation in the city. This sedimentation continues to compromise the health of the Brook and the delicate riparian habitats which it supports. The City, in collaboration with state agencies, Conservation Commission and local community groups, continues to explore means for alleviating and preventing sedimentation.

5 <http://www.mass.gov/eea/docs/dep/water/resources/07v5/14iwlistp.pdf>

SUCCESS STORY



1st

- ▲ Somerville was the first city in New England to pass an Urban Agriculture Ordinance

Bees & Chickens

- ▲ Can be kept in Somerville legally in accordance with the Urban Ag Ordinance

75

- ▲ Since 2013, 75 residents have been trained as Urban Ag Ambassadors.

URBAN AGRICULTURE

THE MAYOR'S URBAN AGRICULTURE

Initiative grew out of: 1) the City's effort to encourage the growing and eating of healthy, through its fifteen year old anti-obesity program, Shape up Somerville; 2) a long standing practice of residents growing fruits and vegetables in their backyards; 3) a recent community interest in local food and urban agriculture. The initiative includes the passage of the first municipal Urban Agriculture Ordinance in New England, the Urban Agriculture Ambassador Program, the raising of the first City farms at South Street, and other projects which promote growing and eating of local food.

An important aspect of communicating the regulatory framework for urban agriculture in Somerville – the Urban Agriculture Ordinance and the Board of

Health rules—was the creation of an easy to understand guide called the “ABC’s of Urban Agriculture.” The document explains the rules and best practices and also provides all the required forms for getting the required licenses. Additionally, the City promotes knowledge sharing through an Urban Ag Blog and a Somerville Loves Urban Gardening (SLUG) group on Facebook.

URBAN AGRICULTURE AMBASSADOR PROGRAM

Growing out of the passage of the first Urban Agriculture Ordinance in New England, and funded by the Mayor's Office, 75 of Somerville's residents have participated in the Urban Agriculture Ambassador Program (UAAP) since its inception in 2013. The program offers a series of workshops that teach residents

The Green Team and the Urban Agriculture Ambassadors are critical to maintaining the South Street Farm and to promoting urban agriculture in Somerville.





GROW

South Street Farms 1 & 2 are the largest spaces in Somerville for growing local vegetables. Groundwork Somerville's Green Team provides job and leadership skills to Somerville kids.





how to grow food successfully in a dense city. Topics included intensive small space growing, urban soil health, crop maintenance, raised bed construction, as well as chicken and bee keeping. Once their hands-on training has been completed, the Ambassadors pay their skills forward by volunteering throughout Somerville in the many non-profits and community groups centered around urban growing. Urban Ag Ambassadors help out at Shape-Up Somerville’s Mobile Farmer’s Markets, the Community Growing Center, Groundwork Somerville, the Council on Aging, Spring Hill Garden, and the City Hall garden. In this way the City is growing more urban agriculture experts, building community and protecting local food access.

SOUTH ST FARM

In a City of only four square miles, new open space improvements often require abnormal ideas and creative partnerships. In Somerville’s Boynton Yards industrial district, residents, community groups

and city planners let their imaginations run wild, and the result is South Street Farm: a half-acre production-scale farm facility. The idea was launched in 2011, with a youth-employment nonprofit called Groundwork Somerville (GWS) entering into a lease agreement for a small City-owned asphalt lot. In 2012, community volunteers built 13 raised planter beds on the 4,000 square foot space. In 2013, GWS and their youth used funding from the Honeywell Foundation and from the City to build a rainwater catchment system with a bicycle-powered irrigation pump. GWS teenagers managed the site, and successfully grew the farm’s first crop of vegetables.

Based on the success of the first farm site, a second City-owned vacant lot was imagined as the next phase of the farm project. Grant funding from the Massachusetts Department of Agricultural Resources (MDAR), along with foundation support from the Merck Family Fund and in-kind donations from Somerville-

based urban agriculture firm Green City Growers has helped GWS build out the rest of the site. Food production ramped up significantly in 2014, with much of the local produce sourced to City of Somerville’s “Shape Up Somerville” mobile farmers market (see page &&&) or donated to the Somerville Homeless Coalition’s “Project Soup” food pantry. The South Street Farm has helped stimulate a true food systems economy in Somerville, and with favorable growing weather during the spring and summer of 2015, the farm’s third year is expected to yield even more success.

GREEN TEAM

The Green Team is year-round green job and training program for youth ages 14-19, which engages underserved young people in environmental work in their own communities, and builds practical, personal, professional and civic skills. Groundwork Somerville’s Green Team employs 10 youth throughout the academic year and 20 youth for an

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SUCCESS STORY



eight-week summer program. Over the course of nine years, Green Teamers have founded a bicycle-powered compost pickup/delivery system; initiated invasive species removal efforts in the Mystic River; and designed and built the South Street Farm, Somerville's first urban farm, which delivers affordable, healthy produce through the Somerville Mobile Farmers Market and Project Soup. In addition to paid work, Green Team also performs 20 hours of community service each session.

In addition to addressing environmental and social justice issues in Somerville, the Green Team travels throughout the country to train and perform service projects with the National Park Service from Minuteman National Historic Site in Concord, MA and the Boston Harbor Islands to Yellowstone and Shenandoah National Parks.



Somerville has a long tradition of backyard growing. Left: Carmelo Arria, age 87, has been growing in his Union Square yard for 57 years. Right: New, young farmers are learning to grow in the city. The inter-generational practice of gardening and farming in Somerville makes it fun and unique.

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INVENTORY OF LANDS OF CONSERVATION AND RECREATIONAL INTEREST

As this Plan illustrates, the City of Somerville’s parks and open spaces comprise a vital resource for individuals, neighborhoods, and the city as a whole. All of these spaces are used extensively by the city’s more than 80,000 residents. As articulated in SomerVision, Somerville’s Comprehensive Plan, the desire to expand, protect and activate parks and open spaces are important shared community values.

In a shift from Somerville’s last 2008 OSRP, the City has expanded its definition of open space lands to:

“Open space” is publicly accessible, undeveloped land that primarily serves a recreational or cultural purpose. This includes, but is not limited to, publicly accessible parks, playgrounds, community gardens, walking or biking trails, cemeteries, civic plazas, and athletic fields, regardless of ownership or level of protection. Also included as open space are certain water bodies with recreational use, namely Alewife Brook and Mystic River.¹

¹ The 2008 definition is: “Open space” is publicly owned, undeveloped land that is primarily vegetated, or paved areas that serve a recreational or cultural purpose. This includes, but is not limited to, parks, playgrounds, community gardens, walking or biking trails, cemeteries, civic plazas, and playing fields, regardless of the level of protection. Also included as open space are certain water bodies with recreational use, namely Alewife Brook and Mystic River. Not included in this definition, but recognized for their potential usefulness as open space are certain privately owned properties, such as lawns, memorial sites, and other landscaped areas.

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While the City acknowledges that many City and State-owned parcels are protected as open space in perpetuity, the expanded definition allows for the inclusion of Privately Owned Public Space, often referred to as “POPS”. The inclusion of POPS, and other innovative planning tools that allow the private sector to partner with the public sector, allows for the creation of more open space in the city’s transformational areas, adding to the City’s inventory. It also paves the way for the legal framework that assures these spaces remain protected and publicly accessible, regardless of ownership. Because of the intensely urban fabric of Somerville, all publicly accessible open spaces are vitally important and are counted as open space, regardless of ownership. The City of Somerville works diligently to ensure that its residents have access to as much green, open, and inviting space as possible. Table 5.1 below presents the estimated population density of Somerville in comparison to surrounding communities in 2015 (excluding Arlington, for which projections are not available).

TABLE 5.1 2015 POPULATION DENSITY ESTIMATES OF SOMERVILLE AND SURROUNDING COMMUNITIES.²

City	2015 Population estimate	Land Area (SQ miles)	People per Sq Mile	Land area (acres)	People per acre
Arlington*	42,844	5.2	8,239	3296	13
Cambridge	110,402	6.4	17,250	4090	27
Chelsea	39,398	2.2	17,908	1414	28
Everett	46,050	3.4	13,549	2163	21
Malden	61,068	5.0	12,214	2195	28
Medford	57,403	8.1	7,087	5184	11
Somerville	80,318	4.1	19,589	2637	30

*2010 Census

According to the inventory of parks and open space updated in 2016, Somerville has a total of 87 parcels of open spaces, totaling 158.91 acres of land.³ Open space in Somerville makes up 6.1 % of the total land area of the city (see Tables 5.2 and 5.3). These parcels vary in uses—from playgrounds and athletic fields, to community gardens, public plazas and dog parks—and in ownership status—owned by the City, the State of Massachusetts or private entities. A full inventory of open space uses, sizes and amenities can be found in Appendix B.

² 2015 US Census estimates, not available for Arlington, MA

³ With the exception of Matignon High School’s athletic fields, all of these spaces are used by the public, with varying levels of legal protection as public access. Some, like Tufts and City athletic fields, require permissions or permits to be used.

TABLE 5.2 PUBLIC AND PRIVATE OPEN SPACE BY OWNERSHIP

Public Open Space	Acres
City of Somerville	54.0
Somerville Housing Authority	4.1
City of Somerville/MassDOT	.2
Total City Owned	58.3
MA Bay Transit Authority	8.1
MA Dept Of Conservation & Recreation	73.2
Total State owned	81.3
TOTAL PUBLIC OPEN SPACE	139.8
Private Open Space	
Tufts University Fields	14.0
Privately Owned Public Space (POPS)	1.1
Somerville Home for the Aged	.1
Matignon High School	4.2
TOTAL PRIVATE OPEN SPACE	19.3
TOTAL OPEN SPACE (City, State, Private)	158.9
TOTAL LAND AREA IN SOMERVILLE	2624.00
TOTAL % OF OPEN SPACE LAND AREA	6.1%

LANDSCAPE USE TYPES (LUT)

Since the last OSRP, the City has expanded the usage categories of Somerville’s open spaces to account for a wider variety of uses. This comprehensive use typology allows planners to more carefully study how residents are using spaces as well as which types of spaces are lacking in individual neighborhoods or populations. (See Section 4B for descriptions of each Landscape Use Type) The Civic Space Types identified in the proposed Zoning Code (described in Section 3A: Municipal Planning) are composed of one or more LUT’s. This system of typologies is designed to generate new open space that responds to the needs of a populations living in a specific neighborhood.

TABLE 5.3 LANDSCAPE USE TYPES

Landscape Use Types	
Playground	Landmark
Community Garden	Schoolyard
Athletic Field	Urban Farm
Passive	Café Space
Dog Park	Performance Space

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TABLE 5.4 OPEN SPACE BY LANDSCAPE USE TYPE⁴

Landscape Use Type	Primary Use	Secondary Use	Total	% of Total
Playground	25	3	28	26%
Community Gardens	4	7	11	10%
Athletic Fields	10	3	13	12%
Passive Park	25	0	25	24%
Dog Park	2	2	4	4%
Landmark	4	1	5	5%
Schoolyard	9	0	9	9%
Urban Farm	1	1	2	2%
Cafe Space	5	2	7	6%
Performance Space	1	1	2	2%
TOTALS	86	20	106	100

OPEN SPACE PROTECTION IN SOMERVILLE

The following are all forms of open space protection used by the City of Somerville (see Table 5.4 below). Of these types of protection, only protection through deed restrictions, or funding through the Massachusetts Parkland Acquisitions and Renovations for Communities (PARC) Program (often requiring the placement of a deed restriction) are considered by the Division of Conservation Services (and this Plan) to be “in perpetuity”:

Massachusetts Parkland Acquisitions and Renovations for Communities (PARC) Program, Land and Water Conservation Fund Protection/Urban Self-Help Funding Protection. In the case of many Somerville playgrounds, the receipt of grant funding afforded these parcels protection as parklands, essentially in perpetuity. Note that for these properties the protection of Article 97 (below) would apply as well.

Article 97 Protection. A codification of the “Public Trust Doctrine,” Article 97 of the Massachusetts Constitution protects all publicly-owned lands used for conservation or recreation purposes. Before these properties can be sold, transferred, or even converted to a different use, this amendment requires a vote of the Conservation Commission and the Board of Aldermen as well as a roll-call vote of the State House and Senate.

Open Space Zoning. The current Somerville Zoning Ordinance includes a provision for an “Open Space Zoning District,” which affords a degree of protection to open space parcels. Within this district, development is strictly limited, and the only permitted uses are those associated with recreation, farmers markets, outdoor seating, and certain protected institutional uses. Many of these uses require special permits from the Zoning Board of Appeals, providing an additional level of review and protection. POPS also fall under the purview of the zoning ordinance; they are re-

⁴ City parks are often composed of more than one Landscape Use Type, hence the secondary use type.

quired for certain types of projects and are protected as a condition of a special permit with site plan review. The proposed revision to the zoning code adds additional tools for requiring different types of protected open spaces.(see section 3A: Municipal Planning Efforts: Zoning Reform)

Protection through Conservation Restrictions, Easements, or other Deed Instruments. Due to the high costs of acquiring land, it has become increasingly popular to acquire conservation restrictions limiting future development. Similarly, access easements can provide permanent public access to a property. In certain situations, deed restrictions or easements may be granted by a private party as part of a development approval process (as is required under the “Useable Open Space” provisions of the SZO). As with any matters involving real property, care must be taken in the drafting of the restrictions to ensure the rights and interests of all parties are represented and clearly documented. Conservation Restrictions must be approved by the State Division of Conservation Services.

A Note about Schoolyards. Many schoolyards are under a license agreement between the City of Somerville and the Somerville School Committee. This agreement permits the City to use the school grounds as neighborhood playgrounds. Schoolyards, however, do not have an individual zoning designation (with the exception of the University District for Tufts University) and fall into zoning districts as defined by the SZO. While an important place for recreation and play, schoolyards are not protected open space.

TABLE 5.5 OPEN SPACE PROTECTION IN SOMERVILLE

Level of Protection	Sum of Total Acres	% of Total Open Space
In perpetuity	109.7	69%
None	46.5	29%
OS Protection	2.0	1%
SPC	0.8	0%
Grand Total	158.9	100

TABLE 5.6 SOMERVILLE CONSERVATION AND RECREATION PROPERTIES

Name	Ownership	Management Agency	Current Use	Condition	Recreation Potential	Public Access	Public Grant Accepted	Zoning	Degree of Protection
Middlesex Park	Private	PS Northeast, LLC.	Passive	Excellent	Low	Yes	n/a	ASMD	SPC
Middlesex Plaza	Private	PS Northeast, LLC.	Passive	Excellent	Low	Yes	n/a	ASMD	SPC
Albion Playground	City	DPW, Con Comm	Active	Excellent	High	Yes	LWCF	OS	In perpetuity
Alewife Brook Reservation	State	DCR	Passive, Conservation	Good	Medium	Yes	n/a	OS	In perpetuity
Allen Street Community Garden	City	DPW, ConComm	Passive	Good	Low	Yes	CPA, LWCF, USH	OS	In perpetuity
Argenziano Schoolyard	City	DPW	Active	Poor	High	Yes	local	RB/OS	None
Art Farm	City	DPW	Passive	n/a	Medium	Yes	America, Mass Cultural Council	IA	None
Assembly Square Block 2A Plaza	Private	Street Retail, Inc. (FRIT)	Passive	Excellent	Low	Yes	n/a	ASMD	None
Avon Street Community Garden	Private	DPW, ConComm	Passive	Poor	Low	Yes	local	RA	None
Bailey Park	City	DPW	Passive	Poor	Low	Yes	LWCF	OS	In perpetuity
Brown Schoolyard	City	DPW	Active	Good	High	Yes	local	RA	None
Central Hill Park	City	DPW	Passive	Poor	Low	Yes	BSA, local	RC	None
Central Hill Park Library	City	DPW	Passive	Good	Low	Yes	n/a	RC	In perpetuity
Central Hill Park Playground	City	DPW	Passive	Good	Medium	Yes	local, USH, CDBG	RC	In perpetuity
Chuckie Harris Park	City	DPW, Con Comm	Active	Excellent	High	Yes	PARC	RA	In perpetuity
Community Path	State	DPW, Con Comm	Active	Good	High	Yes	CPA	OS/CBD/ROW	None
Concord Square	City	DPW	Passive	Good	Low	Yes	local	ROW	None
Conway Park	City	DCR, REC	Active	Good	High	Yes	LWCF, USH	ROW	In perpetuity
Corbett-McKenna Park	City	DPW	Active	Good	High	Yes	LWCF	OS	In perpetuity
Cummings Schoolyard	City	DPW	Active	Poor	High	Yes	local	RA	None
Dickerman Playground	City	DPW	Active	Excellent	High	Yes	LWCF, PARC	OS	In perpetuity

TABLE 5.6 SOMERVILLE CONSERVATION AND RECREATION PROPERTIES

Name	Ownership	Management Agency	Current Use	Condition	Recreation Potential	Public Access	Public Grant Accepted	Zoning	Degree of Protection
Dilboy Auxiliary Fields	State	DCR, REC	Active	Good	High	Yes	n/a	OS	In perpetuity
Dilboy Memorial Stadium & Pool	State	DCR, REC	Active	Good	High	Yes	n/a	OS	In perpetuity
Draw 7 Park	State	DCR	Active	Inadequate	High	Yes	n/a	OS	In perpetuity
Durell Community Garden	City	DPW, Con Comm	Passive	Good	Low	Yes	USH	OS	In perpetuity
East Branch Library Lawn	City	DPW	Passive	Good	Low	Yes	local	CCD45	None
Community Schoolyard	City	DPW	Active	Excellent	High	Yes	local	RB	None
Elderly Education Center Schoolyard	City	DPW	Active	Poor	High	Yes	CDBG	RB	None
Florence Playground	City	DPW	Active	Poor	High	Yes	CDBG	OS	OS protection
Foss Park	State	DCR	Active	Good	High	Yes	n/a	OS	In perpetuity
Gilman Square	City	DPW	Passive	Good	Low	Yes	local	BA/ROW	None
Glen Park	City	DPW, Con Comm	Active	Excellent	High	Yes	LWCF, CDBG	RB/ROW	In perpetuity
Glen Park Capuano Field	City	DPW, REC	Active	Good	High	Yes	LWCF, CDBG	OS/RB/ROW	In perpetuity
Grimmons Park	City	DPW	Active	Excellent	High	Yes	local	OS	OS protection
Hansen Park	City	DPW	Passive	Good	Low	Yes	local	RC	None
Harris Playground	City	DPW	Active	Poor	High	Yes	LWCF	OS	In perpetuity
Healey Community Schoolyard	City	DPW	Active	Good	High	Yes	local	RB	None
Hodgkins-Curtin Park	City	DPW, REC	Active	Good	High	Yes	LWCF	OS	In perpetuity
Hoyt-Sullivan Park	City	DPW	Active	Poor	High	Yes	CPA, LWCF, PARC	OS	In perpetuity
Kennedy Schoolyard	City	DPW	Active	Good	High	Yes	local	RB/RC	None
Kenney Park	City	DPW	Active	Excellent	High	Yes	local	OS	OS protection
Leathers Community Park	City	DPW	Passive	Good	Medium	Yes	USH, CDBG	BA	In perpetuity

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TABLE 5.6 SOMERVILLE CONSERVATION AND RECREATION PROPERTIES

Name	Ownership	Management Agency	Current Use	Condition	Recreation Potential	Public Access	Public Grant Accepted	Zoning	Degree of Protection
Lexington Park	City	DPW	Active	Good	High	Yes	LWCF	OS	In perpetuity
Lincoln Park	City	DPW, REC	Active	Poor	High	Yes	LWCF	OS/RB/ROW	In perpetuity
Marshall Street Playground	City	DPW	Active	Good	Medium	Yes	USH, OCB	0.00	In perpetuity
Matignon High School Athletic Field	Private	Matignon High School	Active	Excellent	High	No	n/a	RB	None
MaxPac Dog Park	Private	MP Maxwells Green LLC	Passive	Excellent	Low	Yes	n/a	RB	SPC
MaxPac Square	Private	MP Maxwells Green LLC	Passive	Excellent	Low	Yes	n/a	RB	SPC
Milk Row Cemetery	City	DPW	Passive, Historic	Good	Low	Yes	CPA	OS	OS protection
Morse-Kelley Playground	City	DPW, Con Comm	Active	Excellent	High	Yes	LWCF, PARC	OS	In perpetuity
Mystic Housing Development	City	SHA	Active	Good	High	Yes	USH	ROW	In perpetuity
Mystic River Reservation	State	DCR	Passive, Conservation	Poor	Medium	Yes	n/a	OS	In perpetuity
Nathan Tufts Park	City	DPW	Passive, Historic	Good	Medium	Yes	local, LWCF	OS	In perpetuity
North Street Veterans Playground	City	DPW	Active	Good	High	Yes	PARC	OS	In perpetuity
Nunziato Field	City	DPW, REC	Active	Good	High	Yes	local	RB	None
Osgood Park	City	DPW, Con Comm	Active	Poor	High	Yes	LWCF, USH	OS	In perpetuity
Otis Street Playground	City	DPW	Active	Poor	High	Yes	LWCF, PARC	OS	In perpetuity
Palmacci Playground	City	DPW	Active	Good	High	Yes	LWCF	OS	In perpetuity
Paul Revere Park	City	DPW	Historic	Good	Low	Yes	CDBG	RC	None
Perkins Playground	City	DPW	Active	Good	High	Yes	LWCF, USH	OS	In perpetuity
Perry Park	City	DPW	Passive	Good	High	Yes	USH	OS	In perpetuity
Powder House Circle	City	DPW	Passive	Good	Low	Yes	n/a	RB	None
Powerderhouse School Community Park	City	DPW	Active	Good	High	Yes	n/a	RA	None

TABLE 5.6 SOMERVILLE CONSERVATION AND RECREATION PROPERTIES

Name	Ownership	Management Agency	Current Use	Condition	Recreation Potential	Public Access	Public Grant Accepted	Zoning	Degree of Protection
Prospect Hill Park	City	DPW	Passive, Historic	Good	Medium	Yes	CPA, LWCF	OS	In perpetuity
Quincy Street Park	City	DPW	Passive	Excellent	Low	Yes	local	OS	OS protection
Seven Hills Park	City	DPW	Passive	Good	Medium	Yes	n/a	CBD	None
Community Growing Center	City	DPW	Passive	Good	Low	Yes	CDBG, CPA	RB	None
Somerville Junction Park	City	DPW	Passive	Good	Medium	Yes	state, local EPA	OS	In perpetuity
South St Farm	City	GWS	Passive	Poor	Low	Yes	MDAR, CPA	IP	None
Stone Place Park	City	DPW	Passive	Good	Low	Yes	USH	OS	In perpetuity
Statue Park	City	DPW	Passive	Good	Low	Yes	local	0.00	None
Sylvester Baxter Riverfront Park	State	DCR	Passive	Excellent	Medium	Yes	n/a	OS/ASMD	In perpetuity
Symphony Park	City	DPW	Passive	Excellent	Low	Yes	PARC	RB	In perpetuity
Trum Field	City	DPW, REC	Active	Good	High	Yes	LWCF, USH	OS	In perpetuity
Trum Playground	City	DPW	Active	Good	High	Yes	LWCF, USH	OS	In perpetuity
Tufts Community Garden	Private	DPW, Con Comm	Passive	Poor	Low	Yes	n/a	UN	None
Tufts University Recreational Field	Private	Tufts University	Active	Good	High	Yes	n/a	UN	None
Tufts University Triangle Field	Private	Tufts University	Active	Good	High	Yes	n/a	UN	None
Union Square Plaza	City	DPW	Passive	Good	Low	Yes	local	CBD	None
Union Square Triangle	City	DPW	Passive	Good	Low	Yes	local	CBD	None
Veterans Memorial Cemetery	City	DPW	Passive	Poor	Low	Yes	local	RB	None
Walnut Street Park	City	DPW, Con Comm	Active	Good	High	Yes	LWCF, USH	OS	In perpetuity
West Branch Library Lawn	City	DPW	Passive	Excellent	Low	Yes	CPA	RB	None
Neighborhood Schoolyard	City	DPW	Active	Good	High	Yes	local	RA	None

TABLE 5.6 SOMERVILLE CONSERVATION AND RECREATION PROPERTIES

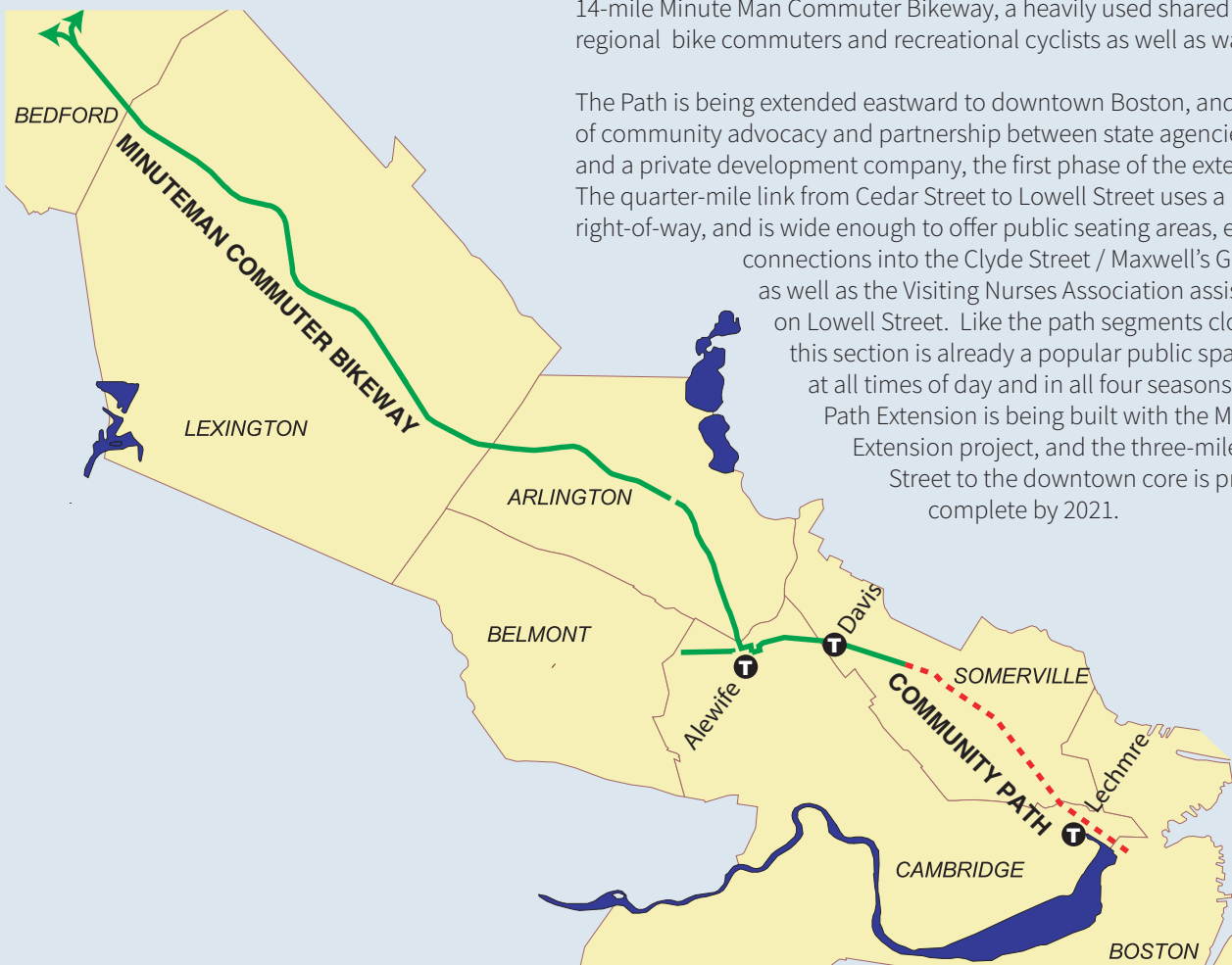
Name	Ownership	Management Agency	Current Use	Condition	Recreation Potential	Public Access	Public Grant Accepted	Zoning	Degree of Protection
Community Innovation Schoolyard	City	DPW	Active	Poor	High	Yes	local	RA	None
Woodstock Playground	City	DPW	Active	Good	High	Yes	LWCF	OS	In perpetuity
Zero New Washington Street Dog Park	City	DPW	Passive	Good	Low	Yes	local	IA	None

SUCCESS STORY

THE COMMUNITY PATH

THE SOMERVILLE COMMUNITY PATH is one of Somerville's most cherished public assets. This linear park, stretching over 1.25 miles, provides over 8 acres of open space and serves as a community transportation route and recreation facility for thousands of Somerville residents and visitors. The path runs from Cedar Street westward through Davis Square to the Cambridge border, where it connects with the 14-mile Minute Man Commuter Bikeway, a heavily used shared path which serves regional bike commuters and recreational cyclists as well as walkers and runners.

The Path is being extended eastward to downtown Boston, and in 2015, after years of community advocacy and partnership between state agencies, city government and a private development company, the first phase of the extension was completed. The quarter-mile link from Cedar Street to Lowell Street uses a historic railroad right-of-way, and is wide enough to offer public seating areas, exercise stations, and connections into the Clyde Street / Maxwell's Green neighborhood, as well as the Visiting Nurses Association assisted living community on Lowell Street. Like the path segments closer to Davis Square, this section is already a popular public space, with diverse users at all times of day and in all four seasons. The Community Path Extension is being built with the MBTA's Green Line Extension project, and the three-mile link from Lowell Street to the downtown core is projected to be complete by 2021.



Map courtesy of Friends of the Community Path

2015

▲ First phase of the Community Path extension was completed in 2015.

2.26 acres

▲ The Community Path extension added 2.26 acres to Somerville's Open Space inventory

1.15 miles

▲ Length of this linear park within Somerville.

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ACCESS

Developments such as the Community Path extension encourage recreation and green commuting. Somerville ranks as one of the top 10 most walkable cities in the United States.



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SUCCESS STORY

CHUCKIE HARRIS PARK

IN 2013, THE CITY OF SOMERVILLE opened Chuckie Harris Park in East Somerville. This 0.75 acre open space was designed using a creative, inclusive and grassroots process that reflects the unique needs of residents in the area. Landscape and play features were custom-designed, and include a retractable movie screen that also serves as a water spray feature, car swings that resemble the historic Ford “Edsel” model manufactured in the neighborhood, and a 12-foot landscaped “mountain” with a huge, multi-generational slide.

program center and the Somerville Council on Aging’s senior center. Teens and seniors were involved in the park design, and elements like the movie screen, community garden plots, a bocce court and custom-designed seats reflect their opinions and needs. The park is also quite close to Interstate Highway 93, and residents emphasized environmental performance in the design. More than 70 new trees were planted, in order to improve air and water quality. Innovative rain gardens infiltrate all storm water runoff from the park, and water the plantings and trees.

Chuckie Harris Park is located next door to Somerville’s Teen Empowerment

4.12

- ▲ Land area of Somerville in square miles

18,404

- ▲ Somerville residents per square mile

70

- ▲ New trees planted in Chuckie Harris Park

.75 acres

- ▲ Open space added with the renovation of Chuckie Harris Park.



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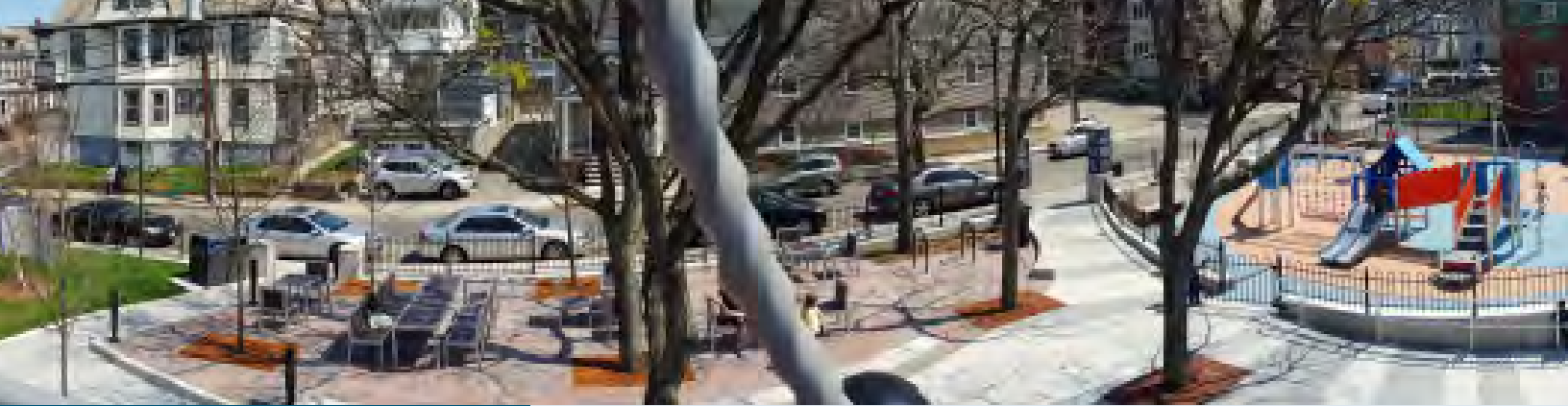


MULTI-USE

A small park thoughtfully designed to serve diverse neighborhood needs, Chuckie Harris Park transformed an unused parking lot into a vibrant community space.



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SUCCESS STORY

\$150,000

▲ Annual city-wide savings in electricity costs as Somerville converts outdoor lighting to LED.

1

▲ Pre-renovation North Street Veterans playground had court space for 1 type of sport - basketball.

4

▲ Post-renovation North Street Veterans playground now has court space for basketball, tennis, hockey and soccer.

NORTH STREET VETERANS PLAYGROUND

IN 2014, THE CITY COMPLETED a crucial park rehabilitation project at the North Street / Veterans Playground. This quarter-acre park serves residents in the neighborhoods around Broadway, Powderhouse Boulevard, and North Street, and represents a particularly important open space amenity for the Somerville Housing Authority's Clarendon Apartments. The park had obvious challenges like broken asphalt surfaces, few trees and insufficient lighting. But local residents encouraged City designers to consider more subtle issues that discouraged public use, including pinch-points in the park's entrance walkway that did not present a welcoming environment for people passing by on the sidewalk.

The community design process yielded a more open and useable park layout, with two entrances, multiple seating areas for adults, and high-quality children's play structures (including Somerville's largest "net climber" feature). The sports court has been diversified, and can now be used for tennis, hockey, soccer or basketball. Interior chain-link fences have been removed and replaced with rolling mounds, and lighting fixtures have been replaced with low-energy, high-clarity LED bulbs. A modern water spray feature is an especially popular element on hot summer days, and it is common to see families eating picnic dinners in the park's main plaza. North Street / Veterans Playground is once again serving as a focal point for the neighborhood, just like a good park should.



