

Note: This document includes Somerville-specific responses to the RFI. Grayed out questions are answered in the joint Boston-Somerville response at a more regional level.

TALENT

A. Big Questions and Big Ideas

1. Population Changes and Key Drivers

a. Population level - Specify the changes in total population in your community and state over the last five years and the major reasons for these changes. Please also identify the majority source of inbound migration.

Somerville is a growing city. From 2011 to 2016, the population grew 5% from 75,566 residents to 79,507, maintaining the city's status as the most densely populated city in New England with close to 20,000 people per square mile. Like most cities, Somerville is experiencing a historic demographic shift to urban areas, which includes millennials who are seeking walkable, bikeable, transit-accessible communities. From 2000 to 2010, 20 to 34 year olds have been responsible for over 73% of growth in the region. Somerville has captured a major portion of that growth. With 34% of its population in that age group, Somerville has one of the highest concentrations of millennials in the country.

Somerville is proud of its long history of being a landing point for immigrants from all over the world. From Irish and Italian immigrants in the first half of the 20th century to more recent newcomers from Brazil, El Salvador, Nepal, and Haiti among many others, 25% of Somerville's population hails from another country and more than 50 languages are spoken by students in the Somerville Public Schools.

b. Education level - Specify the changes in education level in your community over the last five years and the major reasons for these changes. (Please address high school graduates, technical/vocational degree graduates, four-year graduates, and masters or higher graduates.)

2016

High School: 13,507/16.9%

Associate/Technical Degree: 5,365/6.7%

Bachelor's Degree: 23,531/29.5%

Graduate or Professional Degree: 16,291/ 20%

2011:

High School: 13,290/16.7%

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Associates/Technical Degree: 7,519/ 9.9%

Bachelor's Degree: 18,676/ 23.4%

Graduate Degree or Professional Degree: 20,910/ 26.3%

Somerville has a very high performing urban school district with four-year graduation rates in all programs increasing district-wide (including from our therapeutic schools) from 78% in 2011 to 84% in 2017 (and 88% for Somerville High). Much of this is due to heavy investment in the Somerville school system with school budgets increasing from \$53 million in fiscal year 2013 to \$69 million in fiscal year 2018.

c. Tech job levels - Specify the changes in the number of tech jobs in your community over the last five years and the major reasons for these changes (including the major draw for tech companies in your community).

d. Diversity - Specify the changes in composition in your community as a whole and within the tech industry in (i) race and ethnicity, (ii) gender, and (iii) foreign-born individuals

e. Changes – Describe what your community is already doing to positively impact the above changes and what big ideas you propose to accelerate the positive changes and/or reverse the negative changes.

Somerville is a city primed for growth, but growth is only beneficial if it is planned for. For over a decade, Somerville's residents and city leaders have engaged in a remarkable level of engagement and visioning to plan a future for Somerville that benefits everyone who lives, works, or does business in the community. SomerVision, the City's 20-year comprehensive plan published in 2012, set the framework for inclusive growth.

Five years later, the City is making significant progress on its core goals. The State's Green Line MBTA Extension project, which will put six new light rail stations and 85% of Somerville residents within a half mile of public transit, has begun, and will achieve the environmental and transit justice the community has long fought for. A new high school building that will serve Somerville's extremely diverse student body and enhance the school district's educational plan for a twenty-first century, dynamic learning environment has begun construction. Commercial and residential development projects with important community benefits such as affordable housing and retail space for neighborhood amenities have broken ground.

All of these projects are strong examples of community-driven planning. However, the City believes in the value of community engagement in and of itself, not only as a strategy for implementing these specific projects. Maintaining these conversations and the thoughtful planning they have yielded will have important consequences in years to come.

Our community engagement has surfaced many unique initiatives, including the Fabrication District zoning overlay, which protects former industrial buildings for use as studios for artists, "makers", and small entrepreneurs, thereby preserving the creative spaces that help give Somerville its unique character.

2. Tech Talent Growth

a. Current efforts - Describe what your community is currently doing to support tech talent growth.

Aligned with the public school system and educational frameworks, the City of Somerville has embarked on an ambitious workforce development strategic plan to prepare residents and connect them with incoming jobs. The City established a Job Creation and Retention Trust Fund to fund job training activities in partnership with the robust ecosystem of regional workforce development organizations and post-secondary education institutions in the area. Reacting to anticipated growth in IT and healthcare occupations, city funding will be allocated toward upskilling Somerville residents to prepare them for quality jobs in incoming industries.

b. Future proposals - Describe the big ideas your community proposes in addition to the current efforts mentioned above to enhance your community's development of tech talent (both millennial and mature/senior tech talent).

Somerville is home to a number of exciting and unique nonprofits dedicated to STEM education in adult populations. Organizations such as Artisan's Asylum, a 40,000-square-foot makerspace (one of the largest in the country) have taught skills ranging from coding and CAD to machining and 3D prototyping to the community since 2011. Recent additions like FabVille, the City of Somerville's free public fabrication laboratory which is located at Somerville High School and utilized by both SHS students and the community at large, have further lowered the barrier of entry for access to digital design and fabrication tools. A robust effort has now begun to tie the many independent digital literacy and technology training programs together through the city-wide digital badging platform "Skill Up Somerville," which will support coordination among trainers as well as align frameworks for basic digital literacy to advanced coding and utilization of software applications.

c. Diversity and inclusion - Describe what your community is currently doing to support underrepresented minorities in tech and what your community proposes to do in the future to enhance these efforts.

Somerville recently launched the Innovation and Opportunity Lab, which is an advisory committee comprised not only of the city's tech economy leaders but also leaders in

Somerville's vibrant and diverse community-based organizations. Somerville believes in an inclusive model of place-based innovation, one that is not targeted to an exclusive "innovation district" but rather is accessible to everyone throughout the city. The Innovation and Opportunity Lab, formed in late 2017, will be a key driver of new policies, programs, and partnerships to address issues of diversity and access as the city's economy becomes more knowledge-based.

Digital literacy is another priority for the City in its efforts to promote inclusive innovation. For many Somerville residents, basic digital literacy is elusive. Several programs seek to address this gap. The City's Economic Development Office hosts a Tech Goes Home program to teach small business entrepreneurs how to use technology to boost their business; the Somerville Public Library and the Somerville Media Center run workshops on Microsoft Word and Excel; FabVille provide accessible training in CAD, Java, Python, and other design software applications. These programs will be major components of Somerville's soon-to-be-published workforce development strategic plan, the Talent Equity Playbook.

d. Specialized tech talent availability and growth - Please provide specialized tech talent availability for (i) machine learning specialists, (ii) UX/UI designers, and (iii) hardware engineers, as well as year-to-year trends for all three of these specialties. Please also describe the companies in your community currently employing that talent.

(i) Please also describe the companies in your community currently employing that talent and where their future growth will be.

3. Venture Capital

a. Current efforts - What is your community currently doing to support venture capital investment? Please include the presences of venture capital firms in your community, 5-year trends in venture capital investment, and size of start-up community in your community.

b. Future proposals - Describe the big ideas your community proposes in addition to the current efforts mentioned above to enhance your community's development of venture capital investment.

c. Start-ups - Describe what your community is doing to encourage start-ups.

Somerville's most targeted program supporting small businesses is Form to Factory, a cross-sector and regional support program for hardware startups. Comprised of partners from the City of Somerville, local clean-tech incubator Greentown Labs, and four regional Workforce Investment Boards, Form to Factory involves three interlocking efforts:

building a regional supply chain connecting startups in the inner-core communities to manufacturers in Massachusetts, providing engineering technical assistance and matching mini-grants up to \$10,000 to solve specific product development challenges, and providing reimbursements and training funds for interns. This approach aims to center Somerville in the regional supply chain and white-hot hardware innovation ecosystem.

The City is also working to solve a common challenge startups face in high-demand urban areas: affordable space. Fabrication District zoning, included in the pending citywide zoning overhaul, seeks to preserve 28 acres of creative space for entrepreneurs, potentially housing 3,000 jobs. In addition, the zoning overhaul requires 5% of square footage in certain commercial districts to be set aside for creative uses, in effect creating inclusionary zoning for small entrepreneurs.

4. Educational Partnerships

a. Current efforts - Describe what your community is currently doing to support partnerships between employers and educational institutions (especially as they relate to STEM).

Somerville supports employer-educational institution partnerships at every level: grade school, middle, secondary, and adult learning. K-12 students benefit from project-based learning experiences working alongside partners either in the classroom, makerspaces, or employer sites. Students are also exposed to STEM and other fields through school- and district-wide events such as STEM Career Fairs and Hour of Code.

The Career and Technical Education program at the high school has a robust co-op program with area businesses, from which approximately 50 students a year receive course credit. This model of course credit and private sector partnership for out-of-school learning will be expanded. Currently, the school district is involved in a two-year planning process, funded by the Barr Foundation, to make outside learning experiences a core part of every high school student's education. See Talent B, section 4e for more information on this planning process and goals.

For adult students, one of the primary goals at Somerville Center for Adult Learning Experiences (SCALE) is to ensure that all SCALE graduates move to the next step in their career pathway, whether that is a training program, a job, or college. Currently, active partnerships with Bunker Hill Community College, UMASS Amherst School of Nutrition, and Middlesex Community College have been instrumental in designing transition programs for SCALE students into post-secondary institutions. A long-standing relationship between the entities has resulted in ongoing orientation sessions, resource sharing and a streamlined acceptance process for transitioning SCALE students. SCALE is a member of the Metro North Regional Employment Board (REB), where adult learning

providers, post-secondary institutions and employers work diligently to design opportunities for students.

b. Future Proposals - Describe the big ideas your community proposes in addition to current efforts mentioned above to enhance your community's development of educational partnerships. Examples might include: a post-secondary institution partnering with the Project to establish a school or campus to support the education of tech talent; or the establishment of a K-12 magnet school on the HQ2 campus focused on STEM education.

The city is laying the groundwork for future STEM education initiatives in many different ways. First, the Barr Foundation planning work mentioned in 4a represents a community-wide commitment to redesigning the educational experience for all students at Somerville High School to ensure college and career readiness, and to help students prepare for an increasingly competitive and innovative job market. This planning process is engaging representatives from a wide range of industry sectors, parents/guardians, educators, and students.

Secondly, the Somerville Public School district is working hard to establish makerspace and innovation labs in every one of the city's K-8 schools to further support STEM education. These facilities will build upon the success of the Fab Lab currently in operation at the Somerville High School.

Another promising partnership is facilitated by SCALE and includes The City of Somerville's Department of Economic Development and Stacks and Joules. Stacks and Joules offers a building automation control training program, which merges electric engineering and programming. This new partnership will involve integrating the Stacks and Joules job training program into SCALE's curriculum for the coming Summer. SCALE's goal is to train approximately 15-20 students during this summer for placement into paid internships by the start of Fall 2018. After the initial design year, SCALE intends to double the number of students entering the Stacks and Joules job training program.

The partnerships extend beyond the City's direct efforts; the private sector also has a keen interest in supporting STEM curriculum. Grant applications for Biogen's four-year \$10 million STAR grant STEM Initiative, which will serve Somerville and Cambridge students grades 6-12, were due on Friday, March 23rd. Many applications were submitted from long-standing community partner non-profits to expand upon current STEM offerings. Funded programs will have a significant impact on extending learning beyond the school day and the school walls through strong partnerships that connect Somerville students to the world around them.

c. Roadblocks - Describe the greatest barriers your community has faced in the deployment of STEM programs or roadblocks to getting them off the ground. Describe how the Project could join your community in resolving these issues.

K-12: Somerville's PK-12 school community mirrors the rich, diverse demographics of the City. Many of Somerville's students have experienced trauma and significant challenges in their young lives, and often have to balance school with family survival commitments. The district's emphasis on supporting the whole child is rooted in the belief that, in order for students to achieve academic success, staff must mitigate the challenges that life presents them, and engage families and partners in this important work. Partnerships are critical to this endeavor.

A partnership with the Project could help fund pilot programming targeted at high-cost, high-touch, difficult-to-reach populations who typically don't have access to these programs for the reasons mentioned above. Mentorships by professionals, work-related learning that provides needed income for students and their families, case-management, and exposure to careers coupled with data-driven solutions would have significant impacts on these individuals and communities.

Post-Secondary: At the post-secondary level, one challenge identified by Somerville's adult learning center SCALE is that, regardless of the coordinated efforts of all staff, many students struggle to complete job training programs. Often, this is because of a current or previous challenge due to family, health, trauma, job loss, or parenting demands that significantly disrupt high school education. These obstacles can prevent students from attending class or meeting MCAS or ADP requirements during high school. As a result, a number of SCALE students are not ready for job training programs in the STEM area that require a high school diploma, and the job training curriculum is too advanced for SCALE students who require additional coursework in math, writing, or English.

A partnership with the Project could help break this cycle for underrepresented students by funding pilot programming to work with smaller cohorts of students and meet a range of health, child care, and income needs. As with our younger students, mentorships by professionals, work-related learning that provides needed income for students and their families, case-management, and exposure to careers coupled with data-driven solutions would have significant impacts on these individuals and communities.

5. Describe any places where you feel that the raw data does not tell the full story for your community. Tell us the full story. For example, if your software developer location quotient is low enough to suggest that a tech employer might struggle to recruit but it is rapidly increasing and employers are having great success recruiting to your community right now, tell us that. Perhaps your housing supply is low but

your community has implemented innovative programs to address this in the future.

Innovative leadership in Somerville, neighboring cities, and at the State-level has begun to break down the tightly guarded municipal jurisdictions that forced cities in the Boston area to be fractured in their responses to systemic problems. The Greater Boston region rises and falls together. By working together, regional partners can solve many issues that once seemed overwhelming. The Life Science Corridor, a collection of five cities including Somerville, Cambridge, Boston, Quincy, and Braintree work together to attract and retain biotech companies within the region. The Regional Economic Development compact seeks to expand on that mission to include shared staffing and operation resources to address regional problems like talent development.

At the end of 2017, the 14 cities that make up Greater Boston, led by Somerville Mayor Joe Curtatone and Boston Mayor Marty Walsh, joined together to intensify efforts to tackle an inadequate housing supply and the affordability issues it causes. These initiatives are just the beginning of the tighter working relationship across the metropolitan area. This is a region poised to set a national standard both for shaping positive growth and for addressing legacy and 21st century challenges.

B. Education

1. Describe the educational system (from pre-K to 12 and graduate level) in high-level terms. Focus on their integration and cooperation with local businesses and community partners. Provide a map of locations of each school district-wide.

Somerville Public Schools Vision: Somerville believes in developing the whole child—the intellectual, social, emotional, and physical potential of all students—by providing students with the skills, opportunities, and resources that will nurture innovative ideas, foster pride in diversity, inspire students to become lifelong learners, and empower them to enrich their communities.

The Somerville Public Schools district (SPS) serves a diverse population of nearly 5,000 students in grades pre-K to 12. The district comprises 11 schools—one early childhood center serving students in pre-K and Kindergarten, seven elementary schools serving students in grades PK-8 including the city’s first Innovation School and the city’s first Commendation School, two small therapeutic alternative schools that operate as one and combined serve approximately 75 students, and a fully comprehensive high school of approximately 1,250 students that boasts an outstanding Career and Technical Education Chapter 74 program and is the only urban high school in Massachusetts to rank as a Level 1 school on the state’s accountability rating for the last five years.

Mirroring the demographics of the city, the student population at SPS is richly diverse in every sense of the word. More than 19% of SPS students are English Language Learners, nearly 22% are students with special needs, and nearly 50% are students whose first language is one other than English. More than 50 different languages are represented in Somerville schools and in the community. Of all SPS students, 60.2% are considered “high needs” students, including an increasing number of unaccompanied minors.

Close to half (43%) of all SPS students are Hispanic, 9.9% are African American, and 7.4% are Asian. SPS students come from all over the world and are part of an innovative and eclectic community that includes families who have lived in the city for generations, newcomers drawn to the city’s creative and dynamic culture, and immigrants who have settled or are settling into a new life in a new home.

Reflected in both the mission and vision that drives the district’s work, SPS emphasizes supporting the “whole child” through a data-informed, collaborative system of support. A strong core curriculum is supplemented with an equally strong and comprehensive menu of support services including mental health services, wellness initiatives, out-of-school-time programming, specialized programs for high-needs students, family engagement programming, sports and extracurricular activities, and targeted enrichment and intervention strategies to ensure that the individual needs of students are met. Community partnerships play a critically important role in the support of SPS students at every grade level.

Understanding the unique challenges and opportunities of urban environments, particularly in districts as diverse as Somerville’s, the district’s teaching and administrative team is one committed to leveraging knowledge and resources that families, community, and industry partners bring to meet the very different needs of such a diverse student body. Somerville’s commitment to supporting the whole child is rooted in the knowledge that there are many factors that can impact a child’s ability to succeed.

In order for SPS to successfully open pathways for all students, the district must meet each student where they are at and have systems in place that will help Somerville prepare them for a global society and for jobs and industries that may not yet exist. Equity of opportunity, access, and results is at the core of informing the work SPS does in its classrooms and in the community to provide every student who walks through school doors with the opportunity to achieve at universally high levels and to continue their post-secondary journeys college and career ready.

2. Describe early childhood education programs in your community, especially those focusing on STEM initiatives. Be specific in your description, including name and affiliated partnerships.

PROJECT [REDACTED]

TALENT SECTION
T-9

PROPRIETARY AND CONFIDENTIAL

Somerville Public Schools spearheads an ambitious Universal Kindergarten Readiness initiative in collaboration with more than 100 pre-k providers and agencies communitywide, making sure that every child is ready for school, and working to ensure that Somerville schools are ready for every child.

In Early Childhood Education, STEM is an integral part of children's daily play experiences and occurs through a balance of experimentation, discovery and intentional teaching. For example, in the block area, children learn about forces and motion, equivalency, spatial relationships, and balance. Intentional teaching through the examination of "Big Ideas", such as How Do Things Move?, provides children with the language and experiences to learn about concepts, vocabulary, and skills related to their play and discovery. Somerville uses the Building Blocks math curriculum, which exposes children to concepts that build in complexity and are revisited throughout the year.

For young children, the overlap between art and science is a natural part of children's experiences as they discover the properties of various media and use art to represent their discoveries in drawings, painting, collage, and through three-dimensional building with a variety of materials. Teachers of young children are using technology to communicate with parents via various apps, documenting and sharing student learning using technology. Examples of Early Childhood STEM work in the schools and in the community include, but are in no way limited to:

- In collaboration with Harvard Professor Noni Lesaux's Lectio Group, the SPS Early Education Department developed the Balanced Literacy integrated curriculum, which is based on "Big Ideas" as a springboard for reading, writing, speaking, and listening. Units such as Forces and Motion, Light and Shadow, Animals, and Plant Life/Growth and Change build vocabulary, storytelling, math exploration and math talk, experiments and scientific process, and play experiences – all derived from the Big Ideas such as How do things move? What makes a shadow? How do things grow and change? How do animals adapt to changes in weather?
- Working with Boston University Professor Nurmeen Dashoush and funded by the Boston University Consortium during the 2017-18 school year, SPS's Capuano Early Childhood Center developed a unit on Forces and Motion with accompanying kits and ongoing professional development.
- SPS's Ready4K Texting program (originally part of a Stanford University research project, now a nationwide program) enrolls 275 families of preschool and K children to receive weekly text messages with tips and suggestions for supporting learning and interactions outside of school time.
- New science standards from the Department of Education released 2017-18 are sparking curriculum development in preschool and K-8 with Forces and Motion, Light and Shadow, and Plant Life emerging as core units for preschool.

- Since 2014, SPS has worked with STEM consultant Mary Rizzuto on ongoing Science workshops for SPS and Center-Based program teachers across the city on Forces and Motion, Properties of Matter (Air and Water), Blocks and Balance, Insects/Life Cycles, Worms, and Plants.
- SPS is collaborating with the Community Action Agency of Somerville's Head Start program to integrate their preschool 3C Curriculum into the SPS preschool curriculum, including units on Light and Shadow, Transportation, and Growing Things.
- Somerville Public Schools works closely with Marina Seevak of the Beautiful Stuff Project in Somerville on programs that explore concepts such as balance, construction, engineering, and sculpture, as well as connections to high-quality children's literature, vocabulary, and book making. Using recycled materials for creative reuse, these programs reach early childhood centers, Head Start, and more than 100 classrooms for young children across the city.
- The Building Blocks Math Curriculum has provided a consistent foundation in preschool for over 10 years, including with a district-developed pacing guide (2014-15).
- Teachers use apps such as Remind, Kaymbu, Bloomz, and SeeSaw to communicate with families.