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COMMUNITY

The North Street Veterans playground has become a focal point for the North Street and Powderhouse neighborhoods. The new rope climbing structure is especially popular.



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COMMUNITY VISION

6A. DESCRIPTION OF THE PROCESS

Since the last OSRP, Somerville has been engaged in numerous planning processes that have put open space at the forefront of public engagement. This Plan incorporates the feedback from these larger processes, while also addressing open space and recreation needs identified through more topic-specific open space public processes. The outcome of these processes is documented in Section 10: Public Comments.

LONG TERM PLANNING

Somervision

The community process for the City's comprehensive plan took place from 2009 to 2012 and was both extensive and inclusive, with over 100 public meetings in three years. The comprehensive plan calls for the creation of 125 acres of new open space in Somerville by 2030. (see Section 3A:Municipal Planning Efforts: SomerVision) After a year of general meetings, resident subcommittees formed and met monthly for two years to define and articulate a series of goals, policies and action statements. The subcommittee named "Resources" focused on, among other topics, the city's waterfront, parks and recreation, the public realm and green infrastructure, including the urban forest and urban agriculture. The Resources Subcommittee identified a series of goals, policies and action steps in SomerVision to guide the City's open space and recreation path in the next 20 years.

Neighborhood Planning

The implementation of SomerVision plan calls for the creation of design-based plans for each neighborhood across the city. The ongoing neighborhood planning processes engage residents to define the long term future of their neighborhoods, identify challenges and opportunities, establish goals and objectives, and create a clear path for the future. The community engagement process is unique—with lively outdoor events, physical design and testing exercises, walk-in open houses, as well as more traditional planning meetings. At these events community participants, City staff, and consultants work together and interactively. In addition, the City launched a website called “Somerville by Design” which allows residents to read planning documents, follow processes, and give feedback without physically attending a meeting. To date, The Mayor’s Office of Strategic Planning and Community Development has published plans for the Lowell Street Station Area, Gilman Square, and Union Square. Neighborhood plans for the Inner Belt, Brickbottom, Winter Hill, East Somerville, and Davis Square neighborhoods are in different stages of development.

Zoning Reform

Somerville is four years into a zoning reform process. The new zoning code has been proposed and is presently in legislative process. Numerous meetings, many of which focused on open space, have allowed the public to give feedback on land use regulations that will guide growth and development. These include the percentage of open space required in developments, definitions for civic space types, as well as landscape and sustainability design standards.



The community engagement processes have been unique—with lively outdoor events, physical design and testing exercises, walk-in open houses, as well as more traditional planning meetings.



OPEN SPACE PLANNING

Green Spaces, Community Places (GSCP)

Beginning in March of 2014, and in preparation for this Plan, the City held a series of meetings, art projects and public participation initiatives called “Green Spaces, Community Places” (GSCP). This engagement process focused on open space and recreation in Somerville. Two public meetings were held where City staff presented open space data, and led 4 topic-specific discussions on: Playgrounds, Athletic Fields, Plazas and Streetscapes, and Community Gardens. Participants Identified problems and opportunities in each type of open space and shared their ideas for thinking more creatively as a community. The GSCP process continued with art installations and tabling at community events where participants identified what they like to do in the City’s parks. Finally, an “Open Space Open House” was held in July of 2016 to introduce the 2016-2021 Open Space and Recreation Plan draft.

Public Space Public Life Study

During Spring of 2015, the City’s Planning Office worked with Gehl Studio, an architecture and urban design firm that studies how the built environment connects to people’s quality of life. With resident volunteers, Gehl helped the city carefully measure public life as it unfolds throughout a day in the life of Somerville’s streets and public spaces. The research documents the public life of Somerville for the very first time and is important for bench-marking the success of future projects, engaging people in planning processes, as well as understanding how the design of public space supports or doesn’t support public vibrancy. The process included a “Favorite Place Workshop” and Online Survey, as well resident volunteers going out to survey public spaces. The Public Space Public Life Report describes the public involvement process as well as the resulting data and recommendations.

Athletic Fields Master Planning

In response to community feedback during the planning of Lincoln Park, and as a follow up to an independent “Athletic Fields Assessment” report by Gale Associates, as well as an Alderman-chaired “Recreational Fields Task Force,” an interdepartmental team of City staff studied athletic fields in an in depth staff report. Two public meetings were held in March of 2016 to present the athletic fields data, and use hours based on permitting, and to plan for increasing demand that exceeds current supply, especially for large and medium rectangle fields. The Fields Master Planning Staff Report was released to provide a strategic plan for the future of athletic fields in Somerville. Based on community feedback, and developments since the draft, the plan was revised and reissued in June of 2016.





Community Gardens Survey

Beginning with the GSCP process which revealed a large number of people on the waiting lists to get a garden plot in Somerville, the Conservation Commission, who oversees the community garden program, in collaboration with the Green Infrastructure Planner, surveyed community garden leaders in Somerville in March of 2016.

TABLE 6.1 COMMUNITY GARDEN SURVEY FEEDBACK

Successes	Challenges
Gardener participation in Fall/Spring clean-up	Long waiting lists for garden plots
Camaraderie and community	Wait lists need to be updated as many folks move, or find other garden space
Participated in Bulb Blitz	Pest issues: Rats and rabbits in gardens
Gardeners actively maintain plots	Lack of time for volunteer coordination
Successful vegetable harvest	Lack of diversity in garden demographics

Parks Projects

In addition to the larger planning conversations about open space planning in Somerville, every park project has an extensive public process, outreach in multiple languages and a very high level of participation. In 2014, the City’s Communications Department hired three Community Engagement Specialist to serve as language liaisons for residents who speak primarily Portuguese, Spanish and Haitian Kreyol. The communications team, including the social media specialist, work closely with the parks planners to spread the word about meetings and engage resident in innovative and inclusive ways. Typically, parks projects have a minimum of three community meetings, but recent projects have had as many as nine.

Open Space Advisory Committee (OSAC)

The OSAC is composed of representatives from many City departments as well as stakeholders from the community who gathered to review current drafts of the OSRP. They held two meetings: in January and July of 2016 and will continue to weigh in on the document. In addition to the OSAC, landscape planners presented the OSRP to the Somerville Garden Club as well as the Community Preservation Committee.

The goals, objectives, and five-year action plan described herein incorporate the feedback expressed through these various public processes, as well as the data gathered and analyzed by City staff and discussed among the OSRP Advisory Committee.

6B. STATEMENT OF OPEN SPACE & RECREATION GOALS

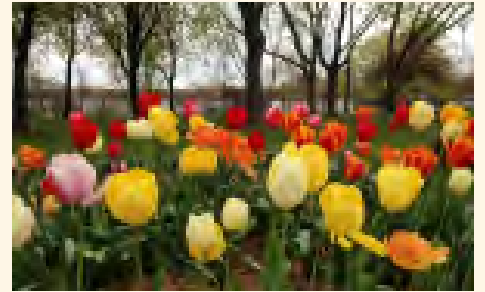
Somerville's seven open space and recreation goals, fall under a larger plan for adding more open space, creating recreational and green space opportunities for all, and maintaining the quality, safety and health of the city's open spaces. The goals described below respond to the substantive need to improve open space and recreation in the city, and to the organizational requirements for creating the administrative structures to achieve these ends.

GOALS

1. Acquire more land to meet SomerVision goals and expand Somerville's total open space acreage in every neighborhood.
2. Use data to guide open space planning. For 2016-2021 Plan, data shows that there is a need for athletic fields and community gardens.
3. Work with other City departments to improve maintenance practices in parks and open spaces in an effort to protect the City's investments.
4. Renovate existing parks and open spaces to improve the parks in poorest condition to ensure attractive, safe, and accessible public lands.
5. Develop an Urban Forestry Plan to continue to increase tree canopy, manage tree population and protect tree health through best arboriculture practices.
6. As part of a city-wide effort, continue to improve access for persons with disabilities to parks and open space.
7. Continue to incorporate sustainable design in response to the challenges of climate change in city parks and open space projects.



SUCCESS STORY



LANDSCAPE STEWARDSHIP

SOMERVILLE'S DENSE URBAN FABRIC means that every square foot of open space is cherished, but the City's modest financial resources sometimes limit the ability to manage and maintain public spaces. To complement traditional public works maintenance programs, several creative partnerships have been established over the past decade. Some are annual events: the citywide Spring Clean-Up Day is held each May, with

hundreds of resident volunteers assisting City staff with basic litter collection from parks, paths and public building grounds. The fall "Bulb Blitz" is a flash-mob style event bringing volunteers together to plant thousands of tulip and daffodil bulbs in public spaces. The vibrant pay off in the spring is worth the wait. In collaboration with the City, some volunteer groups have assumed regular landscape stewardship services. For

example, the Somerville Garden Club maintains a few small landscaped areas in the city. Also in partnership with the City, "Friends of the Park" groups, schedule social events and regular clean-ups to care for their neighborhood parks. The desire to beautify shared spaces is a great example of community pride, and landscape stewardship assures that residents take ownership of their parks and open spaces.

- ▲ The Somerville city-wide clean up draws hundreds of volunteers each Spring to pick up trash with their neighbors.
- ▲ Since 2011, volunteers have come out in the Fall to plant tulip and daffodil bulbs in public spaces. Envisioned as a "flash mob planting," residents have planted over 15,000 bulbs in the city's medians, planting beds and memorials.
- ▲ Upon completion of the new park, the city facilitated the creation of a Friends of Chuckie Harris Park group. The residents, using a Facebook group to communicate, plan community events and clean ups. Other parks have created "friends" groups as well.



OWNERSHIP

Residents volunteer with the City to maintain and improve Somerville's public spaces.

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SUCCESS STORY

UNION SQUARE NEIGHBORHOOD PLANNING

DEC 2014

The Union Square planning process started with over 150 Union Square residents attending the kickoff event at the one of the City's largest public meetings ever. The gathering focused on identifying the various stakeholders in the neighborhood and ensuring widespread engagement. Union Square represented itself as a community of diverse, independent, and original people ready to help steer the future of their neighborhood.

JAN 2015

The City held two meetings with more than 60 community stakeholders gathered to share their vision for Union Square's future; an additional 80 community stakeholders braved the cold for a walking tour of the neighborhood. City staff and consultants, with the help of language liaisons from the City's "Somerviva" program, conducted the meeting in five languages simultaneously: English, Spanish, Portuguese, Nepali, and Haitian Creole. Participants engaged in a series of map-markup exercises, photo-preference surveys, and discussions of the physical environment.

MARCH 2015

Hundreds of residents and business owners from Union Square filtered

through a 3-day charrette event, held during the day and into the evening to accommodate participant schedules. Community members, city staff, consultants, and numerous stakeholder groups - including, entrepreneurs and artists, property owners, and small business owners - met to discuss their visions and concerns, while the design team drew out the ideas for further discussion. Community Topics of the session included: job creation, change management and gentrification, public space, arts and culture, housing diversity and affordability, community benefits, and transportation. The culmination of the charrette was a "pin-up" and discussion on the work-in-progress. Participants provided the design team with critical feedback that shaped the conversation and the physical design of the plan. From this process, a new vision emerged that places a high value on rich environment and a healthy life for residents and visitors.

MAY AND JUNE 2015

A series of "Open Houses" were held to introduce the in-progress drawings and get and feedback for both the Boynton Yards area and the neighborhood-wide open space enhancements. The Open Houses also discussed fiscal impacts, and development objectives for the seven "Block D" parcels, and began the

community process for public benefits. The last Open House incorporated food trucks, bike maintenance, and live music while continuing to engage the community.

OCTOBER 2015

The draft neighborhood plan was released and garnered many positive responses as well as critical constructive feedback. Most notable was the split of commercial and residential development and a call for more open space, particularly in Boynton Yards.

FEB AND MARCH 2016

An updated plan, responding to community feedback, was presented in a public meeting and at a Drop-In Hours event.

The Union Square Neighborhood Plan is the culmination of over a year of collaboration between residents, stakeholders, business owners, city staff, and the consultant team. It is a long-term vision for the neighborhood that was created by a unique process engaging the neighborhood, the development and design team, and City staff in an attempt to balance the diverse objectives of participants. (See Section 11 for link to the complete Union Square Neighborhood Plan).





VISION

The Union Square Neighborhood Plan is the culmination of over a year of collaboration between residents, stakeholders, business owners, city staff, and the consultant team.

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SUCCESS STORY

17 parks

- ▲ Park improvement projects completed since 2009

15%

- ▲ From 2009-2015, 23 acres or about 15% of open space has been improved

5.6 acres

- ▲ Open space acreage the City has added since 2009.

5.4 acres

- ▲ New park space added since 2009.

ACCOMPLISHMENTS

TEAM WORK

The City of Somerville is proud of its open space and recreation accomplishments achieved since the last OSRP, written in 2008, to the present day. These achievements reflect the work of a diverse team from many City departments, including:

- OSPCD plans and manages renovation and construction of City parks and open spaces
- Buildings and Grounds Program at the DPW maintains and repairs all City-owned outdoor properties
- Purchasing Office handles all procurement of services, and design and construction contracts
- Parks & Recreation Department operates programs for residents of all ages in our athletic fields
- Health Department advocates for physical infrastructure improvements through Shape Up Somerville
- Finance Department and Grants Development Office helps find and apply for funding
- Capital Projects Management Department provides construction oversight on the built environment;
- Law Office who provide counsel for all legal matters
- Office of Sustainability and Environment work to achieve climate change adaptations in parks

Open space projects in Somerville also include the active support and dedication of many committed community partners. These individuals, nonprofits, public/private partnerships and other associations provide advocacy, education, funding, and stewardship of Somerville's outdoor space network. Without their contributions, Somerville's parks and recreational areas would not be as well used, cared for, and cherished as they are today.

REPORT CARD

Measuring against the last OSRP (2008-2013), Somerville has met most of its open space goals and projects and has completed an additional 8 parks projects since 2013. These parks (2009-2016) represent improvements to 66.5 acres of our open spaces, which is 41 % of total open space. Since 2009, the City has added 5.6 acres of newly created open space¹ and 5.4 acres of new park space².

The following is the proposed project-based Action Plan in the 2008-2013 OSRP and the actual progress made to achieving those goals:

1 Open space that was not counted in previous OSRP
2 Open space that was counted previously, but not usable parkland (Baxter Park, Powderhouse School Park)



Somerville's parks and open spaces are composed of a variety of landuse types to assure that they serve our 80,000 residents. They are designed to accommodate multigenerational users with all levels of physical abilities and to promote vibrancy, socializing and beauty.

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ACCOMPLISHMENTS

		Property Name	Project Type	2008 OSRP Target Goal	Actual	Notes
✓	1	Edward Leathers Community Park	New Construction	2008	2008	
✓	2	Albion Park	Renovation	2009	2009	
✓	3	Grimmons Park	Renovation	2009	2009	
✓	4	Hodgkins-Curtin Park	Renovation	2009	2010	
✓	5	Zero New Washington Street OLRA	New Construction	2009	2011	
	6	Highland Road Gardens	New Construction	2009		found to be unsuitable for park development
✓	7	111 South Street (South St Farm)	New Construction	2010	2012	
✓	8	Quincy Street Pocket Park	New Construction	2010	2012	
✓	9	North Street/ Veterans Playground	Renovation	2010	2014	
	10	Harris Park	Renovation	2010		will be open space as part of development*
	11	Central Hill Park	Renovation	2011		pending High School Renovation
	12	Foss Park	Renovations	2011		requires DCR permission
	13	Skateboard Park	New Construction	2011		no site acquired, skate elements added to Morse Kelley Park
✓	14	Sylvester Baxter Park, DCR (Mystic Park)	New Construction	2012	2013	
	15	Draw Seven Park	Renovations	2012		requires DCR permission
✓	16	Community Path Extension, MassDOT	New Construction	2013	2015	
✓	17	Milk Row Cemetery	Renovation	2013	2017	small grants awarded. CPA funds awarded in 2016
+	1	Morse Kelly Playground	Renovation		2012	
+	2	Dickerman Playground	Renovation		2012	
+	3	Chuckie Harris Park	New Construction		2013	replaced Harris park*
+	4	Glen Park Playground	Renovation		2013	
+	5	Kenney Park	Renovation		2014	
+	6	Marshall Street Playground	Renovation		2015	
+	7	Symphony Park	New Construction		2015	
+	8	Kennedy School Plgd	Renovation		2016	

2008 OSRP GOALS & PROGRESS UPDATES

	2008 Objective	2008 Action	Proposed Completion	Progress Update
✓	1.1 Analyze Somerville's parks and open spaces; rate condition and accessibility to underserved populations.	1.1.1 Issue report with prioritized recommendations for renovation schedule.	2009	2016 Gale Parks & Open Space Evaluation report was completed to evaluate physical condition of each park.
✓	1.2 Develop a renovation schedule. *	1.2.1 Renovate 6 parks/ recreational areas in next 5 years.	2013	From 2008-2013, 15 parks were renovated. From 2014 to 2016, an additional 4 additional parks projects have been completed.
✓	1.4 Leverage additional funding resources for park projects.	1.4.1 Secure 3 state grants over the next 5 years.	2013	2008-2013, awarded 3 PARC grants. 2014-2016 awarded 2 PARC grants and 1 Our Common Backyard grant.
✓	2.1 Develop a strategic plan for acquiring parcels of land.	2.1.1 Issue report with prioritized recommendations for land acquisition.	2010	2016 through the CPA, an Acquisition Fund is being established in 2016 . (700K)
✓	2.2 Leverage additional funding resources for land acquisition.	2.2.1 Secure at least one outside grant to purchase new land.	2013	Chuckie Harris Park was acquired with a PARC grant
✓	3.2 Fund reconstruction of ADA improvements at key locations.	3.2.1 Complete specific ADA improvements to 5 parks in next 5 years.	2013	All of the 17 parks built by the City from 2008-2016 are ADA compliant.
✓	4.4 Develop/implement private homeowner environmental education campaign around the economic and health benefits of street trees and open space, and the importance of permeable surface area to reduce stormwater runoff and increase groundwater recharge.	4.4.1 Implement homeowner environmental education campaign.	2008	Information of street trees and impervious surfaces is included in City mailings, Office of Sustainability & Environment.
✓	5.1 Identify areas of the city that would be best served with additional OLRAs.	5.1.1 Construct 2 new OLRAs in Somerville.	2010	Zero New Washington 2009, Lincoln Park and Maxwell's Green dogpark.
✓	5.2 Identify best locations in the City for a skate park.	5.2.1 Construct a new skate park in Somerville.	2011	No acquisition, skate park elements at Morse Kelley and others in Lincoln
✓	6.1 Identify and mandate sustainable practices in landscape projects.	6.1.1 Revise city specs for parks contracts to strengthen environmental accountability and quantify green products and practices used in project construction.	2009	Working with DPW, plants manuals, to incorporate native species, water reuse and stormwater catchment.
✓	6.2 Create a maintenance database for new environmental technologies installed in city parks.	6.2.1 Require contracted designers to submit a best practices manual for completed park projects to DPW and OSPCD.	ongoing	Reuse water features, rain gardens and cultec chambers at Lincoln, Chuckie Harris, Marshall Street and Symphony Parks.
✓	8.1 Revise and submit Somerville Open Space and Recreation Plan (OSRP) to DCR.	8.1.1 OSRP completed and available to the public.	2009	2016 This Plan.

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✓	8.2 Participate in the creation of the Union Square Open Space Plan (USOSP).	8.2.1 Union Square Open Space Plan completed and available to the public.	2009	Union Sq plan completed in 2016
✓	2.3 Increase open space opportunities through public/private partnerships.	2.3.1 Create 5 acres of open space in Assembly Square (see II.B, Action Plan Goals Map).	2012	Baxter Park added 6.1 acres of park land. Nearly 1 acre of open space has been added as “Privately Owned Public Space” (POPS). As development occurs, more open space is being added.
✓	3.1 Identify priority locations for ADA improvements, in coordination with the Somerville ADA Coordinator.	3.1.1 Issue report with prioritized recommendations for park accessibility improvements.	2011	Transition Plan and ADA Self Evaluation for Parks
✓	4.1 Coordinate and execute a comprehensive public-tree inventory.	4.1.1 Compile electronic database with prioritized planting strategy.	2011	The Davey Tree Inventory was completed in July 2009.
✓	4.2 Expand and strengthen street tree planting/ replacement programs.	4.2.1 Plant at least 100 trees per year with CDBG funds and 50 trees per year with City funds.	ongoing	1200 trees added since 2011 (240 trees a year)
✓	1.3 Improve community involvement and outreach in park renovation projects.	1.3.1 Regularly provide multilingual announcements of public meetings for park design.	ongoing	The City now has 3 language liaisons (Portuguese, Spanish and Haitian Kreyol), with whom parks planners work very closely to provide outreach via social media and at public meetings.
✓	2.4 Identify other creative strategies for increasing open space.	2.4.1 Expand zoning requirements for publicly usable open space (see Section 9, Union Square OSRP).	2010	Proposed changes to the Zoning Ordinance
✓	4.3 Work with DPW on best practices for tree maintenance and long-term health.	4.3.1 Conduct workshop with DPW on tree program goals and best maintenance practices.	2010	Ongoing.
✓	7.1 Identify potential brownfields for City acquisition.	7.1.1 Map locations of existing brownfields, rated according to City purchase potential and strategic location.	2013	Ongoing
✓	7.2 Continue to support brownfields programs to facilitate the clean up of privately owned parcels.	7.2.1 Create a brownfields database that maps public and private remediation; provide links to grant agencies through City website.	ongoing	Somerville Junction Park (EPA funds). Econ Development department administers Brownfields Program.



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ANALYSIS OF NEEDS

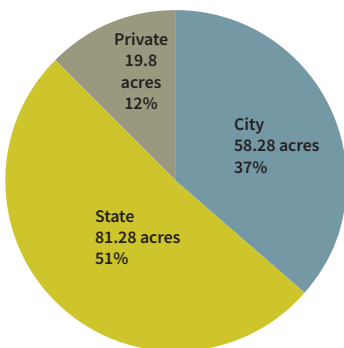
7. A. SUMMARY OF RESOURCE PROTECTION NEEDS

NEED FOR MORE OPEN SPACE

There is a definitive need—echoed both in the data and in community feedback— to increase the amount of open space in Somerville. The City of Somerville owns only approximately a third of its open space. Since 2009¹, 5.27 acres of new open space land has been added to the city’s inventory, and 5.44 acres of existing open space has been converted to usable parkland (Sylvester Baxter State Park). Considering the population density in Somerville, as well as the premium value of real estate—recent data reveals a \$2 million per acre City acquisition cost— acquiring new open space land has proven extremely difficult. In order to achieve the ambitious SomerVision goal of acquiring 125 acres of open space by 2030, the City must:

- Set aside resources for the acquisition of open space land
- Support zoning that requires that development projects dedicate a percentage of space as publicly accessible open space
- Support regulatory controls that add to the City’s open space and assure their quality
- Continue to pursue grant funds and other funding sources, such as the Community Preservation Act, for acquisition of parcels

FIGURE 7.1
TOTAL ACRES BY
OWNERSHIP



¹ The last OSRP was completed in 2008. The counting of acreage begins in January of 2009.

TABLE 7.1 NEW OPEN SPACE ACREAGE BY YEAR

New Open Space Acreage by Year	2011	2012	2013	2014	2015	2016	Grand Total
50 Middlesex Park			0.19				0.19
50 Middlesex Plaza			0.10				0.10
Assembly Square Block 2A Plaza			0.33				0.33
Chuckie Harris Park			0.41				0.41
Community Path					2.26		2.26
Concord Square						0.13	0.13
Gilman Square						0.36	0.36
MaxPac Dog Park			0.11				0.11
MaxPac Square			0.35				0.35
North Street Veterans Playground				0.09			0.09
Quincy Street Park		0.12					0.12
South St Farm		0.33					0.33
Symphony Park					0.21		0.21
Zero New Washington Street Dog Park	0.64						0.64
Acreage Grand Total	0.64	0.44	1.49	0.09	2.47	0.49	5.63

NEED FOR ATHLETIC FIELDS

Due to the unique specifications of athletic fields, and a lack of large parcels available in Somerville, as well as the high citywide demand for their use, Somerville is unable to supply enough hours of play on athletic fields for its users, mostly youth. Somerville has ten athletic fields, four of which are owned by the MA Department of Conservation and Recreation (DCR) and thus, regionally permitted. Additionally, the city's natural grass fields are used at rates that far exceed best practices for growing natural turfgrass on urban, public fields and therefore the quality of the city's fields suffers. The City is taking steps towards funding additional maintenance for the natural grass fields, but the hours of play prohibit the growing of healthy natural turfgrass, even with unlimited resources for maintenance. This has created a need for athletic fields.

TABLE 7.2 PERMITTED HOURS OF USE ON CITY-OWNED AND MANAGED NATURAL GRASS FIELDS

Conway	1,846
Dilboy Aux A	831
Dilboy Aux B	308
Hodgkins	463
Lincoln rectangle*	1,466
Lincoln diamond	574
Nunziato	752
Tufts Triangle	1,224
Trum	2,094
TOTAL	9,558
*Includes an estimated 390 hours of recess.	
BMP for public urban fields: 500 hrs/rectangle & 800hrs/diamond per year.	

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SUCCESS STORY

RESPONSIVENESS

The Athletic Fields Plan turned to field usage data to help form a plan to meet Somerville's growing need for recreational field space.

A Data Driven Approach ATHLETIC FIELDS PLANNING PROCESS

IN A TIME WHEN THE NATION faces a well-documented epidemic of youth and adult obesity, it is imperative that cities provide a range of opportunities for residents— young and older—to reap the benefits of physical activity. At the same time, in Somerville with nearly 80,000 people in 4.1 square miles, the value of expansive, natural open spaces for unprogrammed recreation and environmental health is also important. Balancing these two goals is the crux of the athletic fields conversation in Somerville.

The process of creating a plan to guide the future of athletic fields in Somerville was a unique one which employed a multi-departmental and multidisciplinary approach. Three City departments, Parks

and Open Space (OSPCD), SomerStat (the Mayor's performance management and data team), and the Recreation Department worked together to formulate a plan and to communicate it to the public.

THE DATA

Using hour-by-hour, season-by-season field usage data the interdisciplinary staff team, including a data specialist, landscape architect and recreation manager, recorded and analyzed the hours presently permitted on each athletic field, as well as the needs of the Somerville High School's athletic teams and the city's youth leagues. Additionally, the team examined existing fields, their ownership and permitting control, the quality and maintenance best practices for natural

turfgrass fields, and the arguments for both natural and artificial turfgrass materials. The resulting plan, first presented to the public in March of 2016 in two public meetings, sets priorities for a schedule of major improvements and renovations as well as new field creation and acquisition. It also strives to balance the sometimes conflicting preferences of a remarkably diverse and engaged community. In addition to being data-based, the Athletic Fields plan was also guided by thoughtful feedback, comments, and constructive criticism from community members and elected officials. In order to respond to the many factors that affect athletic fields in Somerville, the plan is a flexible and living document. The most recent plan was updated in June of 2016.

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15,000

▲ Hours of field use in Somerville. This number is projected to increase.

2

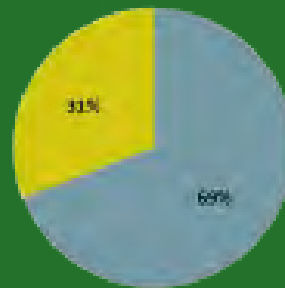
▲ Number of regulation size soccer fields in Somerville

69%

▲ of Somerville athletic field use is by youth

2,094

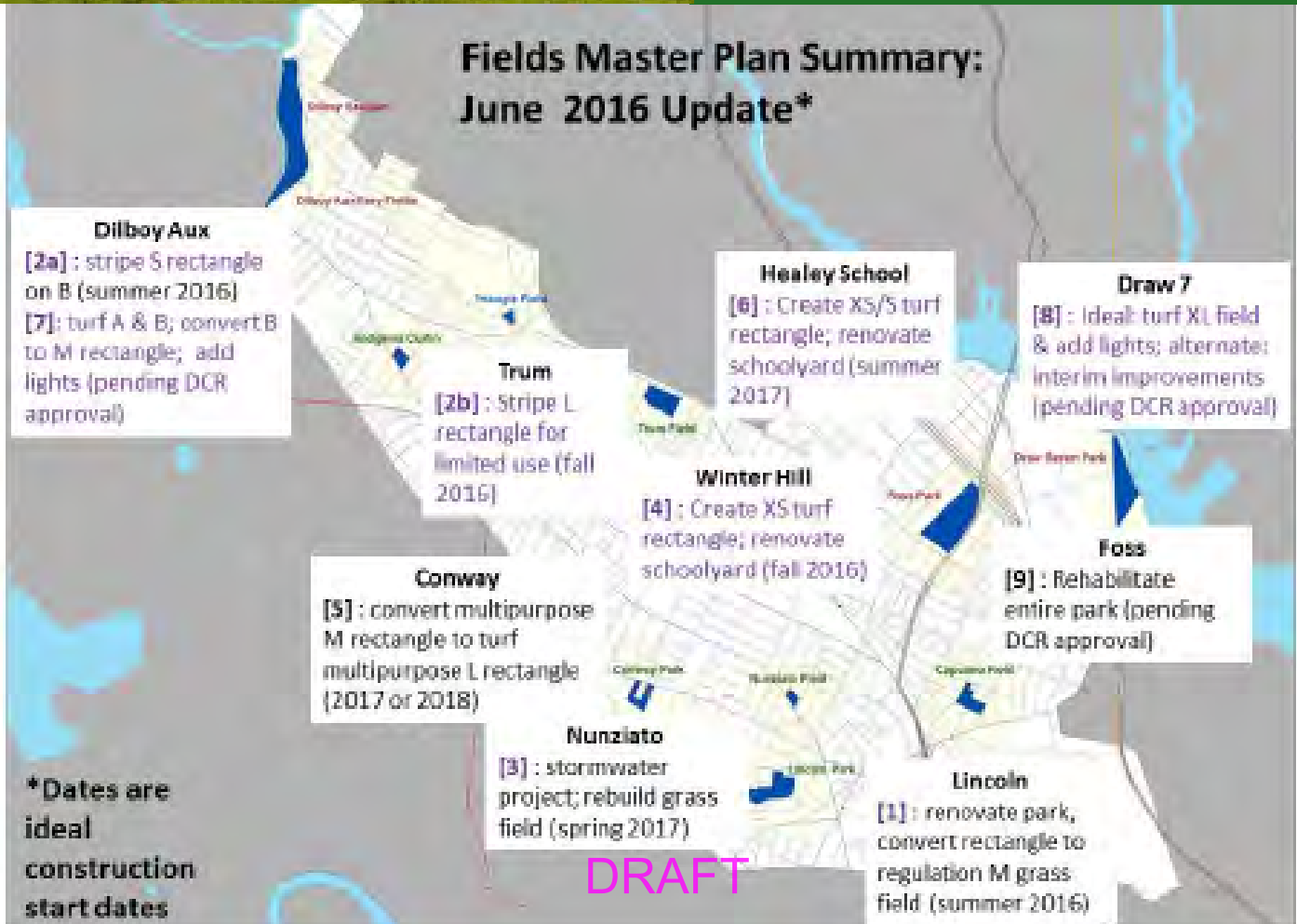
▲ Hours of use per year at Trum Field. Best practice is 500 hrs/diamond field.



■ Adult Field Usage
■ Youth Field Usage

Excludes Dilboy Stadium: data for City-owned and managed fields only

Fields Master Plan Summary: June 2016 Update*





NEED FOR COMMUNITY GARDENS

Somerville currently has over 230 people on waiting lists for community gardens, and a growing interest in both urban agriculture and community growing space. Community gardens not only provide land for growing in a densely populated environment, but they also build community and connect people with food sources. While each renovated or newly built park considers community gardens as a programmatic element, there is a need to create more community gardens as well as examine the present community garden program with the goal of better efficiency to serve more residents.

URBAN FORESTRY NEEDS

Somerville's 12,341 public trees comprise a vital natural resource that offers measurable benefits – ecological, economic, and social – to the community. In order to maximize the value of this “green infrastructure,” the City must continue to develop its Urban Forest Initiative with the creation of an Urban Forest Management Plan. This Plan will identify locations and funding to continue increasing Somerville's trees, and articulate guidelines for arboricultural best-practices. The Urban Forestry Management Plan will continue to demonstrate a clear, active commitment to increasing the urban tree canopy and educating staff and residents on the benefits of trees.

WATER RESOURCE PROTECTION NEEDS

Despite considerable recent progress on improving water quality in the Mystic River, completion of beautiful park along its banks, a pedestrian bridge connecting Shoreline Drive near Ten Hills to the Assembly Square area, and a new dock at the boathouse, local and regional efforts must continue to improve and protect Somerville's water resources and to encourage residents to use the Mystic River. Greater access and visibility is also important at the DCR-owned Alewife Brook in Somerville. Like the Lower Mystic River, the Alewife Brook shoreline needs stronger cross-municipality revitalization and wetlands protection.

NEED FOR CLIMATE CHANGE ADAPTATIONS IN PARKS

An awareness of climate change and its repercussions needs to be brought to the planning and design of parks in order to create a more resilient city. Parks can be valuable tools for mitigating contributions to climate change and for building resiliency to its effects. Issues of stormwater management, flood control, sequestering of carbon and reducing ambient temperatures must all be considered in the planning of parks and open spaces.

7. B. SUMMARY OF COMMUNITY'S NEEDS

Somerville's parks have seen a significant transformation over the past decade. Mayor Joseph Curtatone, the Board of Aldermen, the Office of Strategic Planning and Community Development, the Parks and Open Space Department, the Department of Public Works, the Conservation Commission, as well as Somerville residents have worked diligently to renovate, maintain, and, where possible, expand the City's parks and open spaces.

This Plan analyzes the challenges and opportunities of the City of Somerville regarding parks and open space, while evaluating accomplishments made since the prior plan (see Accomplishments, Section 8). Several community needs have been identified through this process:

INCREASED OPEN SPACE

Somerville continually strives to expand and increase its network of open space and recreational resources. Today, the majority of city residents are within a five-minute walk of some type of park or open space; however, a few areas of the city lie outside this boundary, and other neighborhoods are underserved in terms of relative acreage of open public space to population. It is necessary therefore to analyze those neighborhoods that are most underserved and develop a strategic plan to acquire additional parcels and construct new parks to serve those neighborhoods. The City also needs to continue to expand its supply of Privately Owned Public Spaces (POPS) through zoning provisions, development agreements, deed restrictions, public-private partnerships, and other means. By considering both public and private open space opportunities, innovative ways can be found to bolster the physical and emotional health of City residents, and provide a long-term sustainable urban environment.