3. Primary, Secondary Education - Describe childhood education programs in your community focused on STEM initiatives.

K-8 Programs focused on STEM

In partnership with Boston University, SPS recently developed a new Science curriculum for grades K-8 that is aligned to standards. Additionally, the library/media teachers in grades K-8 teach coding to students and host special coding activities, including an Hour of Code. SPS has makerspaces at two K-8 schools (Kennedy and Argenziano), STEM project-based learning at the Healey School in partnership with STEM nonprofit Sprout & Co, off-site STEM experiences such as trips to Nature's Classroom, local area museums such as the Science Museum, Biogen Labs, Groundwork Somerville, and the Beautiful Stuff project.

This past summer, SPS added a partnership with the Calculus Project designed to increase the number of African-American and Latino students who enroll and succeed in high-level mathematics courses at Somerville High School. This initiative originates in 6th grade and includes summer preview courses that support skill building, reduce summer loss, introduce robotics and engineering activities, connect with local STEM professionals of color, and prepare students for their subsequent mathematics course.

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The program utilizes cohorts that serve to create a less stigmatized academic culture, enhance the aim of striving toward calculus, and provide support among the target population. As part of the Citizen Schools partnership Somerville students in the middle grades participate in apprenticeships that are STEM focused. Additionally, district schools host yearly STEAM weeks and science fairs.

Secondary Focused on STEM

At the secondary level, SPS has STEM exploratory experiences for Career and Technical Educational (CTE) students (i.e., Massport 2017 Aviation and Maritime STEM Education Expo at Boston Logan International Airport), the Fab Lab (fabrication center) at Somerville High School (SHS), Robotics program at SHS, CTE programs at SHS, School and Regional Science & Engineering Fairs; partnerships with Parts and Crafts, Sprout & Co., Biogen, Microsoft, the Somerville Mathematics Fund, and the Somerville Public Library system.

For example, the library hosted engineers from Google to work with students during the week-long Computer Science week program. Google Engineers collaborated with AP Computer Science students to showcase their Cloud Computing platform. Students were able to come to the library during their lunch period to experience a Virtual Reality (VR) program run by Google Engineers.

Every student at SHS also takes part in the Hour of Code during math class. The math teachers either come to the library or use the Math computer lab with their students to spend one hour coding during Computer Science week. Students from the Robotics team presented their project to the students in the library as part of Computer Science week events happening in the district.

Somerville STEM partners at the secondary level (SHS) are many:

- MA Consortium for Innovative Education Assessment - Lead science teachers at SHS are participating in year-long professional development and coaching in order to design, implement, and evaluate quality performance-based assessments. Biology classes will be creating children's books that answer the question "Why do people have different skin tones?" and will be presenting their books to elementary classes in the district.
- Brammer Bio - A science teacher at SHS is partnering with Brammer Bio, a Kendall Square cell and gene therapy company, to create a partnership with AP Biology and Biotechnology classes, including mentorships, guest biotechnology seminars, and career shadowing.
- Mystic River Herring Education - A science teacher at SHS is partnering with the Mystic River Watershed Organization to help the group count herring in the Mystic River Watershed using its underwater camera and fish ladder, and to collaborate

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on creating curriculum that can be used in the classroom and other environmental and ecology classes in the area.

- Biogen Community Lab - All science teachers at SHS bring their biology classes to Biogen's Community Lab throughout the year to complete experiments using the pharmaceutical company's biotechnology. Biogen also has a Biotech Club that SHS students participate in.
- Tufts University BioSeq Program - SHS AP Biology students conduct genetic sequencing experiments through this outreach program.
- Tufts University STEM Ambassadors - Chemistry students from Tufts University lead experiments in select classrooms at SHS.
- BuildCorps, hosted by social impact incubator Canopy City, is a youth entrepreneurship accelerator that teaches mobile app development to Somerville student teams solving problems in their communities.
- SHS Science Guest Speaker Series - Last year, the SHS Science department hosted eight guest speakers including: Kate Carter, Harvard University, Evolutionary Biologist, on The Evolution of Wisdom Teeth; Reimi Hicks, MIT, Coordinator of MITES Program, on Summer STEM Programs at MIT; Michele Gabree, MGH, Genetics Counselor, on Careers in Genetics; Gina Varamo, Science Club for Girls, on C.E.L.L.S. (Career Exploration, Leadership, Life Skills) Junior Mentoring Recruitment for the Argenziano School; Salome Perez, Northeastern University, Computer Science, Creating Population Models to Monitor Adaptation of Marine Life to Climate Change; Kristen Ellard, Harvard University, MGH, SHS Parent, on Psychiatric Neuroscience; Alan Palm, Alliance for Climate Education, on Climate Change; and Dr. Anthony Monaco, President of Tufts University, on Discovering the Gene Behind Duchenne Muscular Dystrophy.

a. Secondary school:

(i) Average ACT and SAT scores (provide average math, science, verbal, and total, as possible) for each of the past ten years

	SAT		ACT*			
	Reading	Writing	English	Reading	Science	Comp
2016-2017	522	—	23	23.9	24.3	24.5
2015-2016	462	458	19.9	21.3	21.2	21.1

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2014-2015	470	465	18.8	19.3	19.8	19.8
2013-2014	451	458	23	22.6	22.3	23.1
2012-2013	443	434	19.6	19.5	19.3	19.9
2011-2012	451	456	17.9	19.5	19.3	19.3
2010-2011	449	449	17.5	19.5	19.5	19.3
2009-2010	465	461	20.1	20.5	19.9	20.6
2008-2009	465	463	—	—	—	—
2007-2008	442	450	—	—	—	—
2006-2007	449	461	Not Avail	Not Avail	Not Avail	Not Avail

** Few SHS students take the ACT. The number of test-takers ranges from 4-44 students (average of 25.1 per year). Cell sizes under 10 are suppressed.*

(ii) Graduation rates for the past ten years

SHS normally reports 4-year grad rates, but included adjusted graduation rates as well here just in case. Adjusted grad rates do not include students who transferred into the district/SHS after ninth grade.

	District		SHS	
	4-Year Grad Rate	4-Year Adj Grade Rate	4-Year Grad Rate	4-Year Adj Grade Rate
2017	84.2	88.7	87.9	93.0
2016	81.5	87.9	85.0	91.9

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2015	81.4	85.8	86.2	90.9
2014	77.0	79.3	82.7	85.1
2013	77.6	83.0	82.9	88.5
2012	78.1	82.0	83.5	88.8
2011	78.4	82.4	81.0	86.0
2010	72.6	79.5	77.5	84.7
2009	73.8	79.2	77.2	82.4
2008	76.0	82.6	79.8	86.1
2007	74.0	81.9	78.0	85.3

(iii) Percentage of graduates by gender and race/ethnicity matriculating to (please include for all programs and specifically for STEM programs):

(1) Four-year colleges or universities

Percentage of All 2017 Graduates Who Enrolled in a 4-Year Program

	Total Grads	Public		Private	
		#	%	#	%
Female	131	31	24%	32	24%
Male	137	36	26%	26	19%
Black	40	11	28%	6	15%

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Asian	27	10	37%	12	44%
White	197	46	23%	40	20%
Latino/a	108	23	21%	17	16%

Percentage of 2017 Graduates Attending Private versus Public 4-Year Programs

	Public		Private		Total
	#	%	#	%	#
Female	31	49%	32	51%	63
Male	36	58%	26	42%	62
Black	11	65%	6	35%	17
Asian	10	45%	12	55%	22
White	46	53%	40	47%	86
Latino/a	23	58%	17	42%	40

** Latino students are included in both the race categories (black, white, asian) as well as the Latino/a category.*

Demographic Breakdown of 4-Year Program Enrollees

	Gender		Race			Ethnicity	
	Female	Male	Black	Asian	White	Latino	Non- Latino
Public	31	36	11	10	46	23	44

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	46%	54%	16%	15%	69%	34%	66%
Private	32	26	6	12	40	17	41
	55%	45%	10%	21%	69%	29%	71%

** Latino students are included in both the race categories (black, white, asian) as well as the Latino/a category.*

(2) Two-year community colleges

Percentage of All 2017 Graduates Who Enrolled in a 2-Year Program

	Total Grads	# Enrolled	%
Female	131	30	23%
Male	137	21	15%
Black	40	9	23%
Asian	27	5	19%
White	197	37	19%
Latino/a	108	23	21%

** Latino students are included in both the race categories (black, white, asian) as well as the Latino/a category.*

(3) Vocational and technical school and programs

	Total Grads	# Enrolled	%
Female	131	39	30%

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Male	137	32	23%
Black	40	11	28%
Asian	27	9	33%
White	197	50	25%
Latino/a	108	25	23%

b. Briefly describe capital improvement plan, timetable and plan of finance for school system and other significant program providers. Include capital investment in public schools over the last ten years. Also, include information on charter and magnet schools.

The Office of Capital Planning is in the midst of a citywide building condition assessment. This project has two phases consisting of a building condition assessment and preparation of preventative maintenance plans for City assets moving forward. The intent of the project is to capture and collect data on all of the assets, which include mechanical, electrical, building envelope, roofs, interiors, life safety systems, etc. within each of the buildings. Once this data is collected Somerville is identifying the current condition, remaining life expectancy, formulating a risk and criticality factor and finally developing a preventative maintenance program for each asset. Once completed, that data will be used by City personnel to identify future potential capital improvement projects and to maintain City buildings and schools in a more predictable manner.

Major capital expenses have included the East Somerville Community School at \$26 million which concluded in 2013 as well as the recently begun high school reconstruction project budgeted at \$256 million.

c. Describe how education programs are funded at the municipal, county and state levels in your community as well as how and where community and private funding can be allocated.

Chapter 70 education aid is the Commonwealth's primary means for distributing state public education funding to local school districts like Somerville Public Schools. Once the total foundation budget is established, the state calculates Somerville's ability to contribute local revenue toward school operation. The required local contribution is basically a measure of how much local tax revenue a city can reasonably raise and dedicate to the operation of its schools. In FY2018, Somerville was required to contribute

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\$53,229,236 in local contributions. The City exceeded the requirement and invested \$68,574,180 in Somerville Public School in the FY2018 budget. That investment by the City of Somerville will be supplemented by an anticipated more than \$5 million in private, state, and federal grants as well as more than \$2 million in Special Education Circuit Breaker funding and a projected \$5.4 million in food service and other revolving account revenue.

The school district works in partnership with community and private foundations to augment investments in innovative education practices. Two years ago, a Somerville proposal was one of 10 winning bids for the XQ Super Schools Project awarded \$10 million to open Powderhouse Studios. Powderhouse Studios will be a year-round, project-based learning high school for students inspired by the best creative workplaces, studios, and labs, where students will develop deep projects of their own design. Earlier this winter, the Biogen Foundation announced their [STAR Initiative](#), a \$10 million investment over the next four years to support the growth and development of a STEM ecosystem in Somerville and the neighboring community of Cambridge. The district has also recently received significant innovation grants from the Barr Foundation, Boston Foundation, and Nellie Mae Education Foundation.

d. State assessment results by performance level (basic, proficient and advanced), including (i) two-year trend data for each subject and grade tested and (ii) a comparison between annual objectives and actual performance for each student group.

2017 Next Generation MCAS Results by Grade and Subject

Grade and Subject	Meeting or Exceeding Expect.	Exceeding Expectations	Meeting Expectations	Partially Meeting Expectations	Not Meeting Expectations	Avg. Scaled Score	SGP
3-Reading	38	7	31	45	17	494.7	N/A
3-Math	44	8	36	38	18	496.9	N/A
4-ELA	45	7	38	40	15	496.8	52.0
4-Math	51	7	44	33	16	498.0	60.0

PROJECT [REDACTED]

TALENT SECTION
T-19

PROPRIETARY AND CONFIDENTIAL

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5-ELA	51	12	39	34	15	500.2	65.0
5-Math	52	11	41	35	13	501.6	68.0
6-ELA	48	10	38	38	15	498.0	68.0
6-Math	46	8	38	38	16	496.0	54.0
7-ELA	47	6	40	39	14	497.9	59.0
7-Math	44	7	37	41	15	496.4	47.0
8-ELA	49	8	41	40	11	499.8	54.5
8-Math	46	11	35	44	10	499.7	60.0

2017 “Legacy” MCAS Results by Grade and Subject

Grade and Subject	Prof. or Higher	Advanced	Prof.	Needs Improv.	Warning/ Failing	CPI	SGP
5-Science	46	20	26	32	22	72.5	N/A
8-Science	38	2	35	41	21	68.3	N/A
10-ELA	88	47	41	8	5	95.2	68.0
10-Math	74	48	26	17	9	87.5	63.5
10-Science	72	33	39	24	4	90.2	N/A

PROJECT [REDACTED]

TALENT SECTION
T-20

PROPRIETARY AND CONFIDENTIAL

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MA_Boston_Somerville Orange Line_Talent**2016 MCAS Results by Grade and Subject**

Grade and Subject	Prof. or Higher	Advanced	Prof.	Needs Improv.	Warning/ Failing	CPI	SGP
3- Reading	50	10	40	33	17	76.2	NA
3-Math	61	30	31	19	19	78.6	NA
4- ELA	48	13	35	28	24	73.4	57.0
4-Math	50	20	30	31	20	76.6	53.5
5-ELA	53	16	37	32	14	78.1	49.0
5-Math	49	25	25	27	24	71.9	63.0
5-Science	36	13	24	38	25	67.5	NA
6-ELA	61	21	39	20	20	80.0	49.5
6-Math	58	27	31	22	20	79.5	59.0
7-ELA	73	16	57	20	8	88.5	78.0
7-Math	48	21	27	26	26	71.3	57.0
8-ELA	70	9	62	21	8	86.1	62.0
8-Math	42	17	26	26	31	66.4	51.0

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8-Science	28	3	25	48	24	63.6	NA
10-ELA	85	44	41	9	6	92.3	76.0
10-Math	67	41	26	21	12	82.9	69.0
10-Science	67	26	41	25	8	85.0	NA
All-ELA	62	17	44	24	14	81.4	62.0
All-Math	54	25	28	25	22	75.3	58.0
All-Science	42	13	29	38	20	70.9	NA

2015 MCAS Results by Grade and Subject

Grade and Subject	Prof. or Higher	Advanced	Prof.	Needs Improv.	Warning/Failing	CPI	SGP
3- Reading	44	11	34	37	19	74.7	NA
3-Math	58	30	29	21	21	77.9	NA
4- ELA	41	8	34	36	23	70.0	37.0
4-Math	39	17	22	35	26	68.8	51.0
5-ELA	56	20	36	29	16	79.7	60.0
5-Math	61	32	29	23	16	80.1	72.0

PROJECT [REDACTED]

TALENT SECTION
T-22

PROPRIETARY AND CONFIDENTIAL

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5-Science	47	15	31	34	20	75.7	NA
6-ELA	62	15	47	21	16	81.1	51.0
6-Math	53	25	28	25	22	75.2	59.0
7-ELA	60	3	56	30	10	82.4	48.5
7-Math	37	10	27	26	37	62.4	57.0
8-ELA	74	19	56	17	8	89.1	60.0
8-Math	48	22	26	27	25	70.9	56.0
8-Science	38	3	35	37	26	67.8	NA
10-ELA	85	48	38	10	5	93.9	77.0
10-Math	73	50	23	16	11	86.7	68.0
10-Science	70	31	29	26	5	87.4	NA
All-ELA	60	17	43	26	14	81.3	56.0
All-Math	53	27	26	25	22	74.7	60.5
All-Science	51	16	35	32	17	76.5	NA

** The MCAS data from 2016 to 2017 cannot be compared due to a change in the state assessment. 2015 MCAS data are included for comparison purposes for 2015 - 2016.*

e. Primary and secondary school rankings at the state/national level as well as a “scatter map”.

2017 Combined Math & ELA SGP Percentiles	
Brown	98th
Healey	91st
East	72nd
Argenziano	71st
Winter Hill	76th
West	84th
Kennedy	57th

f. Special needs and alternative education programs (including programs currently in place, student/teacher ratios in those programs, and success measures for those programs).

Somerville provides a number of alternative education programs designed to ensure that students regardless of their demographic background, history of trauma, behavioral challenges, and learning needs are able to thrive. These programs include:

- ECIP (Early Childhood Intervention Program) is a series of classrooms servicing students ages 3-5 years old. There are two types of classrooms within the program: Integrated and Substantially Separate. Integrated classrooms have 15 students. They are composed of no more than seven special education students and eight community peers. The ratio is one teacher and one paraprofessional to 15 students. The self-contained classrooms service students within a small self-contained program based upon individual student’s needs. The ratio is one teacher and one paraprofessional to nine students. There are two floating paraprofessionals who also support students in ECIP. The program is supported by a Board Certified Behavior Analyst (BCBA). Students in these classes receive direct specialized instruction and related services. Measures for success include formal and informal assessments and progress towards IEP goals and objectives.

- Therapeutic Kindergarten is for kindergarten students who are demonstrating significant behavioral, social emotional, and coping skills deficits in accordance with their IEP. The classroom uses evidence-based practices to explicitly teach required coping skills and strategies throughout the child's school day across all settings. The program follows a structured school program using behavior modification and strategies of ABA. Ratio: one teacher and one paraprofessional to up to nine students. The program is supported by a BCBA and School Adjustment Counselor. Students in this class receive direct specialized instruction and related services. Measures for success include formal and informal assessments and progress towards IEP goals and objectives.
- Multi-Graded is for students in grades K-8 with significant learning difficulties. They are located in four schools throughout the district. Ratio: one teacher and one paraprofessional for up to 12 students. Students in these classes receive direct specialized instruction and related services. Measures for success include formal and informal assessments and progress toward IEP goals and objectives.
- ASD Self Contained is for students in grades PK-8 diagnosed with ASD who require a significant direct specialized instruction and related services. The ratio is one teacher and two paraprofessionals to nine students. The program is also supported by a BCBA and Autism Specialist. The K-8 strand is at the Winter Hill Community Innovation School. The preschool classroom remains at SPS's Capuano Early Childhood Center. Students in these classes receive direct specialized instruction and related services all aligned with the principles of ABA. Measures for success include formal and informal assessments and progress towards IEP goals and objectives.
- SKIP (Somerville Kennedy Intensive Program) is for students in grades Pk-8 with significant intensive needs including but not limited to physical and medical needs, and cognitive impairments. The program is currently divided into two separate classrooms referred to as the upper (grades 4-8) and lower classes (grades PK-3). Ratio: one teacher and two paraprofessionals per class to 6 students. The program also has two full-time nurses on staff. The program is supported by a BCBA. Students in these classes receive direct specialized instruction and related services. An additional focus for students in the SKIP program is functional, daily living skills. Measures for success include formal and informal assessments and progress toward IEP goals and objectives.
- SHIP (Somerville High School Intensive Program) is for students in grades 9 to age 22 with significant intensive needs including but not limited to physical and medical needs, and cognitive impairments. Ratio: one teacher and two paraprofessionals per class to eight students. The program is supported by a BCBA. Students in these classes receive direct specialized instruction and related services. An additional focus for students in the SHIP program is functional, daily living skills. Measures for success include formal and informal assessments and progress toward IEP goals and objectives.

- Life Skills program is for students grades 1-12 diagnosed with a developmental delay, intellectual impairment and/or other learning needs who require direct specialized instruction and related services in a substantially separate setting. Ratio: one teacher and one paraprofessional per class for up to 12 students. An additional focus for students in the Life Skills program is functional, daily living skills. Measures for success include formal and informal assessments and progress toward IEP goals and objectives.
- Transition Program (SHS) teaches skills to promote independence in the home, community, and workplace. It services students who have completed grades 9-12. Instruction and skill application may take place in the classroom, community, and at various work sites. Students can receive individualized instruction and job support, as needed. This program serves students ages 18-22 with intellectual disabilities. Ratio: one teacher and one paraprofessional to nine students. Measures for success include formal and informal assessments and progress toward IEP goals and objectives.
- SEEK (Social Emotional Enhancement Kennedy) is for students in grades 1-6 who have been diagnosed with a primary emotional disability who as a result, do not have coping mechanisms or emotional regulation strategies. Students require direct specialized instruction both related to academics and emotional regulation including but not limited to anxiety management, flexibility, and self-advocacy. The ratio is one teacher and one paraprofessional to nine students. Students within the program are also supported by a Crisis Coordinator, two support paraprofessionals, and a full-time Clinical Coordinator. The program is also supported by a BCBA and a consulting Clinical Psychologist. Measures for success include formal and informal assessments and progress toward IEP goals and objectives.
- Next Wave / Full Circle School is a small alternative school for students in grades 6-12. Students in this school receive academic intervention and therapeutic services. Special education students in the program receive direct specialized instruction and related services. Ratio: one teacher/counselor to 10 students. The program is also supported by three full-time clinical staff. Measures for success include, formal and informal assessments, formative assessment, attainment of IEP goals and objectives, MCAS performance, credit completion toward graduation, and graduation.
- Extended Learning Program is for high school students who have been long-term suspended or expelled and for students who are at high risk for dropping out. Ratio: three teachers to 25 students. Measures for success are MCAS performance, credit completion toward graduation, and graduation.
- Somerville High School Academic Support Program is for students in grades 9 and 10 who are at risk and have three or more F's and/or more than five unexcused absences along with multiple risk factors. Once students have been identified for this program, Tier 3 and Tier 4 interventions/actions will be considered. Ratio: one

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teacher to 20 students. Measures for success are credit completion, course pass rates, MCAS performance, and graduation.

g. Accelerated learning/honors and AP Track Programs

AP Courses offered at Somerville High School:

- English Language
- AP English Literature
- AP Statistics
- Calculus AB
- Calculus BC
- AP Physics C
- AP Computer Science
- AP Spanish Language and Culture
- AP Italian Language and Culture
- AP Biology
- AP Chemistry
- AP Physics I
- AP Physics 2
- AP Environmental Science
- AP US History
- AP World History
- AP US Government and Politics

Honor Courses offered at Somerville High School:

- English 1 Honors
- English 2 Honors
- English 3 Honors
- English 4 Honors
- US History 1 Honors
- US History 2 Honors
- World History Honors
- American Identities Honors
- Introduction to Psychology
- Geometry Honors
- Algebra 2 Honors
- Precalculus Honors
- Statistics Honors
- Biology 1 Honors
- Chemistry 1 Honors

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- Physics 1 Honors
- Human Physiology Honors
- Engineering Honors
- French 1 Honors
- Spanish 1 Honors
- Spanish Heritage Honors
- Italian 1 Honors
- Portuguese 1 Honors
- French 2 Honors
- Spanish 2 Honors
- Italian 2 Honors
- Portuguese 2 Honors
- French 3 Honors
- Spanish 3 Honors
- Italian 3 Honors
- Portuguese 3 Honors
- Spanish 4 Honors
- Portuguese 4 Honors
- Spanish 5 Honors
- Accounting 1 Honors
- Orchestra Honors
- Chorus Honors
- Band Honors
- Music Theory Honors

h. Foreign language schools in your community

(i) Languages offered

The Somerville Public Schools district is devoted to the understanding of other nations and cultures, including the use of non-English languages. The district's World Language program is built on the cultural and linguistic diversity of its students and their families. The district, and city, believe that students who learn another language reach higher academic performance, display greater cognitive benefits, and develop a more positive attitude toward the target language and the speakers of that language.

The World Language Department at Somerville High School offers French, Italian, Portuguese and Spanish. Instruction in the sequential levels (one through four) stresses the development of language proficiency in reading, writing, listening and speaking as well as acquiring an understanding and appreciation of other cultures. Students are grouped

both homogeneously and heterogeneously at Somerville High School and at Full Circle High School.

Spanish courses are also offered to students in grades 6, 7 and 8 at all of the district's K through eight schools, and to students at Full Circle High School. (ii) Language immersion programs in regular K-12 schools (include languages offered and success measures).

The primary goal of the Language Immersion Programs of the Somerville Public Schools is to provide an educational environment that ensures that students whose first language is other than English realize their unique capabilities, achieve academic success, and become active participants in the community.

These programs promote English Language proficiency through rigorous instruction that integrates both content and language while valuing students' rich language and cultural backgrounds. The program includes instruction and practice in listening, speaking, reading, and writing across all content areas. The ultimate goal is to progress and transition into the mainstream setting, and SHS holds high expectations for students' current efforts and future successes.

SHS supports the transition of students as they continue to gain English Proficiency in a stepped and supported program design that includes self-contained Sheltered English Immersion (SEI) classrooms for newcomers, integrated SEI classrooms as students' English becomes more advanced, and Push-In and Pull-Out ESL Instruction for students who have mainstreamed into general education classes but still need language supports to fully access the curriculum. English as a Second Language Instruction and Sheltered English Immersion is provided at all elementary schools in the district.

At Somerville High School, the Language Immersion Program offers multiple pathways to graduation for international students and students in the process of gaining English Language proficiency. ELL Pathways include SAFE for students with interrupted formal education (SIFE), ELL Intensive with a modified day for students who are working 30 or more hours per week, GOAL to prepare over-age and under-credited students for Adult Education, and the "traditional" pathway. All ELL Pathways include ESL, Academic Literacy, sheltered content classes, and electives that are leveled to meet student needs as they gain proficiency in English.

In addition, the district offers the Unidos Two-Way Spanish and English Immersion Program housed at the East Somerville Community School. Starting in kindergarten and continuing through grade 8, UNIDOS students learn in both Spanish and English in a nurturing, supportive multicultural environment that emphasizes high academic standards. UNIDOS is dedicated to educating bilingual, biliterate thinking individuals with a profound respect for their culture and the culture of others. Half of the academic time is

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in English and half in Spanish. Classes are taught by bilingual teachers. Success measures for students in Language Immersion Programs include:

- analysis of English Learner subgroup performance on state standardized tests (MCAS)
- analysis of English Learner performance on district-administered assessments (DIBELS, Fountas & Pinnell, STAR, curriculum unit assessments)
- district-developed English Learner Common Assessments with Leveled Supports
- WIDA ACCESS English Language Proficiency Assessment
- LAS Links Spanish Language Proficiency Assessment

(iii) Cultural assimilation programs for immigrating students and their families (include success measures).

To meet the needs of students and their families in a diverse community, Somerville acknowledges the partnership that must exist between the schools, parents, and students. The Somerville Family Learning Collaborative (SFLC) is dedicated to engaging with families, providing avenues for two-way communication, and empowering parents and guardians as decision-makers about the education and well-being of their children. To support cultural assimilation for immigrating students and their families SFLC provides the following:

- Welcoming and enrollment in the schools at the Parent Information Center staffed with multilingual Liaisons
- Orientation and ongoing academic and social emotional supports for High School age students at the SHS Welcome Center staffed with multilingual Liaison and paraprofessionals
- School-Based Family and Community Liaisons (multilingual) in each elementary school
- Multilingual Services to support home-school communication, to ensure interpretation at Parent-Teacher Conferences, and translation of documents and informational flyers
- Resource and referral to basic needs (housing, health, mental health, food security); Basic Needs and Homelessness Liaisons
- ELL Wrap Around Coordinator (collaboration with HHS and SPS embedded counseling services)
- SomerBaby Welcome Bags to all parents of newborns in the city (in collaboration with the Somerville Health and Human Services Department)
- Parent Child Home Program (PCHP) home visiting
- Multilingual Play Groups

- Parent English Classes and Parent Leadership Program (collaboration with The Welcome Project)
- Informational workshops for parents and guardians on bilingual brain development, special education topics, curriculum expectations, and homework help
- Professional development for school leaders and educators on understanding and responding to cultural diversity
- Professional development for school leaders and educators on the immigration process, legal ramifications, and social-emotional adjustment
- Community Leaders Resource Team (CLRT); Sanctuary City Steering Committee, Educators for One Somerville/Sanctuary Schools for ongoing networking and community collaboration
- Using the “dual-capacity” framework* Somerville evaluates the ways in which school family engagement efforts are affecting the development of cultural competencies of school leaders and staff as well as the knowledge and agency of immigrant families to support their children’s learning and development. Multiple measures include:
 - Screening and early identification for high needs children and referral to appropriate early intervention and support services
 - Outreach with multiple methods to identify children not yet served in formal educational settings
 - Tracking attendance at SFLC workshops, events, and Parent-Teacher Conferences
 - Assessing participant satisfaction and learning with pre- and post- surveys (Playgroups, Parent English Classes) and Exit Slips
- Logging SFLC Liaison resource and referral and communication with immigrant families
- Needs and resource mapping through community partner surveys
- Adoption of Parent/Guardian, Staff, and Student surveys on “conditions for learning” (school climate, student supports, family engagement, expectations for learning, and social-emotional learning)

*For more information, see: Mapp, K. (2013). Dual capacity building framework for family-school partnership. Washington D.C.: US DOE

4. STEM Education

a. Describe, to the extent not already discussed above, the STEM programs currently in place in your community.

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The Somerville Public Schools district is committed to preparing students to lead successful lives by helping them to think critically and creatively, use technology effectively, and develop skills to help them become self-directed learners. To that end, the district and its public schools implement a diverse curriculum including a wide variety of STEM programming.

STEM programs currently in place include:

- STEM exploratory experiences for CTE students (i.e., Massport 2017 Aviation and Maritime STEM Education Expo at Boston Logan International Airport),
- Makerspaces in Somerville schools such as the Fab Lab at SHS, Robotics program at SHS, and CTE programs at SHS,
- School and Regional Science & Engineering Fairs,
- Partnerships with Parts and Crafts, Sprout & Co., Biogen, Microsoft, Beautiful Stuff, and Somerville Mathematics Fund,
- School-specific STEAM projects such as the West Somerville Neighborhood School's STEAM initiative in late September, Kennedy School STEAM Week, and "Pi Nights" in partnership with Somerville Math Fund.

b. Describe whether your current STEM programs are selective (i.e., criteria to gain enrollment and they are not in regular K-12 schools), inclusive (anyone can enroll but separate from regular K-12 schools), or comprehensive (included in regular K-12 schools).

Somerville STEM programs are inclusive and comprehensive; any and all students who are enrolled in Somerville Public Schools can enroll in STEM programs.

c. Describe the curriculum offered, how it is determined, how often it is reviewed and how long it takes to change the curriculum.

The curriculum offered in grades K-12 is aligned to state standards and frameworks. These are reviewed by the Massachusetts Department of Education and Secondary Education on a rotating basis by the years. At the high school level course offerings are reviewed yearly; the courses at the high school are also aligned to state standards and frameworks.

d. Other student achievement indicators for STEM programs/participants to which you would like to call your attention.

Somerville's commitment to STEM programming is evident not only through courses and resources offered within the school district, but also in myriad and diverse partnerships with community stakeholders and businesses. Somerville is centrally situated among

three of the most esteemed universities in the nation: Harvard, Tufts, and the Massachusetts Institute of Technology. Also bordering tech hubs such as Kendall Square, Cambridge, and becoming increasingly well-known for its own technology start-ups and businesses, Somerville's workforce is largely involved in related programming for which our students are sought as interns, assistants, and apprentices.

The following student achievement indicators are representative of Somerville's commitment to STEM programming:

- Annual Somerville High School STEM Awards. Nearly 180 Somerville High School (SHS) students were recognized at the annual SHS STEM awards for school year 2016-17. The annual awards ceremony, now entering its fifth year, celebrates students' commitment, growth, and excellence in Science, Technology, Engineering, and Math. Among the awards presented are the STEM Scholar, STEM Curiosity award, STEM Service award, and Excellence in MCAS awards. Also recognized are the STEM Club MVPs, FIRST Robotics MVP, STEM National Honor Society members, and STEM partners.
- Annual Hour of Code. For the last several years, every student in the district has participated in the week-long Hour of Code event in early December, during which students work alongside experts in the field to learn or expand their computer programming skills. Among the special events held in 2017 during Hour of Code week were lunchtime show & tell with Google VR Expeditions and Teachable Machines, an afternoon of Hour of Code sessions with Google Engineers on Scratch, Build-a-Bot sessions, Robotics, video game design, 3D printing, and much more.
- Somerville Robotics Team. The Somerville Robotics Team advanced to the 2017 FIRST Robotics World Championship after impressive performances throughout the year despite being in only their second year of team competition. The Somerville team was among the top finishers at each of the events in which they competed and also garnered recognition for outstanding sportsmanship and creativity, earning the Creativity Award at the Bridgewater SE event (their first event of the season), and the Gracious Professionalism Award in Revere later in the season.
- Future City Competition. For two consecutive years, the Albert F. Argenziano School (K-8) middle grades Future City team has advanced to the National competition. Future City teams are tasked with imagining, researching, designing, and building their "city of the future" based on a specific theme each year. Teams must build a scale model of their design and create a virtual city using SIMCITY. They are also required to create a project plan, write an essay about their design in response to a specific question, and present to a panel of judges. Last year, the Argenziano School team's project city of Samanborg (which means Together City in Icelandic) won regional awards for best overall design and also claimed awards for

“Best Presentation” and “Best Virtual City.” This year, the Argenziano Future City team advanced to the National Competition after claiming the top prize at the DiscoverE Future Cities Regional Competition in January. [Somerville’s “Imagine Cambridge” model presented a futuristic vision of an “Age-Friendly City”](#), the theme of this year’s competition. Results of the 2018 national competition have not yet been announced.

- Somerville High School Science & Engineering Fair. Somerville High School hosts its annual Science and Engineering Fair in March. Students in grades 9-12 spend several weeks researching one topic and following the scientific method and/or engineering design process to investigate one question deeply. Project entries fall into three categories: Life Sciences, Chemical and Physical Science, and Physics and Engineering. Projects are judged by scientists and engineers from a number of community partner agencies, which have included Biogen, Brammer Bio, Wolfe Labs, Tufts University, Harvard University, and others in past years. Last year, a total of 55 SHS students representing 37 projects advanced to the Massachusetts Region IV Science Fair.
- Region IV Science & Engineering Fair. Somerville High School hosts the annual Region IV Science & Engineering Fair each March. The six Regional Science Fairs serve as qualifying competitions for the Massachusetts State Science Fair, held at MIT in May.
- Middlesex Partnerships for Youth (MPY) PSA Contests. Somerville High School students have produced the winning videos for three consecutive years in the MPY PSA competition. Each year, students are asked to produce a short video in response to a specific theme. Finalists are selected by a panel of judges, then more than 800 middle and high school students vote to select the entry that they feel best represents that year’s theme. Last year’s winning video [“Keep Going”](#) was in response to the contest theme of “Challenge Yourself — be Resilient”.
- 2017 STEM Education Day at Fenway. 150 Somerville students were among the hundreds from 20 Boston-area schools who took part in a STEM Education Day at Fenway Park this past September as part of the CITGO STEM Talent Pipeline Program offered in partnership with the Boston Red Sox. A student from the West Somerville Neighborhood School (WSNS) took top honors in the bottle rocket challenge that afternoon. Several students also had an opportunity to speak with astronauts on the international space station.

e. Plans for next five to ten years for STEM programs (to the extent not discussed in subsection A above).

Much of the work Somerville is currently doing is helping to lay a strong foundation for growing STEM programming in the schools by connecting students with the community both within and outside of the school walls. Through a two-year planning process with the Barr Foundation and the Center for Collaborative Education (CCE), Somerville is

envisioning a high school educational model centered in a wider learning ecosystem that includes outside learning experiences as a core part of every students' educational journey at Somerville High School.

As part of this planning, Somerville is working with community and industry partners to identify core skills and competencies that will help prepare students for current and emerging careers in STEM and other fields. Among the STEM partners actively engaged in this planning process or currently supporting students through STEM education and enrichment are Microsoft, Biogen, Parts & Crafts, Lesley University STEAM, Tufts University, Suffolk Construction, the architecture firm SMMA , Somerville Media Center, Groundwork Somerville, Mass Audubon, and many others. The plan is that within the next five years, every student at Somerville High School will have a progression of out-of-school learning experiences in STEM or other fields that prepare them for college and career. Experiences would be introduced as part of a students' core curriculum in the ninth grade and scaffolded to more substantial experiences by the 11th and 12th grades.

District work with the Barr Foundation and CCE aligns beautifully with the educational program included as part of the Somerville High School building project, a \$256 million project to build a state-of-the-art high school that better supports the type of interdisciplinary, project-based learning that helps students develop the 21st century skills they need for post-secondary success. The educational program calls for a new building design that is flexible and adaptable, to accommodate evolving educational practices and promote interdisciplinary learning.

The new building design does just that with both internal and external design elements that support multiple types of teaching and learning experiences, and adjacencies that promote innovative, collaborative, hands-on, project-based learning. The building project enters its first substantial phase of construction in April 2018 and is expected to be ready for full occupancy by the fall of 2021.

Also supporting the district's commitment to more focused programming that prepares students for current and emerging STEM careers is the Biogen Foundation's coordinated funding strategy in which they will inject \$10 million over the next four years to support the development of a STEM ecosystem that serves students in grades 6-12. In response to this initiative, Somerville is working with several current and new community partners to expand in-school and out-of-school STEM education experiences for middle grades and high school students within the next 4-5 years. Somerville is also laying the groundwork for continued growth through future strategic partnerships with other STEM organizations whose work aligns with the district's vision and goals.

Across the district, the plan is to continue building on STEM programming both within and outside of the school walls to ensure that Somerville is giving students the exposure and

helping them acquire the skills they will need to navigate an increasingly technologically complex world. Within 5-10 years, Somerville expects that at every grade level, students will be actively engaged in Science, Technology, Engineering, and Math curriculum and programs that foster a sense of curiosity, encourage inquiry, and promote collaborative problem-solving.

Somerville is well on its way to achieving that vision, as evidenced by its current work to integrate project-based learning at every grade level that align with the state's rigorous Math and Science standards, and growing partnerships with STEM/STEAM organizations such as the Beautiful Stuff Project, Lesley University STEAM, Parts & Crafts, Biogen, Citizen Schools, and others. Additionally, an increasing emphasis on and use of the makerspace approach and mentality in the schools is fostering the type of inquiry-based teaching and learning that will help students acquire the skills to be competitive in current and emerging industries and prepare for jobs that do not yet exist.

5. Colleges and Universities

- a. Name of college or university (and distance from Site)
- b. Any research specialties that are relevant to HQ2
- c. Number of students (by degree/program (and total of all students))
- d. Percentage of international student enrollment
- e. Specify degree(s) granted in STEM-related fields
- f. Number of students graduating each year and companies at which they are working.
- g. Percentage of graduates matriculating to graduate or professional schools.
- h. Percentage of graduates employed within one year of graduation
- i. Percentage of graduates migrating out of your community. Percentage of graduates staying in the region.
- j. Programs and services provided to business in your community (including companies with existing partnerships with colleges/universities)

Note: This document includes Somerville-specific responses to the RFI. Grayed out questions are answered in the joint Boston-Somerville response at a more regional level.

GROWTH

A. Community

1. Quality of Life

Somerville is an exceptional place to live, work, play, and raise a family because of its commitment to diversity in all that the city does. Somerville is a place where minds and cultures from across the globe meet and intersect. Regardless of economic standing, immigrant status, or sexual orientation, Somerville remains committed to its Somervision Values. A Sanctuary City since 1987, Somerville stands by, supports, and encourages all of its residents regardless of demographic identifiers. And Somervillians are proud of their city and satisfied with it, as evidenced in its regular Happiness Surveys. How does the City government know? The City asked.

Somerville launched the nation's first Happiness Survey in 2011 to inform decision making in the community. The survey provides insight about residents' lives, civic pride, thoughts on neighborhood safety, and assessments of parks and sidewalks. It's not by chance that Somerville is a three-time recipient of the coveted All-America City award (the Academy Award for cities), as well as a multiple-year recipient of the 100 Best Communities for Young People among other national recognition.

In addition to quality job opportunities from entry level to Ph.D.-required, vibrant and walkable neighborhoods and business districts, numerous recreational and lifelong learning opportunities, world class dining and cultural events, strong network of social service and nonprofit organizations, and a civically engaged population, the quality of life in Somerville offers rich opportunity for all.

a. Health and Fitness opportunities (indoor and outdoor, both man-made and naturally occurring)

Somerville hosts a variety of activities that support health and fitness opportunities for every interest, age, and income level. From classic youth and adult sports leagues and world class rock climbing facilities to Parkour instruction and pickup soccer games in City parks, there's an outlet for residents young and old to stay active.