The 2008 opening of Ed Leathers Park was greeted with excitement by the Somerville community.



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TABLE 7.3 2016 OPEN SPACE MANAGEMENT AGENCY AND CONDITION REPORT

NAME	Management Agency	2016 Condition Grade
Argenziano	DPW	Poor
Avon Street Community Garden	DPW, Con Comm	Poor
Bailey Park	DPW	Poor
Brown Schoolyard	DPW	Poor
Draw Seven Park (DCR)	DCR	Inadequate
Edgerley Education Center Schoolyard	DPW	Poor
Florence PLayerground	DPW	Poor
Foss Park	DCR	Poor
Harris Playground	DPW	Poor
Henry Hansen Memorial Park	DPW	Poor
Hoyt-Sullivan Playground*	DPW	Poor
Lincoln Park*	DPW, REC	Poor
Mystic River Reservation	DCR	Poor
Osgood Park	DPW, Con Comm	Poor
Otis Playground	DPW	Poor
Tufts Community Garden	DPW, Con Comm	Poor
West Somerville Neighborhood Schoolyard	DPW	Poor
Veteran's Memorial Cemetery	DPW	Poor
Walnut Street Community Garden	DPW, Con Comm	Poor
Winter Hill Community Innovation Schoolyard*	DPW	Poor

IMPROVED OPEN SPACE

The City has renovated many of the parks in the worst condition in Somerville's since the last OSRP. Based on an outside condition assessment report conducted in February of 2016, 78% of parks located in Somerville are in excellent or good condition. Only one is in inadequate condition, and approximately 20 % are in poor condition. Of the ones in poor/inadequate condition, 4 of them are in or scheduled for construction within the next two years. The three largest are owned by the MA Department of Conservation & Recreation, and 2 are privately owned. The remaining 11 parks in poor condition are owned by the City and will be considered for renovation in the near future.

ADA COMPLIANCE

The City of Somerville's Executive Office on Disability & Compliance is working on an "American with Disabilities Act Title II Transition Plan." The Transition Plan aims at ensuring that the City complies with all disability laws and promotes an environment free of discrimination and harassment for individuals with disabilities. The Plan provides a framework for continuous improvements and a roadmap for increasing

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Parks are used for physical activity . At left, a tai chi class enjoys practicing in the grass at Albion Park.

access to all city buildings, programs, services, roadways and sidewalks. It is a living document, updated annually and published, thereby regularly apprising residents of the city's progress toward full ADA compliance.

In 2013, as a first step and the basis of a Transition Plan, the Institute for Human Centered Design (IHCD) completed Somerville's ADA Self-Evaluation on behalf of the City (see Chapter 11: References & Reports). Among the facilities assessed were 36 parks and playgrounds. The report evaluates the following categories: Approach and Entrances, Circulation, Play and Sports areas, Tables and Seating and other amenities. Although all park renovations in the last decade are compliant with ADA, the Self Evaluation highlights elements that may be out of compliance and provides suggestions for incorporating universal design standards. The Self Evaluation is a valuable resource for continuing to make Somerville's parks more accessible, assuring their compliance with ADA laws and incorporating the tenets of universal design.

PARKS PROGRAMMING FOR HEALTH AND FITNESS

The City and the Somerville school district partner to support a culture of health for its students and residents, through its award winning initiative, Shape-Up Somerville. During the Spring of 2010-2011, obesity rates were measured among the 1,533 K - 7th grade students. The report reveals that 30.1% of the seventh graders were obese, and 17.9% were overweight with highest rates of obesity observed in Hispanic students.² The need for fitness programming—for children and adults—as well as nutrition and local food programs lends to a natural collaboration with the Parks and Open Space department who oversee the physical design of open spaces and have been at the forefront of encouraging urban agriculture and community gardens.

² A Decade of Shape Up Somerville: Assessing Child Obesity Measures 2002-2011 http://www.somerville-ma.gov/sites/default/files/SUS-BMI-ReportFINAL-4-12-2013_0_0.pdf

7. C. MANAGEMENT NEEDS, POTENTIAL CHANGE OF USE

Based on public meetings, interdepartmental discussions, and onsite inventory of open space properties, this plan notes the following management needs:

- Increased staffing and support for DPW/Buildings and Grounds for daily attention to maintenance and management, especially playground cleaning (litter, glass, and graffiti removal) and minor repairs (sprinklers, water fountains, and gate latches, etc.); public/private/neighborhood partnerships may prove essential here.
- Improved maintenance of plant material and incorporation of sustainable plant care, including natural turfgrass athletic fields, lawns in parks and plant materials in recently renovated parks.
- Improved programming of existing open spaces, to make full use of these limited resources.
- Increased public stewardship in parks, including active “Friends of” groups and ongoing private support for parks.
- Improved communication between City departments and residents concerning park programming and maintenance schedules, tree management issues, reasons for delays or closures, and the like, as well as clearer channels to report specific problems through the 311 system.
- Better coordination between City departments concerning open space issues, especially long-term planning related to open space priorities, acquisition, and the competing demands for public properties.
- Better coordination between the City, its neighbors, DCR, MWRA, and other public and private groups dealing with open space and environmental issues on a regional level.

In essence, all of these can be distilled down to two principal needs:

- the need for increased funding and support for City departments of open space and recreation, property maintenance, programming and acquisition of more open space; and,
- the need for improved communication and collaboration concerning open space and recreation issues, within the City administration, between the City and its residents, and also between the City and the various state and regional agencies.



SUCCESS STORY

COMMUNITY GARDENS

THERE IS A LONG STANDING TRADITION of growing food in Somerville backyards, but today many residents do not have yard space to use for gardening. To provide gardening opportunities for these residents, Somerville currently operates twelve Community Gardens around the city, representing 225 individual garden plots. The plots average 200 square feet, and annual fees range from \$20.00 to \$35.00. Most Community Gardens

are located within larger park facilities, creating wonderful opportunities for passersby, parents and children to observe and enjoy the efforts of the gardeners.

Like other types of public space in Somerville, overall demand for community gardens exceeds supply. While the program has successfully been managed by the gardeners themselves,

it faces some challenges: the waiting list for garden plots has more than 200 names on; new gardeners must typically wait two years for a plot; plots vary in size and do not correspond to family size; and, there are no term limits once a plot is awarded. While the community begins to explore solutions to the Community Garden Program challenges, we can all be assured they are a result of the popularity and love of gardening in the city.

225

▲ Number of raised bed plots available in community gardens

39

▲ Garden plots added since 2009

230

▲ Number of names presently on garden waiting lists

\$20-30

▲ Average annual community garden fee

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GOALS AND OBJECTIVES

VISION

The City of Somerville will provide a system of safe, accessible, and sustainable parks and open spaces that meet the needs of multiple user groups.

GOALS

Somerville's seven open space and recreation goals, fall under a larger plan for adding more open space, creating recreational and green space opportunities for all, and maintaining the quality, safety and health of the city's open spaces. The goals described below respond to the substantive need to improve open space and recreation in the city, and to the organizational requirements for creating the administrative structures to achieve these ends.

1. Acquire more land to meet SomerVision goals and expand Somerville's total open space acreage in every neighborhood.
2. Use data to guide open space planning. For 2016-2021 Plan, data shows that there is a need for athletic fields and community gardens.
3. Work with other City departments to improve maintenance practices in parks and open spaces in an effort to protect the City's investments.
4. Renovate existing parks and open spaces to improve the parks in poorest condition to ensure attractive, safe, and accessible public lands.
5. Develop an Urban Forestry Plan to continue to increase tree canopy, manage tree population and protect tree health through best arboriculture practices.
6. As part of a city-wide effort, continue to improve access for persons with disabilities to parks and open space.
7. Continue to incorporate sustainable design in response to the challenges of climate change in city parks and open space projects.

STRATEGIES/OBJECTIVES

1. ACQUIRE ADDITIONAL LAND

- 1.1 Create an Acquisition Fund
- 1.2 Increase open space opportunities through public/private partnerships.
- 1.3 Identify regulatory strategies for increasing open space.
- 1.4 Identify other funding and strategies for increasing open space.

2. PLANNING BASED ON DATA

- 2.1 Continually update data to reflect population changes, user data and spatial data.
- 2.2 Respond to present data showing a need for athletic fields and community gardens

3. DEVELOP A MAINTENANCE SCHEDULE

- 3.1 Create a maintenance plan for each park.
- 3.2 Examine parks renovated within the last ten years and create rotating list for larger plant interventions.

4. RENOVATE PARKS AND OPEN SPACE

- 4.1 Develop a renovation schedule based on existing conditions reports, open space needs and user data.
- 4.2 Leverage additional funding resources for park projects.

5. DEVELOP AN URBAN FORESTRY PLAN

- 5.1 Develop a five-year Urban Forest Management Plan
- 5.2 Develop best-practices guidelines around proper tree planting and maintenance, to be utilized by contractors and existing City tree programs (i.e., DPW and OSPCD).
- 5.3 Increase educational outreach to residents and business owners about the benefits of trees, open space, and permeable surfaces.

6. ADA

- 6.1 Continue to design and build parks that are compliant with ADA
- 6.2 Evaluate the items noted in the City's Self Evaluation of 36 parks as part of the City's transitional plan.

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7. SUSTAINABLE PRACTICES

- 7.1 Incorporate best practices for stormwater retention, energy and resource use and plant and materials selection in every design of a park or open space.
- 7.2 Continue to select native and native compatible plants that grow well in urban conditions and are more salt, flooding, drought and heat tolerant in response to Planting Zone changes and other adaptations to climate change.
- 7.3 Continue to clean up brownfields.
- 7.4 Record, promote and educate citizens about the sustainable features in existing parks and in new parks as they occur.



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SUCCESS STORY

PARKS & CLIMATE CHANGE

TO PREPARE FOR AND REDUCE the effects of climate change, Somerville is developing a long-term Climate Change Plan with two key goals: 1) to decrease its contribution to climate change by reducing the collective carbon emissions of both the City and its residents and 2) to prepare Somerville to thrive amid the potential impacts of climate change. The same planning must be applied to Somerville's parks system which are both an important asset to be protected from the effects of climate change, and a valuable tool for mitigating its effects, especially in reducing urban temperatures and accommodating storm water from increased precipitation events.

VULNERABILITY

The first step to determining the vulnerability of the City's open spaces is to identify sites that are threatened by:

1. Sea level rise
2. Damage from violent storms
3. Invasive species and pests
4. Temperature related impacts
5. Saltwater intrusion

Special attention should be given to waterfront landscapes, geographically exposed landscapes, and sites with a history of flooding.

RESILIENCE

Parks planners are considering strategies for increasing the resistance and resilience to climate changes in the city's open spaces. In areas at high risk for present and future flooding, planners and engineers are considering measures that

increase stormwater retention capacity in the parks as a way to ameliorate neighborhood level flooding. Additionally, natural areas and constructed landscapes along the city's waterways can serve as buffers to surrounding inhabited areas. With all new projects, there must be an awareness of how climate changes are impacting our landscapes and an effort to plan for worse case scenarios, as well as a view of parks as a part of the solutions employed by a city.

DESIGN

The planning process for each new project should:

- Assess the site's risk of flooding during severe weather based on location and the capacity of surrounding infrastructure
- Locate sensitive site features in areas less prone to flooding
- Create permeable hardscapes
- Consider onsite stormwater management strategies
- Consider innovative ways for how the site could aid in citywide adaptation to climate change
- Reduce energy and resource usage

PLANTS

- Design landscapes to provide canopy cover, shading, and evaporative cooling in order to reduce the urban heat island effect
- Select plant species that can tolerate the anticipated changing range of temperatures, rainfall patterns, and potential inundation from sea level rise

- Utilize species that tolerate intermittent flooding and saltwater in locations situations where inundation is probable
- Respond to changes in plant hardiness zones that show a one half zone warmer shift than those delineated in 1990¹
- Prohibit the planting of plants listed on the Massachusetts invasive species list
- Where appropriate to urban conditions and specific microclimates, and resilient to climate change, select native plantings

1 <http://planthardiness.ars.usda.gov/PHZMWeb/AboutWhatsNew.aspx>



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2030: FLOODING PROBABILITY



2070: FLOODING PROBABILITY



Above: The City's draft Climate Change Plan considers flooding scenarios for the next 50 years. **Opposite:** Organizations like the American Planning Association are creating technical documents on the value of parks as tools for climate change.

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FIVE-YEAR ACTION PLAN

Somerville has proven that it can do more with less; and it has been rewarded for effective fiscal management by an improved bond rating and a much broader commercial tax base. It has been proven that investment in our common land leads to more growth and prosperity in the future. In this spirit, the City is committed to implementing a Five Year Action Plan 2016-2021, to achieve the following identified goals:

1. Acquire more land to meet SomerVision goals and expand Somerville's total open space acreage in every neighborhood.
2. Use data to guide open space planning. For 2016-2021 Plan, data shows that there is a need for athletic fields and community gardens.
3. Work with other City departments to improve maintenance practices in parks and open spaces in an effort to protect the City's investments.
4. Renovate existing parks and open spaces to improve the parks in poorest condition to ensure attractive, safe, and accessible public lands.
5. Develop an Urban Forestry Plan to continue to increase tree canopy, manage tree population and protect tree health through best arboriculture practices.
6. As part of a city-wide effort, continue to improve access for persons with disabilities to parks and open space.
7. Continue to incorporate sustainable design in response to the challenges of climate change in city parks and open space projects.

2016 - 2021 ACTION PLAN FOR OPEN SPACE AND RECREATION

This Five Year Action Plan proposes an action and schedule for each goal listed in Section 9. A responsible department is identified for each action

GOAL 1: ACQUIRE ADDITIONAL LAND

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
1.1 Create an Acquisition Fund to increase the City's ability to buy parcels for open space.	<p>1.1.1 Establish a criteria for acquisition.</p> <p>1.1.2 Work with other departments to structure this fund.</p>	OSPDC: T & P	CPA	2017
1.2 Increase open space opportunities through public/private partnerships.	<p>1.2.1 Continue to create publicly accessible open spaces in large scale development areas: Assembly Square, Union Square, the Community Path, and McGrath Planning process.</p> <p>1.2.2 Continue to create Privately Owned Public Spaces (POPS) that reflect open space needs in individual neighborhoods.</p>	OSPDC: T & P	Private	2021
1.3 Identify regulatory strategies for increasing open space.	1.3.1 Expand zoning requirements for publicly usable open space.	OSPDC: Planning	TBD	2017

GOAL 2: PLANNING BASED ON DATA

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
2.1 Continually update data to reflect population changes, user data and spatial data.	<p>2.1.1 Coordinate with GIS office to assure accuracy of spatial data</p> <p>2.1.2 Educate the public about data at public meetings.</p> <p>2.1.3 Work with SomerStat to analyze and disseminate open space data online.</p>	OSPCD		ongoing
2.2 Respond to present data showing a need for athletic fields and community gardens	2.2.1 Explore all opportunities to increase athletic fields and community gardens.	OSPCD		ongoing

GOAL 3: DEVELOP A MAINTENANCE SCHEDULE FOR PARKS

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
3.1 Create a plant maintenance plan for each park.	3.1.1 Work with DPW to create pilot maintenance “work-sheets”.	OSPCD & DPW		2017
3.2 Examine parks renovated within the last ten years and create rotating list for larger plant interventions.	3.2.1 Implement plant materials interventions for 1 to 2 parks a year.	OSPCD		2017

GOAL 4: RENOVATE PARKS AND OPEN SPACE

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
4.1 Develop a renovation schedule based on existing conditions reports, open space needs and user data.	<p>4.1.1 Prioritize parks in worst condition.</p> <p>4.1.2 Prioritize projects that create more athletic fields or community gardens.</p>	OSPCD		2017
4.2 Leverage additional funding resources for park projects.	4.2.1 Continue to apply to grants and other outside funding sources for parks and open spaces.			ongoing

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GOAL 5: DEVELOP AN URBAN FORESTRY PLAN

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
5.1 Develop a five-year Urban Forestry Management Plan	<p>5.1.1 Update the 2009 Davey Tree Report and map existing tree canopy.</p> <p>5.1.2 Develop a plan to add at least 100 trees per year with CDBG funds and 50 trees per year with City funds.</p> <p>5.1.3 Develop a plan for protecting the health of existing trees.</p>	OSPCD/ DPW		2017
5.2 Develop best-practices guidelines around proper tree planting and maintenance, to be utilized by contractors and existing City tree programs (i.e., DPW and OSPCD).	<p>5.2.1 Draft “Somerville Tree Manual” for distribution to City tree programs</p> <p>5.2.2 Conduct workshop(s) for DPW on tree program goals and best-practices.</p>	OSPCD/ DPW		2021
5.3 Increase educational outreach to residents and business owners about the benefits of trees in Somerville.	<p>5.3.1 Increase visibility of the City’s Urban Forest Initiative (i.e., print materials, web presence, point of contact)</p> <p>5.3.2 Conduct workshops / presentations for community groups and residents about Somerville’s “green infrastructure initiatives</p>	OSPCD	TBD	2021

GOAL 6: CONTINUE TO IMPROVE ACCESS FOR PERSONS WITH DISABILITIES

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
6.1 Continue to design and build parks that are compliant with ADA.	6.1.1 As written in City contracts for parks, assure ADA compliance in all projects.	OSPCD		ongoing
6.2 Evaluate the items noted in the City’s Self Evaluation of 36 parks as part of the City’s transitional plan.	6.1.1 Prioritize items that are not ADA compliant and assess universal design items .	OSPCD		2021

GOAL 7: CONTINUE TO INCORPORATE SUSTAINABLE DESIGN

Strategy	Action	Responsible Lead	Funding Source	Proposed Completion
<p>7.1 Incorporate best practices for stormwater retention, energy and resource use and plant and materials selection in every design of a park or open space.</p>	<p>7.1.2 Write these elements into RFP and specifications.</p>	<p>OSPCD</p>		<p>2017</p>
<p>7.2 Continue to select native and native compatible plants that grow well in urban conditions and are more salt, flooding, drought and heat tolerant in response to Planting Zone changes and other adaptations to climate change.</p>	<p>7.2.1 Write these elements into RFP and specifications.</p>	<p>OSPCD</p>		<p>2017</p>
<p>7.3 Continue to clean-up and redevelop brownfields.</p>	<p>7.3.1 Explore funding opportunities for brownfield sites that could become open space.</p>	<p>OSPCD</p>		<p>ongoing</p>
<p>7.4 Record, promote and educate citizens about the sustainable features in existing parks and in new parks as they occur.</p>	<p>7.4.1 Create and update a list of the features in parks that make them more sustainable and/or respond to climate change.</p>	<p>OSPCD</p>		<p>ongoing</p>

In addition to these Goals, Strategies and Actions, the Parks and Open Space division renovates and constructs parks. For a map of the parks to be renovated in the next five years, see Appendix A: 2016-2021 Action Plan Map.

2016-2021 PARK CONSTRUCTION SCHEDULE

ACTIVE PROJECTS

- A Renovate Otis St Playground
- B Renovate Hoyt Sullivan Playground
- C Renovate Lincoln Park
- D ArtFarm: New Open Space
- E Renovate Powderhouse School Park
- F Renovate Winter Hill Community Innovation Schoolyard

2017 PROPOSED PROJECTS

- G Renovate Nunziato Field
- H Renovate Prospect Hill Park
- I Renovate Allen Street Playground
- J Community Path improvements
- K Renovate Conway Field

FIVE YEAR PLAN

- L Healey Schoolyard
- M Somerville Junction II
- N Corbett McKenna Playground
- O Henry Hansen Memorial Park
- P Dilboy Improvements (DCR)
- Q Draw 7 Park Improvements (DCR)
- R Foss Park Improvements (DCR)

PUBLIC COMMENTS

Since the last OSRP, Somerville has been engaged in numerous planning processes that have put open space at the forefront of public engagement. These processes are described in Section 6: Community Vision. This section contains the feedback (labeled from A-G) corresponding with each community process. This public commentary was used to guide this Plan and identify goals.

A. SOMERVISION

The following Goals and Policies relating to open space were identified by the “Resources subcommittee” during the Somervision Masterplanning process.

B. NEIGHBORHOOD PLANNING

The neighborhood specific plans to implement the SomerVision goals and policy are on-going. The Union Square Success Story is an example of the community process typical of neighborhood planning.

All of the completed neighborhood plans, produces through extensive community engagement, can be found on the City website called Somerville By Design. <http://www.somervillebydesign.com/>

C. ZONING REFORM

The public meetings held to discuss zoning reform, as it relates to open space, generated feedback that primarily focused on the quantity of open space yielded through the proposed reforms.

D. GREEN SPACES COMMUNITY PLACES (GSCP)

The following notes were taken at two community meetings in March 2014.

E. PUBLIC SPACE PUBLIC LIFE STUDY

The survey and responses are found below. (Gehl report)

F. ATHLETIC FIELDS MASTER PLANNING

The plan was presented at two community meetings in March of 2016. While there seems to be general agreement about the need for more playing hours, there are still conversations occurring in the community about maintenance on natural turfgrass fields and the use of artificial turfgrass fields. The Athletic Fields Staff Report considered all community comments and incorporated data based recommendations for athletic fields planning.

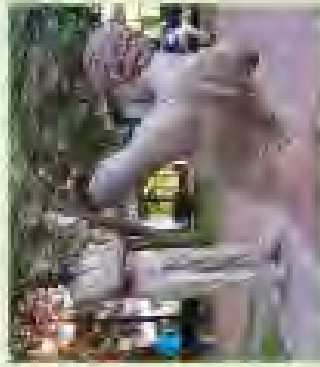
G. COMMUNITY GARDENS SURVEY

The survey and responses are found below.

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Resources Introduction

Public Art



Page 48

Summary of Goals:

- I. **Increase** the recognition of Somerville as a center of arts and creativity.
- II. **Ensure** that Somerville has a mix of spaces for creative production, performance and exhibition, and that art is incorporated into the built environment.
- III. **Help** local arts and cultural institutions, such as theaters, film and art festivals, museums and libraries to succeed, network and grow.
- IV. **Strengthen** existing education programs, and university and professional partnerships within Somerville schools.
- V. **Approach** our waterfront as a regional ecological resource, balancing community access and ecological health.
- VI. **Create** and program a network of vibrant public open spaces and shared use paths throughout the city that are multi-purpose, promote healthy living, and reflect changing recreational interests and cultural opportunities.
- VII. **Design** and maintain a healthy and attractive public realm that fosters community connection, including streets, sidewalks, and other public spaces.
- VIII. **Maximize** environmental sustainability in design and implementation of all infrastructure systems and public facilities.
- IX. **Ensure** the infrastructure for all utilities is sufficient in capacity and quality, of the best available technology, redundant, and supportive the desired level of future growth.
- X. **Ensure** that the Somerville municipal government, residents and business communities are well prepared and equipped to address emergency situations.

Resources Waterfront

V. Goal: Approach our waterfronts as a regional ecological resource, balancing community access and ecological health.

A. Policy: The City, in partnership with DCR, EPA and others, should improve the water quality and expand the recreational use of the Mystic River and the Alewife Brook corridors.

- 1. Action:** Partner with Groundwork Somerville, the Mystic River Watershed Association and other community organizations to work on water quality improvements, such as invasive plant control.
- 2. Action:** Support efforts to monitor and record wildlife and plant populations along the riverfront, and use this data in planning future waterfront development.
- 3. Action:** Consider the creation of a living wall (e.g., sound and visual barrier that also contains plant materials) to address air quality issues and mitigate the impact of Route 93 on the Mystic River, boat launches, paths, and other waterfront vistas.
- 4. Action:** Create infrastructure and educational outreach to support public water-based recreational opportunities and programs.
- 5. Action:** Link existing neighborhoods, open space and recreational areas to the waterfront via public transit and safe pedestrian and bicycle access.
- 6. Action:** Strengthen enforcement of sewage control, littering, illegal dumping, and illegal removal/cutting of plant materials in and around waterfront areas.
- 7. Action:** Actively contribute to the implementation of the Metropolitan Area Planning Council's Mystic River Corridor Strategy Project.

Waterfront

What's it all about?

Somerville has a waterfront! More than two miles of shoreline along the Mystic River and the Alewife Brook provide walking, boating and fishing opportunities for Somerville residents and visitors. We should be proud of these resources and work to improve accessibility, water quality and publicity.

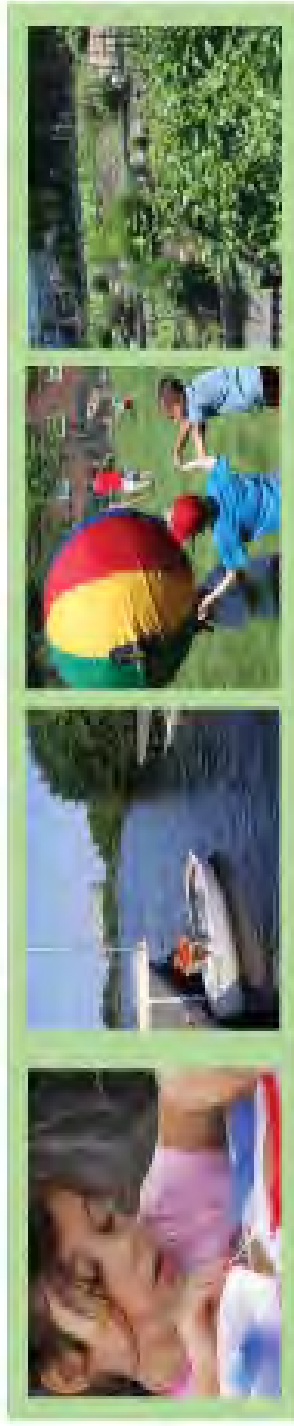


The Mystic River Alewife Brook Corridor Program (MARC) was approved by the Metropolitan Area Planning Council in 2014. The program is currently being implemented.

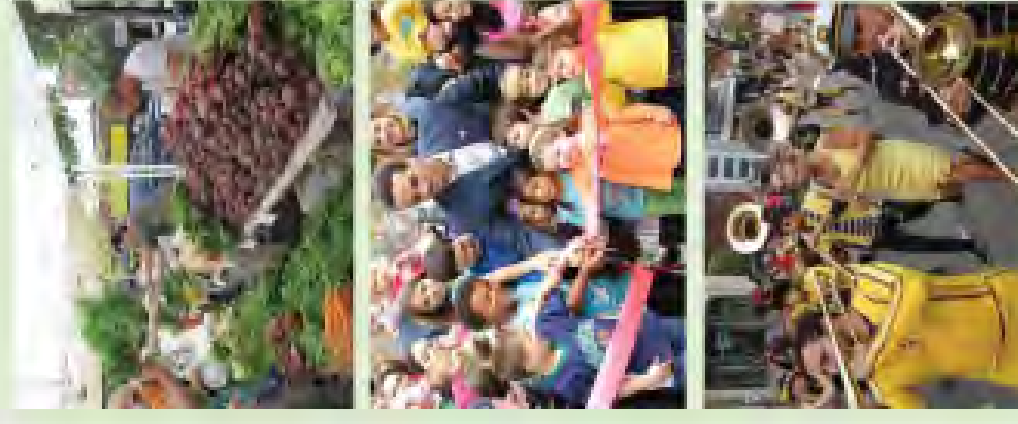
Resources Introduction

Introduction

In Somerville, we strive for world-class public education, excellent public safety, diverse recreational opportunities and a culture of creativity. These resources are constantly changing to adapt to our residents' needs and the local economy. The Comprehensive Plan provides a framework for identifying, preserving and expanding the community resources that make Somerville a great place to live, work, play and raise a family.



Somerville - Somerville's Comprehensive Plan



Resources Parks & Recreation

Recreation

What's it all about?

Public spaces bring Somerville residents together, and serve as a stage to showcase our legendary civic pride. They also encourage our residents and children to lead healthy and active lifestyles. We must continue to build new parks, plazas and gardens, while maintaining older public spaces and making sure that they are actively used.



Page 78

VI. Goal: Create and program a network of vibrant public open spaces and shared use paths throughout the city that are multi-purpose, promote healthy living, and reflect changing recreational interests and cultural opportunities.

A. Policy: The City should partner with local neighborhood organizations on the design, programming, and increased volunteer participation in public parks and open spaces.

1. Action: Analyze existing parks and recreation spaces for cultural relevancy, changing neighborhood demographics and needs, and site-specific ecological, social and recreational opportunities.
2. Action: Notify community members and stakeholder groups of opportunities to participate in the design and renovation of parks and recreation facilities.
3. Action: Increase multilingual announcements and publicity for public events in parks and recreational areas.
4. Action: Partner with neighborhood community organizations, the Somerville Police Department, local businesses and interested residents to establish "Friends of the Park" groups to help with maintenance, neighborhood security, and parks programming.

Shape Up Somerville

America's cities and towns can play an important role in improving people's health. Shape Up Somerville was created in 2004 as a partnership between the City of Somerville, Tufts University and the Cambridge Health Alliance. The program has earned national recognition for its work to reduce childhood obesity, increase physical activity in public schools, and promote access to fresh food for all Somerville residents.



Somerville - Somerville's Comprehensive Plan

Resources Parks & Recreation

B. Policy: *The City should design new and renovated public open spaces using green technologies and methods that increase permeability, reduce energy costs and conserve public resources.*

1. Action: Assess open spaces to identify opportunities that improve sustainability.
2. Action: Favor plant species on public projects that are perennial and drought-tolerant.



Groundwork Somerville: Schoolyard Gardens

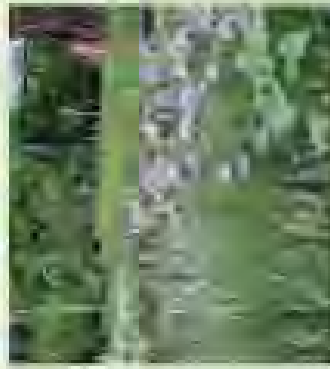
The goal of Groundwork Somerville's School Gardens Program is to use gardens as a catalyst to empower elementary school students to make decisions that positively affect their own health and the health of the environment. Groundwork offers garden-based programming year-round for kindergarten through 8th graders, focusing on reaching youth as they begin to make their own choices about food and the environment. Groundwork strives to provide students at all Somerville public elementary and middle schools the opportunity to plan, plant, tend and harvest from their own garden. Groundwork also works with other programs serving at-risk youth to engage their participants in nature- or gardens-based programming.



Somerville - Somerville's Comprehensive Plan

Page 79

Resources Public Realm



VII. Goal: Design and maintain a healthy and attractive public realm that fosters community connection, including streets, sidewalks, and other public spaces.

A. Policy: The City should plan public realm renovations with attention to energy efficiency, environmental design, visual clarity and ease of maintenance.

1. Action: Continue to increase the number of streets that bury electric utilities.
2. Action: Consider City ordinances to minimize visibility of satellite dishes and telecommunications equipment, enforce wire takedown when a communication service is discontinued, and improve visual appearance of infrastructure placed on public poles by private companies.
3. Action: Ensure that all street renovation projects create opportunities for planting trees to increase the city's urban tree canopy and that each tree has an adequately-sized tree pit to encourage tree health.
4. Action: Base Tree selection on recommendations from the City's 2009 Urban Forest Management Plan.
5. Action: Design public school grounds to ensure quality recreational space, native wildlife habitat/ outdoor classrooms, plant biodiversity, reduced stormwater runoff, and energy efficiency.

B. Policy: The City should continue to increase opportunities for urban agriculture.

1. Action: Create safe soil quality specifications.
2. Action: Consider creating public greenhouse(s) for year-round growing opportunities and/or partner with groups doing such work.
3. Action: Continue to explore opportunities to add community gardens while developing plans to rehabilitate existing or add new parks.

Resources

Green Infrastructure

- VIII. Goal: Maximize environmental sustainability in design and implementation of all infrastructure systems and public facilities.**
- A. POLICY: The City should meet energy reduction goals by undertaking or requiring efficiency and renewal projects.**
1. Action: Ensure that zoning and other programs incentivize energy reduction measures for businesses and residential uses.
 2. Action: Explore the installation of solar panels on street light poles as the technology becomes affordable.
 3. Action: Continue to use LED lighting fixtures on new street fixtures as roadways are reconstructed.
- B. POLICY: The City should improve the water quality of the Mystic River and the Alewife Brook.**
1. Action: Ensure that erosion controls on construction projects are adequate to handle major storm events and protect the city's waterways.



The City can encourage new development and renovations to include sustainable features, like solar panels, and help find grants to finance them.



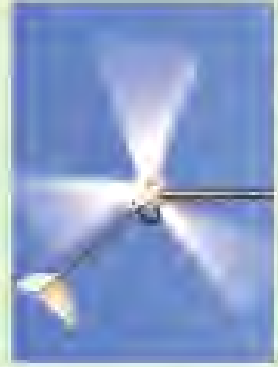
The City can use sustainable features, like LED lighting, on its own properties to save power and money.

Resources Green Infrastructure / Energy

Sustainability

What's it all about?

Walkable cities like Somerville are more sustainable than suburban or rural communities, because residents tend to drive less and live in multifamily housing. But we can do even more to reduce our environmental footprint. Policies around solid waste, energy efficiency and stormwater management can be used to preserve our environment while lowering the cost of living for Somerville residents.



Technology such as urban wind turbines may enable Somerville and its residents to save on energy costs.

C. POLICY: *The City and property owners should assist in reducing the urban heat island effect through the use of efficient roofing, reflection and shading choices.*

1. Action: Establish and maintain a strategic tree planting plan for the entire city.
2. Action: Utilize light colored pavement whenever feasible on all public projects.
3. Action: Increase permeable surfaces (green roofs, gardens, etc.) on public projects.
4. Action: Create an Urban Forestry Division to establish policy and protocol to plant, prune and take down public trees.
5. Action: Map priority tree planting areas through aerial analysis.
6. Action: Increase the amount of privately maintained greenery in the public realm.
7. Action: Start a private property tree adoption program to provide street tree benefits on residential land.

D. POLICY: *The City should maintain an updated, strategic, and pragmatic sustainability plan.*

1. Action: Implement codes and policies that reflect and promote the best available technologies for new development and redevelopment projects.