The community's commitment to health and fitness is demonstrated by the no-fee sports policy in the public schools and sliding-scale to free recreational programming that ensure all students have access to multifaceted programs. Somerville has pedaled its way to Gold Level Bike Friendly Community Status as only one of two communities to achieve this level across Massachusetts. For four weekends in the summer, the City's SomerStreets festival shuts down major roadways so that people can walk, skate, bike, dance, and run on car-free roadways. It is no surprise that Somerville's nationally recognized healthy living initiative Shape Up Somerville provided the inspiration for Michelle Obama's Let's Move initiative.

b. Cultural Activities, including Performing Arts, Fine Arts, Cultural Venues, and Festivals

Somerville prides itself on being unique and the city's numerous quirky festivals and cultural events are no exception. Every year the City celebrates the invention Fluff; a delicious marshmallow sandwich spread invented right here in Somerville. Dozens of community and business partners participate in a full day of family friendly activities: from Fluff musical chairs and Fluff jousting, to photo opportunities with the Flufferettes to marshmallow-launching-robots built by students from the high school's First Robotics team.

During spring and summer months, the Somerville Arts Council and the Mayor's Office of Strategic Planning and Community Development, in partnership with numerous local organizations, bring "ArtsUnion" programming to the City's vibrant Union Square neighborhood. Now in its 13th year, ArtsUnion has been instrumental in reinvigorating the artistic and business landscape of Union Square. ArtsUnion presents numerous events and markets and leads cultural tours. In addition, ArtsUnion has commissioned temporary art installations, artisans to fabricate street furniture and has been instrumental in creating zoning incentives for arts-related development in the square.

In Davis Square, annual programming includes theHonk! Festival that brings out musicians and music lovers for a three-day celebration of music, dance, and social activism featuring 25+ activist street bands roving Davis Square. In July, the square is filled with more than 10,000 people for ArtBeat, one of the region's most popular arts and cultural festivals. And every May the city celebrates its musicians and creatives with Porchfest, a citywide series of mini-concerts held on porches by local musical talents from Boy Dylan cover bands to Brazilian Samba and everything in between.

"SomerStreets," Somerville's take on the renowned Open Streets concept, opens main thoroughfares for walkers, bicyclists, skateboarders, roller skaters, and others to celebrate Somerville's streets and local businesses through arts, music, and culture. These festivals are held throughout the city, monthly, from June through October.

During the holiday season, the Somerville Art Council's Illuminations Tour brings a fleet of tour trolleys through Somerville neighborhoods to celebrate the holiday spirit of residents that adorn their homes with bright lights and creative displays. On the off chance there isn't an Arts Council festival happening, skip the lines for admission to the self-proclaimed world's tiniest museum. At only eight inches deep and 16 inches wide, this museum takes fine art into a novel and accessible gallery while integrating art into everyday lives of passersby.

c. Crime

In 2017, crime in Somerville hit a 30-year low, a 63% decrease in crime citywide since 1987. Engaging citizens early and often through intensive community policing efforts and a commitment to continued professional development and training for officers in critical skills including de-escalation, crisis intervention, and anti-bias is at the core of Somerville's low crime rates. The SPD places high priority on community outreach via initiatives including STEPS, through which five officers adopt each sixth grade class and mentor them as they advance each year until graduation. The Walking Dialogues series connects residents directly with Somerville PD via neighborhood walks organized in collaboration with Teen Empowerment.

The Junior Police Academy, a collaboration between the police, schools, and Recreation Department, brings students in middle school together for physical fitness activities, first aid training, and team building exercises. And an emphasis on direct contact with residents and business owners through daily business visits, bicycle-based patrols, park walks, community meetings, and more has increased community contacts 1100% since 2012 (yes, this number is correct and includes 7 Walking Dialogs, 138 Community meetings, 480 Park Walk & Talks, and 3,500 proactive citizen/business contacts just in the first 9 months of 2017).

It's these contacts, along with the City's Sanctuary City policies, that create the trust and communication that allows the SPD to identify risks early, solve crimes effectively, and pursue excellence in their efforts to guard the community's safety. While there is still work to do, Somerville prides itself on its commitment to safety for all that work, live, play, or raise a family here.

For more information and updated crime and quality of life data, you can visit www.somervillema.gov/datafarm for everything from recent crime stats to requests for pothole repairs. The data is updated each day.

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d. Housing Availability, Affordability and Quality – the availability of convenient, affordable, quality housing, both now and in the future, is an especially important component of the decision-making process. Our employees must be able to find ample housing opportunities. We are well aware of the community housing challenges that often come with economic prosperity. We are willing to partner with your community in addressing the challenges.

(i) Current Housing Stock (availability, mix of rental versus owned, granular details on a few example neighborhoods if available, focus on [i] 3 bedroom, 2 bath, single-family homes and [ii] 1 and 2 bedroom apartments)

As of June 2017, there were approximately 33,000 total housing units in the city, with roughly 72.7% of all housing units serving as rental properties. Please see charts below for breakdown by housing type and number of units. Seventy percent of rental units available in Somerville are one- or two-bedroom units, and 20% are three-bedroom units (American Community Survey 2016, 5-Year Estimates). According to the Transfer Fee Impact Analysis conducted by RKG Associates, single-family home sales represent about 10% of sales and sale values in 2016, with two-family homes representing 22% of sales and 25% of sales value.

Housing units by tenure (e.g., condominiums, homeownership, rental) and total units:

Tenure type	Number of units (rounded)	Percentage of total units
Condominium units	5119	15.5%
Homeownership units (based on number of residential exemptions for households occupying property as primary principal residence)	9000 (inclusive of condos)	27% (inclusive of condos)
Rental	24,000	72.7%
Total units	33,000	100%

Note: As of Fiscal Year 2017

(Source: assembled by Housing staff, based on data provided by Somerville Assessing)

Housing units - distribution of 2, 3 and 4-family units

Category	Properties in category	Units per category type (i.e., x 2, 3, or 4)
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2 family	5,140 properties (x2=10,280)	10,280 Units
3 family	2,305 (x3 = 6,915)	6,915 Units
4 family	235 (x4 = 940)	940 Units
Totals	7,680 2-4 family properties	18,135 2-4 family units

Note: As of Fiscal Year 2017

Note: Data compiled above did not include review of properties above 4- family.

Source: Data compiled and collected by Housing Division and Somerville Assessing

(ii) Options (apartment occupancy rate, condominiums, multi-family, single-family, etc.)

The vacancy rate in Somerville is generally quite low, hovering around 3%. The chart below shows 2015 occupancy rates at three newer developments in two Somerville neighborhoods, Magoun Square and Assembly Row.

Newly Constructed Market Rate Multi-Family Rental Developments

Development	Maxwell's Green	Avalon at Assembly	AVA Somerville
Neighborhood	Magoun Square	Assembly Square	Assembly Square
Year Built	2013	2014	2015
Total Units	184	195	250
Market Units	160	171	218
Market Occupancy	96.7%	95+%	95+%

Source- Housing Needs Assessment, 2015 page 55

(iii) Cost (apartments, condominiums, multi-family, single-family, etc. – please specifically include data on [i] 3 bedroom, 2 bath, single-family homes and [ii] 1 and 2 bedroom apartments)

PROJECT [REDACTED]

GROWTH SECTION
G-5

PROPRIETARY AND CONFIDENTIAL

4840-0257-2378.3

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According to the The Greater Boston Housing Report Card 2016, the median single family home selling price in 2015 in Somerville was \$625,000

The tables below show average rental prices for Q4 of 2017, the median single family and condo sale prices from 2010-2015, and the median single-family home sales price for 2015.

Unit Size	Average Rent- Q4 2017
0	\$1,967.00
1	\$1,993.17
2	\$2,383.77
3	\$2,817.46
4	\$3,511.42
5	\$3,764.11
6	\$4,271.67

Source- MAPC Rental Listings Database

Median Sales Price of Single Family Homes and Condominiums

Year	Single Family Home	Condominium
2015*	\$594,900	\$525,000
2014	\$545,000	\$475,000

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2013	\$544,350	\$409,000
2012	\$449,000	\$375,000
2011	\$450,000	\$360,000
2010	\$400,000	\$350,000
*2015 data includes Jan-July only		

Source- *Housing Needs Assessment, 2015 page 59*

(iv) Planned Housing Developments (that is, those publicly announced)

There are 885 units currently in construction citywide. The City has four completed neighborhood plans as part of the ongoing implementation of the SomerVision goals set forth by community members: Gilman Square, Lowell Street Station Area, Winter Hill, and Union Square. The most development is anticipated in the Assembly Square and Union Square neighborhoods, by FRIT and US2, respectively, where over 2,500 new units of housing are expected.

As more neighborhood plans are completed, zoning will be amended to match the expectations of the plan. In 2012, the City set a goal in its SomerVision comprehensive plan to build 6,000 new housing units including 1,200 permanently affordable units by 2020. As of this time, just beyond the five-year checkpoint, the city was on track to roughly meet or exceed the five-year (25%) goal with 33% (2,010) of the target number of units either already built or in construction and just under 19% of those units being affordable (379).

(v) Future Housing Development (Zoning and Use Restrictions, Permitting Requirements and Timeline)

The majority of future housing development is anticipated in Somerville's transformational areas identified in SomerVision. Those neighborhoods are Assembly Square, Inner Belt, Brickbottom, Grand Junction, Boynton Yards, and parts of Union Square. As noted above, an additional 4,500 units including affordable units are expected by 2020. The City is currently working on overhauling its zoning ordinance as described below in section 1(d)(vi).

(vi). Plans to improve access to affordable housing through accelerating permitting, innovative zoning, etc.

The City has an aggressive range of initiatives underway and planned to increase access to housing including affordable housing, family housing, middle-income housing, market rate housing, and live/work artist housing. These include efforts to match supply to demand through housing construction and thus affect overall affordability, specific affordability efforts for the city's most vulnerable populations, and targeted efforts to increase the stock of specific housing types such as multi-bedroom housing for families. Various initiatives include:

Zoning overhaul: First and foremost, after significant public input, the City has submitted a broad overhaul of its zoning ordinance to the Board of Aldermen that is pending approval. The section of the ordinance that sets inclusionary housing requirements to 20%, the highest in the state, has already been adopted. Additional elements of the overhaul are also designed to incentivize needed housing types as well as make modest additions by right so that homes can more easily grow along with the families who live in them. Where permitting is still required, the City expedites all applications. Status: Pending approval by the Board of Aldermen.

100 Homes program: In a partnership with the Somerville Community Corporation, Somerville's Housing Division created a "100 Homes" program through which the City supports SCC's purchase of property so that it can be held as permanently affordable units. Status: As of January 2018, this initiative is halfway toward its goal.

Regional Housing Partnership: Somerville Mayor Joseph A. Curtatone and Boston Mayor Marty Walsh jointly co-chair the new Greater Boston Regional Housing Partnership, comprising Somerville, Boston, and 14 other Boston metro cities. The partnership's goal is to:

Increase housing production and encourage building in communities falling behind
Create more housing, both renter- and owner-occupied, in a variety of sizes, including units with two or three bedrooms suitable for families with children
Locate housing near transit and in walkable areas
Utilize design standards that increase physical accessibility for all ages and abilities
Reduce evictions, eliminate unfair rental practices, mitigate displacement, create permanent housing for the homeless, and ensure safe, stable housing
Abolish discrimination against both tenants and buyers, and advance fair, equitable access to housing opportunity

Office of Housing Stability: To provide a full range of professional services in support of residents seeking assistance in maintaining their residency in Somerville despite the increasing threat of displacement due to increasing market pressures, the City has submitted a request to the Board of Aldermen to approve funding for the new Office of Housing Stability. Status: Pending Board approval.

Transfer Charge Home Rule Petition: The City is seeking a home rule petition from the State to allow for a transfer charge on certain real estate transactions that will help fund the creation and retention of affordable housing. Status: Draft HRP and other materials transmitted to BOA

Housing Land Trust for Somerville: The City is seeking to establish a nonprofit, community-based Housing Land Trust dedicated to preserving affordability of housing by acquiring properties through purchase or donation and establishing effective controls or deed restrictions that run with the property as it is made available for development. Status: Research is underway.

Strengthened Condo Conversion Ordinance: The City is seeking to revise the Condominium Conversion Ordinance to strengthen the legal protections for occupants of rental units being converted to condominiums. Status: Draft legislation is under review. Submittal to Board expected in March.

Lead Paint Removal Initiative: To Increase the supply of family-sized housing units that are in compliance with lead paint removal requirements, the city is launching an intensive effort to provide removal support via a \$2 million federal grant.. Status: Program expected to launch in spring 2018.

Emergency Rent Stabilization Program: To assist low- and moderate-income residents transition to a stable housing environment when facing the risk of displacement due to urgent or unforeseen circumstances, the City seeks to establish an emergency rent stabilization fund. Status: Research and funding identification underway. Proposal to Board expected June 2018.

Regulation of commercialized home sharing: To protect supply of rental properties for full-time tenancy, maintain neighborhood stability, while still ensuring owner-occupants who rely on short-term rentals to afford their rent/mortgage, the City is seeking to establish short-term rental regulations. Status: Draft legislation currently undergoing legal review will form the basis of a community process expected this spring.

District Improvement Financing (DIF) for Affordable Housing: To create a flexible funding resource to assist in the creation and retention of affordable housing, the City seeks to

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apply DIF financing to affordable housing projects. Status: Research and review underway with support of legal expert. Stakeholder discussions to follow.

Right-to-Purchase Program: To prevent displacement of tenants at time of sale of rental property, the City seeks to establish right-to-purchase legislation. Status: Research and legal review underway.

(vii). Mix of rentals versus owned dwellings in your community (include three year trend data, if available)

HOUSING TENURE – 2010 Census

Occupied housing units	32,105 100.0
Owner-occupied housing units	10,395 32.4
Population in owner-occupied housing units	24,780 (X)
Average household size of owner-occupied units	2.38 (X)
Renter-occupied housing units	21,710 67.6
Population in renter-occupied housing units	48,705 (X)
Average household size of renter-occupied units	2.24 (X)

(viii) Areas comprising the majority of available housing opportunities for Project employees

People fall in love with the neighborhoods of Somerville, and each offer unique characteristics depending on the desires and requirements of residents. There are housing opportunities in each neighborhood with the majority of new housing construction in Assembly and Union Squares.

(ix) Existing housing partnerships between the community and local companies

Existing housing partnerships include:

Inclusionary Projects: Inclusionary zoning is paramount to the development of permanently affordable units built in Somerville. This is a value that the community stands by, and an important tool used to help meet the demand for more housing. Every developer building more than six units essentially partners with the community to build inclusionary housing or to contribute funding toward it.

Somerville Community Corporation:: As noted above, the City has partnered with the nonprofit Somerville Community Corporation in a collaborative effort to called the 100 Homes Program to purchase housing otherwise at risk for speculation and convert it to permanently affordable housing.

Somerville Housing Authority: Working with the Somerville Housing Authority, the City is also supporting innovative efforts to improve subsidized housing and expand the availability of affordable senior housing and traditional affordable housing.

MarKa: Through a public call for proposals, the City selected local developer MarKa (representing a collection of residents) to redevelop the former PowderHouse School into an intergenerational live-work space including market rate, senior, affordable, and artist housing as well as community space.

e. Inclusion - An inclusive workplace and community are key to Amazon. Provide data on the median earnings, unemployment, home ownership, educational attainment, and undergrad enrollment gaps for underrepresented minorities in your community. Please further provide data on hate crimes committed in your community.

f. Recreational Activities

After-work or weekend activities in Somerville are vast and varied, catering to a large college population, young professionals, families, creatives, and seniors. Somerville is a city of squares and the city's vibrant plazas and streetscapes provide places to gather relax and watch life unfold. Its public parks, fields, and green spaces satisfy a diverse set of recreational needs, from active play or gentle exercise to social interaction and quiet contemplation. Kayaking on the Mystic River, running a 5K at Assembly Row, ice skating at a City rink, or biking along the Minuteman Community Path offer indoor and outdoor exercise opportunities within Somerville.

(i) Athletic programs for adults and children

With a central community path running through the city and linking it to miles of path in neighboring communities as well as walkable and bikeable streetscapes, Adults and children alike can be active in Somerville seven days a week. Watersports like canoeing and kayaking are favorite summertime activities that complement the 16 sports that Somerville youth compete in across the Commonwealth. With no shortage of private fitness gyms, yoga studios, dance classes, a YMCA, and even a circus arts gym for some real excitement in your workout routine, adults and youth in Somerville have no shortage of opportunities to stay healthy and active.

Organized opportunities for youth and adults are offered by the Somerville Recreation Department, the Public Schools offer the full range of individual sports opportunities and team sports at no cost. Youth and adult sporting leagues range from soccer, baseball,

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softball, hockey, and football to flag football and more. Club sports for advanced players including the nonprofit Valeo Futbol are also offered.

(ii) Availability of public parks and recreational areas

With 62 parks and open spaces, both active and “passive” ranging from urban pocket parks to waterfront greens in a 4-square mile radius, Somerville enjoys a diversity of uses to serve community needs. And the City is steadily expanding—and improving—these options. The community’s SomerVision comprehensive plan calls for an additional 125 acres of publicly accessible open space, and the City is diligently working toward this goal. Meanwhile, the City has renovated or built more than 30 parks in the past 10 years introducing a range of features from community gardens and dog runs to skateboarding features and bocce courts.

(iii) Types of organized activities in parks and recreational areas

Numerous organizations sponsor activities in parks and recreational areas in Somerville. Examples include a theatrical production of Shakespeare’s *The Winter’s Tale* in Powderhouse Park, Community Movie Nights in parks throughout the city every summer, and various festivals, concerts, and road races throughout the year. One particularly fun organization, Spacepark, hosts public events to teach kids about space in parks. Over the years they have sculpted a giant model of the solar system out of snow and paint, and built an entire space station maze for kids. The goal of this community nonprofit is to teach kids about how fun science can be at an early age.

Somerville’s parks and open spaces are designed for and with the community, and incorporate elements for use by residents of all ages and interests. Large fields and green spaces, as well as the city’s two public ice rinks, are utilized by youth and adult athletic leagues. Medium-sized open spaces can accommodate athletic use as well as festivals and arts spaces, while playgrounds of all sizes incorporate elements for children as well as more passive spaces such as park benches and landscaping for reading or quiet enjoyment of the space by older residents. Residents can join community gardens to grow their own vegetables and meetup with fellow dog owners for off-leash group play.

g. Leisure-Time / Weekend Activities and Travel Destinations

After passing by the world’s tiniest museum, visiting Legoland, or taking in the Museum of Bad Art, touring Somerville’s nationally recognized dining scene will require a years’ worth of weekends to fully explore. Shopping locally in Davis Square for one-of-a-kind artist-made gifts, perusing international markets in Union Square for savory treats, or browsing at international brand outlets in the newly developed Assembly Square marry Somerville’s

commitment to local, independent businesses while accommodating recognized brands. Intellectual discussions at Tufts University, multiple food festivals, artist open studios, and a world class rock climbing gym in Union Square are just some of the many activities that allow for a chance to recharge.

A broad range of communities of faith open their doors to worshippers for services and to neighbors for community events. Evening and weekend civic opportunities from parent associations to public planning processes abound in Somerville, which prides itself on nurturing political and local engagement. Volunteer opportunities with the City's many nonprofits offer numerous opportunities to do good works and connect with neighbors. New England travel destinations from the historical sites of Lexington and Concord to the natural beauty of Cape Cod or New Hampshire's White Mountains offer nearby travel opportunities to experience the great outdoors, feed the mind, or connect with all that the region has to offer.

h. Sustainability and Environment

Describe your Community's existing and planned sustainability initiatives (such as, but not exclusive to: recycling, green business parks, incentive programs for LEED standard building, energy efficiency programs):

Sustainability and environmental stewardship are important values to the Somerville community and are clearly articulated in SomerVision, the city's comprehensive plan. The City is pursuing short- and medium-term sustainability and resiliency strategies across sectors, including buildings, energy supply, green space and natural environment, utilities and infrastructure, transportation, consumption and waste, health, education, and community and economic development.