The Urban Heat Island

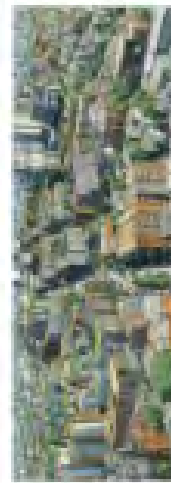
The city can get hot in the summertime. Part of the reason is known as the "urban heat island effect". Cities like Somerville have high amounts of paved surfaces and parking lots, which retain more heat than vegetated areas on warm days. This means that our residents have to pay more in electricity costs to cool their homes, and extreme heat can result in health hazards. To minimize the impacts of the heat island effect, the City and property owners can plant more trees, improve landscaping and invest in rooftop treatments.





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Check out our featured projects:



Union Square



Davis Square



Winter Hill

NEIGHBORHOOD PLANNING: Somerville by Design





City of Somerville Zoning Overhaul

Zoning Workshop #1 **Public Space**

Board of Alderman – Land Use Committee Meeting
11.30.15

SomerVision

Objectives for Open & Civic Space

- Improve our shared neighborhood **environmental quality**
- Approach our **waterfront as a regional ecological resource**, balancing community access and ecological health
 - *The City, in partnership with DCR, EPA, and others, should improve the water quality and expand the recreational use of the Mystic River and the Alewife Brook corridors*
- Create and program a **network of vibrant public open spaces and shared use paths** throughout the city that are multi-purpose, promote healthy living, and reflect changing recreational interests and cultural opportunities
 - *The City should partner with local neighborhood organizations on the design, programming, and increased volunteer participation in public parks and open spaces*
 - *The City should design new and renovated public open spaces using green technologies and methods that increase permeability, reduce energy costs and conserve public resources*
- Design and maintain a **healthy and attractive public realm** that fosters community connection
 - *The City should plan public realm renovations with attention to energy efficiency, environmental design, visual clarity and ease of maintenance*
 - *The City should continue to increase opportunities for urban agriculture*



City of Somerville
Zoning Overhaul

Mayor Joseph A. Curtatone
Office of Strategic Planning
& Community Development

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Getting to 125 Acres

Space built or planned since 2010....

North Street Veterans Park	0.10 acres
New Chuckle Ham's Park	0.38 acres
Zero New Washington	0.55 acres
Symphony Park	0.19 acres
Baxter Park (reclaimed)	6.10 acres
Community Path (Cedar/Lowell)	1.50 acres
Maxwell's 'Green'	0.50 acres
Assembly Row/Partners	13.00 acres
90 Washington St	0.18 acres (planned)
Powderhouse School Public Space	0.75 acres (planned)
Community Path to North Point	5 acres (planned)
McGrath Boulevard Parks	4 acres (planned)

Total: **approx. 32 acres**

Getting to 125 Acres

Setting Targets:

Created through Zoning:

On-Site Open Spaces in MU Districts:

Spaces Purchased & Built by Payment in Lieu:

Special District Civic Spaces:

New Pedestrian / Public Realm:

Acres

6-12

28-30

30-35 (50-65)

10-15

Created Outside of Zoning:

City Created Spaces:

New / Adapted Shared Streets:

2-5

8-10

Total:

88-107

(+ Space Built or Planned Since 2010)

32

TOTAL:

116-139



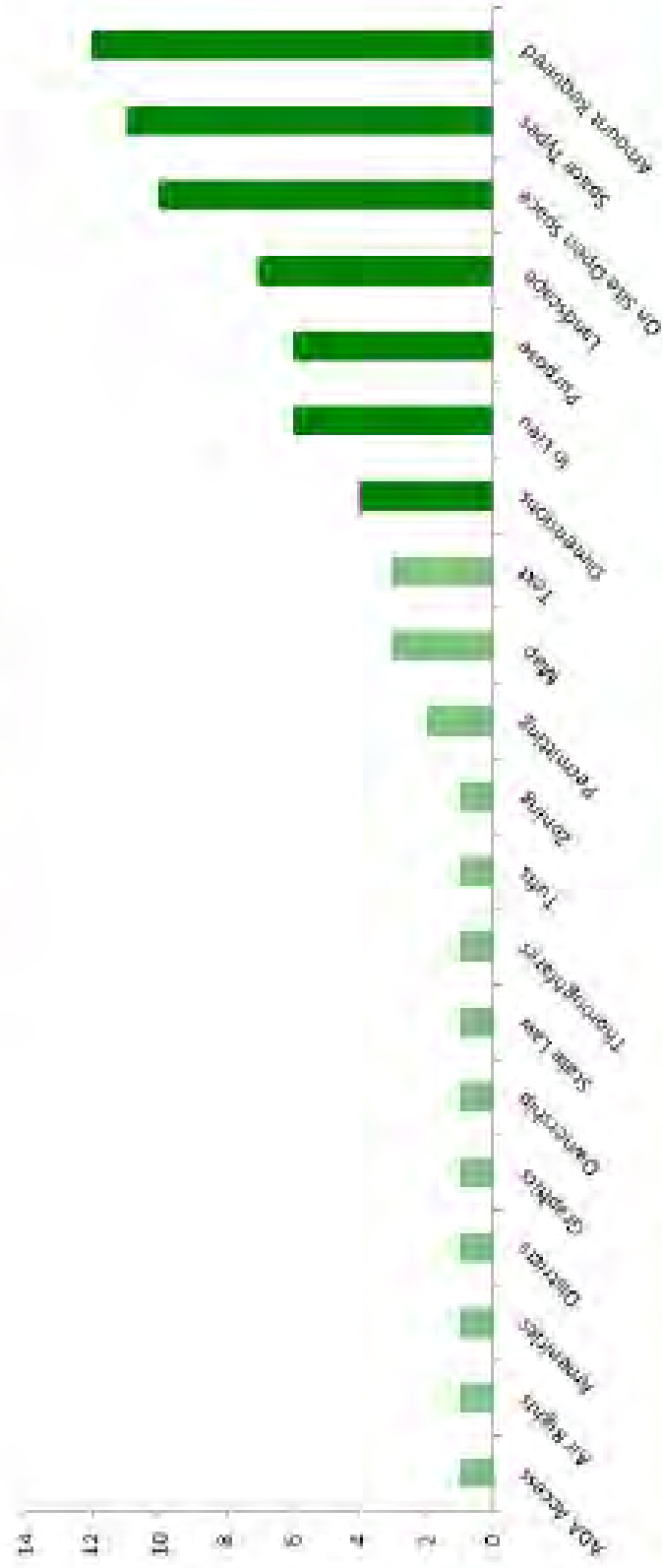
City of Somerville
Zoning Overhaul

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Office of Strategic Planning
& Community Development

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Public Feedback

Major Topics



Public Feedback

1. The amount of space required was insufficient
 2. Differentiate between types of space; prioritize types that are more “green”; certain types in certain places
 3. Need to produce properly sized spaces; aggregate/consolidate into larger spaces (see #4)
1. Provide a payment In Lieu of on-site open space
 1. Public opens spaces should include a green / landscape percentage
1. Are the sizes right for each type?



City of Somerville
Zoning Overhaul

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Summary

Landscape Standards

1. Adopt Green Area Ratio (a better landscape requirement)

On-Site Open Space

1. Require On-Site Open Space in ALL mixed-use (MU) districts
2. When required space is less than a certain size, allow an in-lieu payment.
3. When required space is less than a certain size, allow sites to consolidate required space from multiple sites as a larger space located at a different site.
4. When required space is more than a certain size, require it be designed as a civic space type.

Civic Space

1. Increase Civic Space requirements in Special Districts
2. Require certain types and a diversity of type in Special Districts



Summary

Building Type	Landscaped Area %	Pervious Area %	Outdoor Amenity Space	On-Site Open Space %
Residential Building Types	25*	35*	1/DU	-
Apartment Building	25*	35 – UR* 10 – MU	1/DU	15% in MUs
Shop House	-	35*	1/DU	-
Neighborhood Store	-	10	-	-
Mixed Use Building	-	10	1/DU	15% in MUs
Commercial Buildings (Prod. & Fab Buildings)	-	10	-	15% in MUs

* Same as existing ordinance



City of Somerville
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Summary

Special Districts	Civic Space%
Assembly Square	12.5 (25 open space)
Brickbottom	15
Boynton Yards	15
Grand Junction (Twin City Plaza)	15
Inner Belt	15
North Point	5



The community dot poll taken at the July 2016 Open Space Open House ranked the open space goals as:

- 1) open space acquisition
- 2) data use
- 3) urban forestry plan

D

GREEN SPACES COMMUNITY PLACES



A Snapshot of
**Public Space,
Public Life in
Somerville, MA**

Prepared for
City of Somerville

by Gehl Studio
2016

Gehl
Studio New York

DRAFT



Acknowledgments

Prepared by Gehl Studio,
a Gehl Architects company
San Francisco | New York | Copenhagen

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Contents

Letter from the City/ Mayor..... 3

Part 1: Introduction

Vision for Somerville’s Public Life & Space 6

Background & Context 8

Our Process 10

Part 2: Who, What, Where - Public Life & Public Space in Somerville

Workshop & Online Survey 14

What Somervilleans Love 16

What Somervilleans do in public space 18

Pedestrian Movement 20

Defying Crossing Signals 24

Biking in Somerville 25

Stationary Activity 28

Stickiness 32

Age & Gender 34

Corridor Quality Study 36

Quality Criteria 38

Streetscape 40

Part 3: The Stories that Emerge & Strategies for Change

Strategies 1-5 46

Part 4: Next Steps

Maintain the Public Realm..... 58

Pilot Project Overview 60

Measure What You Care About..... 62

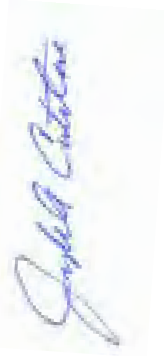
Planning for People

When it comes to planning, we spend a lot of time talking about buildings, infrastructure, and roads. Obviously we have to design carefully to ensure safe, functional designs and reasonable costs. But there is another overarching reason for why we engage in planning. People are our priority. We plan and design to improve our quality of life.

The shape and feel of our city impacts each of us every day. The Somerville community knows what spaces feel good; the sun in their face in Prospect Hill Park, a stroll with their dog along the community path, or shopping in one of our beloved squares. This Public Space Public Life study helps identify the design features that make these places great and will help inform future planning throughout the City.

The methodology used here comes from Jan Gehl. An architect by trade, Gehl was inspired by conversations with his wife, "about why the human side of architecture was not more carefully looked after by the architects, landscape architects, and planners." He has spent his career improving the quality of urban life by re-orienting city design toward the pedestrian and cyclist. I was honored to introduce a screening of his movie, *The Human Scale*, to a packed house at the Somerville Theatre in 2014. I am even more proud to put his ideas into action.

As we seek to bring human-scale thinking to Somerville, this study will help us understand how people live in and enjoy Somerville. It's not enough to just count cars and traffic, we need to quantify what makes our cities great for people. Let's keep working to make Somerville a city built on a human scale.



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Somerville's Public Life and Public Spaces

Somervillians already know what world-class public life looks and feels like

- they lounge in Davis Square with local treats, they enjoy each others company on the banks of the Mystic River, and they stroll along the Community Path. Somerville residents are adept at making their presence known in public spaces - they install local art projects along the Community Path, they share their porches to perform music, not to mention numerous street festivals, parades, and cultural events.

But Somerville's public realm has not kept up with the spirit of its citizens. Large open spaces lie vacant for much of the day. Vibrant urban squares lose their energy in the afternoons. Neighborhoods lack small, well-loved open spaces. Streets discourage walking between squares. Cycling is growing in popularity as a way to travel, but is still male dominated.

The vision for Somerville's public space is for it to meet the demands of its vibrant public life. It's one that envisions Somerville's public spaces hosting a variety of activities that appeal to people of all types and backgrounds; where spaces are evaluated based on their quality and the experience they invite for, not just on their size; and where streets and bike lanes make biking and walking convenient and safe options. It's this public life that will then position the City of Somerville as a leader in people-first design, as well as a destination for people and businesses in the region.





Background & Context

PSPL will Build on Neighborhood Planning

In 2009, there was a call to residents, help create Somerville's long-range plan. Over four years, the hard work and dedication of a 60 person steering committee and hundreds of participants at public meetings led to SomerVision, the City's first comprehensive plan. The comprehensive plan detailed 39 goals in the following categories: Neighborhoods, Commercial Corridors, Square, and Growth Districts, Resources, Transportation and Infrastructure, and Housing. SomerVision also detailed five metrics known as the SomerVision Numbers: attract 30,000 jobs, create 125 acres of open space, create 6,000 new housing units, ensure that 50% of new trips are by sustainable modes, and that 25% of new development is in transformative areas.

Since the adoption of SomerVision, the creation of Station Area Plans has been a key for the City. The City has also completed plans for Glen Station, the Lowell Station Area, and Union Square. With each plan, the public realm has been at the forefront of the community's comments and concerns. From wider sidewalks to new parks, the improvements to the public realm have been substantial parts of these plans.

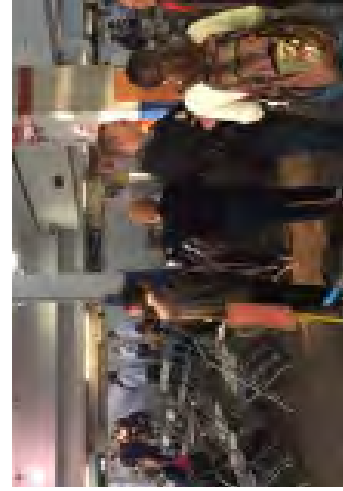
While the City would like to engage each neighborhood with the intention of documenting a neighborhood plan all at once, it simply is not possible. The Citywide Public Space Public Life study surveys areas of the study that we're currently not able to engage and will also help inform any future streetscape and parks project. In addition, City Staff and volunteers have been trained on the Gehl methodology with the intention of continuing to build on the information in this report.



Our Process

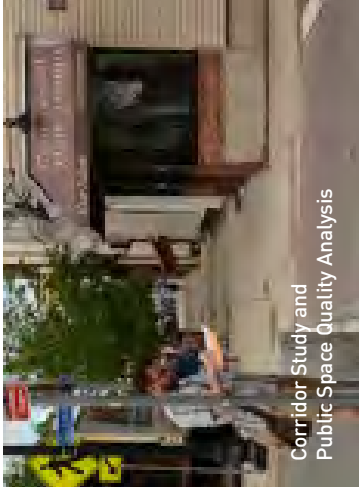
Gehl Studio focuses on creating mutually beneficial relationships between people's quality of life and their built environment. Gehl studies how people's senses, movements, interests, and behaviors are influenced by the scale and quality of built form. The Gehl approach starts with this to ensure design is guided by the features of a place that make it welcoming and comfortable from one's first-hand experience.

This work is grounded on **Public Space, Public Life Research**. This initial research was published in Jan Gehl's 1971 book, 'Life Between Buildings', that continues to be a widely used handbook on the relationship between public spaces and social life in cities and has been translated into more than 30 languages. Rooted in enduring methods of measuring the quality of public space and public life, Gehl continues to develop our knowledge regarding how the physical environment influences social interaction by working in cities around the world. We apply this analysis to design places for people and to empower citizens, decision makers, company leaders, and organizations in human-centered design.



Favorite Place Workshop & Survey

APRIL 2015



Corridor Study and Public Space Quality Analysis

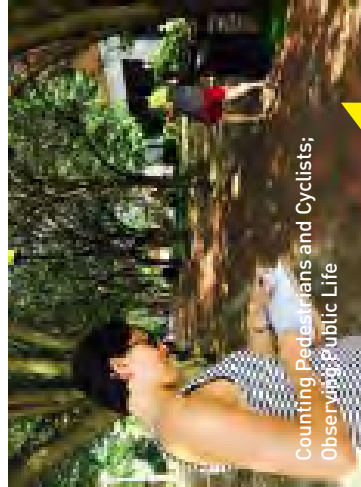


Report Back & Determine Next Steps

SPRING 2016



Volunteer Training



Counting Pedestrians and Cyclists; Observing Public Life

Data Analysis

JUNE 2015



Public Space, Public Life Survey

- Training
- Surveying
- Corridor Mapping

MAY 2015

Favorite Places Workshop & Online Survey

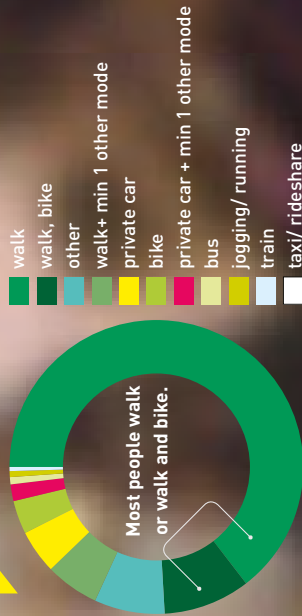
When one is asked to think of great public spaces, a few archetypal spaces come to mind: Central Park, Las Ramblas (Barcelona, Spain), Boston Common. These are dramatic, great places, but they are relevant to their contexts: large, old, dense cities. What do these spaces look like in smaller and medium size cities, which cover smaller land area and have street patterns from the 17th through 20th century? Where do people currently feel invited or enjoy spending time? What qualities are missing from these places? From a busy street corner to private courtyards used as public, cities of all sizes have public spaces loved or well-used by residents.

Favorite Place workshops and activities are designed to understand the qualities that make these less-known places thrive and to understand why other public spaces in Somerville might not be performing to their greatest potential. By asking people to share what they love and what leads them to have a great experience in a place we collected feedback that could be applied to developing design principles and guidelines.

Gehl led a Favorite Place workshop in Somerville in April 2015. This, along with an online survey, helped to reveal the qualities Somerville residents love about the city's public spaces as well as the places that could be improved. The workshop helped to understand what makes Somerville's public life work, and identified survey locations for our Public Space Public Life Survey.

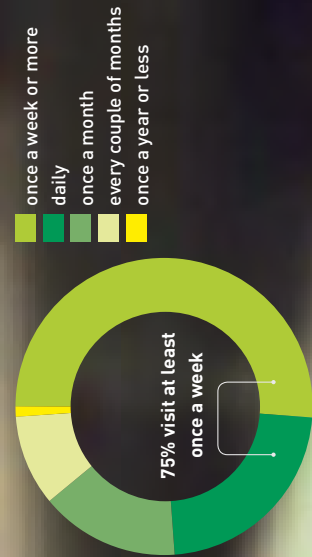


How did the participants get to their favorite places? Most people walked, or walked and bike - indicating that places are close to many favorite places are close to home.



Most people walk or walk and bike.

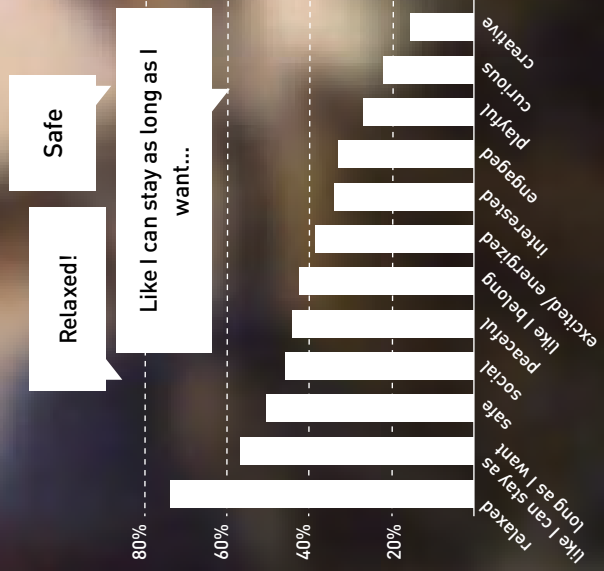
How often did the participants visit their favorite places?



75% visit at least once a week

Data from: Favorite Place Workshop, with 75 participants, and an Online Survey that was open for two months, with 270 participants (73% female, 27% male).

How did the participants feel when they visit their favorite places? What qualities evoke these feelings?



Relaxed!

Safe

Like I can stay as long as I want...



What Somerville Loves

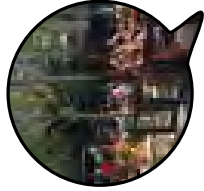
The qualities that make favorite places feel you can 'stay as long as you want'

The Somerville residents surveyed loved small and intimate green spaces, being active, and seeing other people. The Community Path and Davis Square were the most popular places, followed by a mix of urban squares and green open spaces.

We learned that there isn't a perfect match between favorite places and great 'quality' (see page 38) - some places with great quality don't have a lot of people and aren't frequently mentioned as favorite places. Quality spaces usually have elements of protection, comfort, and enjoyment.

There is a lack of highly-ranked favorite places in the eastern neighborhoods. This could be due to the fact that only 21% of those surveyed were from East Somerville, Ten Hills, Winter Hill, and Assembly Square and many people's favorite places were those they could walk and bike too. Spaces that are well-used, such as the Mystic Riverfront, wasn't highly ranked amongst survey respondents.

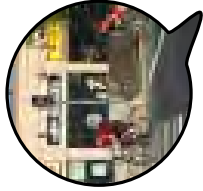
The findings helped identify the questions to ask during the PSPPL Survey, such as: How can access to and activity in Somerville's already great open spaces improve? And how can the existing qualities in Somerville's public spaces be brought in to more places that people love or spend time in?



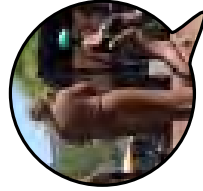
#3 Food



#6 Peace & Quiet



#9 Biking



#12 Art & Culture



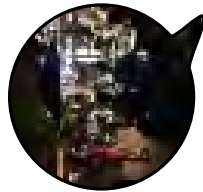
#2 Nature/ Greenery



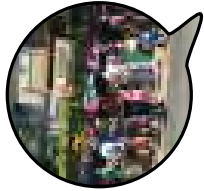
#5 Connectivity



#8 Kid friendly places



#11 Liveliness



#1 People



#4 Walking



#7 Recreation



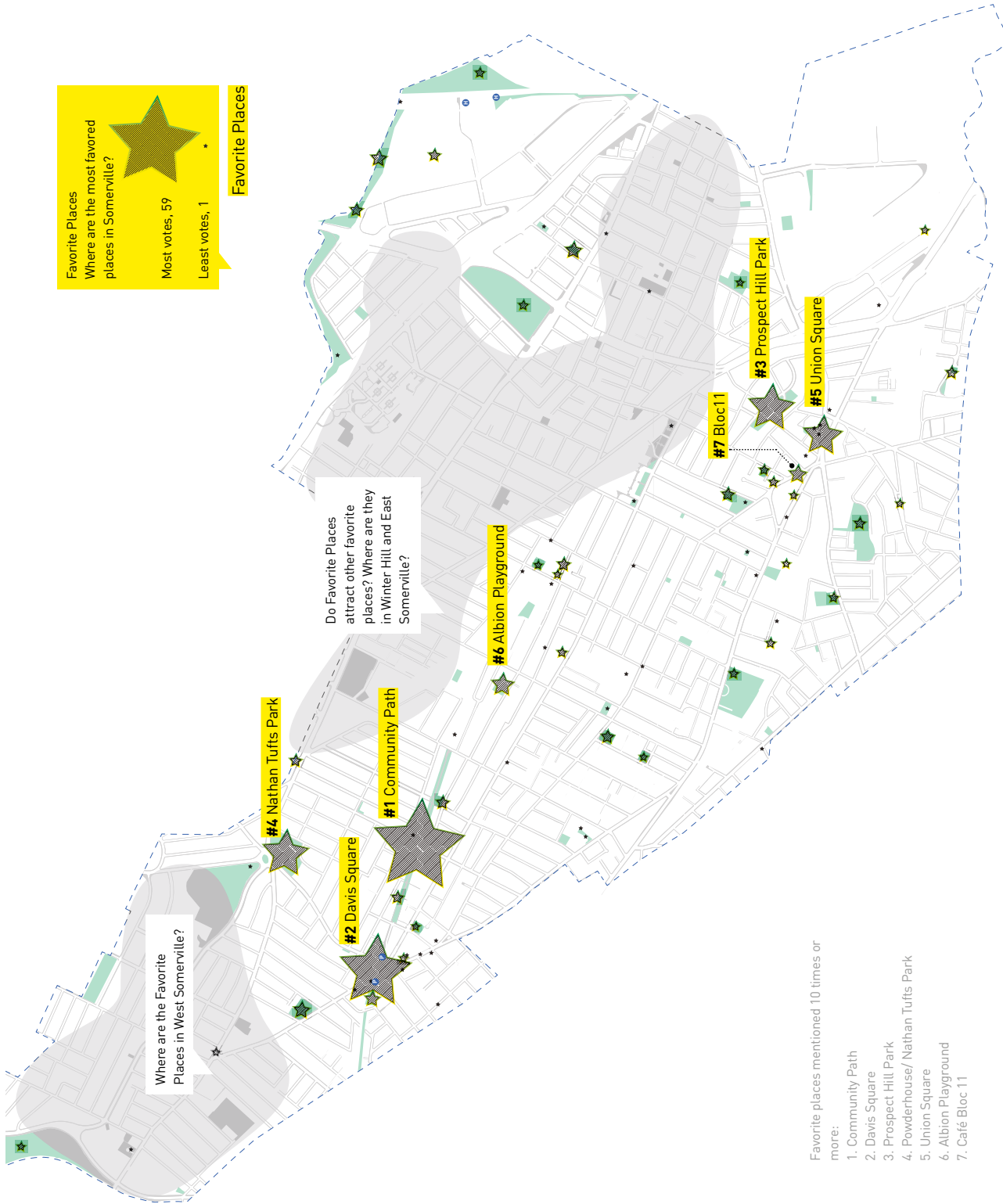
#10 Beauty / Design



These are a few of my favorite things! These are the qualities that more than 10% of respondents used to describe the most favored spaces and as the features that make them want to spend time in a place.

Favorite Places
 Where are the most favored places in Somerville?
 Most votes, 59
 Least votes, 1

Favorite Places



- Favorite places mentioned 10 times or more:
1. Community Path
 2. Davis Square
 3. Prospect Hill Park
 4. Powderhouse/ Nathan Tufts Park
 5. Union Square
 6. Albion Playground
 7. Café Bloc 11

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What Somervillians do in Public Space

Public Space, Public Life Survey

Created by Gehl Architects over 40 years ago, the survey is a tool to collect people-oriented data. The goal of the survey is to document existing human behavior and use this information to inform the planning and design process, as well as to generate strategies to make a place more livable, walkable, and inviting to all.

The Survey helps to answer: how people use the streets and sidewalks? What types of activity do people engage in? What is the demographic mix? How are certain modes of transport prioritized over others in terms of how space is distributed?

The survey collects data that can show how balanced or not places (sidewalks, streets, plazas) are in terms of range of activity, users, and distribution of space. Gehl analyzes this data and overlays it with local area demographics, public space data, and the vision for public life.





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Pedestrian Movement

Pedestrian culture is strong in Somerville, especially in the evening and on weekends

In Somerville, People Choose to Walk

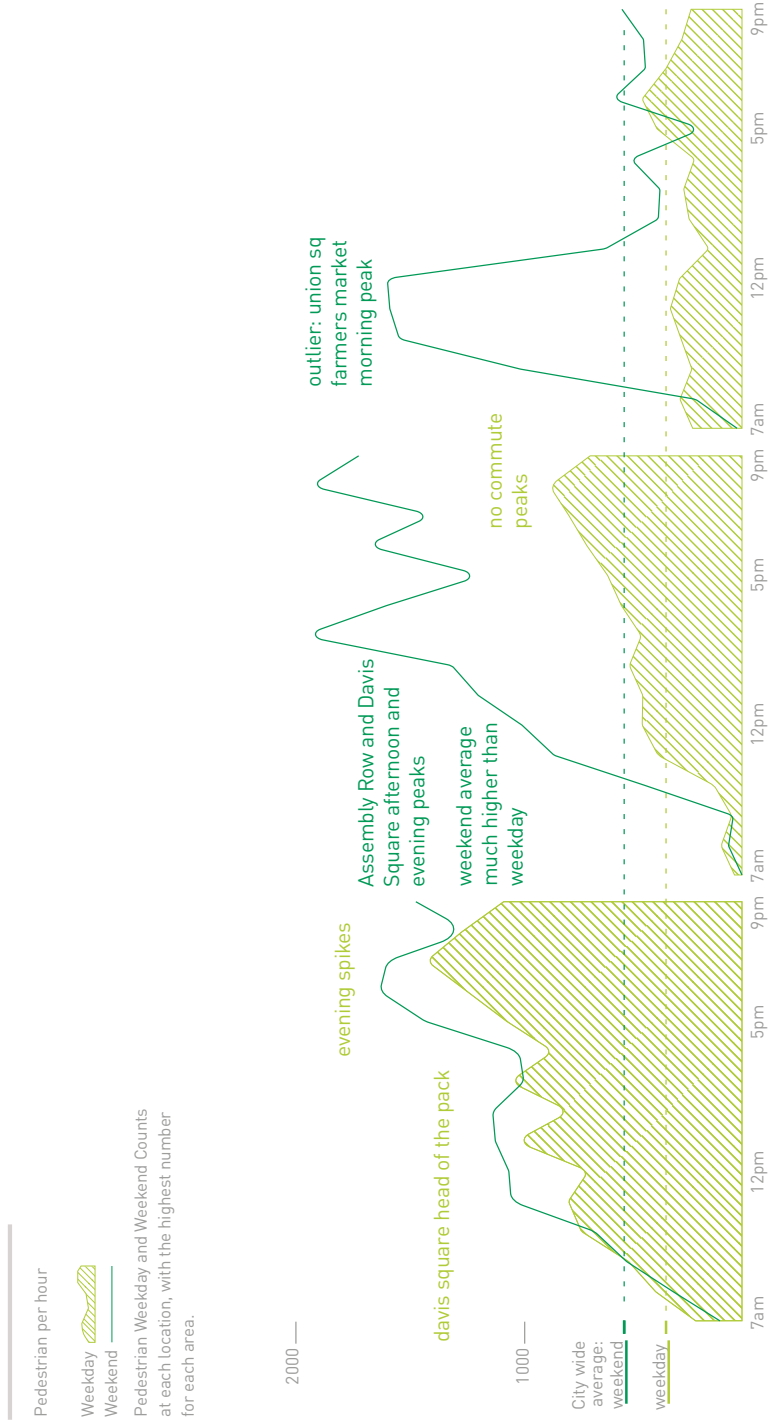
Unlike in many cities where pedestrian movement strongly correlates to employment and rush hour patterns, walking occurs more on the weekends in Somerville. Average weekend pedestrian volumes are much higher than weekday, with 550 people per hour walking through a single intersection compared to 350 (weekday). This indicates that pedestrians are choosing to walk in Somerville, and are not just there because of work patterns or demands.

Consistent Movement

Consistent pedestrian activity throughout the day, as well as spikes in the evening at Davis Square during the weekday, in the morning at Union Square farmers market, and in Assembly Square on weekend afternoons indicate that Somerville's public life is not driven by traditional commuting patterns, but instead by choice, programming and untraditional work hours.

This may be because there are many students and creative economy workers who do not have standard commutes, or because many people drive their cars or bike to jobs outside Somerville.



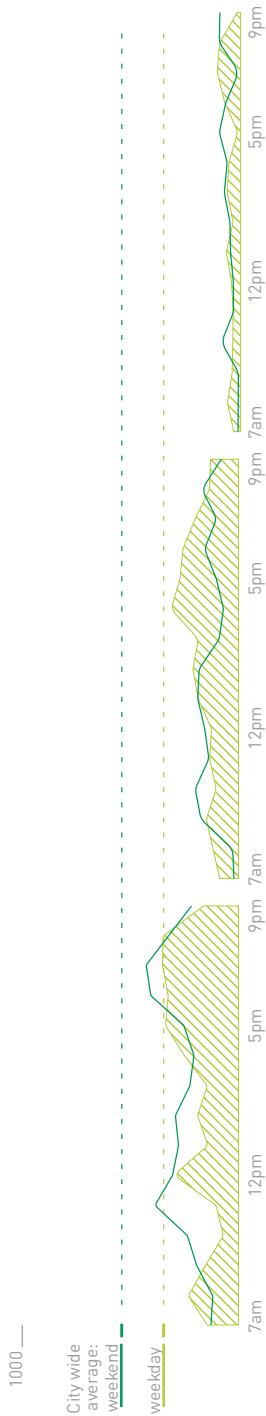


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— Pedestrian per hour
 Weekday
 Weekend

Pedestrian Weekday and Weekend Counts at each location, with the highest number for each area.



East Somerville

- has morning, lunch time and evening peaks (between 200 and 400 people, compared to lows of 50 at other hours).

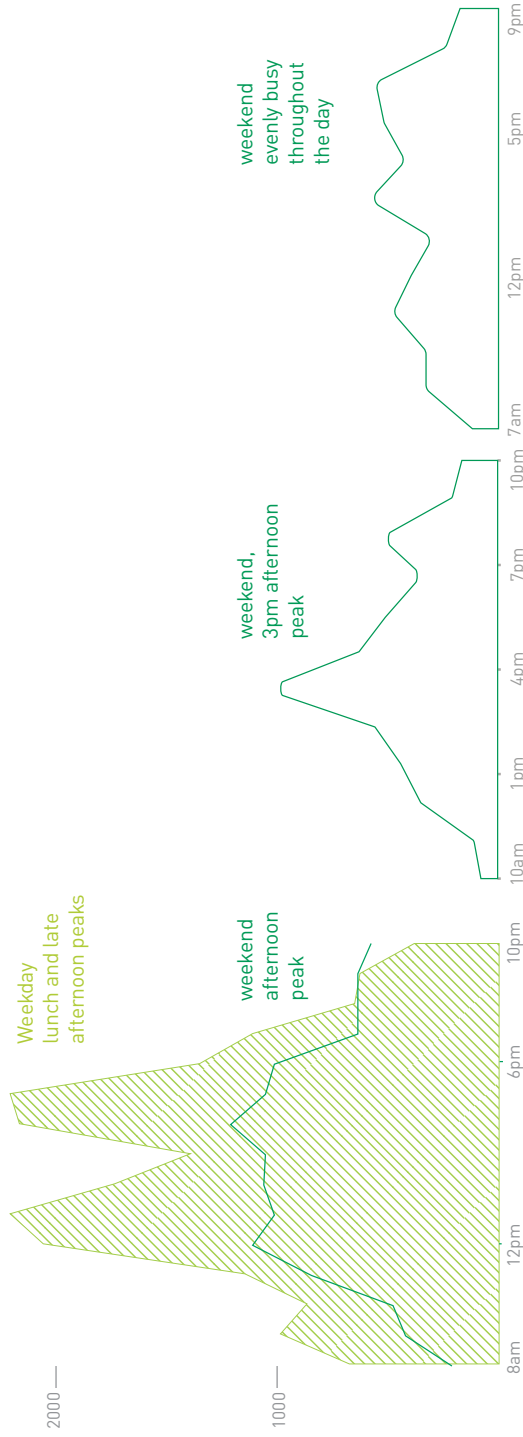
Winter Hill

- an outlier; activity is much higher on a weekday than in the weekend - this may indicate that people are here because they have to be - to commute - but not because they want to walk here. However, it has the lowest average weekend and weekday count other than Concord Square.