Such initiatives include:

Carbon Neutral by 2050: Somerville has set an ambitious goal to be a carbon neutral city by 2050 and it is taking aggressive steps toward achieving this vision.

SustainaVille initiative: The City established the SustainaVille initiative to coordinate communitywide efforts to reduce the community's contribution to climate change and to develop the city's ability to prepare for the impacts of climate change. This initiative works closely with the City's Somerville Commission on Energy Use and Climate Change.

Comprehensive climate change plan: The City's SustainaVille initiative is currently developing a comprehensive climate change plan called Somerville Climate Forward that aims to:

Decrease Somerville's contribution to climate change by reducing the collective carbon emissions of both the City and its residents.

Prepare Somerville to thrive amid the potential impacts of climate change such as storms, flooding, and heatwaves.

Greenhouse Gas Inventory & Climate Change Vulnerability Assessment: The development of Somerville Climate Forward is the culminating stage of a multi-year climate change planning process that included a baseline Greenhouse Gas Inventory and a Climate Change Vulnerability Assessment.

Conversion to LED streetlights: Somerville has successfully completed the conversion of the City's streetlights to energy-saving LEDs.

Green Energy: To increase residential and commercial solar installations, the City launched the Solarize Somerville program. The City also maintains small solar arrays on some school rooftops. In 2017, the City also introduced electricity aggregation via Somerville Community Choice Electricity (CCE), which reduces and stabilizes the cost of electricity for residents and businesses, while increasing the share of renewable "green" energy in Somerville's electricity supply, allowing customers to choose an option of up to 100% renewable energy.

Energy conservation: As a result of energy efficiency measures, City government operations emissions dropped 10% from 2014 to 2016, and the City continues to pursue continued fuel use reductions. The City's Heat Smart/Cool Smart initiative incentivizes residents and businesses to replace old fossil fuel boilers and burners with high energy efficiency alternatives through outreach, education, and subsidies.

District Energy: Somerville's Union Square and Boynton yards site locations for Amazon have district energy system capabilities while the Assembly Square site is in close proximity to the Mystic generating station, opening up the possibility for waste heat transfer.

Sustainable transportation: Between Somerville's instrumental advocacy for the MBTA Green Line light rail extension and aggressive investment in bike and pedestrian infrastructure such as bike sharing, bike lanes, and quality crosswalk striping, the community is making steady progress on its SomerVision goal of a 50% mode shift to sustainable transportation by 2020.

E-vehicle charging stations: Somerville has installed seven free electric car charging stations in just 4 square mile to support the adoption of e-vehicles locally. The City has

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also introduced e-vehicles as well as hybrid and higher-efficiency vehicles to its municipal fleet.

Waste management: Somerville offers a highly successful single-stream recycling program, provides discounted home composters, and, in spring 2017, will introduce curbside textile recycling.

i. Cost of Living

(i) Specify cost of living composite for each of 2013, 2014, 2015, 2016 and 2017, if available (ACCRA/COLI).

2013 (Boston 100.10), 2014 (Boston 92.94), 2015 (89.37), 2016 (84.70), 2017 (89.40).
https://www.numbeo.com/cost-of-living/region_rankings.jsp?title=2017®ion=021

(ii) Specify the cost of a basket of goods in your community. The basket is from Whole Foods: gallon of 2% milk, loaf of whole wheat bread, and an avocado. Also, the cost of Starbucks tall coffee, movie ticket, monthly gym membership (individual) at a YMCA (if U.S.), dry cleaning of a shirt, and a gallon of gas.

Avocado	1.25 Amazon Fresh
365 Everyday Value Whole Wheat Bread	2.99 Whole Foods
365 Everyday Value 2% Milk	3.69
Starbuck Tall Coffee Somerville Ave	2.41 with 2.25 without tax
YMCA Membership	\$33/month \$396 Annual
Dry cleaning a shirt	\$2.99
Gallon of Gas (2/13) Regular MA	\$2.617 https://www.mass.gov/service-details/massachusetts-retail-gasoline-diesel-fuel-prices

j. Commuting

Describe the commuting patterns in your community as well as the commuting region, focusing on average travel times and costs (including tolls). Please address areas of frequent traffic accidents.

Somerville is incredibly proud to rank 7th in the nation for walkability and 4th in bike commuting. Within Somerville, a commitment to pedestrian-oriented, mixed-use development has brought dedicated bike lanes and improved walkability. The City's commitment to join the international VisionZero movement in 2017 is an extension of the City's data-driven approach to improving safety for all road users, whether on bicycles or on foot, in vehicles or aboard public transit.

In Somerville, 38.7% of residents commute by personal vehicle (compared to 68.6% in Middlesex County), 6.1% carpool (compared to 7.1%), 33% use public transportation (compared to 11.8%), and 11.5% walk (compared to 5%), while the remaining 10.4% work from home or get to work by other means (compared to 7.6%). Mean travel time to work is 30.8 minutes compared to 29.9 minutes within Middlesex County.

Meanwhile a mode shift toward even greater transit use is underway. A collaborative effort between Assembly Row developer Federal Realty Trust, the City of Somerville, and the Commonwealth brought the first new rail transit station on the MBTA system in 25 years with the construction of the Orange Line Assembly Row T-stop. Decades of community advocacy and an unprecedented \$50-million dollar financial contribution to the project is set to also bring six new MBTA stops to Somerville by 2021, putting 85% of the Somerville population within a 15 minute walk of a light rail stop.

COMMUTING TO WORK	Middlesex County, MA		Somerville, MA	
Workers 16 years and over	832,827	832,827	51,134	51,134
Car, truck, or van — drove alone	570,960	68.6%	19,812	38.7%
Car, truck, or van — carpooled	58,955	7.1%	3,107	6.1%
Public transportation (excluding taxicab)	98,044	11.8%	16,897	33.0%

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Walked	41,368	5.0%	5,899	11.5%
Other means	19,261	2.3%	3,388	6.6%
Worked at home	44,239	5.3%	2,031	4.0%
Mean travel time to work (minutes)	29.9	(X)	30.8	(X)

k. Number of nationally ranked hospitals and treatment facilities in your community.

2. Community Challenges

a. Describe the largest social challenges your community is facing. Describe the programs in place to address these challenges. Describe any proposed programs to address these challenges. Describe success measures for current and proposed programs.

Housing affordability, youth poverty (more than two-thirds of students qualify for free or reduced lunch), the opioid crisis, social and racial equity, and federal threats to and potential destabilization of Somerville's large immigrant community *are among* the greatest social challenges that Somerville, like many cities, is facing. What is perhaps unique to Somerville though is an extraordinary determination to take on those challenges, to right what is wrong, and to always seek to chart a better course. The community may not have every answer, but through vigorous community process, it surely strives to ask every question, gather every good idea, and pursue the most promising solutions.

Somerville currently has multiple collaborative and intensive efforts underway to work to address all of the issues listed above. Preventing displacement and creating affordable housing tops that list, so as an example of the depth and breadth of City efforts undertaken when facing a challenge, this is the item that will be detailed here:

Both Somerville and the Boston metro region face a housing crisis. Supply has not kept up with demand. Intensive efforts are underway at the state, regional, and local level to address the shortfall. Should Amazon choose to come here, Somerville looks forward to accepting your offer to help address this challenge. The project presents a great opportunity to set a new standard for corporate citizenship and to model smart, innovative approaches to the absorption of new jobs and workers into a region in a way that brings a net positive impact for all.

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Somerville's measures to address affordable housing are numerous and they grow out of public process. In addition to the usual first-time home buyer and homeowner support programs, Somerville is pursuing innovative and effective new ideas. Following the release of the Sustainable Neighborhoods Working Group (SNWG) Recommendations Report in January, 2016, the City began working to build on past efforts by exploring and seeking to implement the 18 recommendations put forth in the report aimed at addressing housing affordability in Somerville. While different items are at different stages of implementation, a recent success of note was the passage of an increase in the housing linkage fee (a fee per Sq. Ft of any new development over 30,000Sq. Ft with revenue going to the Affordable Housing Trust Fund) from \$5.15 to \$10 per Sq. Ft.

Please see section Growth A. 1.d(v) Housing, above for a selected list of the many housing initiatives currently underway in Somerville.

b. Describe ways businesses are partnering with your community to solve these social challenges (including those that encourage volunteerism).

c. Describe what your community has done to support veterans and disabled in healthcare, housing, and employment. Describe success metrics for such efforts.

Somerville is committed to ensuring local Veterans and their families are honored and receive the support, benefits, and services to help them address the unique challenges they face. The Somerville Office of Veterans' Services (SOVS) provides a three-tier approach to ensuring all Veterans receive benefits and services based on their selfless service to the Nation:

1) Financial support: The Office of Veterans' Services provides support under Massachusetts General Law Chapter 115, which states all cities and towns in the Commonwealth will provide a Veterans' Services Officer (VSO) to provide financial support as well as referral services to local, state and federal agencies. Massachusetts is the only state that has this law on the books, and Somerville and the Veterans' Services Commissioner are dedicated to ensuring no Veteran is left behind. Currently, Somerville provides 60 Veterans with financial support under MGL CH 115. These Veterans are either, unemployed, underemployed, or on a fixed income that places them near the Federal Poverty line. MGL CH 115 also provides medical care reimbursement for eligible Veterans.

Through the City's partners at the nonprofit Massachusetts Bay Veterans Center (MBVC) in Somerville, MBVC provides housing and a variety of services, making connections to employment opportunities, long-term independent housing, substance abuse counseling, case management services, and life skills training.

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GROWTH SECTION
G-18

PROPRIETARY AND CONFIDENTIAL

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2) Processing of Veterans Administration compensation claims: The Office of Veterans' Services is trained and licensed by the VA to process Veterans compensation and pension claims as well as provide next-steps counseling for Veterans and their families after cases are adjudicated.

3) Outreach to identify Veterans who live in the City of Somerville (SomerVets): The Office of Veterans' Services SomerVets program identifies local Veterans and disabled Veterans and works to reconnect them to local, state, and federal services including healthcare, housing, and employment assistance. This program also seeks to identify at-risk Veterans and provide a conduit to link them to supportive services and helpful information on a multitude of Veteran events in Somerville and the surrounding areas. Additionally as a social networking environment, the SomerVets program brings Veterans together to redefine the esprit de corps and camaraderie they experienced while they served.

Further supporting both veterans and the disabled, The City offers six residential property tax exemptions to eligible disabled Veterans at double the amount designated by the State.

Somerville has a robust network of agencies and nonprofits supporting residents who are aging or living with disabilities. For example, Somerville-Cambridge Elder Services — a nonprofit and designated Aging Services Access Point (ASAP) and Area Agency on Aging (AAA) — hosts trainings and provides information and support services to assist people who are living with disabilities. Their goal is to help these populations live safely and independently in their own homes. In addition, the City's Council on Aging hosts multiple social events per month with the goal of connecting the city's disabled and elderly populations to each other. These resources connect people living with disabilities to each other and to important resources that help secure healthcare, housing, and employment.

The City-sponsored Somerville Commission for Persons with Disabilities works in close collaboration with the City's Manager of Diversity, Equity, and Inclusion to promote equality, ensure that the ADA's vital protections for individuals with disabilities are preserved, provide a range of services and resources, and advance the basic freedoms that all Somerville residents deserve.

B. Diversity and Inclusion

1. Describe the diversity and inclusion programs that are in place with your leading employers and school systems. Describe any legislation at the local or state level on diversity and inclusion.

Diversity and inclusion are so intrinsic to Somerville and its school system that they are often described as part of the community's DNA. More than 50 different languages are spoken from around the world in the schools. From Italian, Portuguese, Haitian Creole, and Spanish, to Tamil, Swahili, and Urdu, the mixing of students encourages a greater multicultural understanding, reduces stereotyping, and builds collaborative relationships for achieving success in all that Somerville students do. Somerville celebrates its differences and ensures that each student is given the opportunities and resources they need to learn here in Somerville and beyond.

This commitment to all community members, regardless of age, ethnic background, sexual orientation, or physical ability is equally valued by the city's leading employers. Somerville hosts more than 4,500 Partners HealthCare employees in their Assembly square location. In 2014, Partners received the Excellence Award for supplier diversity from VHA Inc, for their commitment through economic development of minority women, and veteran-owned business enterprises in the local community.

The City of Somerville has a number of resolutions on the books protecting and promoting diversity and inclusion, civil liberties and civil rights for all, human rights for all, as well as the rights of immigrants regardless of status.

2. Describe the percentages of foreign-born residents in your community, broken down by place of birth.

According to the latest US Census American Community Survey (ACS) 5-year estimate 25% of residents in the City of Somerville are foreign-born, hailing from at least 89 different countries and spanning every continent (save Antarctica). Brazil (10%), Portugal (9%), El Salvador (8%), the Chinese mainland (7%), Nepal (7%), Haiti (6%), and India (5%) make up the largest proportions of foreign-born residents.

3. Describe programs that you have in place that build community for immigrants and assist with family integration (e.g., programs around language, culture, legislation, housing, finances).

The City of Somerville recognizes the valuable contributions of immigrants and strives to ensure their voices are heard. To that end, the City of Somerville and its Public Schools maintain robust immigrant outreach and support programs to ensure that neither

language nor cultural barriers impede equal access to city services, opportunities, and community discussions. Equally important is developing a sense of belonging for the city's immigrant communities, and valuing their culture and their history through arts and cultural programming.

Through the City's SomerViva Immigrant Outreach and Service program, language liaisons conduct outreach, provide services, organize cultural programming, and facilitate access to City information and services in Spanish, Portuguese, and Haitian Creole. They also use community organizing tools to bring public discussions to the city's immigrant communities. Select Services (among others) include:

- Providing language access to all City services and programs through culturally competent translation and interpretation as well as cultural competency support for other staff
- Offering one-on-one language support in navigating City services & programs ranging from interpreting for City Hall wedding ceremonies to assisting with the multi-step, multi-week process of permitting a new business
- Share in-language City information via sources preferred by immigrant and limited English proficiency communities (in language radio, TV, note boards, social media, SMS, churches, newspapers, etc.)
- Assist in addressing social service needs, access to State and Federal services, immigration needs, and affordable housing programs via guidance and referrals, facilitation of access, and one-to-one support
- Build skills by providing leadership training, small business skills training, & ESL referrals
- Coordinate cultural programming including the Corn Festival, Three Kings celebration, and the annual Haiti meets Brazil Festival
- Coordinate in-language community meetings

The Somerville Public Schools liaison program detailed farther above along with the many multilingual, culturally competent programs of the School's Parent Information Center and Somerville Family Learning Collaborative (also previously described) are all designed to ensure not just that information is equally available in the City's main languages, but that newer and long-time immigrant residents are welcomed, valued, supported, integrated, and heard. These efforts are not in a vacuum. Both programs work closely with the City's Housing, Health, and Economic Development Departments, and other staff and community partners to connect immigrant residents to everything from recreational programs to emergency housing and social services.

Related services and programming are also provided by other programs, the Somerville Center for Adult Learning Experiences and the Somerville Libraries, for example, offers free ESL courses to more than 1,200 residents per year. The Somerville Arts Council Nibble

program provides business training and support to immigrant culinary entrepreneurs. And numerous city departments also strive to hire and maintain multilingual staff, including Somerville's 311 Constituent Services Office, which is equipped to take constituent requests 24/7 in more than 100 languages to ensure that immigrant residents are equally served..

In light of the changing immigration landscape in Washington, this work has taken on added import and urgency, and necessitated the introduction of extensive immigration-related support services in collaboration with a communitywide network of nonprofit service providers, university partners, and residents (including Harvard Immigration Law Clinic, Massachusetts Immigrant and Refugee Advocacy, Greater Boston Legal Services, the Welcome Project, Immigrant Service Providers Group/Health, Community Action Agency of Somerville, Centro Presente, Cambridge Health Alliance, Jobs for Justice, and others).

From Know Your Rights workshops to free legal clinics and legislative advocacy and legal action, the City of Somerville, its schools, and the community have rallied to support and ensure all immigrant residents not only know they are welcome and wanted, but that they also have the resources to navigate the immigration system.

4. Describe what your community has done to encourage STEM professional development in your immigrating and minority populations.

With a majority minority k-12 and adult learning student population, all of the Somerville Public Schools STEM programming described in the educational STEM sections serves the readiness of immigrant and minority students for post-secondary STEM studies or career development.

District-wide programs such as Hour of Code, resources such as the fab lab and school makerspaces, and partnerships providing hands-on STEM experiences are open to all students and community members, and Somerville makes every effort to provide information and support in the city's primary target languages – English, Spanish, Portuguese and Haitian Creole – and other languages as needed. More than 50 different languages from around the world are represented within the student body and throughout the community.

Students in the Career and Technical Education (CTE) programs, many of whom are immigrants or from traditionally minority populations, are actively engaged in STEM learning through internships and other off-site educational experiences. Through targeted partnerships such as with Citizen Schools, which provides underrepresented students with

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10-week apprenticeships working alongside industry partners, the City is helping to build a pipeline of immigrant and minority populations prepared to enter the STEM industry and expand access to populations traditionally underrepresented in the industry. Through the Universal Kindergarten Readiness initiative, the City is working with early educators across the city, many of whom are immigrants or minorities, providing numerous coaching and professional development around a variety of topics including STEM educational best practices.

Adult graduates of the Somerville Center for Adult Learning Experiences (SCALE) leave SCALE with the tools, skills, and knowledge to be successful along their pathway and in their chosen field. SCALE currently integrates technology and digital literacy in order to prepare students for college and careers in several ways. For example, teachers integrate computer lab time to complement instruction. Students use the computer lab to access interactive websites in English, reading and math through interactive software (BrainPop ESL, RAZ-kids and Aztec HiSET), which supports student's individualized learning needs.

Currently, active partnerships with Bunker Hill Community College, UMASS Amherst School of Nutrition, and Middlesex Community College have been instrumental in designing transitions programs for SCALE students into post-secondary institutions that can prepare them for STEM careers among other opportunities. A long-standing relationship between the entities has resulted in ongoing orientation sessions, resource sharing, and a streamlined acceptance process for transitioning SCALE students.

Somerville's adult learning center SCALE is a member of the Metro North Regional Employment Board (REB), where adult learning providers, post-secondary institutions, and employers work diligently to design ongoing and increased opportunities for students. Metro North REB is currently working on the collaborative MOU which will solidify 2018/2019 partnerships resources and goals for the Metro North REB Board tasked to expand and deepen opportunities for students.

The Just A Start Biomedical Careers Program is a free nine-month training program preparing under and unemployed residents for careers in the region's booming biotech industry, primarily as lab technicians. Since the program launched in 1992 they have placed over 400 graduates in industry. Just A Start recently launched an IT program using the same model.

Bunker Hill Community College (BHCC), the State's largest community college with 13,000 students, offers a wide variety of degrees and certificates in STEM fields including biomedical engineering, computer science, and data science. With tuition costs at around \$300 a credit for in-state tuition and many students eligible for Pell grants, BHCC is a high-quality and affordable education option for many area residents. In addition, BHCC offers

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professional development courses for working people, such as for CompTIA and Cisco certifications for cybersecurity and healthcare IT professions. Many students in the professional and workforce development programs also complete Adult Basic Education and English for Speakers of Other Languages before advancing into technical coursework.

REAL ESTATE

A. Site

1. Site Name/Site Designation

- Somerville Orange Line

2. Street Address(es), including City, State/Commonwealth/Province and Zip/Postal Code, if available

Assembly Square Campus:

- Assembly Row, 455 Grand Union Boulevard, Somerville, MA 02145; other addresses within Assembly Row are to be determined.
- 96 Middlesex Avenue, Somerville, MA 02145
- 5 Middlesex Avenue, Somerville, MA 02145

Cambridge Crossing Campus:

- Cambridge Crossing, 30 Northpoint Boulevard, Cambridge, MA, 02141; other addresses within Cambridge Crossing to be determined.

3. Location

- a. If Site is currently unincorporated, detail any plan(s) to annex Site to an incorporated municipality, as well as the benefits and burdens of any such annexation. Name the intended municipality/municipalities to which Site would be annexed.

Assembly Square and Cambridge Crossing, located entirely within the City of Somerville, is part of a proposed regional solution including sites in the cities of Boston, Somerville and Cambridge. A collection of sites located on the MBTA Orange Line can satisfy both the immediate need and the prospect of expansion over time by Amazon, as well as, growth and expansion for the numerous partners and affiliates that will desire to be located near and adjacent to Amazon's HQ2.