Concord Square

- a neighborhood park, not a central corridor.

And how does Somerville compare to:



3rd Ave, Seattle, WA
 Compared to weekday and weekend pedestrian flow in Seattle, 3rd Ave, July 2008. A neighborhood of Seattle with a density similar Somerville's. Downtown Seattle's walking patterns are more characteristic of those where pedestrian movement is tied to rush hour and worker patterns, and is higher on weekdays than on weekends - indicating that while pedestrian movement is high for a US city, it is tied to necessity rather than choice.

Short Street, Lexington, KY
 Short Street in Lexington, Kentucky is a retail, bar, and restaurant street. The city is currently doing short-term pedestrian improvements to increase pedestrian amenities on the street. Pedestrians peak on the weekend in the mid afternoon which is a typical time of a services oriented street.

San Fernando St, San Jose, CA
 San Fernando Street runs next to San Jose State University. The street is primarily residential with a mix of retail and restaurant uses. Activity on the street is steady throughout the day. This pedestrian volume indicated that the street caters to activities needed throughout the day.

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Defying crossing signals

Crossing against the light is a team sport!

Pedestrians in Somerville know where they're going, and they're going to get there as fast as they can - whether or not there's a "don't walk" sign in their way.

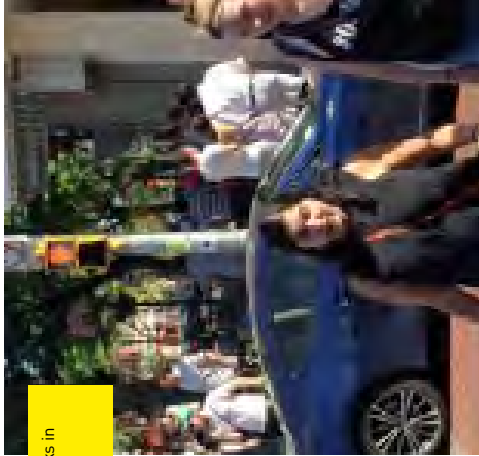
Some may chalk this up to attitude and culture in New England. Or maybe it's just poor signal timing. Some intersections in Somerville leave barely any time for people to cross the street, even where there is little vehicle traffic during the "don't walk" sign. Pedestrians have taken it upon themselves to determine the best time to cross the street, including families with strollers and groups of friends caravanning against the signal.

Despite apparent empowerment, this culture of pedestrian right-of-way is not supported by the built environment, nor signal timing. In some squares one has to cross up to five sections of zebra striping to reach one's destination. If you get off at the wrong end of the Red Line in Davis, it could take you up to five minutes to get to the exit across the street.

Somerville's pedestrians already know cities are made for people - the public realm and signal timing must respond more to how they move - and reflect a pedestrian-first perspective.



Davis Square



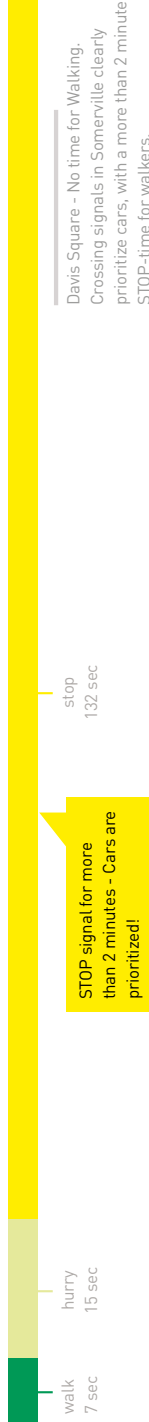
Everybody jaywalks in Somerville



It takes me 20 seconds to cross - how could I wait 2 minutes?!



Davis Square - No time for Walking. Crossing signals in Somerville clearly prioritize cars, with a more than 2 minute STOP-time for walkers.



STOP signal for more than 2 minutes - Cars are prioritized!



Biking in Somerville

Growing bike culture, but mostly young men were observed

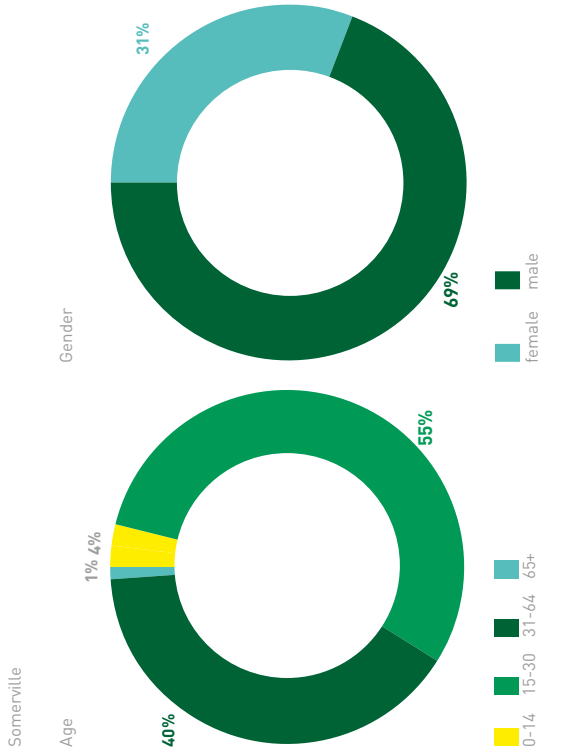
In Somerville, peak cycling occurs during typical weekday commute hours and on weekend afternoons, indicating it is used for both the necessities of commuting and for recreation and leisure. No matter what time of day, most cyclists are adult men.

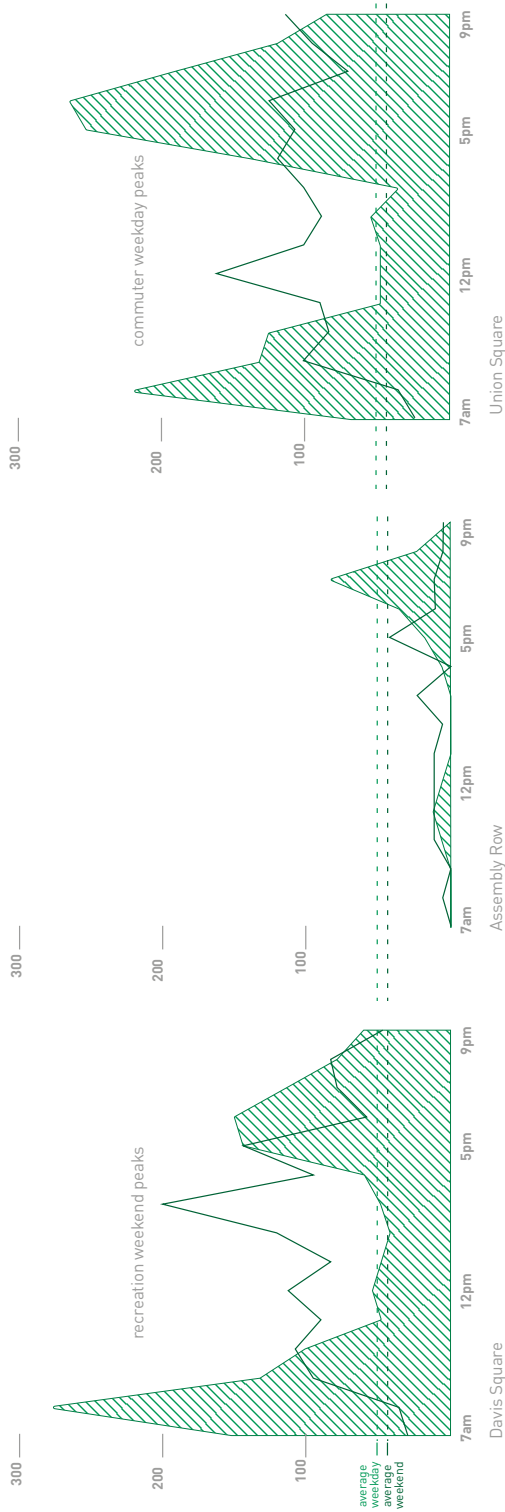
Somerville men appear more invited to bike than women - More than 2/3 of Somerville's cyclists are male. There are places that have more gender parity: Davis, Union, and Assembly have the highest number of female cyclists. East Somerville and Winter Hill have the lowest number of female cyclists - less than 25%.

Somerville's cyclists are mostly young adults and adults. 95% of all cyclists are between 15-64 years old. More than 1/2 of Somerville's cyclists are 15-30. Seniors, young teenagers, and children are underrepresented. This indicates that while cycling rates rise, getting around by bike is still considered a risky activity.

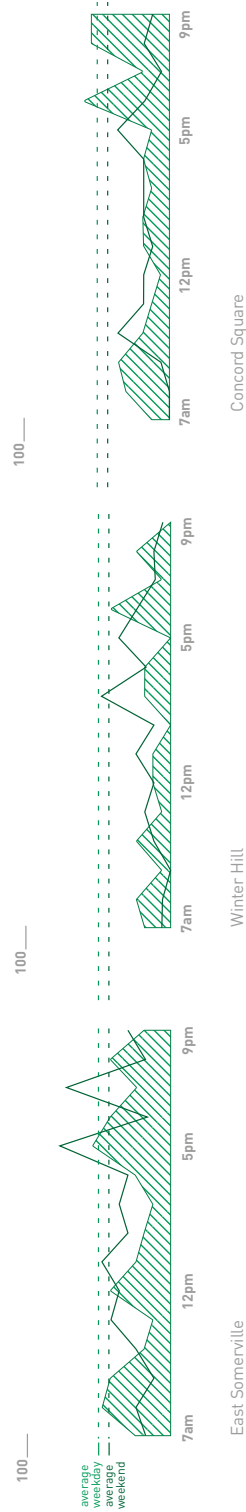
Square by Square Trends
Union Square at Somerville Avenue has the highest average cycling counts of the study areas, with an average of 70 cyclists passing this location each hour. **Davis Square** has the highest peaks, with Holland Street seeing 282 cyclists at 8 am on the weekday and the Community Path seeing 275 cyclists in one peak weekend afternoon hour.

Although **Assembly Square** has some of the highest pedestrian and stationary counts, it has the lowest bike activity in the city. The weekday sees no morning traffic and reaches a moderate peak of 84 cyclists (7 pm) in the evening. This may be that there are few bike commuters to Assembly, but programming attracts bikers in the evening, or because Baxter Riverfront Park is part of a bike path network.





cycling is concentrated around davis square and east somerville.



Cyclists per hour

Weekday
Weekend

Bike weekday and weekend counts at each location with the highest number for each area. How many cyclists and when and where are the peaks and lows.

Stationary Activity

High peaks of activity, but also low lows

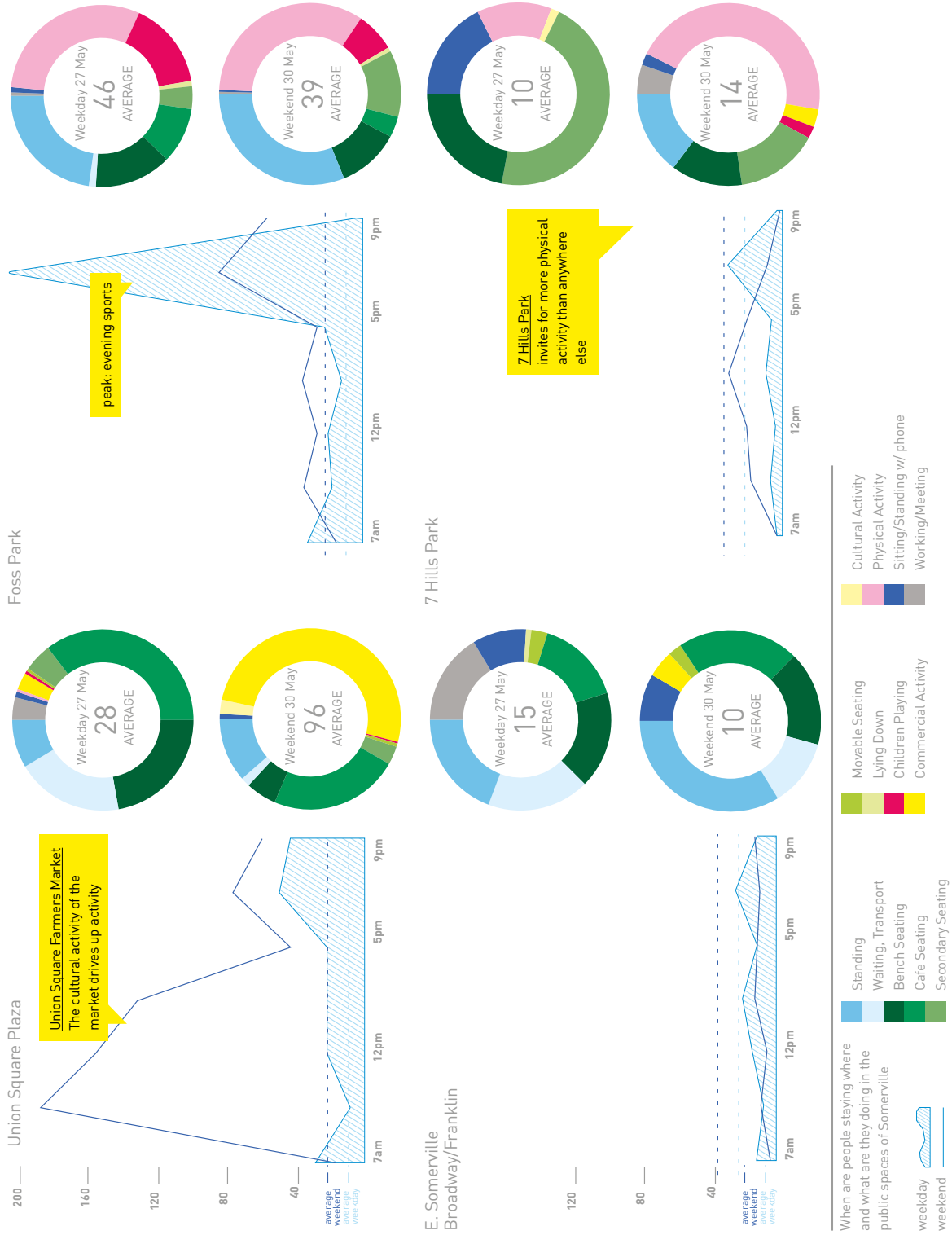
Similar to patterns of pedestrian activity, stationary activities, which include everything from sitting to waiting for transit, peak around events like the Union Square farmer's market, popular natural features like the Mystic Riverfront in Assembly Row, and around strong retail and nightlife offerings, such as those in Davis Square.

There are particularly high staying activities in the evening, indicating that people choose to go out - and stay out - after work hours. On the weekday after 8pm, stationary activity declines, but on the weekend it continues to climb.

Certain places peak at specific times, such as Foss Park in the weekday evening or Union Square on the weekend, then lose steam. Why does this energy drop off and how could this energy be maintained?

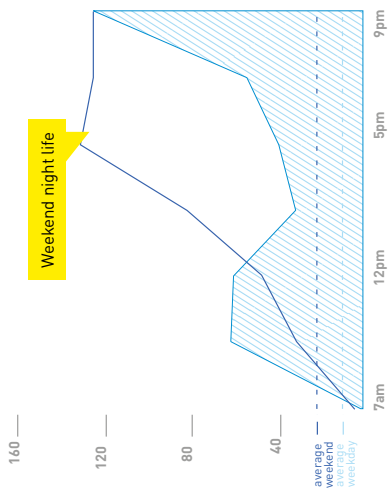
One unique highlight is Assembly Row, which has extremely high levels of staying activity; people choose to drive to this place to spend their time. How can the city encourage new development to contribute to this favorite place, and support active mobility networks to make it more accessible so that there is consistent activation all day, not just in the afternoons and weekends?



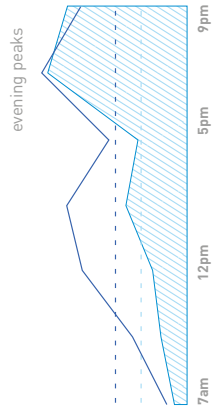
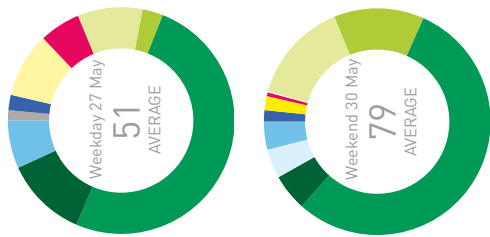


PUBLIC SPACE PUBLIC LIFE / Gehl Report

Baxter Riverfront Park

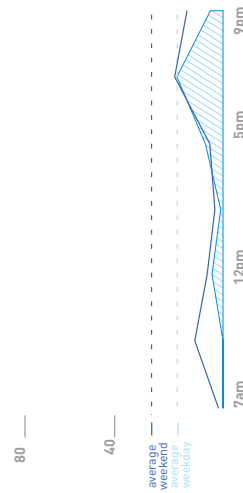
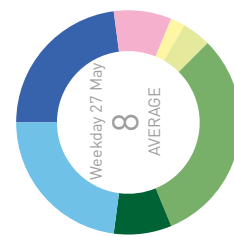


Davis Square Plaza



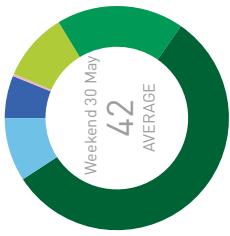
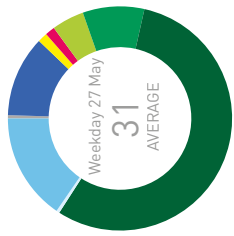
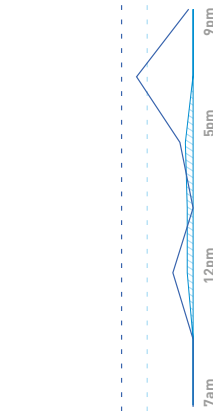
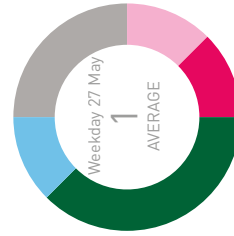
Prospect Hill Park

Just like the pedestrian volumes; weekends are more active than weekdays



Chuckie Harris Park

The only children playing were in parks or playgrounds - how can public spaces be more inviting to them too?



Pockets of 'Stickiness'

The "stickiness" of a place is a measure of how many people choose to stay versus how many people walk by. A score of 1/2 or .5 would indicate one person staying for every two people walking by. It helps to understand if a place is functioning mainly as a corridor to walk through or as a place that invites people to stop and spend time. Not all places need to be 'sticky' but this measure is one way to evaluate how inviting a place is.

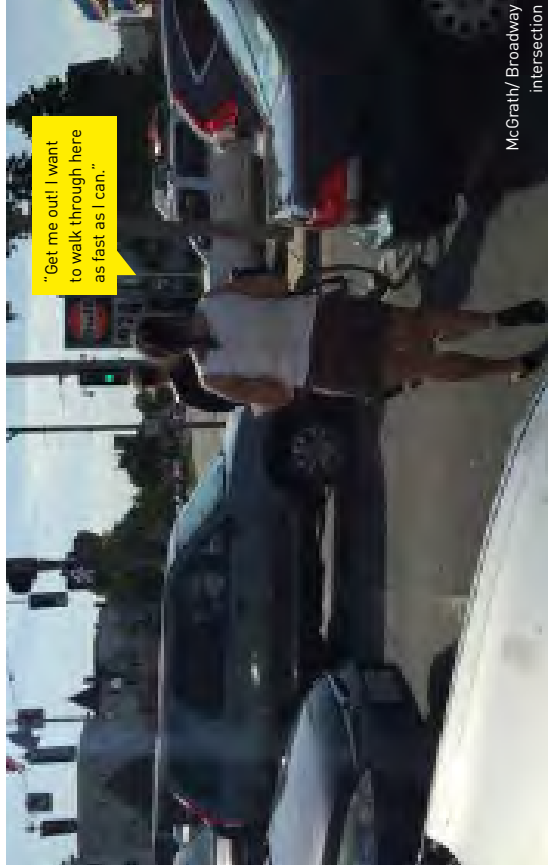
Compared to some of the peak pedestrian and stationary counts, there were few peak "stickiness counts." This may be due to limited space being devoted to pedestrians in busy squares such as Davis - where sidewalks are narrow and much of the land area is devoted to roadbed. If there were more invitations to stop, would they?

Events can contribute to making a place sticky - such as the farmers market Saturday mornings in Union Square. Davis Square, on the other hand, gets stickier at night, when people eat ice cream in the Square or enjoy dinner and drinks at outdoor restaurants and bars. There is more stickiness on the weekdays - when fewer people are walking - than on the weekends. Is this related to a weekday lunch culture? Or to a culture of strolling on weekends?

Many of Somerville's streets are corridors for moving traffic - not places - and until they increase their invitations for people - with seating, trees, and human scale design - and decrease invitations to cars, such as via wide travel lanes and frequent curb cuts - making them places people want to 'stay as long as they want' will be difficult.



Plaza at Davis Square



McGrath/Broadway intersection



Location	Stickiness Ratio	
	Weekday 12 pm, 7 pm	Weekend 11 am
Assembly Row	4 staying per 1 walking by	1 staying per 1 walking by
Davis Square Plaza	1 staying per 15 walking by	1 staying per 9 walking by
Foss Park	4 staying per 1 walking by	1 staying per 20 walking by
Seven Hills Park	1 staying per 9 walking by	1 staying per 12 walking by
Union Square	1 staying per 2 walking by	1 staying per 1 walking by



Age & Gender

A balance of men and women, with a bit more men in the east and a bit more women in Davis and Assembly (& Union on market days)

Gehl measure the age and gender of people moving through space because making cities accessible to all ages and genders means that the public realm is accessible and safe for all.

Most places in Somerville are gender-balanced, with slightly more men on average moving through the city. The average gender breakdown for pedestrians in Somerville is 53% men and 47% women.

Several squares have higher rates of women or men: **Davis Square** has the most equal distribution of genders. **Assembly Row** is the only place that is consistently majority women. **Winter Hill** and **East Somerville** are consistently majority men on weekdays and on weekends.



Gender breakdown: Weekend

Is there something about lower quality streetscape (see page 36) and pedestrian numbers that make E. Somerville and Winter Hill more inviting to men?

Programming at Union Square increases the percentage of women in the square, compared to the weekday rate



Do these trends indicate that men work on the weekend in Winter Hill and East Somerville? And that programming can reverse an imbalance?



Occasionally we found moments of primarily young males in locations across Somerville

Highland Avenue, 3 Little Figs

Corridor Analysis

The City's main streets are 'somewhere in-between' with pleasant stretches

An active public realm encourages people to stroll, to walk farther than they had planned, and to enjoy their journey on foot. Gehl Studio developed a Somerville-specific facade quality index to evaluate how active and engaging a facade was. Activity is based on how open the facade appears, how much it displays a human presence, and how inviting it is to walk further to see more. Below is a summary of the activity and quality of Somerville's key corridors:

Elm Street

There is a concentration of active units around Davis Square. Further away the facades are a mix of boring, pleasant and somewhere in-between, with large stretches of parking lots. Overall, there are few inactive units.

Broadway

There is very mixed facade quality on Broadway, with most falling somewhere in-between pleasant and boring. There are very few active units and the least active are around Central Broadway near Magoun Square, with long stretches of inactive facades. Despite the low quality, there are many green spaces along the way. The most active facades are around Teele Square.

Highland Avenue

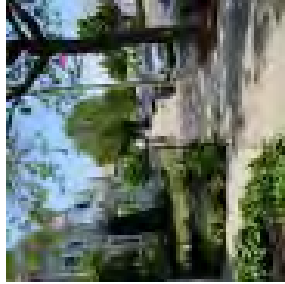
A pleasant residential street with few active units, evenly spread out along the street.

Somerville Avenue

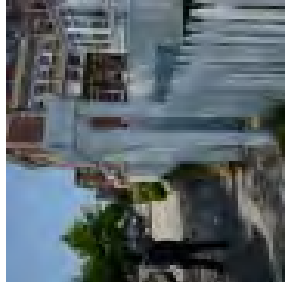
Parking and vacant lots, and the inactive units, are the most dominant. There are few active units. Concentration of active and pleasant units around Union Square and the northern merge of Bow St and Somerville Ave.



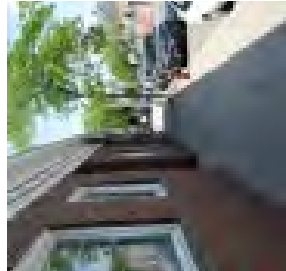
Active



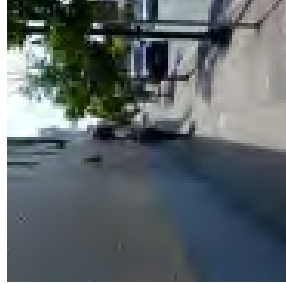
Pleasant



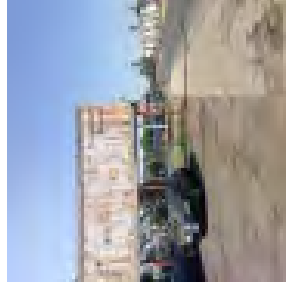
Somewhere in-between



Dull

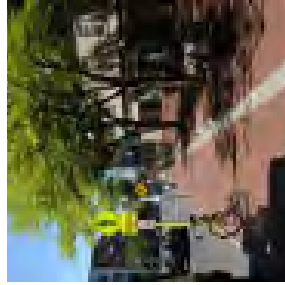


Inactive



Vacant/ Parking

Somerville frontages:



Public Space

Washington Street

Overall the facade quality is very poor, with very few active or pleasant units and long stretches of parking/ vacant lots. Apart from Union Square, it is in great need of improvement.

PUBLIC SPACE PUBLIC LIFE / Gehl Report



Quality of Frontages
Five of Somerville's major corridors were evaluated by the quality of their frontages, ranging from inactive (yellow) to active (green).



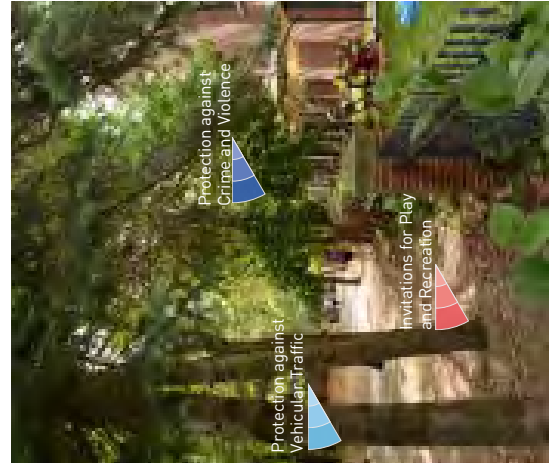
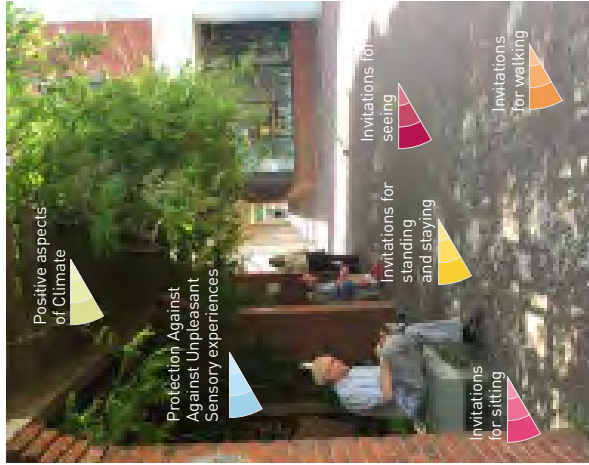
Quality Criteria

An opportunity to spread the love - or quality - around

An inviting place that encourages public life has elements of protection, comfort, and enjoyment. These categories are further detailed into 12 Quality Criteria measured in study areas and key corridors in Somerville. Each category doesn't have to be aced for a place to be inviting, ranking places by these categories can help identify why some work so well, and why others need attention.

Somerville has some high quality large public parks - the Mystic Riverfront, Tufts Park, and Prospect Hill Park - that meet all three categories. Smaller neighborhood parks also score well, such as Conway Park, Albion Playground, and Stone Place Park.

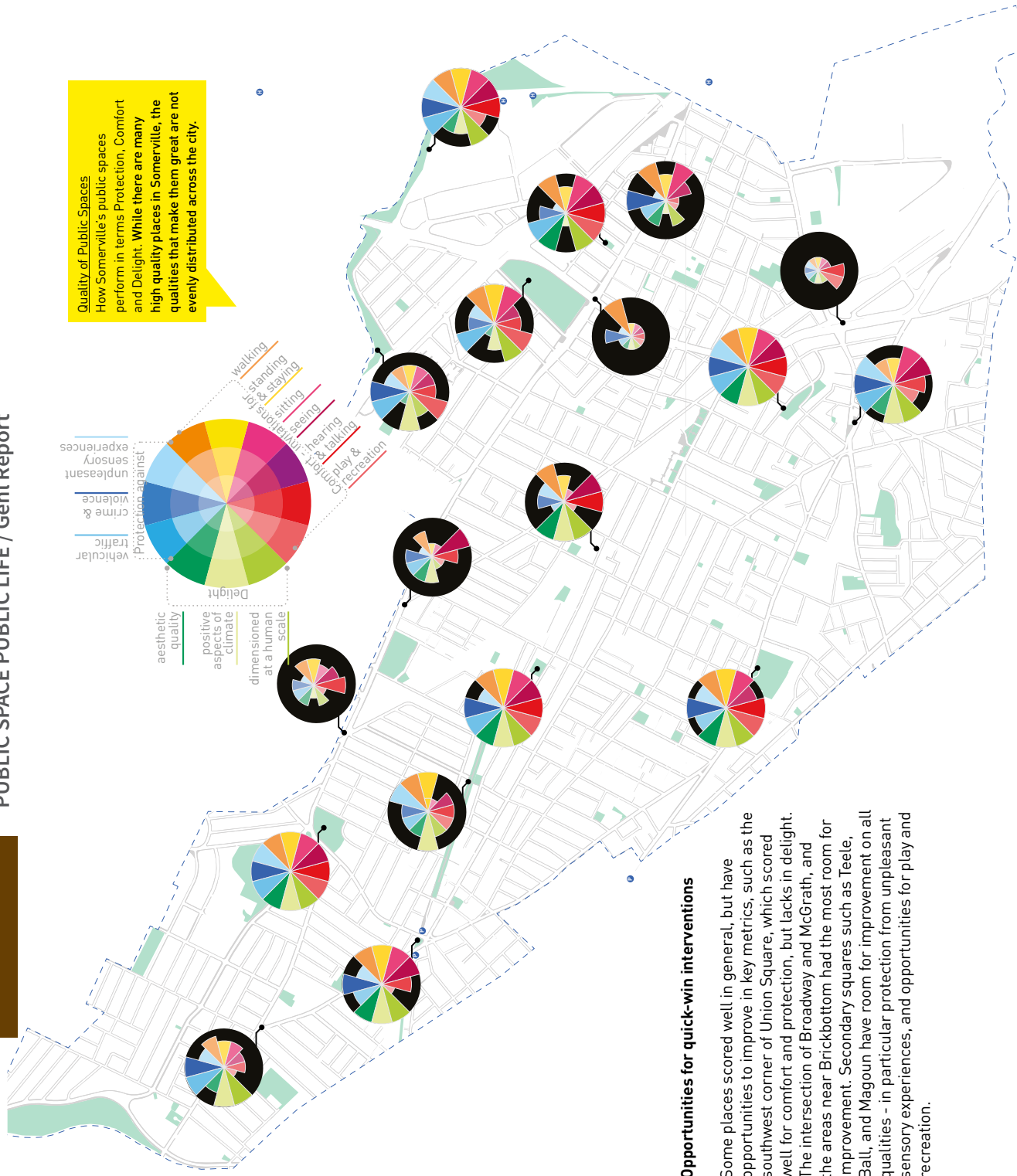
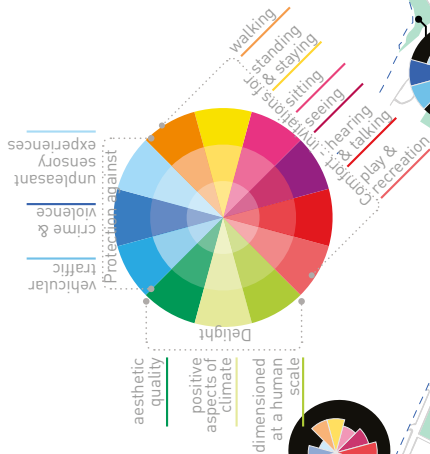
However, there is not a perfect match between Somerville residents' favorite places and the quality criteria, indicating that even favorite places can be improved. Many of these places were more urban than the high-scoring parks, indicating that while Somerville has invested in large and small open green spaces, its streets and squares can be improved. For example, although the Community Path was the most highly ranked favorite place, it doesn't rank very high in terms of comfort and delight.



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PUBLIC SPACE PUBLIC LIFE / Gehl Report

Quality of Public Spaces
How Somerville's public spaces perform in terms of Protection, Comfort and Delight. While there are many high quality places in Somerville, the qualities that make them great are not evenly distributed across the city.



Opportunities for quick-win interventions

Some places scored well in general, but have opportunities to improve in key metrics, such as the southwest corner of Union Square, which scored well for comfort and protection, but lacks in delight. The intersection of Broadway and McGrath, and the areas near Brickbottom had the most room for improvement. Secondary squares such as Teele, Ball, and Magoun have room for improvement on all qualities - in particular protection from unpleasant sensory experiences, and opportunities for play and recreation.