- b. County (Name), if applicable:

Middlesex County,

4. Description, Characterization

a. Description – Briefly describe Site (shape, topo, etc.):

Assembly Square is a mixed-use, transit-oriented neighborhood bounded on the west by Interstate Route 93, on the east by the MBTA Orange Line and commuter rail tracks and on the north by Route 28, Sylvester Baxter State Park and the Mystic River. The location is less than three miles from downtown Boston and Kendall Square in Cambridge.

Cambridge Crossing a 45 acre mixed-use development with 1.8 million square feet of commercial development available. Within Somerville, Cambridge, and Boston, Cambridge Crossing is bound by the MBTA Commuter Rail Maintenance Facility and I-93 to the north, Gilmore Bridge to the east, and Lechmere station and Monsignor O'Brien Highway to the west and south.

b. Characterization – Indicate all that may apply

☒ Brownfield

☒ Commercial, including Commercial Park

☐ Greenfield

☐ Industrial, including Industrial Park

☐ Suburban

☐ Technology, including Technology Park

☒ Urban

c. Description – Briefly describe any geographic features that may limit or enhance the growth of the Site (e.g., water or mountains):

Individually, the development sites interconnected by the Orange Line are limited by a variety of features including surrounding residential neighborhoods, transportation infrastructure including railways and Interstate Route 93 and the Mystic River.

Collectively, the same features that limit each site individually create super regional connectivity and capitalize on existing transportation and utility infrastructure.

The sites are located at the nexus of I-93, the Fellsway/Route 28, Route 1, the Orange Line, and the Mystic River. Multiple campus nodes provide for multiple access points via the road and MBTA networks.

The Orange Line, which creates a strong link between campuses, has been the recipient of significant investment including a new station at Assembly, a new fleet of cars, and improvements to signalization.

In addition, the sites are located close to Boston's Logan Airport, with two paths of travel of 3.6 and 4.5 miles. The airport can also be reached on the MBTA with a connection from the Orange Line to the Blue line or via water taxi.

Two urban rivers, the Charles River and the Mystic River, flank the sites creating an opportunity to link the campuses via pedestrian and bicycle connections along a ribbon of waterfront open space, including existing parks and recreational spaces such as Baxter Park, Draw 7 Park, and Ryan Playground. With the improvement of Draw 7 Park and the Mystic waterfront adjacent to Sullivan Square a continuous path from the Minuteman Bikeway, thru the Alewife Brook Parkway, along the Mystic River, and out to the Boston Harbor will be completed.

5. Size

- a. Immediate: Number of acres (either contiguous or within close enough proximity to foster a sense of place and pedestrian-friendliness) currently available for the Project's immediate operations:

Assembly Square Campus

Assembly Square has 6.5 acres fully entitled and ready for construction of 1.5 million square feet of development.

- Block 5B (Parcel 31B) is a 71,952 SF flat, rectangular parcel approximately 300' by 240'. Block 5B will be the location of a 250,000 square foot, 10-story office building with typical upper story floor plates of 22,700 square feet.
- Block 7 (Parcel 33A) is a 145,793 SF, square-shaped parcel approximately 351' by 373'. Block 7 will be the location of two 500,000 square foot office buildings. Typical floor plates of the two buildings will be 25,000 square feet.
- Block 9 is a 65,014 SF, rectangular parcel approximately 190' by 330'. Block 9 will be the location of a 250,000 square foot building with typical upper story floor plates of 38,500 square feet.

- **5 Middlesex Ave:** Project shall be submitting redevelopment plans to the City of Somerville to develop vibrant mixed use development of approximately 1.5 million square feet inclusive of the existing office building on the 9.23 acres consisting of first class office and R&D, multi family and ancillary retail. Site is directly adjacent to Assembly Row that features retail, multi family as well as first class office space which would dovetail seamlessly into proposed adjacent development.
- **96 Middlesex Ave:** 1.1 Acres

Cambridge Crossing Campus

45-acre transit-oriented mixed-use urban development intersecting Cambridge, Somerville, and Boston with 1.8 million square feet of state of the art science and technology commercial space available. Site is at the front door of lechmere station along the MBTA Greenline and serviced by the Community College MBTA Orange line station.

- b. Expansion: Number of acres (either contiguous or within close enough proximity to foster a sense of place and pedestrian-friendliness) available for the Project's future or expansion operations:

Assembly Row is one of a collection of sites located on the MBTA Orange Line which together satisfy both Amazon's immediate need and the prospect of expansion over time. Interconnected and proximate sites located on the Orange Line include Assembly Square, Cambridge Crossing and Sullivan Square. Together these site comprise more than 120 acres.

- Assembly Row at Assembly Square has 6.5 acres with 1.5 million square feet of commercial office space fully entitled and ready for construction. An additional 11 acres with 1.5 – 2.5 million square feet of expansion space is available at Assembly Square.
- Cambridge Crossing has 45 acres with entitlements for up to 1.8 million square feet of office space. 4.64 acres and at least 387,000 sq ft in Somerville for commercial development are within Somerville while the remaining 40 are in Cambridge and Boston.
- Sullivan Square is ripe for major infrastructure improvements. When combined with land controlled by the MBTA, an opportunity exists on roughly 65 acres for up to 4.0 – 5.0 million square feet of commercial office development.

- c. Schematic: Attach schematic drawing of Site.

See Exhibit A.4.c: Amazon Campus schematics.

d. If less than 100 acres, is Site expandable to 100 acres?

Yes No

(i) Detail the plan and timetable for doing so?

6. Improvements

a. Are there any buildings or structures or other improvements on Site (or portion of Site)?

☒ Yes ☐ No

b. Description

If Yes, describe all buildings, structures and other improvements on Site (or portion of Site), including available square footages and sustainability efforts?

Assembly Square Campus

- **Assembly Row:** Assembly Row is master planned for 2.8 million square feet of office space, 1,800 residential units, a 158-room Autograph Collection hotel, 122 condominium units and over 600,000 square feet of iconic shopping, restaurants and entertainment destinations (including one of the top AMC movie theaters in Greater Boston) creating a truly unique, mixed-use environment. The master plan also includes an extensive amount of public space and a new six-acre riverfront park complete with amphitheater, walking and bike paths and recreational programs.

Phase I of Assembly Row is complete, including 100,000 square feet of office space, 447 residential units, 325,000 square feet of retail/entertainment/restaurant space, the six-acre waterfront park, and the new Assembly MBTA Orange Line station just three stops from North Station.

Partners Healthcare has completed construction of a thirteen-story, 800,000 square foot office building home to approximately 4,500 employees. Partners has rights to build an additional 300,000 square feet on its dedicated eleven acre site.

By mid-2018 the developer will complete Phase 2 which includes: Block 6, a 20-story residential building with 447 units and ground floor retail space; Block 5A, a 13-story building with a 158-room Autograph Collection hotel, 122

condominium units (sold out) and ground floor retail space; and Assembly Line Park with approximately 6,500 square feet of retail space.

The Phase I office and retail/entertainment/restaurant space is 100% leased and occupied.

- **5 Middlesex Ave:** Currently there is a 162,000 sf office building on site with on grade parking. Significant building and site enhancements are incorporated into the redevelopment plan.
- **96 Middlesex:** Existing 8,800 SF, one story brick building with surface parking for 37 spaces in front of the building and 48 spaces behind for a total of 85 parking spaces. Owner is prepared to redevelop the site as a build-to-suit, a 19-story structure with 460,000 SF of work space, 540 parking spaces, and miscellaneous retail on the ground floor.

Cambridge Crossing Campus

45-acre transit-oriented mixed-use urban development intersecting Cambridge, Somerville, and Boston with 1.8 million square feet of state of the art science and technology commercial space. Site is at the front door of lechmere station along the MBTA Greenline and serviced by the Community College MBTA Orange line station via the Gilmore bridge.

7. Easements, Licenses, Rights of Way: describe each of the easements, licenses and rights of way affecting Site, and identify the beneficiaries, holders or owners of the same. If easier to show on a map, please attach to submittal and label.

All of the Assembly Square rights of way are municipal streets and sidewalks owned by the City of Somerville; other than what is created in the permitting process - new roads, public park, etc.

8. Ownership: describe the ownership of Site, including the ownership structure and any entitlements.

Assembly Square Campus

- **Assembly Row:** Federal Realty Investment Trust, an equity real estate investment trust (REIT) is the master developer of Assembly Row and controls all of the land and entitlements for the 1.5 million SF of development included in this proposal.

Federal Realty is a firm with deep and broad retail tenant relationships, built and fostered over its 50+ years, and brings 20 years of experience in developing, operating and owning retail-driven, mixed-use neighborhoods that deliver benefits and support office users' company cultures. Federal specializes in delivering environments with an attractive blend of amenities, shops, restaurants, residences and offices and is positioned as the country's leading developer of successful mixed-use properties.

Shares of Federal Realty are traded on the New York Stock Exchange under the symbol FRT and the Trust has a total market capitalization of approximately \$9 billion. Federal Realty is primarily an operating company of first-class retail and mixed use properties located only in the best markets in the country. The portfolio of approximately 22 million square feet of retail and mixed-use assets generating over \$548 million of property operating income on an annualized basis creates a solid foundation for performance and access to capital.

- **5 Middlesex Ave:** Currently CDNV LLC Assembly LLC, a privately held joint venture, owns the 162,000 square feet office building on approximately 4 acres of land and has a contract for the remaining approximately 5.23 acres which is subject to successfully permitting the remaining acreage in accordance with it's redevelopment plan.
- **96 Middlesex Ave:** Tage Restaurant Realty, LLC. Registry book 31981/ 143

Cambridge Crossing Campus

Held by HYM Investment Group, LLC. Master Developers Divco West. Divco West is a vertically-integrated real estate operating company that provides investment, property, construction and development management and leasing services. For over two decades, DivcoWest has consistently created value through the acquisition, management and disposition of diverse real estate investments across primarily the United States. Weathering some of the most unpredictable market conditions in recent history, DivcoWest has focused on a defined strategy of acquiring well-located real estate assets, primarily focused on office, lab and research and development (R&D) properties that serve

innovation-oriented and life-science industry tenants in carefully selected markets in the United States. We seek to deliver attractive risk-adjusted returns to our investor base across our investment strategies. The firm has regional investment offices in San Francisco, Los Angeles and Boston, with additional team members in various property management offices allowing us to maintain our longstanding relationships with top-tier innovation firms, venture capitalists, real estate professionals, business leaders and tenants across our target markets.

9. Acquisition Cost (if any)

Please describe if all or a portion of Site will be made available at no or a reduced cost to the Project.

a. Public

(i) Will a government agency make Site available to the Project at no cost?

☐ Yes ☒ No

(ii) If No, specify the per acre (and total) cost of Site to the Project?

[Click here to enter text.](#)

b. Nonprofit

(i) Will a nonprofit entity make Site available to the Project at no cost?

☐ Yes ☒ No

(ii) If No, specify the per acre (and total) cost of Site to the Project.

N/Ac. Private

(i) Will individuals or corporations or other entities make Site available to the Project at no cost?

☐ Yes ☒ No

(ii) If No, specify the per acre (and total) cost of Site to the Project.

Federal Realty Investment Trust will negotiate leases for 1.5 million square feet of build-to-suit office space at Assembly Row at fair market value.

10. Parking: identify all current and future parking options for Site

Assembly Square Campus:

- **Assembly Row:** Parking will be available at a rate of up to 2.0 spaces per 1,000 square feet.
- **5 Middlesex Ave:** Currently 698 parking spaces on site – upon completion of the master plan permitting the site will have approximately 1700 parking spaces for the planned redevelopment of the site.
- **96 Middlesex Ave:** There are 85 existing surface-parking spaces at the Site. Future parking plans include a Multi-level parking garage with 540 parking spaces.

Cambridge Crossing Campus

Maximum parking requirements is set to 1.25 spaces per 1000 sqft for commercial, r&d, and laboratory build out, .5 spaces per 1000 sqft for residential buildout, and 1 bike parking space per 5000 sqft for commercial, r&d, and lab space.

a. Existing and Planned Retail Development near Site

Assembly Square Campus

Service and hospitality are at the heart of the growing Assembly Square neighborhood. Assembly Square has been designed and built to serve the needs of those that live and work here as well as the community that surrounds it. The streets are lined with anything and everything employees may need – a new shirt, a late-afternoon coffee pick-me-up, a 30-minute workout at one of its fitness facilities, a lunch meeting, a haircut or even groceries. Today there are more than 25 places to eat, more than 40 shops, specialized fitness options, places to gather, learn, laugh and more importantly – to get things done. Assembly Square offers more amenities per square foot than some neighborhoods in Boston with the benefit of being in the heart of the innovation population.

Cambridge Crossing Campus

Cambridge Crossing will bring state of art residential and commercial development opportunity at the intersection of Somerville, Cambridge, and Boston. Top draws include access to top talent and a robust pipeline fueled by the intellectual capital of Kendall Square, MIT, and Harvard and surrounded by a high density of educated millennials, a Transit-rich location with two MBTA stations, shuttle buses, protected bike lanes, and footpaths, a direct link to six

regional and interstate roadways, and only 3.5 miles to Logan International Airport are further draws to this site.

Restaurants: Full service, fast casual, take out, delivery and catering options include:

- American Fresh Brew House
- Andy Husbands' The Smoke Shop BBQ
- Burger Dive
- Caffe Nero
- Carmen's Trattoria & Italian Pub
- DAVID's Tea
- Earls Kitchen & Bar
- Ernesto's Pizza
- Fuji at Assembly
- JP Licks
- Legal on the Mystic
- Midici the Neapolitan Pizza Company
- Mike's Pastry
- Outback Steak House
- Papagayo Mexican Kitchen & Tequila Bar
- Paul Bakery
- Pretzel Maker
- River Bar
- Sabroso Taqueria
- Southern Kin Cookhouse
- Squeeze Juice Bar
- Starbucks
- Tony C's Sports Bar & Grill
- Tutto Romen
- Zo Greek

(i) Cinemas and Entertainment

- AMC Assembly Row 12

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- LEGOLAND Discovery Center
- Lucky Strike
- Muse Paintbar

(ii)Shopping

- Adidas
- Ann Taylor
- AROW Express Grab & Go
- Banana Republic
- Bath and Body Works / White Barn
- Bed Bath & Beyond
- Brooks Brothers Factory Store
- Burlington
- Carters
- Charlotte Russe
- Chico's
- Christmas Tree Shops
- Clarks
- Columbia
- Converse
- DAVID's Tea
- Express
- Fitness Hub Boutique
- Fragrance Outlet
- Francesca's
- Gymboree
- J.Crew Factory
- Kay Jewelers Outlet
- Kmart
- Le Creuset

- LOFT
- Lucky Brand
- Motherhood Maternity
- Nike
- Orvis
- Osh Kosh B'Gosh
- Polo Ralph Lauren Factory Store
- Puma
- Reebok
- Saks Off Fifth
- Steve Madden
- Sugar Heaven
- The Fragrance Outlet
- T.J. Maxx & Homegoods
- Wilson's Leather
- Yankee Candle
- Additional retail to be announced for Phase 2

(iii) Other Public Gathering Spaces (such as coffee shops and local breweries)

- American Fresh Brew House
- Beer Container Garden
- Capital One Café
- Caffe Nero
- JP Licks
- Paul Bakery
- River Bar
- Starbucks

- **5 Middlesex:** 5 Middlesex also plan on retail that will house coffee shops, restaurants and service retail. The centerpiece of the

development is a significant park in excess of an acre to be developed as a central amenity and gathering spot for both commercial and residential tenants as well as the general public.

- **96 Middlesex:** Dunkin Donuts, Styles Café and LaQuinta Inn Hotel are all adjacent to the Site. Local brewery Somerville Brewing Company has their flagship taproom walking distance in Assembly Row.

Cambridge Crossing Campus

Cambridge Crossing offers a collection of unique artisanal retail experiences. A destination for al fresco dining, tap-rooms and breweries, as well as local and national retailers at Cambridge Side galleria and the East Cambridge neighborhood.

11. Affordable Housing: identify available affordable housing options within close proximity to Site

Regional Connections to Residential Neighborhoods

- The Orange Line creates strong connections between Assembly Square and workforce communities like Jamaica Plain, Roxbury, and Forest Hills in the south and Medford and Malden in the north.
- The Orange Line connects with all other major MBTA lines providing even greater access to Boston area housing options (Red line: Downtown Crossing, Green line: North Station and Haymarket, Blue Line: State).
- Assembly is proximate to the cities and neighborhoods in which millennials increasingly choose to live: Somerville, Cambridge, and Medford. These cities provide an abundance of attractive housing options. Somerville and Cambridge rank first and second in population density in Massachusetts.
- With easy access to Rte. 93, Assembly Square is easily accessible from all bedroom communities along the routes 128 and 93 corridors north of Boston.

See Exhibit A.11: Surrounding Neighborhoods

- **Assembly Row:** There are Approximately 900 rental units on site (112 permanently affordable), 500 additional units approved and in design. There are 122 for-sale condominium units (15 permanently affordable)
- **5 Middlesex Ave:** The project will have both for rent and for sale multi-family projects and both shall include significant percentage of affordable units.

Somerville's Inclusionary Housing Program works with private and nonprofit developers to create affordable housing opportunities for renters and homebuyers. There are approximately 900 rental units adjacent to the Site (112 permanently affordable), with another 500 additional units approved and in design. There are 122 for-sale condominium units adjacent to the Site (15 permanently affordable).

Cambridge Crossing Campus

The Cambridge Crossing Master Plan includes 3236 dwelling units with 327 in Somerville, of which 65 will be made affordable.

12. Greenspace Features: are there greenspace features that enhance Site (e.g., parks, jogging trails, etc.)

Assembly Square includes and connects to several parks and greenspace amenities. Most prominent among these features is the six-acre waterfront Sylvester Baxter Park on the Mystic River including walking and bicycle paths, an open-air amphitheater and a playground. The opportunity exists to provide access to the Mystic River for non-motorized boating such as kayaking and sculling.

Woven into the streetscape at Assembly Square are also two smaller pocket parks which allow employees an opportunity to relax or work outdoors and enjoy café seating at several restaurants and shops.

Existing recreational and entertainment programming includes numerous outdoor activities, including:

- Free Riverfront Yoga
- Adult nights at LEGOLAND Discovery Center
- Social Sports – from bocce lessons in Assembly Line Park to Riverfront Grass Volleyball Leagues and Corn Hole Championships
- Trivia Night under the lights at the Assembly Row Beer Garden
- Happy Soles Free 5K Run monthly (look out for free beer and all you can eat waffles)
- Dancing on The Row – Free salsa dancing lessons followed by a dancing party in the street
- Movie Series on the lawn – summer flicks free for everyone by the river
- Miles of waterfront biking and walking paths – walk your meeting instead of sitting with timed routes or use the bike-share right downstairs
- PopUp Bootcamp classes and popup barre classes for those that seek to be outside and riverside

Assembly Row also hosts a series of seasonal events throughout the year – from rooftop bartender wars to charitable 5ks to fireworks over the Mystic River.

The state is actively planning improvements to the adjacent nine-acre Draw 9 state park. Improvements are expected to include a regulation size turf soccer field, extension of existing walking and bicycle paths, picnic facilities and enhancement of the natural shoreline to improve habitat.

Cambridge Crossing

When you start with a blank canvas that is 11 acres of open green space, the possibilities are endless. Set among meandering bike paths, water features and open-air amphitheaters, Cambridge Crossing will be a launching pad for innovation, a destination for entertainment and leisure, and a location for residents, families, and visitors alike.

13. Plat(s): attach plat(s) of Site and label according to section.

See Exhibit A.13.1, Exhibit A.13.2 and Exhibit A.13.3

See Attachment: Middlesex Site Plan and Middlesex Locus Map

See Attachment: Preliminary Master Plan Site

B. Planning/Zoning

1. Designation(s): identify Site's current planning/zoning designation(s)

Assembly Square Campus:

- Assembly Row: Assembly Row is within the Assembly Square Mixed-Use zoning district. The Assembly Row site has existing entitlements for the 1.5 million SF of commercial office and research & development space included in this proposal.
- **5 Middlesex Ave** expects to submit an Application for Master Plan approval on March 14, 2018.
- **96 Middlesex Ave** is within the Assembly Square Mixed-use zoning district.