The Streetscape: Curb Cuts, Trees, & Benches

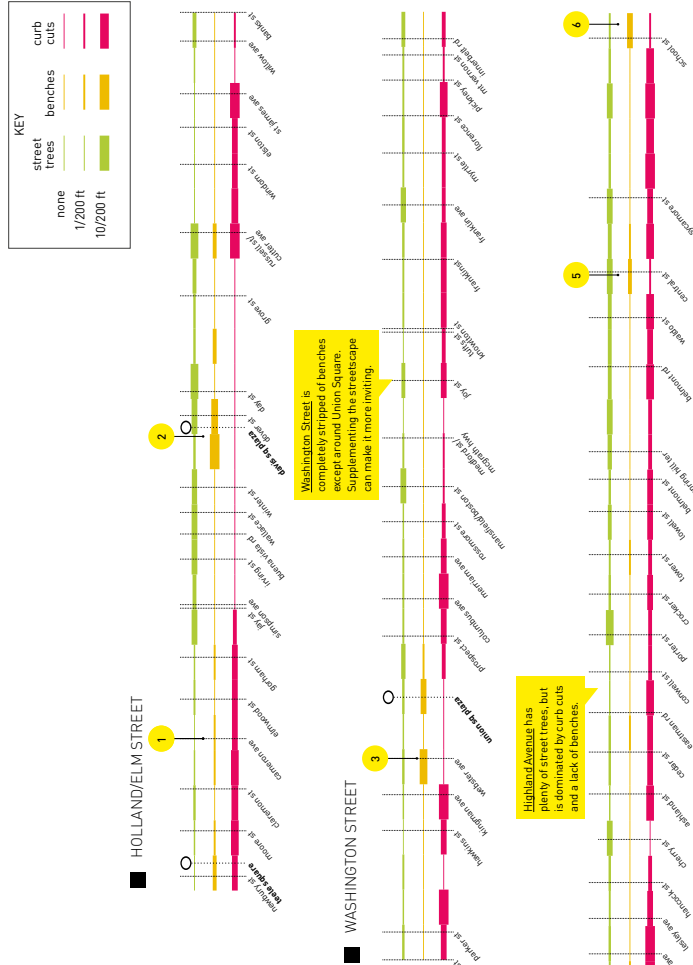
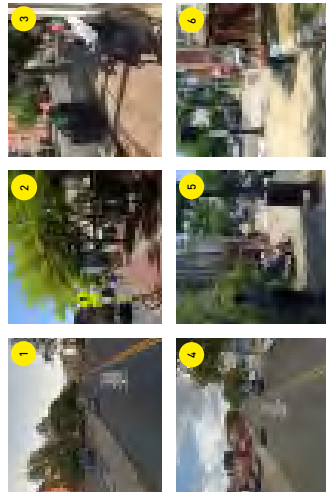
Curb cuts dominate in Somerville

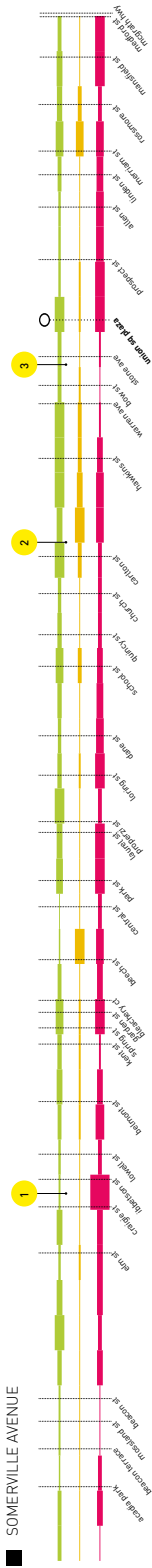
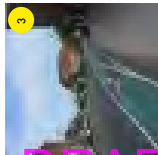
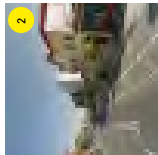
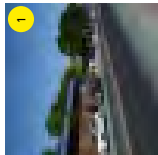
High quality public life is nurtured by active building frontages and inviting streets. An active streetscape can help pedestrians read the urban landscape: areas with more public life have more active facades and greater walkability and invitations for staying.

This is true in Somerville. Overall, higher levels of facade activity, quality benches, and street trees, and low levels of curb cuts correlated to more public life. We saw these positive qualities clustered at places like Davis Square. The closer one gets to Davis Square, for example, the higher the concentration of benches and street trees. Curb cuts are also reduced.

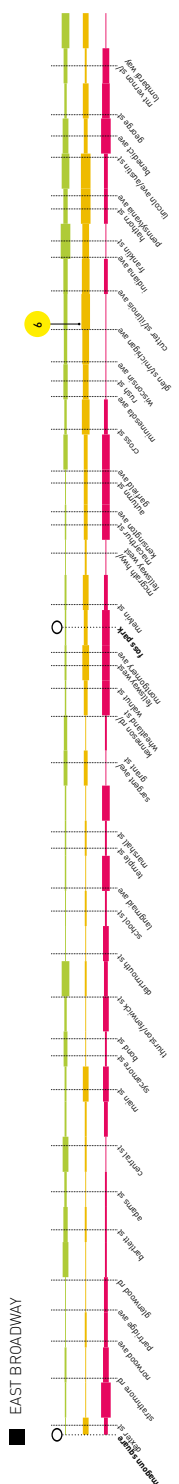
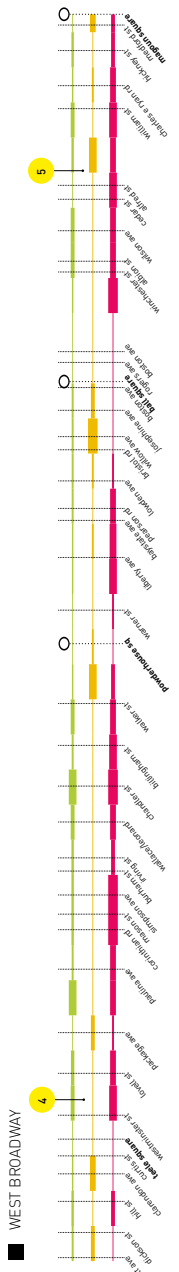
Yet, the same is not the case for other squares, such as Teale Square or Union Square if approached on Somerville Avenue. In Davis, one can feel they are approaching the square because of a higher frequency of inviting and walkable elements in the public realm - what if the same was the case for Teale Square? Instead, the only thing that marks one is entering the square is a line of traffic. What if there was a minimum frequency of street trees and benches as one approaches a square?

Gehl and the City evaluated walkability and invitations for staying on five corridors by identifying the level of engagement buildings have with the street and measuring the level of articulation, fenestration, and ability to sense a human presence, the frequency of street trees, the number and quality of benches, and curb cuts.

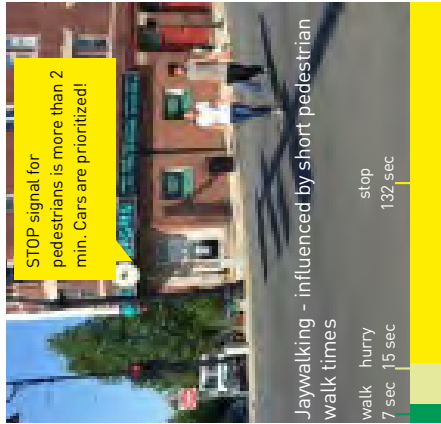
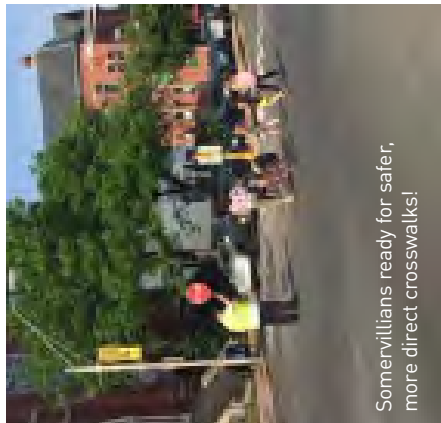
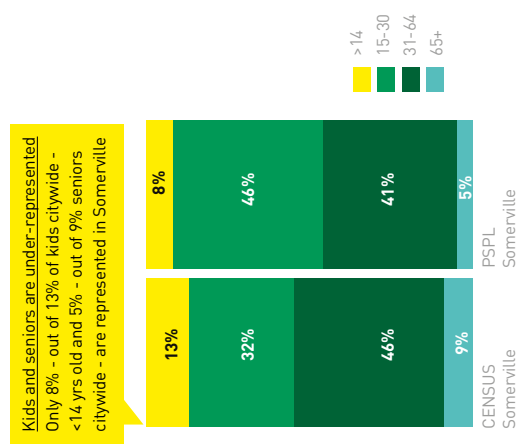
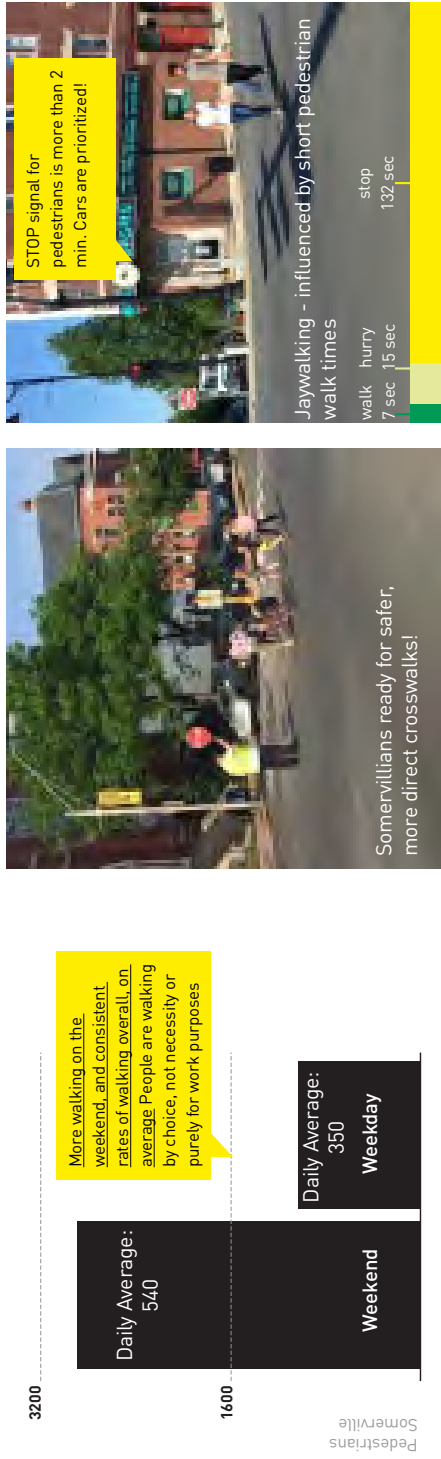




Areas like Broadway west of Magoun Square are dominated by long stretches of curb cuts, a moderate amount of street trees and few clusters of benches. East of Foss Park, the streetscape changes and there are many street trees and seating opportunities. How can these two areas better connect?

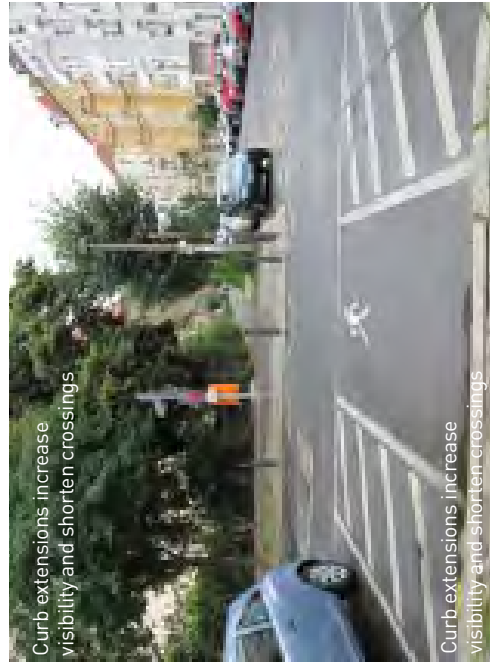
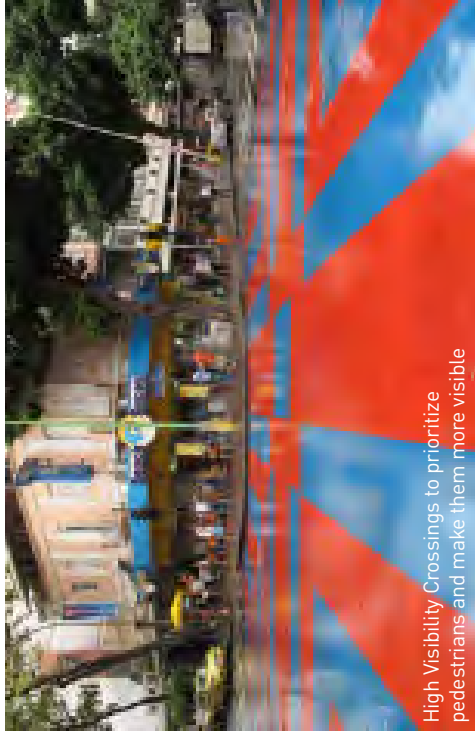


1 Somervillians choose to walk! Yet getting from A to B is a struggle



Put the Pedestrian First

- Design for desire lines and consider diagonal crosswalks
- Shorten pedestrian crossings
- Extend the curbs to reduce vehicle turning speeds and shorten crossings
- Green the streets to make them places and not just corridors to move through
- Increase pedestrian signal time
- Add more street seating
- Install high visibility crosswalks

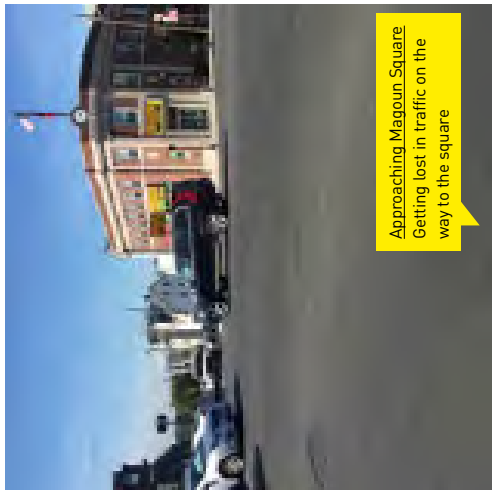


Use What You've Got! Maximize existing open spaces

- Fill in the activity gaps. People like people, so start by amplifying places that have moments of vibrant public life, but that drop off during the day
- Leverage the qualities people love in Somerville to other places - bring the feeling of intimate green space into larger parks, or opportunities for temporary programming, relaxing and people watching to under-used corridors
- Make streets into places that have invitations to stop, sit and relax - such as at bus stops or in front of key destinations - rather than corridors to move quickly from A to B
- Calm traffic on Somerville's streets, such as Broadway, by extending curbs, adding protected bike lanes, and greening the streets



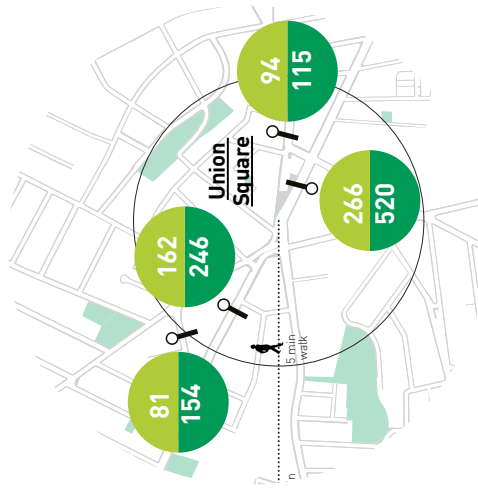
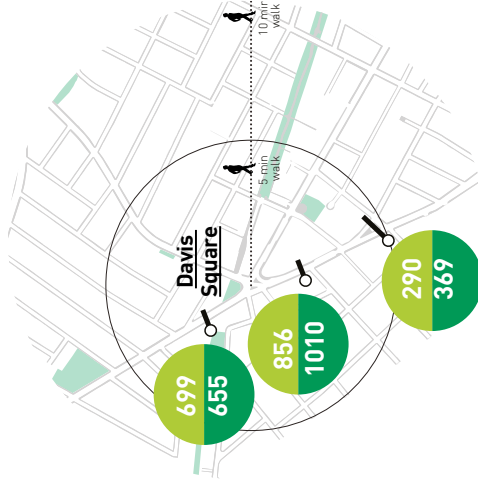
3 Great squares! Though some are indistinct, unwelcoming and hard to walk to



Walking Rates

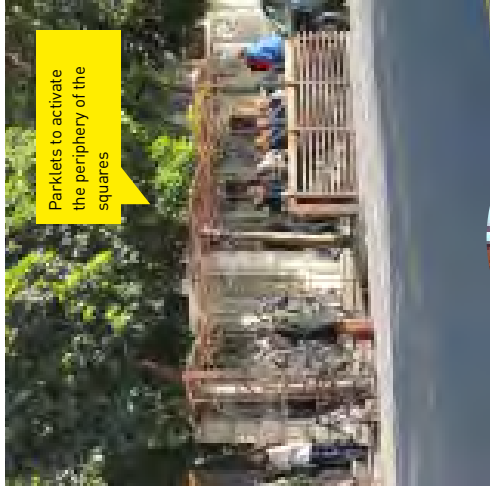
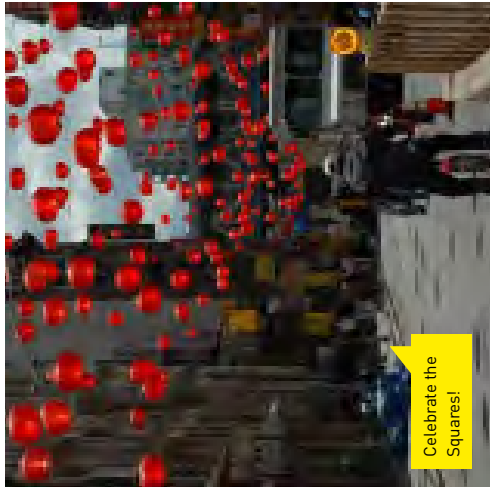


Walking rates drop in less than 5 minutes from the Square!
Davis and Union are active squares, on both the weekday and weekend. BUT there's a drastic drop in pedestrian volumes less than five minutes walk from each square. *How can invitations in the center of the squares extend to a 10 minute walk from the squares, and beyond?*

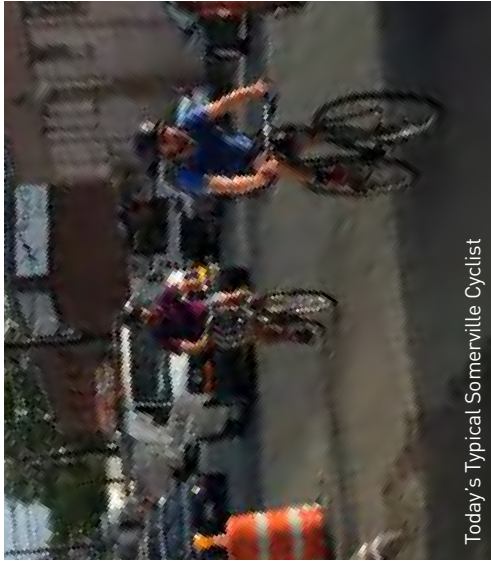
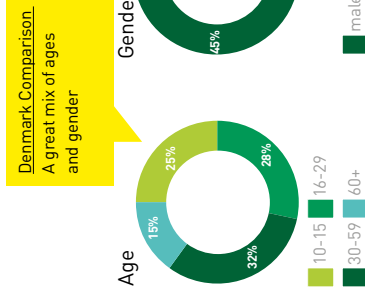
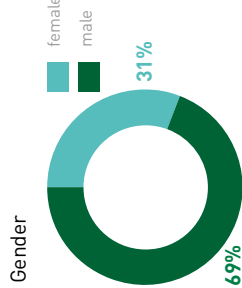
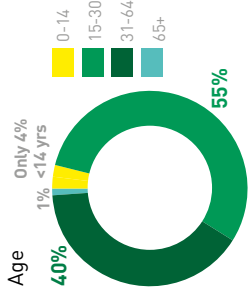


Take down the barriers, Increase invitations

- Install parklets to replace parking along corridors leading into the squares
- Improve wayfinding into the squares and between Somerville's neighborhoods and squares
- Calm traffic at the gateways into the squares - reduce parking to improve pedestrian site lines; add greenery; install protected cycle lanes; extend curbs to reduce turning radii and reduce vehicle speeds; and shorten crosswalks
- Highlight the entryways to the squares



4 Growing bike culture, but still an endeavor of the brave



Today's Typical Somerville Cyclist

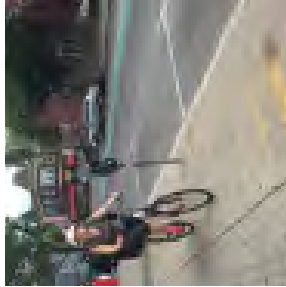


Somerville cycling - Only for the brave! Difficult to determine where to be and how to stay protected from vehicles



In the Netherlands - where protected bikeways are the norm - women account for 55% of bike trips (League of American Bicyclists, Women on a Roll, 2013)

Woman cyclist - a rarity in Somerville



Safer on the sidewalk? Cycle lanes should be designed to make people feel safer riding on the street, in a lane, than on the sidewalks



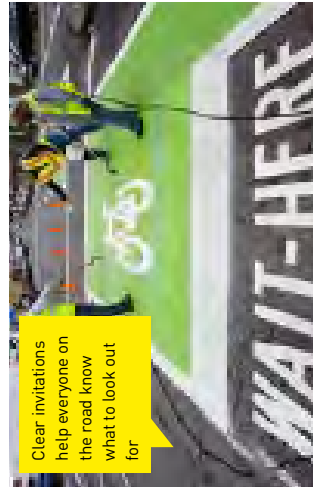
Invite everyone to bike

- Create parking and curb-protected bike lanes that clearly designate where cyclists should be on the road and help prevent against dooring and conflicting with vehicular traffic
- Extend bike lanes through intersections so cyclists - and drivers - know where to be on the road
- Install bike furniture, such as footrests, and bike signals, to make one's journey more comfortable and inviting
- Create high visibility bike parking at key destinations
- Partner with schools, community organizations, and the bike share program to engage women in cycling and host educational workshops and classes



Partner with schools and community organizations to lead educational workshops and rides about cycling in Somerville

Women are more likely to bike in lanes that are protected from moving traffic, as compared to painted lanes or mixing zones, a 2011 study by Transportation Alternatives found.



Clear invitations help everyone on the road know what to look out for



Use furniture to support cyclists and make their rides more comfortable



5 Programming invites for more - and more age and gender diverse - street life



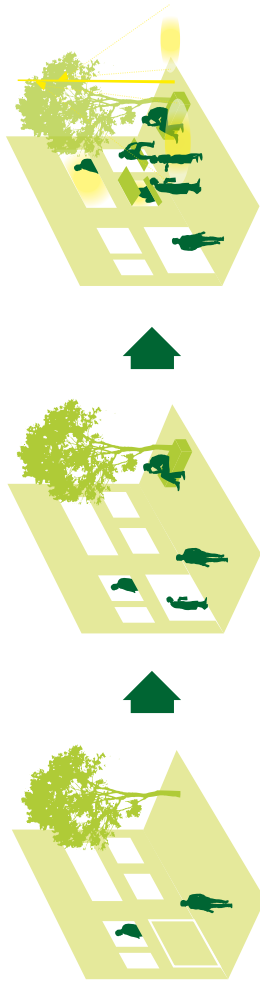
Davis and Assembly Square - the squares with the highest quality streetscapes - in terms of active facades, few curb cuts, high rates of seating or trees, and protection and comfort for pedestrians - have the highest volumes of pedestrians AND the highest number of female pedestrians. They also have higher rates of seniors (Davis) and children (Assembly), compared to the Somerville

average. This is a stark comparison to low-quality squares in East Somerville and Winter Hill, where pedestrians are predominantly male. Quality brick and mortar infrastructure isn't the only thing that attracts this diversity though - Union Square shows that programming can too. The Saturday farmers market increases the rate of women in the square substantially.



Create opportunities for more activation & programming, in the short- and long-term, that invites for all

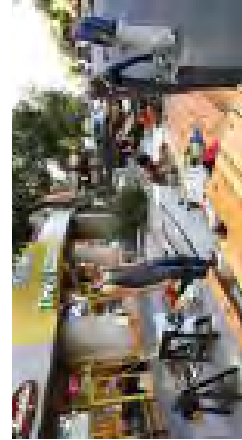
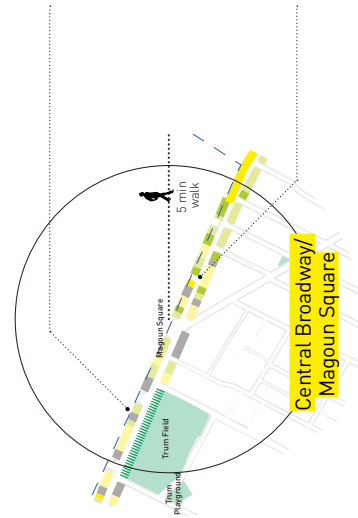
- Identify storefronts and street space that can be used for temporary activation and programming, such as exhibits, performances or open spaces
- Create a program that citizens or community groups can apply to as a means to suggesting ideas as well as assisting with maintenance and operations
- Activate under-used street space as pedestrian space that invites for seating and staying
- Use temporary ground-floor activation to test strategies for longer-term designs and development



Under-used streetscape and inactive facade

Open up the building and activate the streetscape through temporary seating

Invite for more staying activities and more life by testing streetscape designs



Maintain the Public Realm

An opportunity to spread the love - or quality - around

The public realm is experienced by everyone. Even drivers to the squares and main streets of Somerville experience the public realm between their parking space and destination. The way we experience the public realm is endless, think about walking the dog, going for a run, strolling to the square, and sunbathing in a park just to name a few.

The public realm should be viewed as a real estate investment for Somerville. Therefore, it should be cared for in the same manner. Property investments are monitored, maintained, and occasionally overhauled. Cleanliness and preventative maintenance are key factors in maximizing the investment to avoiding more costly repairs and more elbow grease in the future.

Somerville was named the Model City by the Boston Globe in 2006 because of the management programs introduced by Mayor Curtatone. As Somerville continues with these programs, adds new programs, and increases tax revenue through commercial development, the City can address deferred maintenance and improve the care of the public realm.





Pilot Projects as a Tool for Change

Measure, Test, Refine

Pilot projects vary in scale, time-frame and topology, but in all cases they are a way to test new solutions at a 1:1 scale. This 1:1 scale invites existing and potential users to engage in the process of changing the city towards their needs and desires.

The content, time-frame and level of investment for a pilot varies depending on the project goals and success criteria. In order to ensure a high level of project success, materials and furnishings should be chosen according to the time-frame and a high level of maintenance should be provided throughout the test period. A pilot project with broken furniture and worn off paint can easily have the opposite of the intended effect and attract negative attention.

Measure, Test, Refine

Pilot projects have proven to be strong political tools for decision making, as they directly show how changes to the public realm affect city life.

They start in areas where public life has been measured and baseline information has been gathered. This baseline information helps to inform what the test should look like. The test then can be measured again, against the baseline public life data to understand impact. The findings from this analysis then inform how the test should be refined for a second iteration or for a more permanent installation. In this context, data collection should happen before and after the pilot implementation.

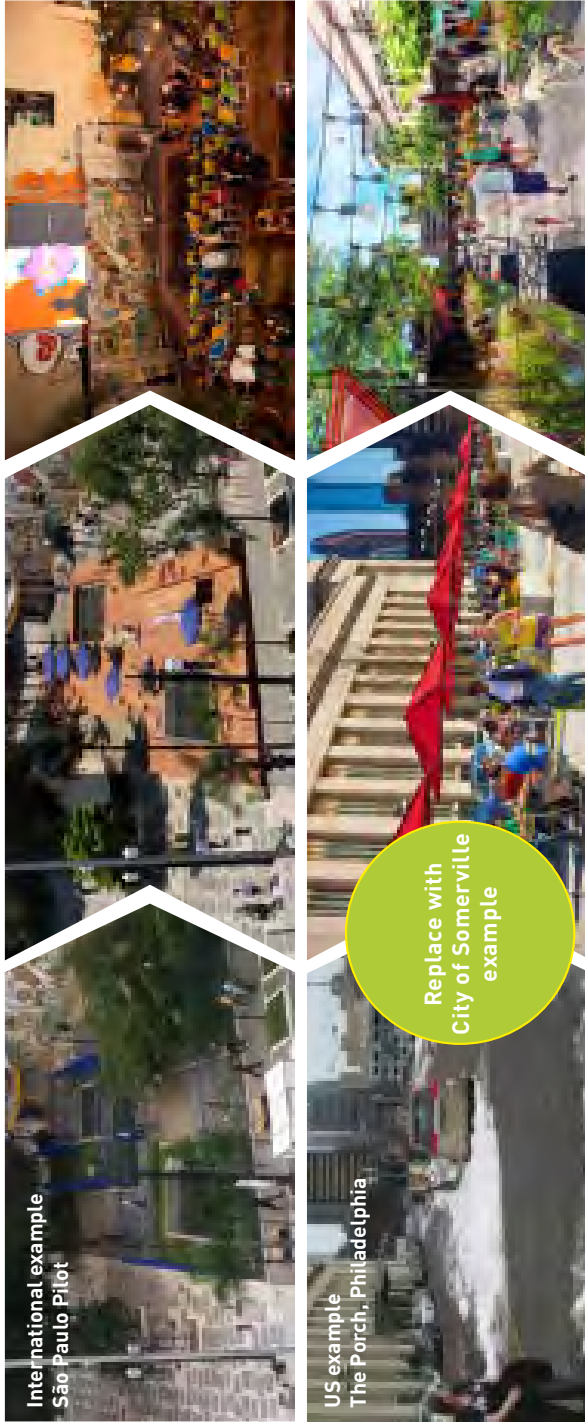
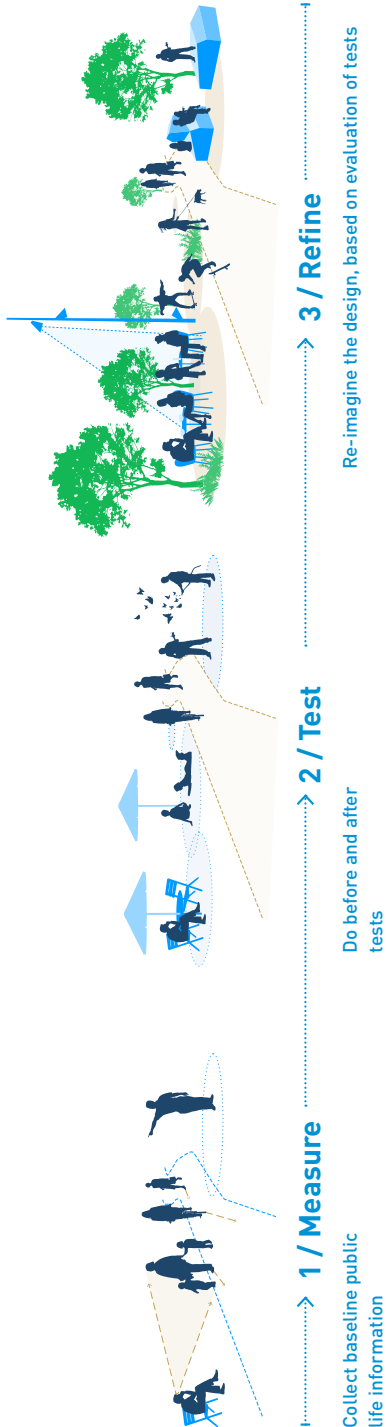
Pilots in Somerville

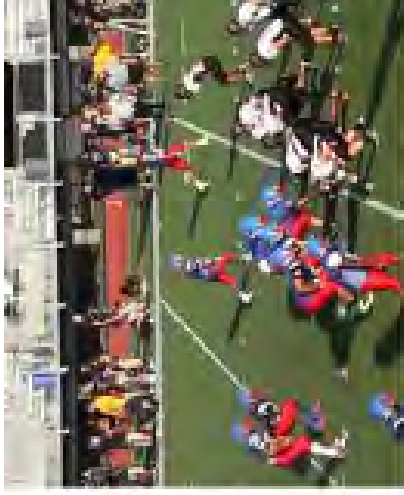
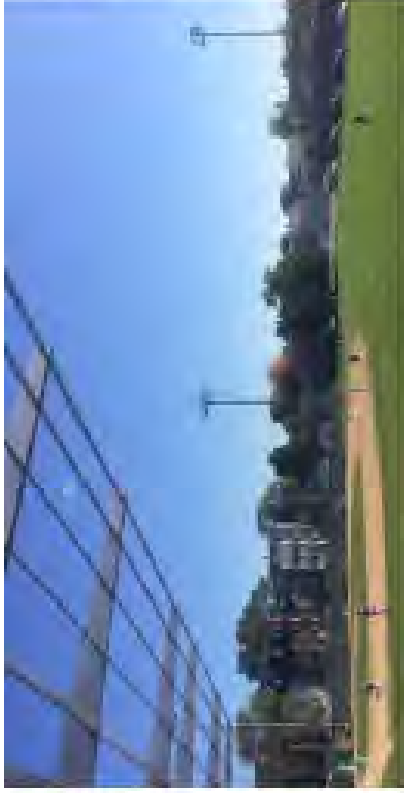
The City of Somerville isn't new to piloting projects, and has been a leader in experimenting with temporary activation and public space and measuring public opinion over the past decade.

Moving forward, the public space, public life survey data collected in the spring of 2015, and the findings and strategies that it informed, provide a baseline and framework from which to prioritize new projects to enhance Somerville's public realm.

Pilots can also be used to build greater awareness for how open space can be developed by maximizing assets that already exist - the city's streets and sidewalks - by re-purposing them from a people-first perspective and with a focus on user-experience and quality, rather than quantity of square footage created.

Pilot Project Process





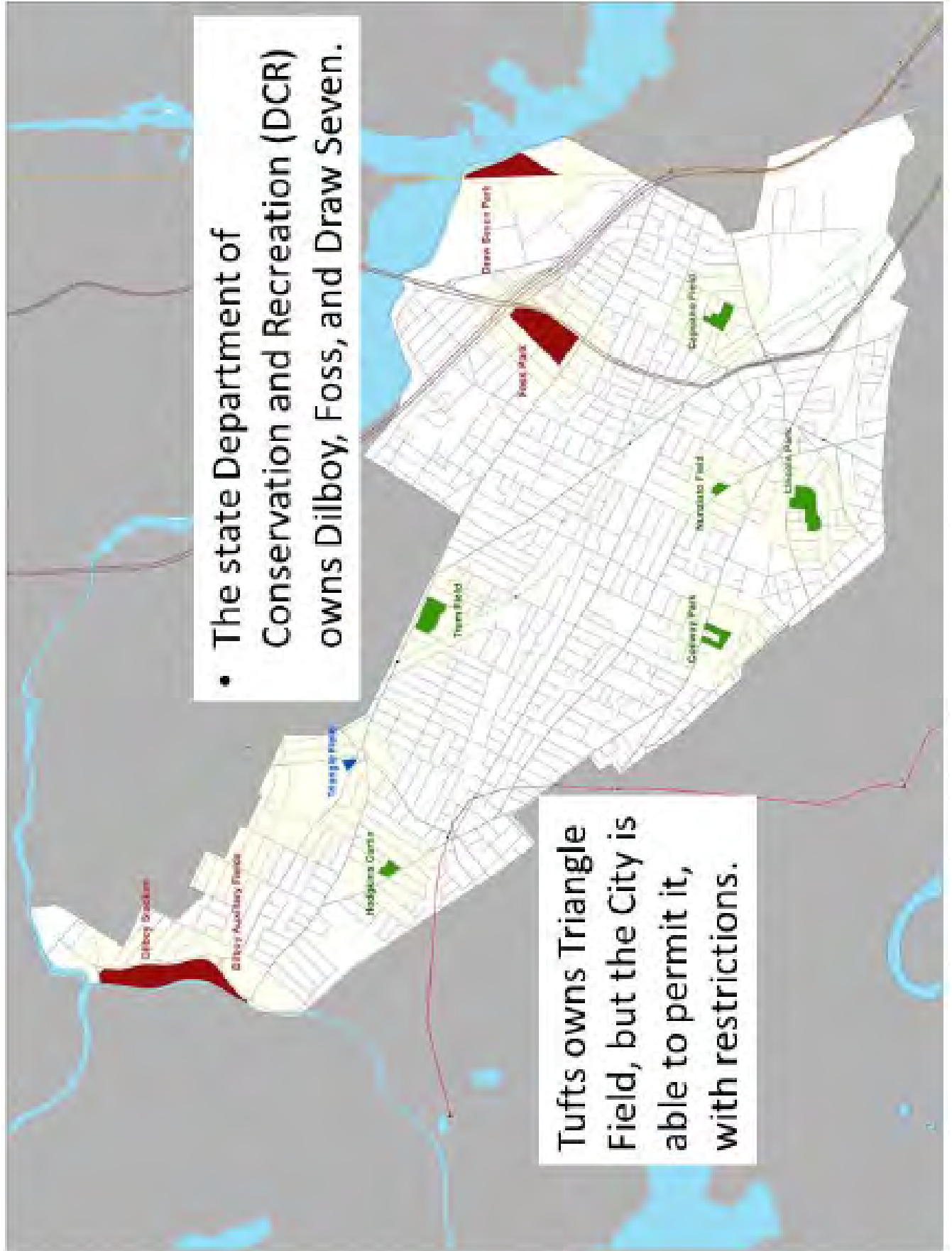
ATHLETIC FIELDS MASTER PLANNING

Staff Report: June 2016 Update*

*Slide presentation and plan originally presented in two community meetings held in March, 2016.

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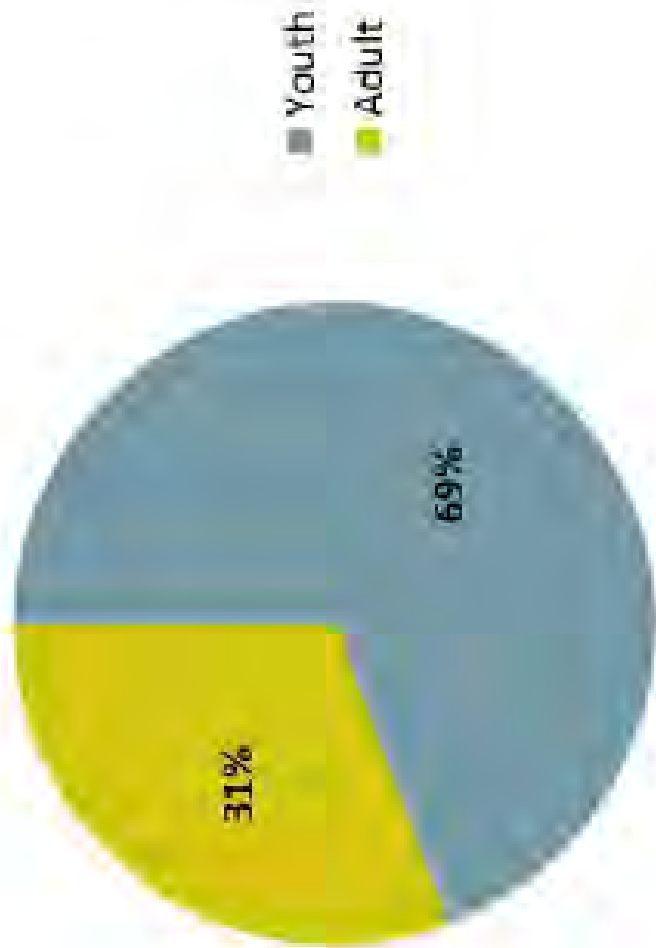


- The state Department of Conservation and Recreation (DCR) owns Dilboy, Foss, and Draw Seven.

Tufts owns Triangle Field, but the City is able to permit it, with restrictions.

Youth use our fields 2/3 of the time

Field usage by age group*

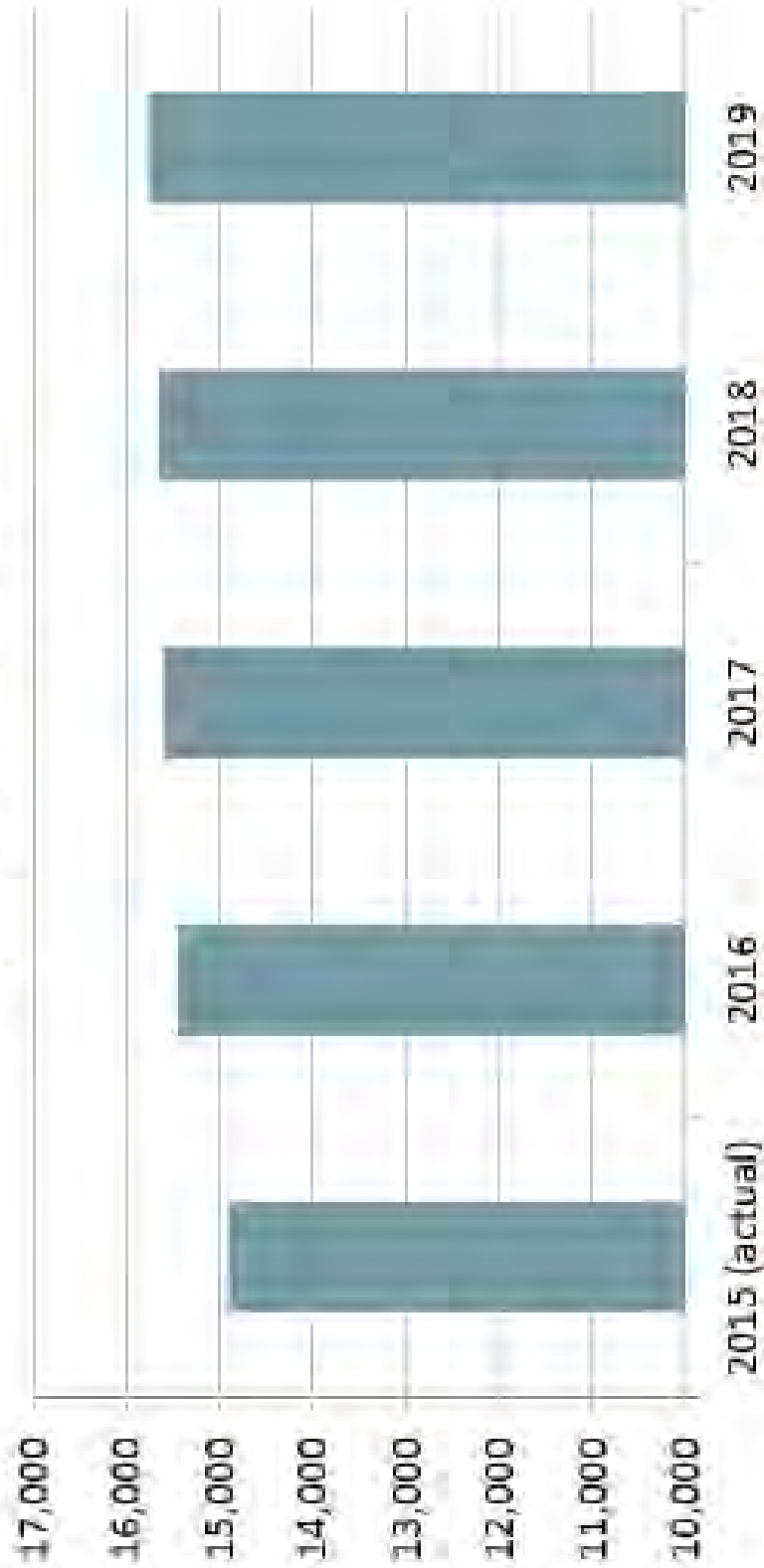


* Excludes Dilboy Stadium; data for City-owned and managed fields only



Athletic field use is high and growing

Projected Hours of Use*



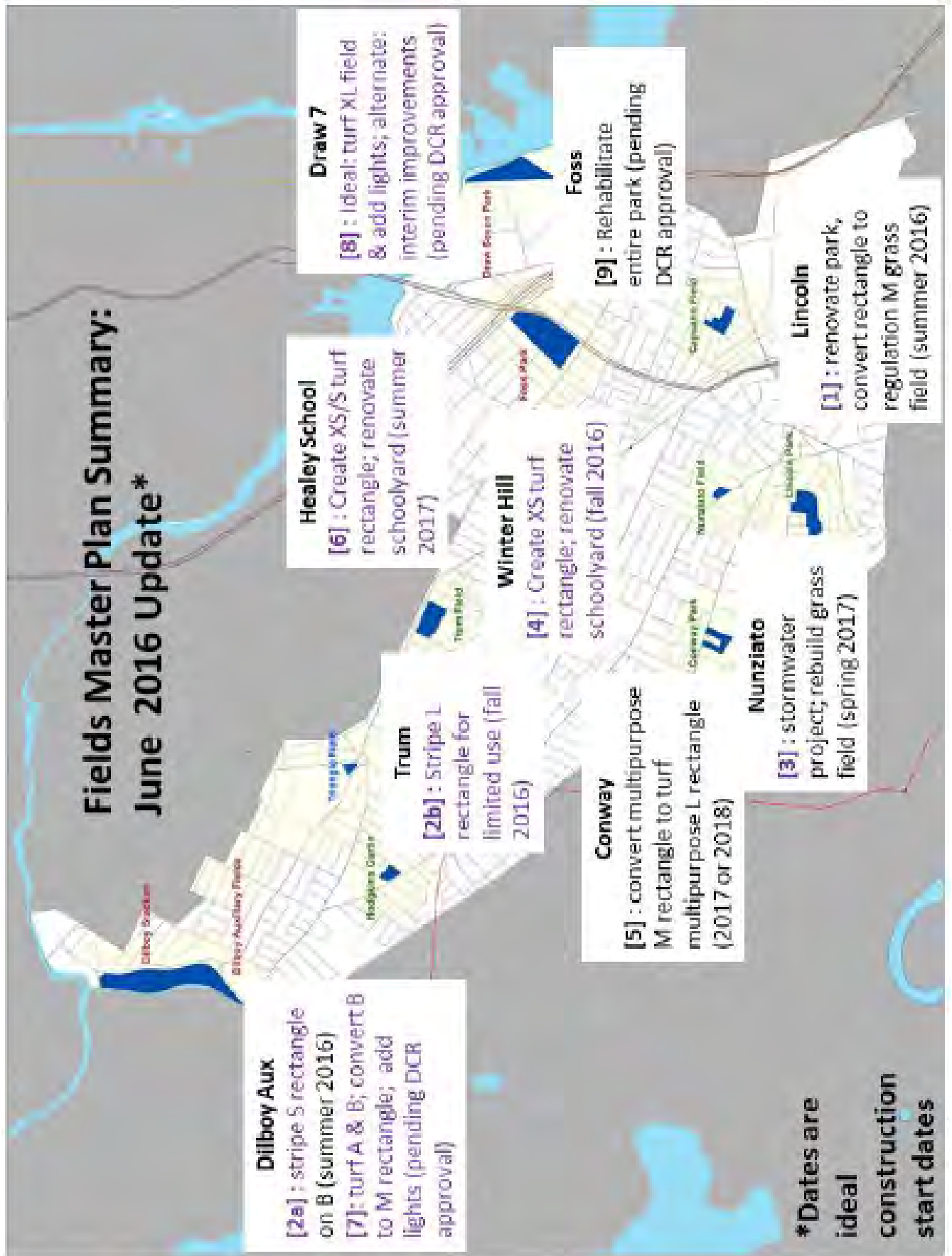
*Includes expanded SYSL hours on Tufts C & J fields and Medford field as well as projected growth in lacrosse program

Data takeaways

1. Vast majority of users are youth & Somerville residents
2. Usage of athletic fields is high & growing
3. The data is nuanced: this is not a simple supply & demand story.
 - a. Our biggest need is for large and medium rectangle fields
 - b. It's all about peak hours

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Fields Master Plan Summary: June 2016 Update*



*Dates are ideal construction start dates

Community Gardens: Data

- Number of gardens: **11**
- Number of plots: **225**
- Acres: **0.82** / Square feet: **35,700**
- People on waitlists: **457**
- Average annual fee: **\$23**
- Time limit on plot: **none**
- Plot size: **vary, some as large as 170 square feet**

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Community Gardens: Analysis

- Demand exceeds supply
- Low turnover
- “One-size-fits-all” system
- Limited community benefit
- Underutilized and/or poorly maintained plots
- Underutilized space in gardens

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REFERENCES AND REPORTS

The following reports, references and websites were used in writing of this OSRP.

City of Somerville Open Space & Recreation Plan, 2008-2013.

<http://www.somervillema.gov/sites/default/files/documents/2008-2013-OSRP-NarrativeAndAppendicesFINAL.pdf>

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Gilman Square Station Area Plan, February 2014

<http://6094-presscdn-0-40.pagely.netdna-cdn.com/wp-content/uploads/2013/08/Gilman-Square-Station-Area-Plan-Final-Web.pdf>

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<http://www.somervillema.gov/sites/default/files/union-square-neighborhood-plan-review-copy.pdf>

Winter Hill Neighborhood Plan Draft, May 2016

<http://6094-presscdn-0-40.pagely.netdna-cdn.com/wp-content/uploads/2016/05/2016-05-20-PUBLIC-REVIEW-DRAFT.pdf>

Green Spaces, Community Places Presentation, March 2014

<http://6094-presscdn-0-40.pagely.netdna-cdn.com/wp-content/uploads/2014/03/GSCP-Public-Presentation.pdf>

Athletic Fields Assessment, Gale Associates, 2012

http://www.somervillema.gov/sites/default/files/DRAFT_Gale_Fields_Report.pdf

Athletic Fields Master Planning Staff Report, City of Somerville, OSPCD, June 2016

http://www.somervillema.gov/sites/default/files/documents/2016%20Fields%20Master%20Planning%20Staff%20Report%20Update_June.pdf

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Public Space, Public Life:

A Snapshot of Public Space, Public Life in Somerville, MA, Gehl Studio New York, 2016

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ADA Self-Evaluation (as basis for Transition Plan). Institute for Human Centered Design for the City of Somerville, MA. August 12, 2013.

<http://www.somervillema.gov/sites/default/files/Somerville2013-Self-Evaluation.pdf>

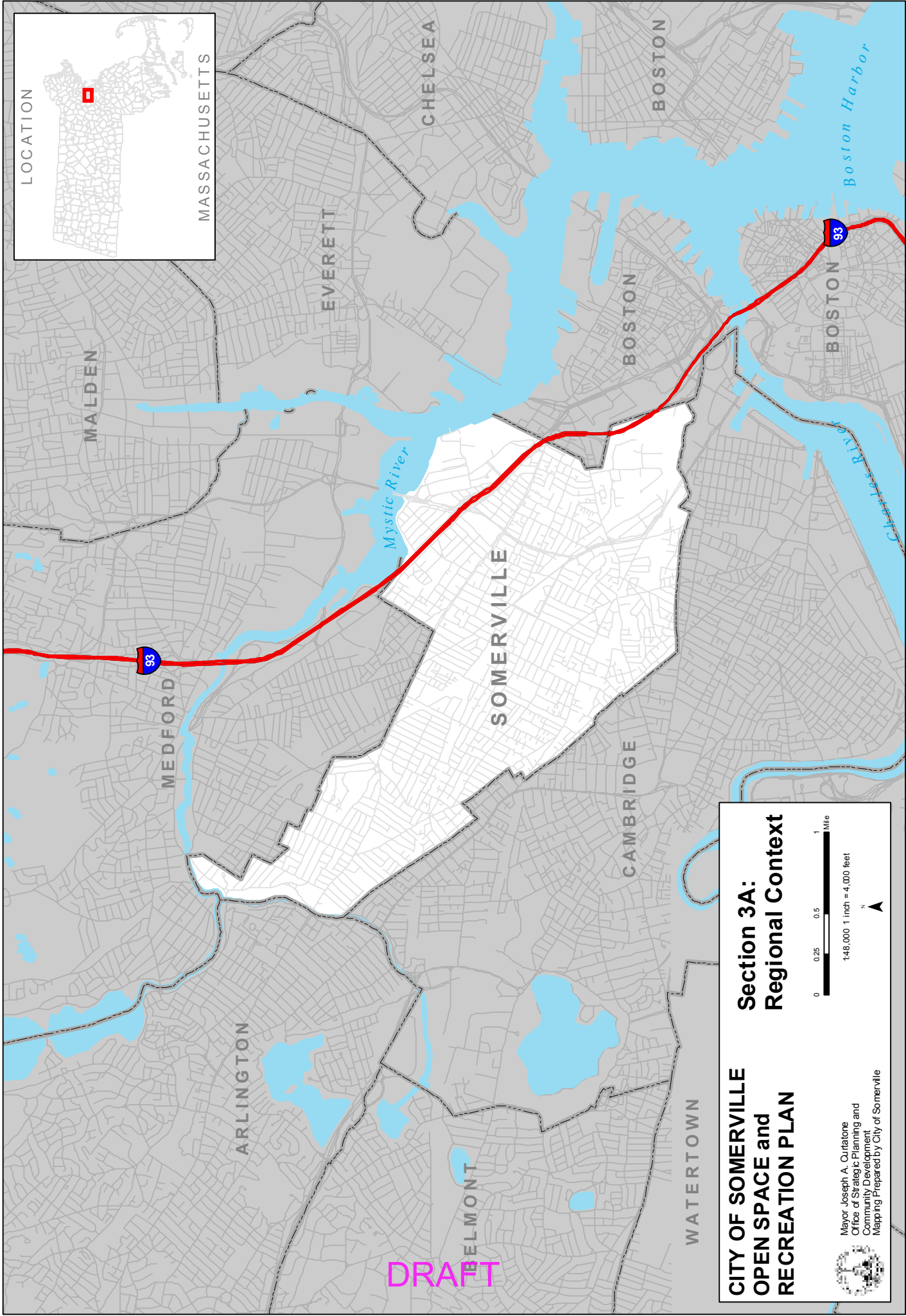
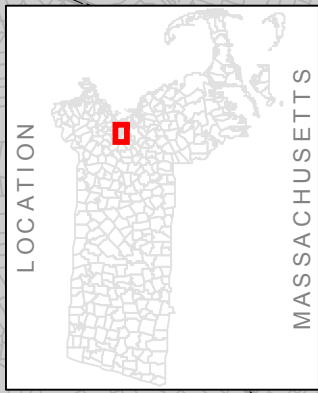
Americans with Disabilities Act. Title II Transition Draft Plan. City of Somerville, 2013.

<http://www.somervillema.gov/sites/default/files/documents/Draft%20of%20the%20City%20of%20Somerville%20ADA%20Title%20II%20Transition%20Plan.pdf>

Parks & Open Space Condition Evaluation.

Gale Associates for the City of Somerville. February 11, 2016.

APPENDIX A: MAPS



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CITY OF SOMERVILLE
OPEN SPACE and
RECREATION PLAN

Section 3A:
Regional Context

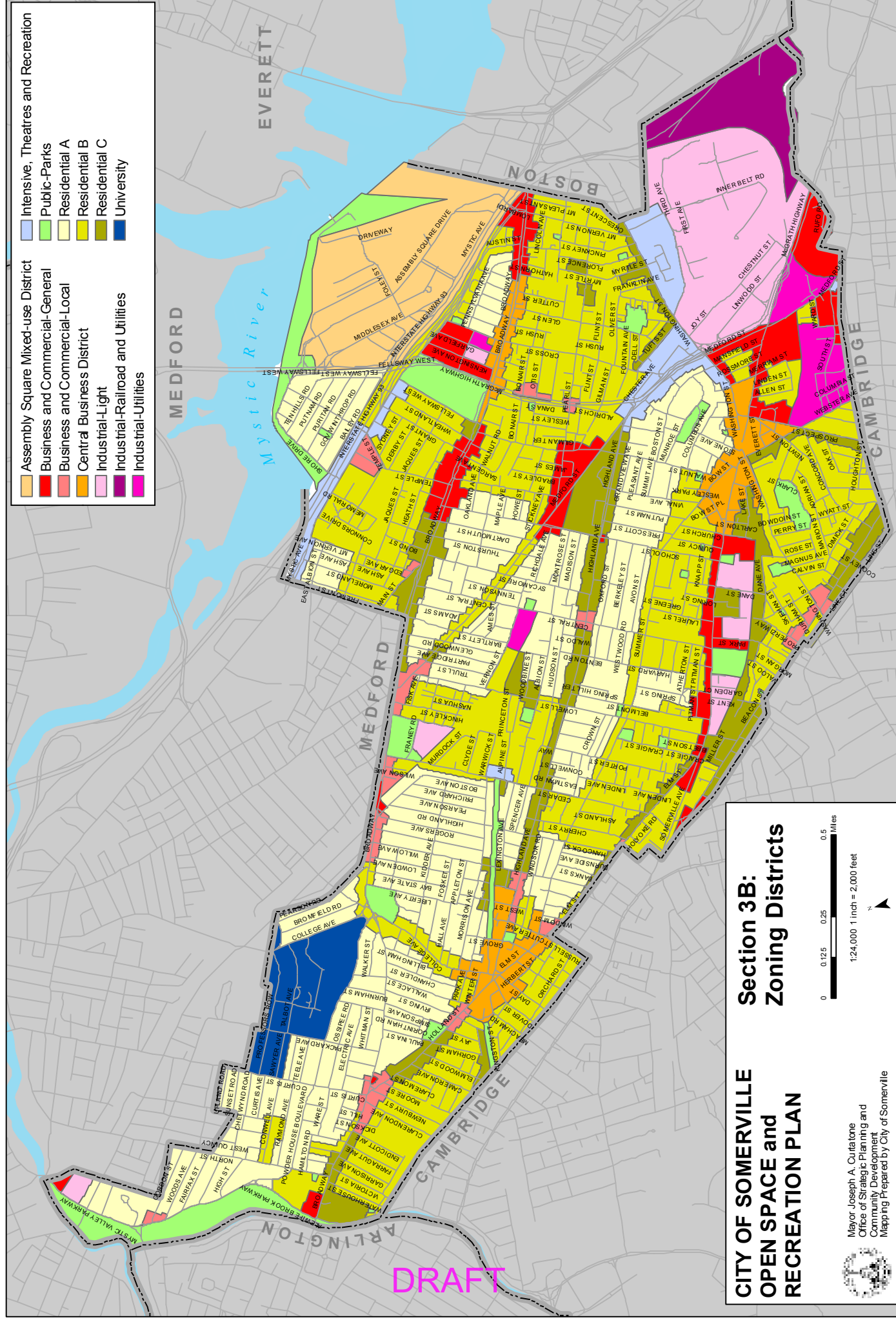
0 0.25 0.5 1
Mile
1:48,000 1 inch = 4,000 feet

N

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Office of Strategic Planning and
Community Development
Mapping Prepared by City of Somerville



- Intensive, Theatres and Recreation
- Public-Parks
- Residential A
- Residential B
- Residential C
- University
- Assembly Square Mixed-use District
- Business and Commercial-General
- Business and Commercial-Local
- Central Business District
- Industrial-Light
- Industrial-Railroad and Utilities
- Industrial-Utilities



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CITY OF SOMERVILLE
OPEN SPACE and RECREATION PLAN

Section 3B:
Zoning Districts

0 0.125 0.25 0.5 Miles
 1:24,000 1 inch = 2,000 feet

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**CITY OF SOMERVILLE
OPEN SPACE and
RECREATION PLAN**



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Community Development
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**Section 3C:
Environmental
Justice**

**LMI-ELIGIBLE
BLOCK GROUPS
(DRAFT)**

Source:
American Community Survey, 2006-2010
Census Tracts, 2006-2010



LMI-Eligible Block Group
Data: 2006-2010 ACS

Block Group (red outline)



Major Arterial
Minor Arterial

Interstate Highway

Boundary

Point of Interest

Date: September 11, 2014

Source:
US Census Bureau
2006-2010 ACS
City of Somerville
City of Somerville (relative data)

The relative data presented in this map is compiled from multiple sources and is intended to be used as a general accuracy tool. The map does not represent an official City of Somerville position or policy. The City of Somerville is not responsible for any errors or omissions in this map. The City of Somerville is not responsible for any damages, direct or indirect, arising from the use of this information. For more information, contact the City of Somerville at (617) 624-3300.

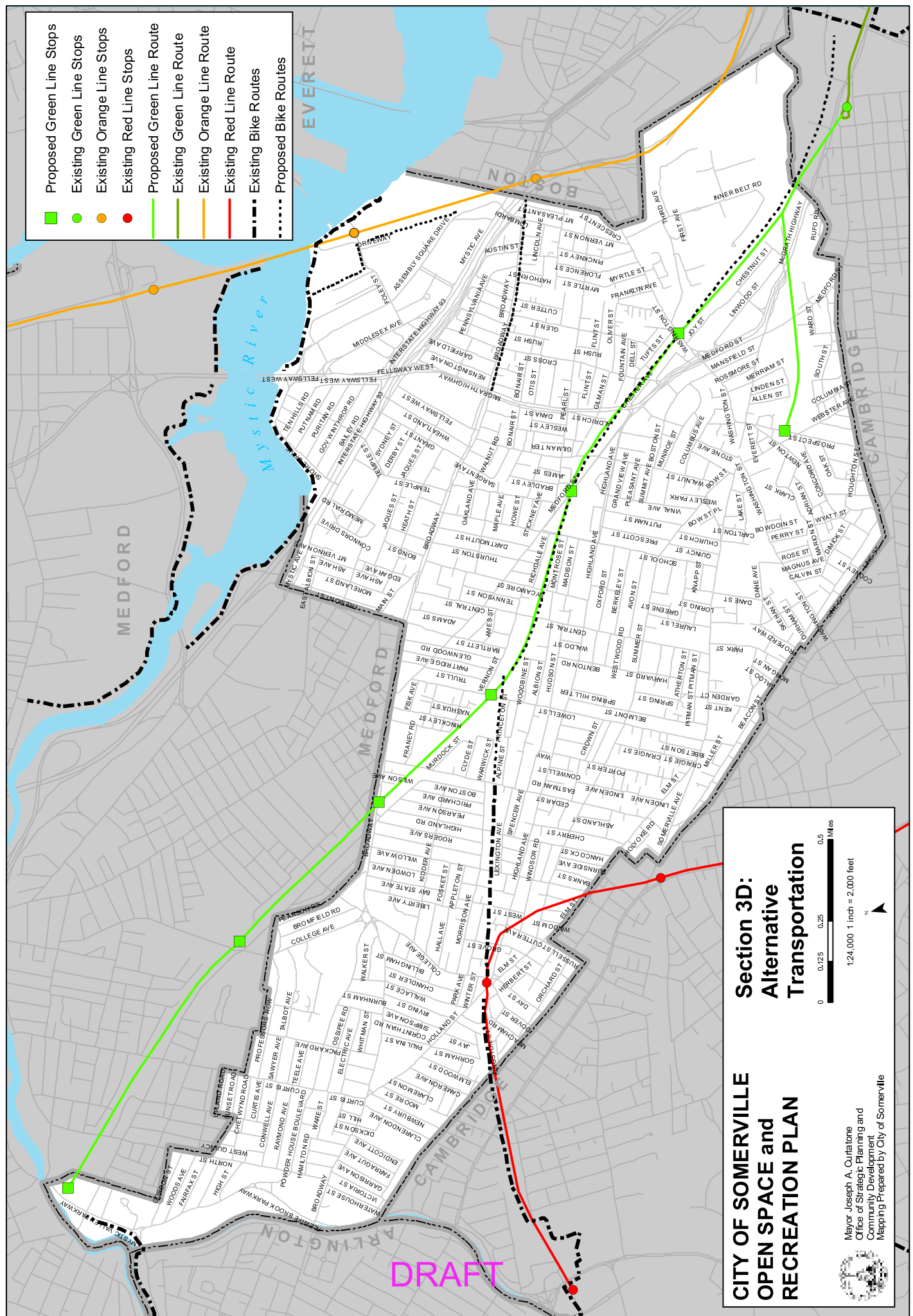


City of Somerville
Engineering Division
100 State St.
Somerville, MA 02143



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- Proposed Green Line Stops
- Existing Green Line Stops
- Existing Orange Line Stops
- Existing Red Line Stops
- Proposed Green Line Route
- Existing Green Line Route
- Existing Orange Line Route
- Existing Red Line Route
- Existing Bike Routes
- Proposed Bike Routes




CITY OF SOMERVILLE
OPEN SPACE and RECREATION PLAN

**Section 3D:
 Alternative Transportation**

0 0.125 0.25 0.5 Miles
 124,000 1 inch = 2,000 feet

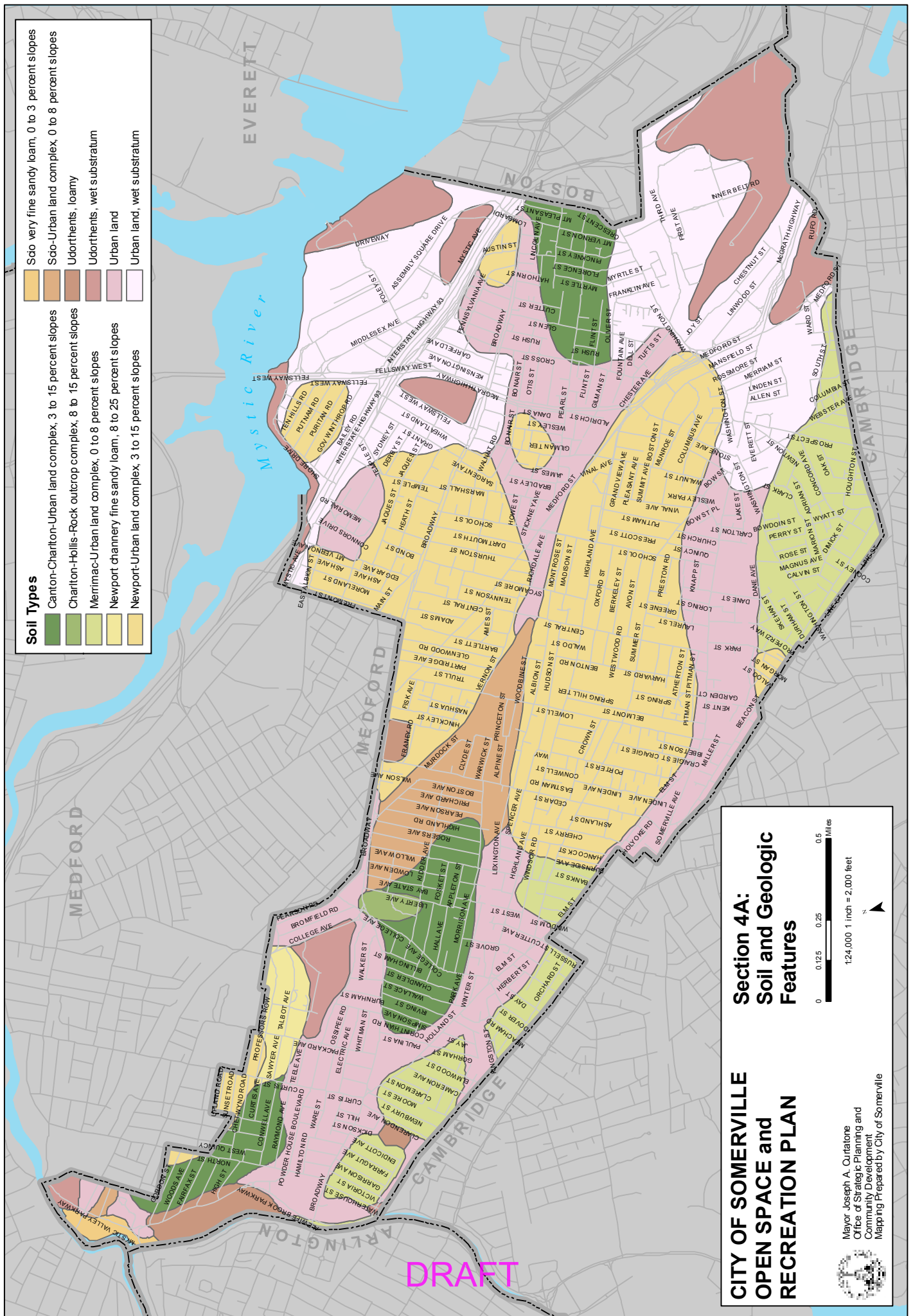
North arrow pointing up.