Cambridge Crossing Campus

Cambridge Crossing has 45 acres with entitlements for up to 1.8 million square feet of office space.

2. Floor Area Ratio (FAR): identify Site's current FAR

Assembly Square Campus:

- **Assembly Row:** 10.0.
- **5 Middlesex Ave:** .40
- **96 Middlesex Ave:** 10

Cambridge Crossing Campus:

Portions of **Cambridge Crossing** are within Boston, Cambridge, and Somerville, FAR varies per building. A maximum of 2.1 million sqft has been permitted for commercial buildout.

3. Permitted Use(s): briefly describe Site's current permitted use(s)

Office, research & development, retail, hospitality, entertainment, residential.

4. Rezoning: must Site be rezoned for the Project's expected use?

☐ Yes ☒ No

- a. If Yes, outline rezoning process, including all government approvals, public hearings, and schedule. Please describe any opportunity to fast track.

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b. If Yes, will governments commit to rezoning prior to Site selection?

5. Neighboring Properties

a. Designation(s): identify current planning/zoning designation(s) for Neighboring Properties.

An additional 1.5 – 2.5 million square feet is available in Assembly Square and can be entitled and ready for development in 12-18 months on an adjacent parcel controlled by a partnership of Novaya, Cresset and Eastern.

Approximately 70 acres may be available in the long term at adjacent land near Sullivan Square.

Cambridge Crossing is zoned for mixed-use development and has entitlements for 1.8 million square feet of office space.

b. Permitted Use(s): briefly describe Neighboring Properties' permitted use(s).

Mixed Use

C. Environment

1. Site and Improvements (if any)

a. Prior Use(s): detail prior use(s) of Site (or portion of Site) in reverse chronological order.

Assembly Square Campus:

The property is comprised of three development blocks at Assembly Row” Block 5B, Block 7, and Block 9.

- Block 5: Block 5 is comprised primarily of portions of land previously identified as 74 Foley Street and 133 Middlesex Avenue, and to a lesser extent by portions of 85 Foley Street, 100 Foley Street and a Yard 21 right of way between 85 Foley Street and 99 Foley Street, each of which have significant regulatory histories with respect to releases of oil and hazardous materials (OHM), beginning in the late 1800s when fill materials were brought to the area to raise the land surface above the high tide elevation.

Historic use of the properties within the Block 5 area includes rail yards, bulk petroleum storage, and industrial and automobile manufacturing. Releases of OHM are attributed to fill material, historic industrial uses, and bulk petroleum storage at the properties.

Specific historic uses for the various parcels that now comprise Block 5 are described below:

- a. 74 Foley Street: The former 74 Foley Street property was historically used for bulk petroleum storage and as a railroad yard. Previous owners of portions of the property included Public Service Oil Company, American Mineral Spirit Company, Chevron Oil Company, B&M Railroad, and University Overland Express. Petroleum products, mineral spirits, and rubber solvents were stored on the former 74 Foley Street property in aboveground tank farms near the northwestern corner of the property, along with fuel oil, waste oil, and some unknown products that were stored in underground storage tanks (USTs). A truck repair/garage facility also operated on a portion of the former 74 Foley Street property. In 1944, H.K. Porter, a manufacturer of industrial tools, acquired a portion of the former 74 Foley Street property and constructed a manufacturing building in 1946.

Reportedly, in 1963 a fire occurred at the Chevron Facility and in 1965 some of the tanks were removed. All of the aboveground storage tanks (ASTs) had been removed by 1977. Between 1946 and 1971, H.K. Porter purchased the remainder of the former 74 Foley Street property and performed manufacturing activities at the property. In 1987, H.K. Porter Company was purchased by Cooper Industries. The manufacturing operations at the site ceased in 1988.

- b. 84 Foley Street: 84 Foley Street was undeveloped until 1978, when the property was used as a parking area until 1982 when a maintenance garage and office building were constructed as part of the Green Cab Company. The property was used for fueling the fleet of taxi cabs belonging to the Green Cab Company until the improvements were demolished in 2009.
- c. 100 Foley Street: The 100 Foley Street property had a history of railroad and industrial use beginning in the late 1800s with occupancy by the B&M Railroad up to and including leasehold from 1967 to 1984 by Cambridge Machine Products (CMP) Corporation. Former operations at CMP included milling, cutting, degreasing, and chrome plating of metal machine parts. Operations at CMP ceased in 1984 and the building was demolished in 1999.
- d. Yard 21 Right of Way: The Yard 21 Right of Way was a narrow piece of land associated with the larger Yard 21 (located further east of Block 5) separating the 85 and 99 Foley Street properties. The right of way was historically only improved with a rail spur.
- e. 133 Middlesex Avenue: 133 Middlesex Avenue is improved with the Assembly Square Marketplace, which has a well-documented history of use as a Ford Motor Company automobile assembly plant, constructed in 1926 (only the extreme eastern edge of the 133 Middlesex property was incorporated into block 5). Prior to development, the subject property and much of the surrounding area consisted of tidal wetlands that were filled. The Ford Assembly Plant operated until 1957, and processes included painting, drying, soldering, upholstering, assembly, and finishing. As part of the operations, an oil house, a boiler house, two 150,000-gallon ASTs, and eight 6,000-gallon underground storage tanks (USTs) were located in the northeast portion of the property. The boiler house burned coal, which was stored in a pile near the ASTs.

- Block 7: Block 7 is comprised primarily of portions of land previously identified as 43-65 Foley Street (also known as 16-34 Sturtevant Street), 85 Foley Street, 99 Foley Street, 123 Foley Street and 147 Foley Street.

Historically, the Block 7 and immediate vicinity historically consisted of marshy tidal lands adjacent to the Mystic River and were reportedly filled sometime in the late 19th century. Specific historic uses for the various parcels that now comprise Block 7 are described below:

- a. 43-65 Foley Street (also known as 16-34 Sturtevant Street): Prior to 1941, this property consisted of vacant and undeveloped land owned by Boston & Maine Railroad. The property was developed in 1941 by Sears, Roebuck and Co. for retail warehousing purposes. Sears and Roebuck occupied the building until 1972. The building was then occupied by various commercial tenants including a bakery by 1982, a furniture store, an office and supplies printing company, and a wallpaper store by 1992. A 20,000-square foot portion of the southern end of the building was reportedly demolished in 1984. The balance of the site improvements were demolished in 2008.
- b. 85 Foley Street: Refer to Block 5 discussion, above.
- c. 99 Foley Street: The 99 Foley Street property was undeveloped until 1925 when the property was developed for use as the East Somerville Locomotive Shop operated by the Boston & Maine Railroad. The property was operated by L.E. Zurbach Steel Company until 1950, and by Central Steel until demolition of the site improvements in 2010/2011. Central Steel used the property to cut and drill steel plates, beams and bars to customer specification.
- d. 123 Foley Street: The 123 Foley Street property was undeveloped until 1948, when an industrial warehouse was constructed onsite and occupied by Harbison Walker Brick Company. The property was subsequently operated by Spaulding Brick in 1973 for storage and sale of bricks. The site improvements were demolished in the late 2000s as part of the Assembly Row development project.
- e. 147 Foley Street: The 147 Foley Street property was used for industrial purposes since at least 1933. A coal shed associated with the Commonwealth Fuel Company occupied the property as early as 1933. By 1950, a new facility was constructed onsite, which by the early 1960s, was owned and operated by Pyrofax (predecessor

to Amerigas). From 1960 until redevelopment in the late 2000s, the property was used as a propane fueling and distribution yard.

- Block 9: Block 9 is comprised primarily of portions of land previously identified as 43-65 Foley Street (also known as 16-34 Sturtevant Street) and 5 Middlesex Avenue and is currently used for parking and for a marketing trailer for Assembly Row.

Historically, the Block 9 and immediate vicinity historically consisted of marshy tidal lands adjacent to the Mystic River and were reportedly filled sometime in the late 19th century. Prior to 2012, portions of the Site were part of a former railroad track and former public roadway known as Sturtevant Street and later as Assembly Square Drive.

- 5 Middlesex Ave: Site has been a commercial office site (and a prior cinema use which has since been demolished) with surface parking lots which Seller (RD Management) has owned since 1974
- 96 Middlesex Ave: Historic usage of the site included heavy automotive and metal plating within the developed industrial area. 1998 and 1999, remediation activities were completed to address the contamination at 986 McGrath Highway. These response activities included the removal of soil considered to contain hazardous wastes (identified as the upper 12 to 18 inches of soil located below a former chrome room and former plating area), and the on-site stabilization of soils using an asphalt emulsion stabilization process designed to prevent the potential leaching of contaminants to groundwater. The remaining soil on portions of the 20 Cummings Street property is still considered to be Resource Conservation and Recovery Act (RCRA) hazardous waste if it is removed from the property, unless the soil is first deemed to meet the requirements of a Contained-In Determination. Residual contamination remaining at the site includes volatile organic compounds (VOCs) in groundwater, and polycyclic aromatic hydrocarbons (PAHs), metals, and cyanide in soil. Also, due to the soil stabilization process, the treated soils and some areas of groundwater have elevated pH.

b. Environmental Event(s)

- (i) Detail each environmental event occurring on Site (or portion of Site) in reverse chronological order. (Environmental events include – but are not limited to – any contamination, dumping, explosion, fire, landfill or spill of any kind or description)

Assembly Square Campus:

- Block 5: (although only the western portion of Block 5 [Block 5B] is subject to this RFI, the discussion below relates to Block 5 in its entirety)

Each of the 74, 85, and 100 Foley Street properties, Yard 21 right of way and 133 Middlesex Avenue are classified as disposal sites under the Massachusetts Contingency Plan (MCP). Each have undergone extensive comprehensive response actions under the MCP, and have achieved Response Action Outcomes (RAO – a regulatory liability endpoint under the MCP). The RAO documents for certain of the respective disposal sites are based, in part, on Activity and Use Limitations (AULs) recorded on the deeds specifically for 74 Foley Street, 100 Foley Street and 133 Middlesex Avenue.

- 100 Foley Street – Release Tracking Number (RTN) 3-0434:

A very small portion of the Site is located within the boundaries of the former 100 Foley Street property. Former operations at CMP included milling, cutting, degreasing, and chrome plating of metal machine parts. According to environmental reports reviewed, state environmental officials conducted an inspection of operations at the site in 1984 and observed that plating bath wastes were discharged beneath the raised slab of the building. In addition, evidence of oil releases associated with the storage and recycling of cutting oils and metal shavings was identified. Operations at CMP ceased in 1984 and the building was demolished in 1999 in conjunction with remedial actions to support site redevelopment.

In 1998 and 1999, remediation activities were completed to address the contamination at 100 Foley Street. These response activities included the removal of soil considered to contain hazardous wastes (identified as the upper 12 to 18 inches of soil located below a former chrome room and former plating area), and the on-site stabilization of soils using an asphalt emulsion stabilization process designed to prevent the potential leaching of contaminants to groundwater. The remaining soil on portions of the 100 Foley Street property is still considered to be Resource Conservation and Recovery Act (RCRA) hazardous waste if it is removed from the property, unless the soil is first deemed to meet the requirements of a Contained-In Determination. Residual contamination remaining at the site includes volatile organic compounds (VOCs) in groundwater, and polycyclic aromatic hydrocarbons (PAHs), metals, and cyanide in soil. Also, due to the soil stabilization

process, the treated soils and some areas of groundwater have elevated pH.

A Class A-3 RAO and Method 3 Risk Characterization were filed for the 100 Foley Street property in September 1999.

- Former 74 Foley Street – RTN 3-0649:

By 1998 all of the buildings and above ground equipment at 74 Foley Street had been removed, but the concrete building slabs and large areas of asphalt pavement remained in place. Environmental investigations were initiated in 1986. Sampling and remedial activities were conducted by at least seven consulting engineering companies on behalf of various parties. Investigations identified petroleum hydrocarbons in soils in the vicinity of the former bulk storage facility and maintenance garage, and identified low levels of metals, PAHs, and PCBs associated with urban fill across the site. In addition, an area of fuel oil in soil along the former storm drain line at the boundary of the property with 100 Foley Street was identified. This fuel oil was considered to be a result of operations at 100 Foley.

Remaining concrete foundations were removed in 1998 during remediation activities under a Phase IV Remedy Implementation Plan, and approximately 7,500 cubic yards of petroleum impacted soil were treated on-site using asphalt emulsion and cement stabilization process. A Class A-3 RAO and Method 1 Risk Characterization were filed for the former 74 Foley Street property in January 1999.

- Yard 21 Between 85 and 99 Foley Street – RTN 3-28785 and RTN 3-28993:

On October 8, 2009, approximately 4 feet of separate phase, viscous (light non-aqueous phase liquid) LNAPL was observed in a monitoring well located on a narrow rail spur between the 85 and 99 Foley Street properties. The owner of the 85 Foley Street property reported the release and DEP assigned RTN 3-28785. A sample of the oil was submitted for laboratory analysis, and the result was reported to be similar to No. 4 fuel oil. When the owner determined that monitoring well MW-1 was not located on the 85 Foley Street property, the RTN was retracted.

The owner of the Yard 21 rail spur reported the release to DEP on January 7, 2010 and RTN 3-28993 was assigned. DEP approved an assessment only Immediate Response Action (IRA) which included weekly gauging and bailing of the well. Following approval of the IRA plan, observations indicated that the LNAPL in the well was highly viscous, and would not be easily removed by manual bailing. As such, on February 9, 2010, DEP orally approved the removal of product from the monitoring well using a vacuum truck. Following the initial removal of product, the well was gauged to evaluate water table and LNAPL recovery.

In September and October 2011, soil was excavated and treated to remove the source of separate phase, viscous LNAPL that had been observed in the monitoring well. Approximately 230 cubic yards of petroleum-impacted soil were treated on-site by mixing Portland cement with the soil in a pug mill. The treated material was placed as backfill in a utility corridor within Foley Street. An IRA Status Report describing the remediation activities performed for this RTN was submitted to DEP on November 15, 2011. An IRA Completion Report was submitted to DEP on May 10, 2012 and a Class A-2 RAO was filed for RTN 3-28993 on January 11, 2013.

- 85 Foley Street – RTN 3-28781:
On October 7, 2009, during removal of three underground gasoline tanks, a 72-hour reporting condition was triggered when a reading of 219 parts per million (ppm) was observed from the northern end of one of the tanks. Approximately 50 cubic yards of petroleum impacted soil were removed and disposed of off-site. Confirmatory soil samples were collected from the base and sidewalls of the excavation and were submitted for laboratory analysis of extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH). A groundwater sample was collected from an adjacent well and was submitted for laboratory analysis of EPH and VPH. Results from soil and groundwater sampling were below applicable Method 1 Standards. The site achieved regulatory closure with a Class A-2 RAO on November 13, 2009.
- Block 7: Each of the historic 43, 85 and 99 Foley Street properties are classified as disposal sites under the MCP. Each have undergone extensive comprehensive response actions under the MCP, and have achieved RAO.
 - 43 Foley Street – RTN 3-3937: The property at 43 Foley Street was listed by the DEP as a location to be investigated (LTBI) on

April 15, 1992. Due diligence activities including subsurface explorations and the installation of monitoring wells was completed in 1992. The results of the investigation and subsequent quarterly groundwater monitoring sampling found that low levels of TPH, aromatic VOCs, and dissolved metals were present in groundwater. The conditions were presumed to be the result of the site's location in a highly developed urban area and the presence of a nearby oil storage and dispensing facility (Garrity Oil Co.) located approximately 0.2 miles to the south of the site. No response actions were undertaken and the DEP found that no further actions were required. A Class B-1 RAO was submitted to DEP in August 1997.

- 43 Foley Street – RTN 3-25033: In April 2005, during geotechnical borings, a soil sample with elevated beryllium concentrations was observed. Metal and PAH concentrations in soil were attributed to filling activities in the area and a risk characterization for the site found that the concentrations observed in soil presented a condition of No Significant Risk. A Class B-1 RAO was submitted in April 2009.
- 43 Foley Street – RTN 3-28311: On February 11, 2009, during excavation activities associated with RTN 3-11886, two underground storage tanks (USTs) were discovered. Soil screened with a PID triggered a 72-hour reporting condition. The tanks and the surrounding soil were removed and an Immediate Response Action (IRA) filed on May 5, 2009 stated that ongoing response actions including the management of the soil would be completed under RTN 3-11886 (located adjacent to the south of the 43 Foley property).
- 85 Foley Street – RTN 3-28781: Refer to Block 5 discussion, above.
- 99 Foley Street – RTN 3-18995
In 1999, during construction activities for a vertical steel plate storage rack, soil containing low levels of lube oil and weathered diesel fuel oil was observed. RTN 3-18995 was assigned to the release. Approximately 100 cubic yards of soil with elevated levels of petroleum hydrocarbons was removed from the site and transported to an asphalt batching facility. Confirmatory soil samples were collected at the limits of the excavation and one sample exceeded reportable concentrations for S-2 soil (RCS-2) criteria. The release was closed with a Class A-2 RAO in 2000.

- 99 Foley Street – RTN 3-19164 and 19164: During tank removal activities for one 1,000-gallon gasoline underground storage tank (UST) (RTN 3-19163) and one 2,000-gallon No. 2 fuel oil UST (RTN 3-19164), 72-hour reporting conditions were triggered by photoionization detector readings (PID) readings above 100 parts per million by volume (ppmv). The release was closed with a Class A-2 RAO in 2000.
 - Block 9: Of the two properties that comprise Block 9, only 43 Foley Street is classified as a disposal site under the MCP. The extensive comprehensive response actions under the MCP for 43 Foley Street were included above in the discussion of Block 7. Although USTs have historically been associated with the 5 Middlesex Avenue parcel, those historic USTs are well outside the footprint of the Block 9 property.
 - 5 Middlesex Ave has performed extensive environmental testing on site -- soil, soil gas and groundwater and there are no concerns on site that are above any reporting thresholds as regulated by Chapter 21E.
 - 96 Middlesex Ave Site construction activities include: (7) underground storage tanks (USTs) were discovered and removed with assessments conducted at each grave. The area adjacent to Tank 7 identified significant contamination. Contamination was identified to exist only within the ash laden fill and due to the highly adsorptive nature of the fill did not result in a large scale area of contamination, BSC is of the opinion that the elevated concentrations of lead, beryllium and target PAH's are the direct result of the ash fill material. Due to extensive lead levels off-site the elevated concentrations of lead are consistent with back ground conditions such that lead, beryllium and target PAH's are not a Contaminants Of Concern and is thereby eliminated from the risk characterization analysis. RAO Statement February 9th, 2001. RAO Statement available here: <http://eeaonline.eea.state.ma.us/EEA/FileViewer/Scanned.aspx?id=220548>.
- Full Report:
http://public.dep.state.ma.us/SearchableSites2/Site_Info.aspx?textfield_RTN=3-0017628

(ii) Describe any environmental cleanup or remediation occurring on Site (or portion of Site) as a result of an environmental event or otherwise in reverse chronological order. Please also include any environmental studies as supplemental information.

Assembly Square Campus:

- Block 5: For simplicity, a discussion of the response actions undertaken at each of the disposal sites associated with Block 5 has been incorporated above in Section b.1. Note that the western portion of Block 5 (5B) is future development and will require a Release Abatement Measure (RAM) plan prior to development activities.
- Block 7: For simplicity, a discussion of the response actions undertaken at each of the disposal sites associated with Block 7 has been incorporated above in Section b.1.
- Block 9: For simplicity, a discussion of the response actions undertaken at each of the disposal sites associated with Block 9 (specifically, 43 Foley Street) has been incorporated in prior sections.
- 5 Middlesex Ave: None
- 96 Middlesex Ave - Assessment has been done.

Cambridge Crossing Campus:

Used as a transportation maintenance facility for MBTA railcars.

c. Environmental Study

- (i) Detail each environmental study undertaken on Site (or portion of Site) in reverse chronological order.

Assembly Square Campus:

- Block 5: For simplicity, a discussion of the studies undertaken at each of the disposal sites associated with Block 5 has been incorporated above in Section b.1.