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- Soil Types**
- Scio very fine sandy loam, 0 to 3 percent slopes
 - Scio-Urban land complex, 0 to 8 percent slopes
 - Udorthents, loamy
 - Udorthents, wet substratum
 - Urban land
 - Urban land, wet substratum
 - Canton-Charlton-Urban land complex, 3 to 15 percent slopes
 - Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes
 - Merrimac-Urban land complex, 0 to 8 percent slopes
 - Newport channery fine sandy loam, 8 to 25 percent slopes
 - Newport-Urban land complex, 3 to 15 percent slopes



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CITY OF SOMERVILLE
OPEN SPACE and
RECREATION PLAN

Section 4A:
Soil and Geologic
Features

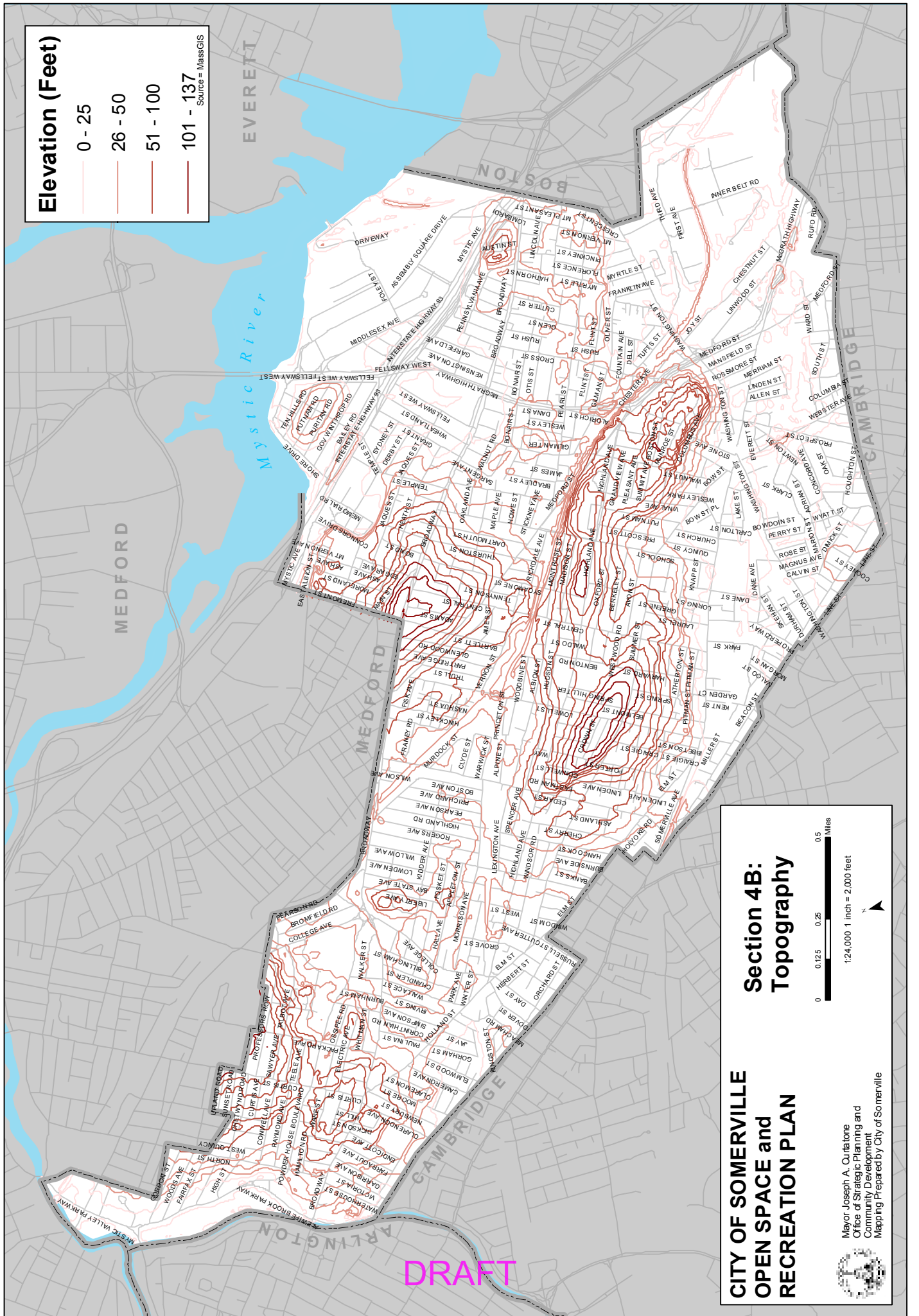
0 0.125 0.25 0.5 Miles
 124,000 1 inch = 2,000 feet

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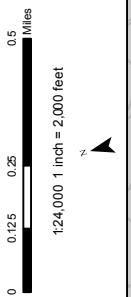
Elevation (Feet)

- 0 - 25
- 26 - 50
- 51 - 100
- 101 - 137

Source = MassGIS



Section 4B: Topography

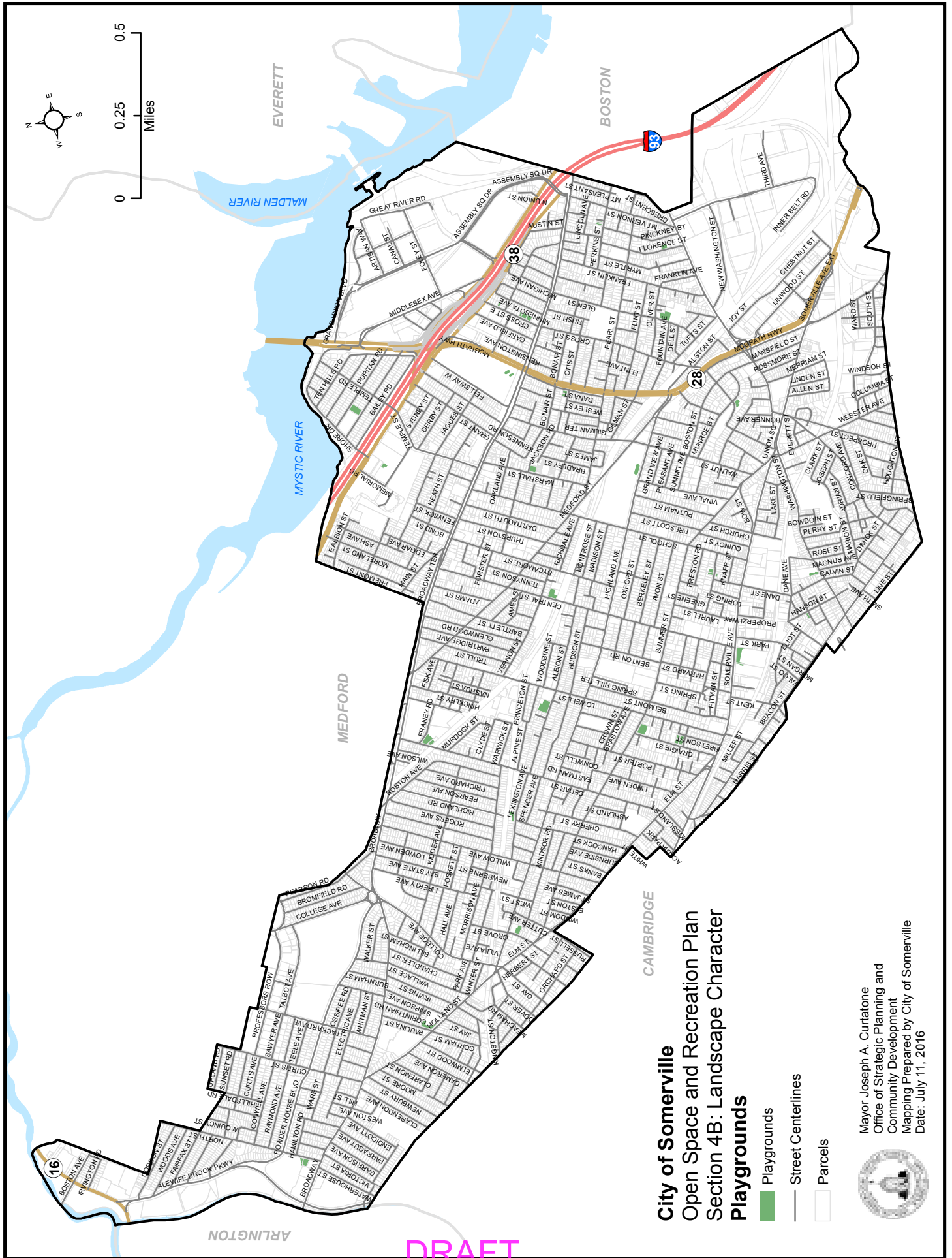
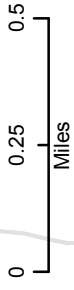


CITY OF SOMERVILLE OPEN SPACE and RECREATION PLAN




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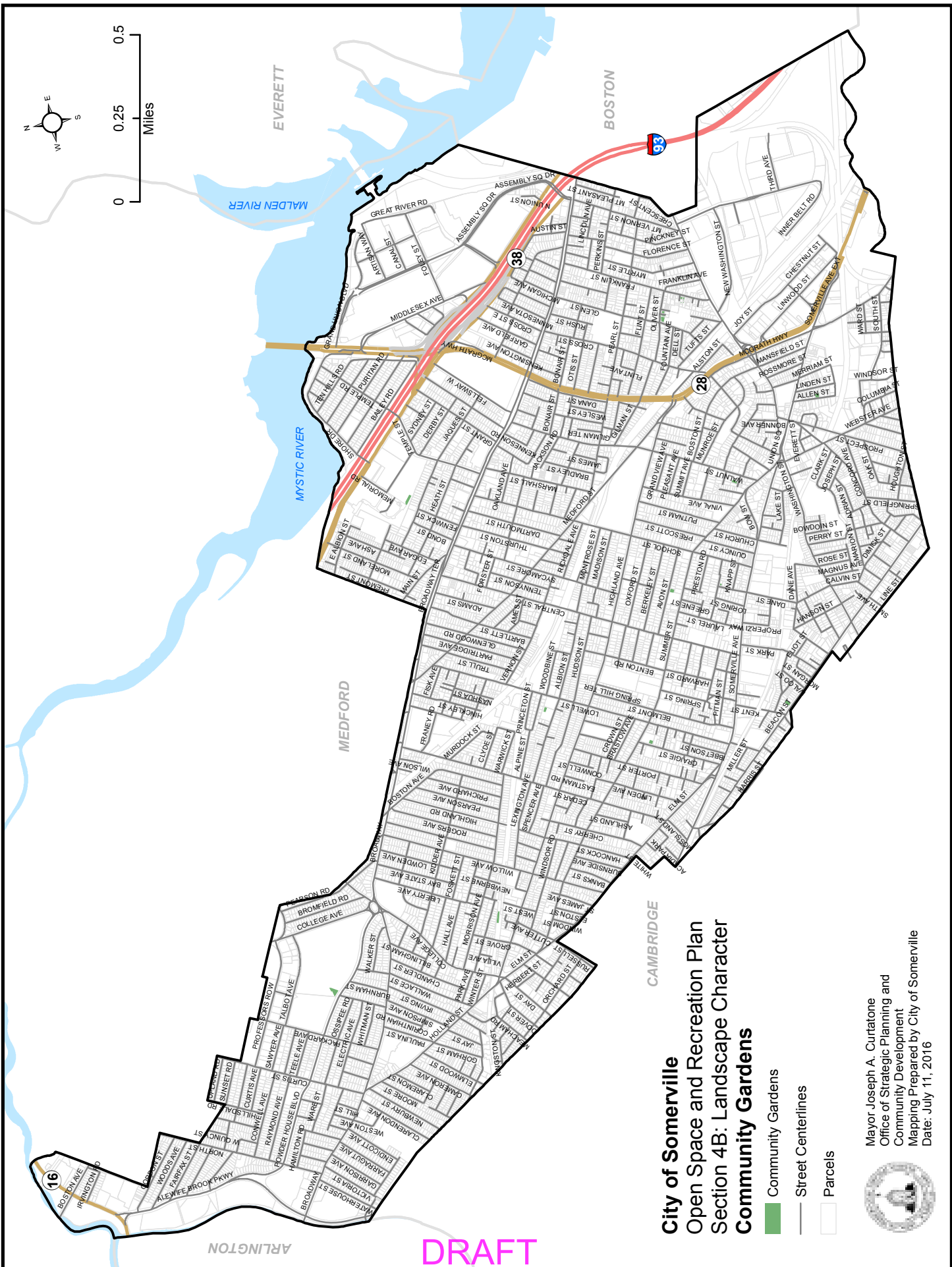
City of Somerville
Open Space and Recreation Plan
Section 4B: Landscape Character
Playgrounds

-  Playgrounds
-  Street Centerlines
-  Parcels

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 Mapping Prepared by City of Somerville
 Date: July 11, 2016



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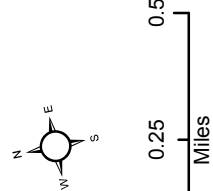
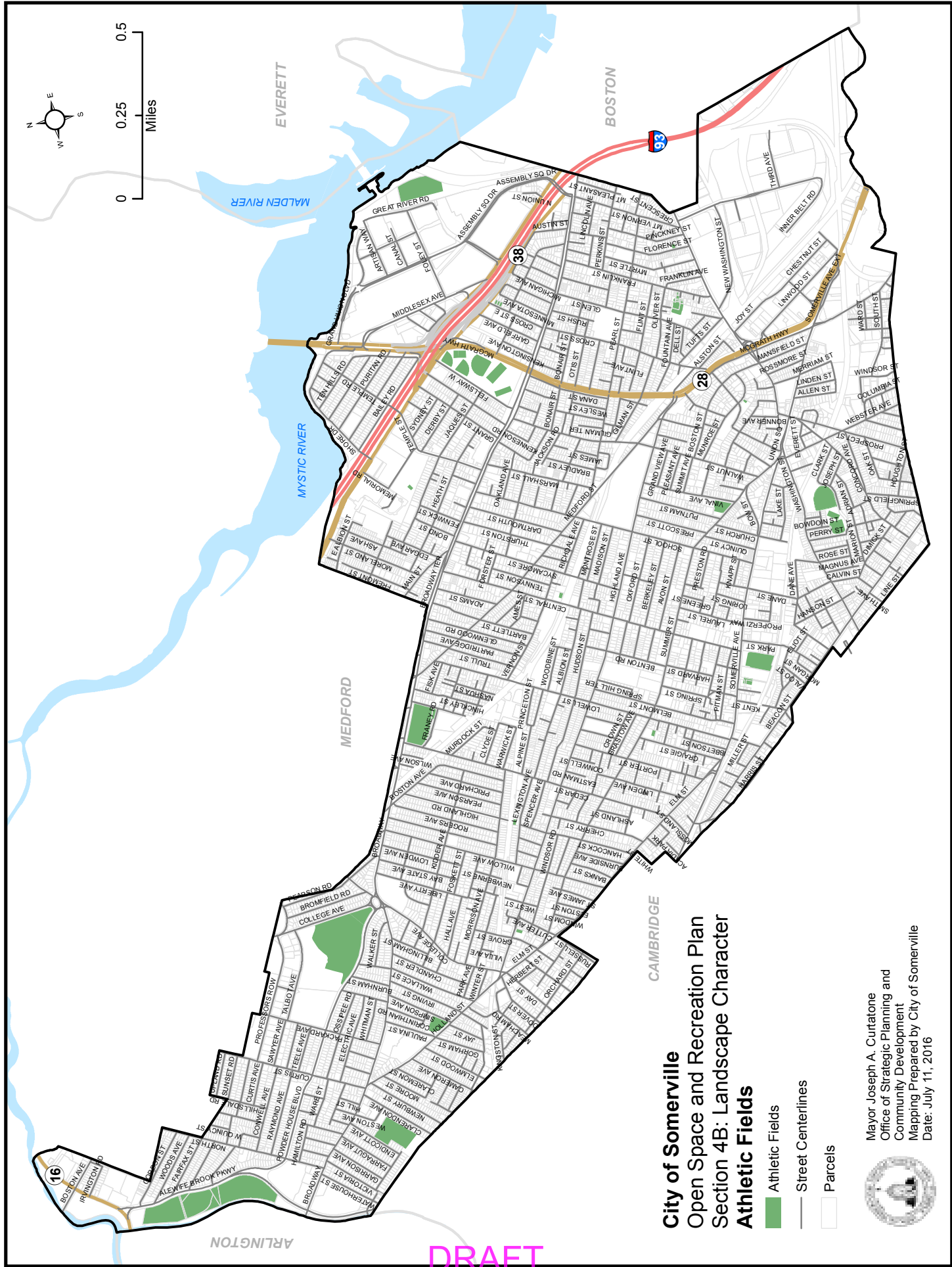
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City of Somerville
Open Space and Recreation Plan
Section 4B: Landscape Character
Community Gardens

- Community Gardens
- Street Centerlines
- Parcels

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 Community Development
 Mapping Prepared by City of Somerville
 Date: July 11, 2016

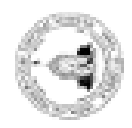




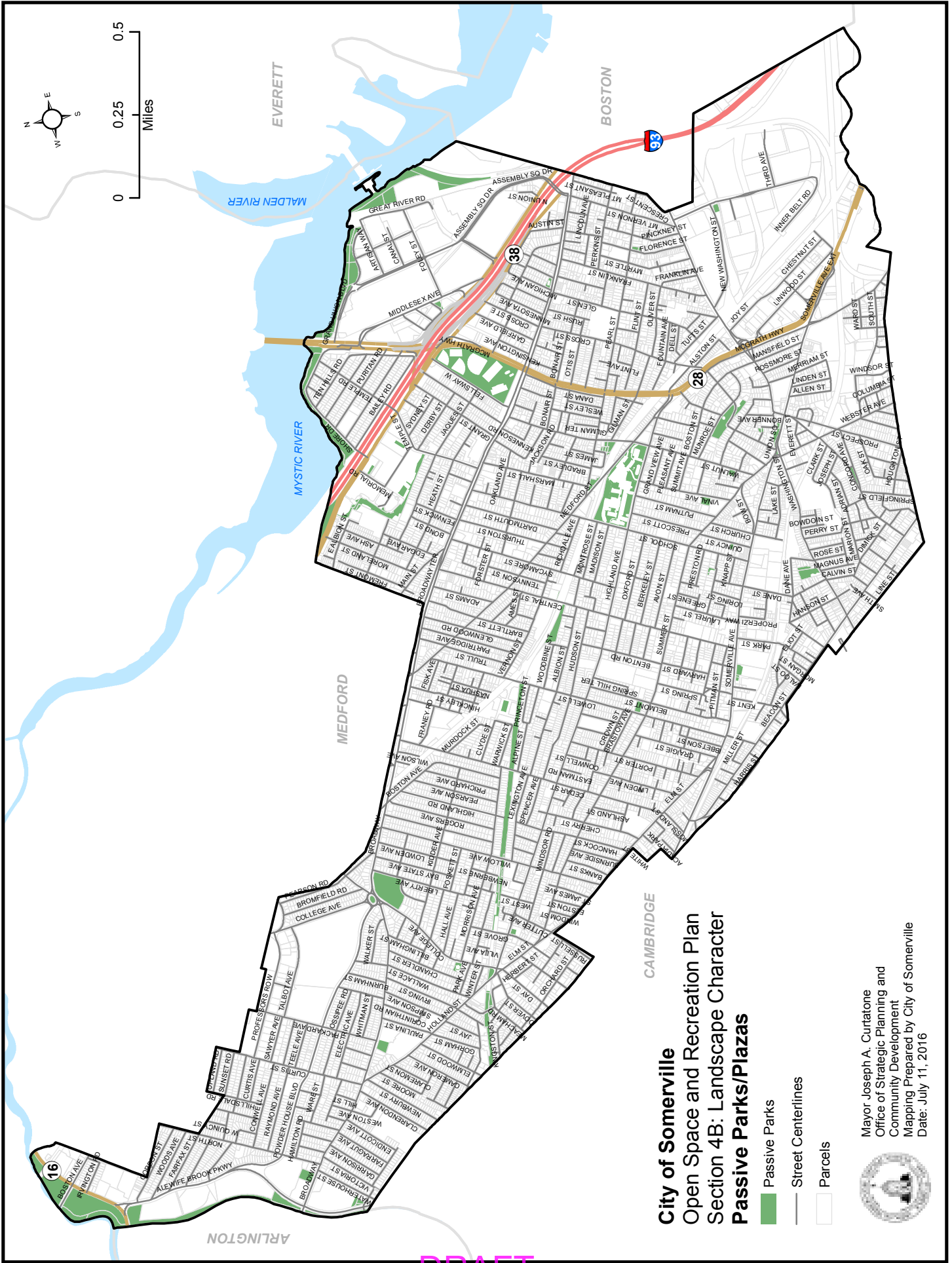
City of Somerville
Open Space and Recreation Plan
Section 4B: Landscape Character
Athletic Fields

- Athletic Fields
- Street Centerlines
- Parcels

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 Community Development
 Mapping Prepared by City of Somerville
 Date: July 11, 2016



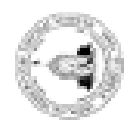
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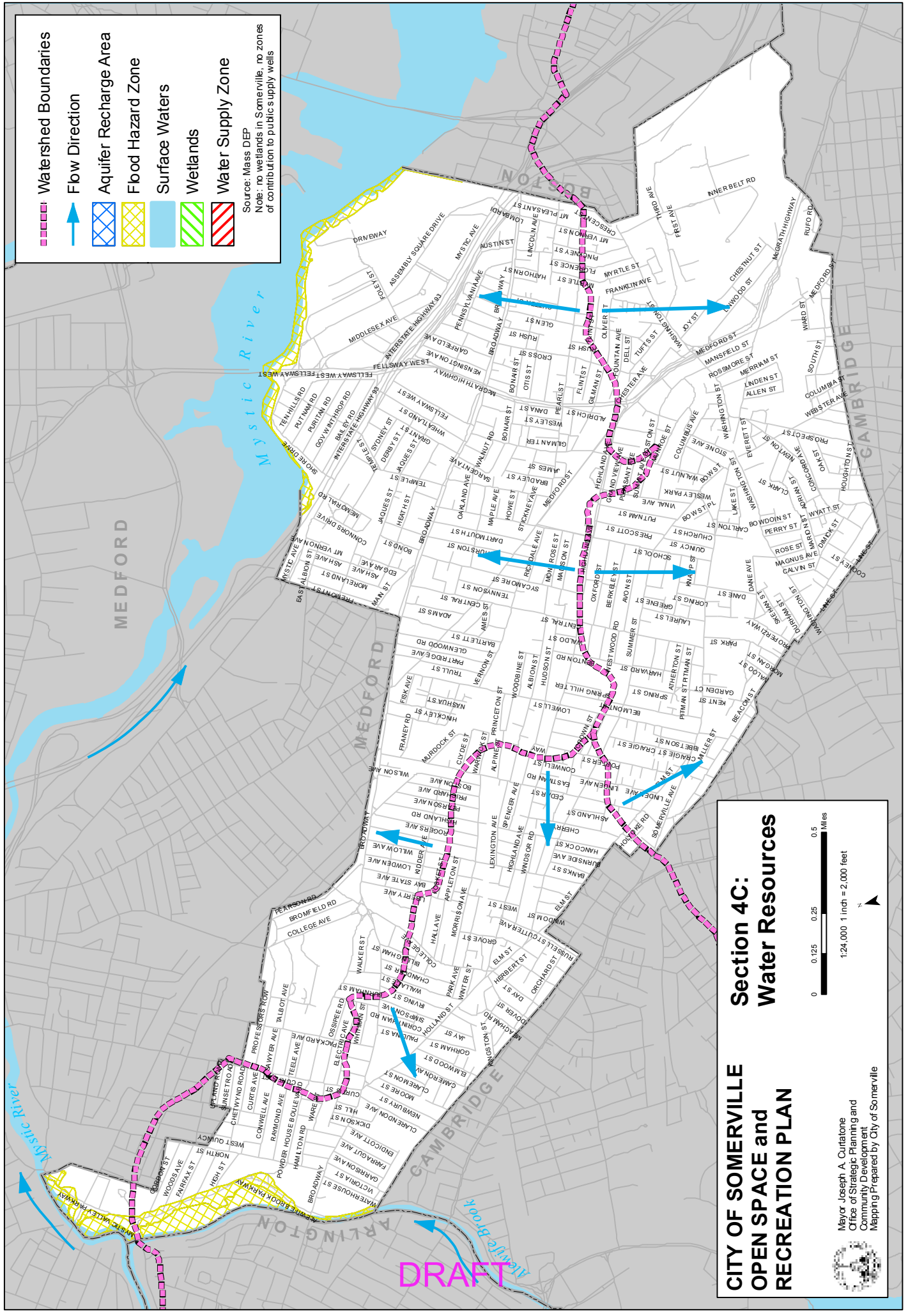
City of Somerville
Open Space and Recreation Plan
Section 4B: Landscape Character
Passive Parks/Plazas

- Passive Parks
- Street Centerlines
- Parcels

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 Community Development
 Mapping Prepared by City of Somerville
 Date: July 11, 2016



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Watershed Boundaries
 [Pink dashed line symbol]

Flow Direction
 [Blue arrow symbol]

Aquifer Recharge Area
 [Yellow hatched symbol]

Flood Hazard Zone
 [Light blue symbol]

Surface Waters
 [Green hatched symbol]

Wetlands
 [Red hatched symbol]

Water Supply Zone
 [Red hatched symbol]

Source: Mass DEP
 Note: no wetlands in Somerville, no zones of contribution to public supply wells

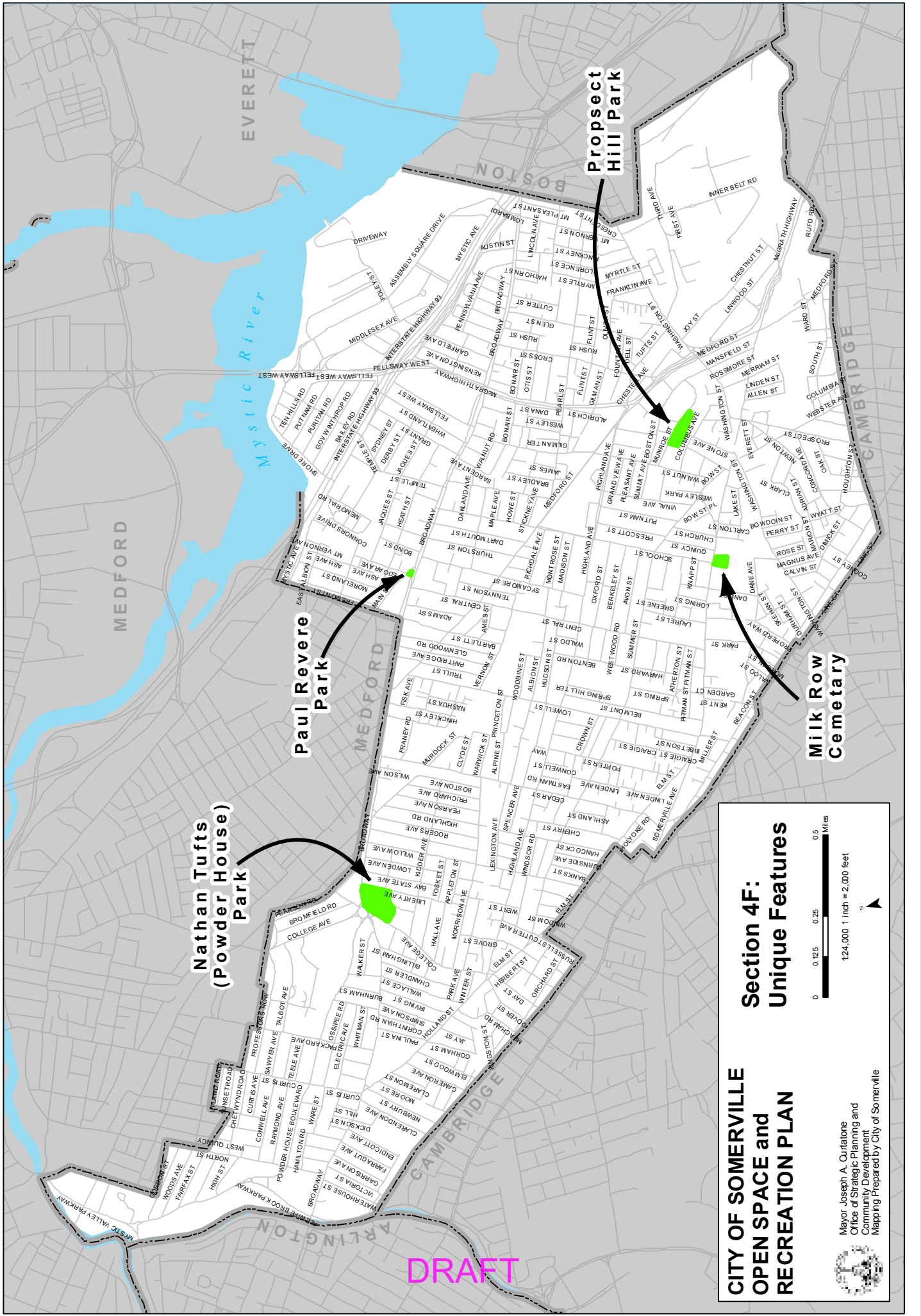
**Section 4C:
 Water Resources**

0 0.125 0.25 0.5 Miles
 1:24,000 1 inch = 2,000 feet

[North arrow symbol]

**CITY OF SOMERVILLE
 OPEN SPACE and
 RECREATION PLAN**

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 Office of Strategic Planning and
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 Mapping Prepared by City of Somerville



**Nathan Tufts
(Powder House)
Park**

**Paul Revere
Park**

**Project
Hill Park**

**Milk Row
Cemetary**

**CITY OF SOMERVILLE
OPEN SPACE and
RECREATION PLAN**

**Section 4F:
Unique Features**

0 0.125 0.25 0.5 Miles
124,000 1 inch = 2,000 feet

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Office of Strategic Planning and
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City of Somerville
Open Space and Recreation Plan
Section 5
Open Space Inventory

- Open Space
- Street Centerlines
- Parcels

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 Community Development
 Mapping Prepared by City of Somerville
 Date: July 11, 2016

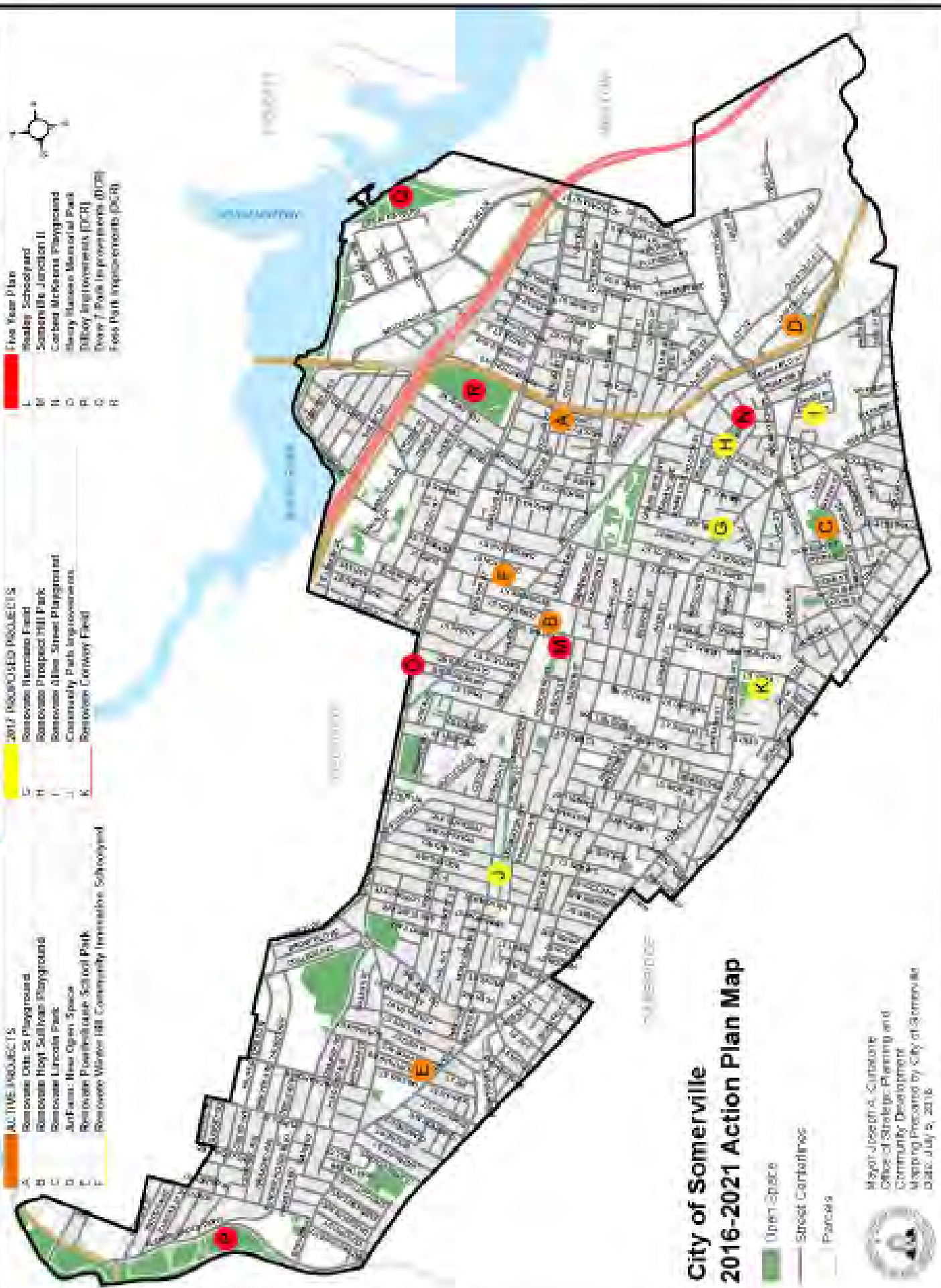
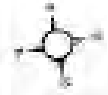


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- ACTIVE PROJECTS**
- A Somerville Community Playground
 - B Somerville High School Playground
 - C Somerville Lincoln Park
 - D Art Farm: New Open Space
 - E Somerville Community Center School Park
 - F Somerville Water Hill Community Immersive Schoolyard

- 2017 RESOURCES PROJECTS**
- G Somerville Community Center
 - H Somerville Prospect Hill Park
 - I Somerville Street Playground
 - J Community Park Improvements
 - K Somerville Community Field

- Five Year Plan**
- L Bradley Schoolyard
 - M Somerville Junction II
 - N Corbin McKenna Playgrounds
 - O Henry Hansen Memorial Park
 - P Dilley Improvements (DCR)
 - Q Tree 7 Park Improvements (DCR)
 - R Foss Park Improvements (DCR)



**City of Somerville
2016-2021 Action Plan Map**

- Open Space
- Street Centerlines
- Parcels

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Mapping Prepared by City of Somerville
Date: July 9, 2016



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APPENDIX B: PARKS INVENTORY

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