In 2015 during pre-characterization sampling at Block 5, a series of explorations was implemented in a grid pattern in the eastern portion of Block 5 (Block 5A). A 120-day reporting condition was triggered when various PAHs, metals and TPH were detected in soil samples at

concentrations exceeding RCS-1 criteria. The RCS-1 exceedances were detected in urban fill and natural soil samples collected at depths ranging from 0 to 15 feet below ground surface. These exceedances were reported to the DEP with the submittal of a Release Notification Form on September 11, 2015. Subsequently, a Permanent Solution with No Conditions was filed for RTN 3-33147 on September 18, 2015. The Permanent Solution was supported by a Method 1 Risk Characterization which concluded that a condition of No Significant Risk has been achieved without the need for conditions or an AUL.

A list of the reports associated with various investigations and response actions is included in section c.ii., below.

- Block 7: For simplicity, a discussion of the studies undertaken at each of the disposal sites associated with Block 7 has been incorporated above in Section b.1.

A list of the reports associated with various investigations and response actions is included in section c.ii., below.

- Block 9: For simplicity, a discussion of the studies undertaken at each of the disposal sites associated with Block 9 (specifically, the 43 Foley Street property) has been incorporated above in Section b.1. While Investigations have been conducted at the 5 Middlesex Avenue property associated with former USTs, those features fall well outside the Block 9 footprint, and are not expected to pose a risk to the current Block 9 property.
- 5 & 96 Middlesex Ave: Refer to section b.1.

(ii) Provide copies of environmental studies performed on the site within the prior three years.

Assembly Square Campus:

The following is an all-inclusive list of the Environmental Studies associated with Blocks 5, 7 and 9. The size of these reports makes it impractical to provide multiple hard copies with this report. Upon request we are happy to provide any and all reports. In addition, all reports are accessible via the Massachusetts Department of Environmental Protection's website at:
<http://public.dep.state.ma.us/SearchableSites2/Search.aspx>.

ENVIRONMENTAL REPORTS

- Massachusetts Superlien Report, 85 Foley Street, prepared by Somerville Engineering, Inc., dated November 15, 1985
 - Groundwater Sampling, Phase II Investigation, 100 Foley Street, prepared by GEI Consultants, Inc., dated January 11, 1989
 - Documentation of Remediation and Cleanup Procedures, H.K. Porter Inc. (74 Foley Street), prepared by Weston Geophysical Corporation, dated March 1989
 - Additional Environmental Site Evaluation Services, 85 Foley Street, prepared by GZA dated July 3, 1991
 - Environmental Site Investigation Report, 74 Foley Street, prepared by Groundwater Technology, Inc., dated August 6, 1991.
 - Phase II Site Assessment, 100 Foley Street Site, prepared by William F. Cosulich Associates, PC. , dated September 1, 1992
 - Addendum to the Phase II Risk Assessment, 100 Foley Street, prepared by H. Strauss Associates, Inc., dated October 10, 1994
 - Phase II Summary Report, 74 Foley Street, prepared by ERM-New England, Inc., dated August, 1995
 - Phase III - Final Remedial Response Plan, 74 Foley Street, prepared by ERM-New England, Inc., dated August 1995
 - Remedial Action Plan, 100 Foley Street, prepared by William F. Cosulich Associates, PC, dated November 1996
 - Remedy Implementation Plan, 100 Foley Street (RTN 3-0434), dated October 7, 1997, prepared by Geolnsight, Inc.
 - Phase IV Remedy Implementation Plan, 74 Foley Street, prepared by Environmental Resources Management, dated October 22, 1997
 - Preliminary Site Assessment, 85 Foley Street, prepared by IES, Inc. dated April 16, 1998
 - Addendum to the Phase IV Remediation Implementation Plan and Status Report, 100 Foley Street, prepared by Sanborn, Head & Associates, dated October 21, 1998
-
- Notice of Activity and Use Limitation, 74 Foley Street (RTN 3-0649), dated December 28, 1998
 - Response Action Outcome Statement, 74 Foley Street (RTN 3-0649), prepared by Environmental Resources Management, dated January 11, 1999
 - Phase IV Final Inspection Report and Completion Statement, 74 Foley Street, prepared by Environmental Resources Management, dated January 11, 1999

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- Notice of Activity and Use Limitation, 100 Foley Street (RTN 3-0434), dated September 1, 1999
- Supplemental Phase II Comprehensive Site Assessment, Revised Phase III Identification, Evaluation and Selection of Remedial Action Alternative, Revised Phase IV Remedy Implementation Plan, Phase IV Final Inspection Report, Response Action Outcome Statement, 100 Foley Street, (RTN 3-0434), prepared by: Sanborn, Head & Associates, Inc., dated September 12, 1999
- Release Abatement Measure Plan, 99 Foley Street (RTN 3-18995), prepared by ENSOL dated November 1999
- Immediate Response Action Completion Report, 99 Foley Street (RTN 3-18995), prepared by ENSOL dated March 2000
- RAM Completion Report, 99 Foley Street (RTN 3-18995), prepared by ENSOL dated March 20, 2000.
- Phase I Initial Site Investigation Report & Method 1 Risk Characterization in Support of a Class A-2 RAO (RTNs 3-18995, 3-19163 and 3-19164), 99 Foley Street, Somerville, MA, prepared by ENSOL, Inc. dated November 2000
- Phase I Environmental Site Assessment, 43 Foley Street, dated March 26, 2001, prepared by Enstrat
- Phase I Environmental Site Assessment, 16-34 Sturtevant Street/43 & 65 Foley Street, dated March 7, 2005, prepared by Woodard & Curran
- Phase I Environmental Site Assessment, 147 Foley Street, dated December 13, 2005, prepared by Woodard & Curran
- Tier Classification, Phase I Initial Site Investigation Report, 43 Foley Street (RTN 3-25033), June 2006, prepared by Woodard and Curran
- Phase I Environmental Site Assessment, 123 Foley Street, dated January 2007, prepared by Woodard & Curran
- Phase I Environmental Site Assessment, 74 & 100 Foley Street, dated April 2007, prepared by Woodard & Curran
- RAM Plan 43 Foley Street, October 8, 2008 (RTN 3-25033), prepared by Woodard & Curran
- RAM Status Report, 43 Foley Street (RTN 3-25033), dated February 2009, prepared by Woodard & Curran
- Phase II Comprehensive Disposal Site Assessment and Response Action Outcome Statement, 43 Foley Street (RTN 3-25033) dated April 2009, prepared by Woodard & Curran
- URAM, 74 Foley Street, dated August 2009, prepared by Woodard & Curran
- Phase I Environmental Site Assessment, 85 Foley Street, prepared by Woodard & Curran dated September 2009

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- Immediate Response Action Outcome Statement and Class A-2 Response Action Outcome, 85 Foley Street (RTN 3-28781), prepared by CDW Consultants, dated November 13, 2009
- Release Abatement Measure Completion Report, 74 Foley Street (RTN 3-0649), prepared by Woodard & Curran, dated February 2010
- Phase I Environmental Site Assessment with Subsurface Investigations, 99 Foley Street, prepared by Sanborn Head & Associates dated September 2010.
- IRA Plan Modification and Status Report, RTN 3-28993 [Yard 21 Spur], prepared by Sanborn Head & associates dated November 2010
- Phase I Initial Site Investigation and Tier Classification, Somerville, Massachusetts, RTN 3-28993, prepared by Sanborn, Head & Associates, Inc., dated January 5, 2011.
- Release Abatement Measure Plan, 74 Foley Street (Area B), Somerville, Massachusetts (RTN 3-649), prepared by Sanborn Head & Associates dated March 15, 2011
- Interim Status Report, Phase IA Release Abatement Measure, Assembly Row, Somerville, Massachusetts, RTNs 3-649, 3-28993, 3-434, 3-29665, 3-4082, 3-11886, and 3-14763, prepared by Sanborn, Head & Associates, Inc., dated April 12, 2011.
- Immediate Response Action Status Report, RTN 28993 (Yard 21 Spur), Somerville, Massachusetts, prepared by Sanborn Head & Associates dated May 3, 20
- Release Abatement Measure Completion Report, 74 Foley Street, Somerville, Massachusetts (RTN 3-0649), prepared by Sanborn Head & Associates dated May 20, 2011.
- Soil Management Plan, Assembly Row, Somerville, Massachusetts, prepared by Sanborn Head & Associates dated May 23, 2011
- Immediate Response Action Plan Modification, Yard 21 Property between 99 and 85 Foley Street, Somerville, Massachusetts, RTN 3-28993, prepared by Sanborn, Head & Associates, Inc., dated August 9, 2011.
- Release Abatement Measure Plan, Assembly Row, Somerville, Massachusetts, RTNs 3-649, 3-28993, 3-434, 3-29665, 3-4082, 3-11886, and 3-14763, prepared by Sanborn, Head & Associates, Inc., dated August 9, 2011.
- Immediate Response Action Status Report, Yard 21 Property between 99 and 85 Foley Street, Somerville, Massachusetts, RTN 3-28993, prepared by Sanborn, Head & Associates, Inc., dated November 10, 2011.

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- Release Abatement Measure Status and Remedial Monitoring Report No. 1, Assembly Row, Somerville, Massachusetts, RTNs 3-649, 3-28993, 3-434, 3-29665, 3-4082, 3-11886, and 3-14763, prepared by Sanborn, Head & Associates, Inc., dated December 19, 2011.
 - Final Method 3 Human Health Risk Characterization, Blocks 1, 3, 5, 6, and Streets, Former portions of 74 and 100 Foley Street and 133 Middlesex Avenue, Somerville, Massachusetts, RTNs 3-0649, 3-0434, and 3-14763, prepared by The Science Collaborative – North Shore for Sanborn, Head & Associates, Inc., dated March 2012.
 - Interim Status Report, Phase IA Release Abatement Measure, Assembly Row, Somerville, Massachusetts, RTNs 3-649, 3-28993, 3-434, 3-29665, 3-4082, 3-11886, and 3-14763, prepared by Sanborn, Head & Associates, Inc., dated April 12, 2012.
 - Immediate Response Action Completion Report, Yard 21 Property between 99 and 85 Foley Street, Somerville, Massachusetts, RTN 3-28993, prepared by Sanborn, Head & Associates, Inc., dated May 9, 2012.
 - Activity and Land Use Limitation for Blocks 3, 5, 6 and Streets, Somerville, Massachusetts, RTNs 3-29665, 3-434, 3-649, and 3-14763, prepared by Sanborn, Head & Associates, Inc., recorded on May 17, 2012.
 - Partial Termination of Notice of Activity and Use Limitation (eight documents), for RTNs 3-434, 3-649, and 3-14763, prepared by Sanborn, Head & Associates, Inc., recorded on May 17, 2012.
 - Release Abatement Measure Status and Remedial Monitoring Report No. 2, Assembly Row, Somerville, Massachusetts, RTNs 3-649, 3-28993, 3-434, 3-29665, 3-4082, 3-11886, and 3-14763, prepared by Sanborn, Head & Associates, Inc., dated June 13, 2012.
 - Release Abatement Measure Status and Remedial Monitoring Report, Assembly Row, Somerville, Massachusetts, RTNs 3-434, 3-649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29665, prepared by Sanborn, Head & Associates, Inc., dated December 18, 2012.
 - Phase II Comprehensive Site Assessment and Response Action Outcome Statement, Yard 21
 - Property Between 85 and 99 Foley Street, Somerville, Massachusetts, RTN 3-28993, prepared
 - by Sanborn, Head & Associates, Inc., dated January 9, 2013.
-
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993

and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated June 14, 2013.

- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated December 13, 2013.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated June 13, 2014.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated December 10, 2014.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated June 10, 2015.
- Permanent Solution Statement, Block 5, Assembly Row, RTN 3-33147 prepared by Sanborn, Head and Associates dated September 8, 2015.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated December 17, 2015.
- Release Abatement Measure Plan, Block 5, Assembly Row, Somerville, Massachusetts, RTNs 3-0434 and 3-0649, Prepared by Sanborn Head & Associates, Inc., dated February 10, 2016.
- Release Abatement Measure Status Report, Block 5, Assembly Row, Somerville, Massachusetts, RTNs 3-0434 and 3-0649, prepared by Sanborn Head & Associates, Inc., dated June, 2016.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated June 11, 2016.
- First Amendment to AUL, Assembly Row Multiblock, dated July 29, 2016.
- Release Abatement Measure Completion Report, Block 5, Assembly Row, Somerville, Massachusetts, RTNs 3-0434 and 3-0649, prepared by Sanborn Head & Associates, Inc., dated December 14, 2016.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993

and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated December 14, 2016.

- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated June, 2017.
- Release Abatement Measure Status Report, Assembly Row, Somerville, Massachusetts, RTNs 3-0434, 3-0649, 3-14763, 3-11886, 3-4082, 3-28993 and 3-29655, prepared by Sanborn, Head & Associates, Inc., dated December 17, 2017.

Cambridge Crossing Campus

MEPA issues a certificate on the final environmental impact report for the project (EEA #12650) in 2002.

2. Neighboring Properties

- a. Prior Use(s): detail prior use(s) of Neighboring Properties in reverse chronological order. Please include any environmental events. Please also include any environmental studies as supplemental information

3. Topography

- a. Elevation: identify Site's minimum and maximum topographic elevation. Please provide a topographic survey of Site, if available.

Assembly Square Campus:

- Assembly Row:
The site surface elevations (NGVD 29 vertical datum) vary from 9.0' to 14.2'. Key contour labels, floor elevations and spot elevations are shown on the accompanying existing conditions plan.
- 96 Middlesex Ave: The site surface elevations (NGVD 29 vertical datum) vary from 8.2' Min 10'.

Cambridge Crossing Campus

The site surface elevations are generally flat

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b. Terrain: describe Site's terrain and Neighboring Properties' terrain:

Urban terrain – other than commercial and multi-family uses the remaining terrain consists of street grid/parking fields and associated landscaping and parks

c. Wetlands: describe bodies of water, creeks, ditches, lakes, ponds, rivers and wetlands, and identify governing body or regulatory agency for each for Site and Neighboring Properties.

Assembly Square Cluster:

These sites are shown within 500-year Flood Plain. Assembly Square does not contain any bodies of water, creeks, ditches, lakes, ponds, rivers or wetlands. The Site is drained by a closed-pipe storm drain system located within the streets which eventually outfalls as a 72-inch diameter pipe to the Mystic River, with backflow prevention structure that prevents high tide from rising back through the pipes. New connections from the Site are subject to local wetlands protection permitting through the Massachusetts Wetlands Protection Act as a continuing Condition of the approval of the 72-inch outfall. The 72-inch outfall is located within the Grand Union Boulevard and Foley Street rights of way and is shown on the accompanying existing conditions plan.

The Site is within Zone X as shown on the Effective FEMA Flood Insurance Rate Map for Middlesex County, Massachusetts, areas protected by levees from the 100-year flood. The 100-year flood elevation on the Mystic River seaward of the Amelia Earhart Dam is elevation 9 feet NAVD88 (9.8 feet NGVD 29). The 100-year flood elevation on the Mystic River landward of the Amelia Earhart Dam is elevation 4 feet NAVD88 (4.8 feet NGVD 29). A copy of the FIRM Effective June 4, 2010 accompanies this *PROPOSAL*.

4. Soils types for Site and Neighboring Properties

Assembly Square Campus:

A comprehensive exploration program has been performed at Block 5B. In addition we have significant information surrounding the Block 7 and 9 parcels through our work on other properties at the site. Based on the available subsurface information the soil and bedrock conditions on the three blocks typically consist of the following generalized strata, listed from ground surface downward. Information on the thickness of the various strata is provided on the attached Figure 1 as interpreted at exploration locations:

- Fill, 6-12 ft thick, consisted of various types of soil and other materials depending on location and depth. The various fill types (Cinder Fill, Loamy Fill, Cohesive Fill, etc.) encountered in the explorations are depicted and described in detail on the attached logs.
- Organic Deposits, 3 to 8 ft thick, consisted of very soft to medium stiff grey to black ORGANIC SOIL or PEAT, with varying amounts of sand, silt, typical of Fluvial/Estuarine shoreline environments.
- Fluvial Deposits, 9 to 18 ft thick, consisted of medium dense, light grey to brown poorly- to well graded SAND with varying amounts of silt, gravel. The Fluvial Deposits is the uppermost suitable naturally-deposited foundation bearing stratum at the site.
- Marine Deposits, 40 to 61 ft thick, consisted of very soft to very stiff gray to brown lean CLAY, often with traces or seams of sand.
- Glacial Deposits, 10 to 30 ft thick, consisted generally of cohesive Glaciomarine soils (stiff grey lean CLAY with sand) overlying Glacial Till soils (medium dense to very dense gray silty SAND and sandy SILT with varying amounts of gravel, cobbles and boulders).
- Bedrock was encountered beneath the Glacial Deposits, at depths ranging from approximately 89 to 101 ft below ground surface (El. -77 to El. -88 NGVD Datum). Bedrock generally consisted of moderately hard to hard, fresh, gray aphanitic Argillite, with rock core recoveries ranging from 95 to 100 percent, and RQD values ranging from 88 to 92 percent.

“Normal” groundwater levels in this area of Assembly Row historically range between about El. 2 to El. 5, depending on specific location, season, River level, antecedent precipitation and snowmelt, and other factors. Water is sometimes perched in low permeability fills above the organic soils at higher elevations as a result of significant precipitation or snowmelt.

- a. Testing: describe any geotechnical or other testing that has been or will be completed on Site (or portion of Site)

See Exhibit C.4.a: Soils Reports and Testing

5. Studies Permit(s)

- a. Specify all required environmental impact assessments and other environmental studies, and name relevant regulatory agency or agencies.

Assembly Square Campus:

- Assembly Row:

The Assembly Row site has already completed all necessary environmental impact assessments required under the Massachusetts MEPA program. No further impact assessments or environmental reviews are required to accommodate the proposed development.

The Massachusetts Environmental Policy Act (M.G.L. c. 30 §§ 60 et seq.) (“MEPA”) and the implementing regulations set forth at 301 CMR 11.00 consolidate environmental impact review into a single process that must be completed prior to issuance of state permits or before a state agency can undertake an action. MEPA requires an assessment of the environmental impacts of certain public agency and private actions that have the potential to adversely affect the natural environment. 301 C.M.R. 11.01. A project is subject to MEPA if, among other requirements: (1) the project proponent is a state agency, or if a permit is required from a state agency for the project, or if the project is to receive financial assistance from a state agency, or if the project is within the area of any land transfer, as that term is defined in the regulations, and (2) the size, cost or impact of the project exceeds certain minimum thresholds set forth in the regulations.

If a project meets the threshold for MEPA review, an Environmental Notification Form detailing the project must be filed with the MEPA unit. Depending on the impacts and thresholds met by a project, it may be subject to further submission of an Environmental Impact Report (“EIR”). Following public comment and comments from any state agencies with jurisdiction over the project, a Certificate will be issued by MEPA documenting the project and mitigation measures necessary to alleviate any environmental impacts. Depending on the required submittals, the MEPA process can take 90 to 180 days to complete.

MEPA review already has been completed for the Assembly Row development, and any associated environmental impacts (traffic, wastewater, etc.). No further review will be necessary for the development of the 1.5 million square feet of office space at Assembly Row. However, if a Notice of Project Change were required, typically a material change in the impacts of a project, review and certification would require approximately 90 days.

- 5 Middlesex Ave - N/A
- 96 Middlesex Ave - Site was location of MA DEP RTN # 3-17628 with a Class A-3 Response action outcome statement in 2001 including and activity and use limitation due to elevated petroleum levels remaining in soil. Testing include heavy metals and EPH/VPH analysis. Full report is listed in Environmental section b(i).

- b. Specify all required environmental permits, and name each government issuer of same. Can the environmental and building permits be integrated? Include a timetable for approvals.

The following environmental approvals are required for the development of the Blocks:

MEPA

Discussed in Section 5.a above.

Wetlands/Stormwater

Development impacts to wetlands and stormwater are governed by the Massachusetts Wetlands Protection Act (M.G.L. c. 131, §40, as amended by Chapter 258 of the Acts of 1996 ("WPA"), and the regulations promulgated thereunder at 310 C.M.R. §§10.00 et seq. (the "Wetlands Regulations"), both of which are administered locally by the Somerville Conservation Commission. The WPA prohibits the removal, filling, dredging, or alteration of any bank, freshwater wetland, coastal wetland, beach, dune, flat, marsh, meadow, or swamp bordering on the ocean or on any estuary, creek, river, stream, pond, or lake, or any land under such waters or any land subject to tidal action, coastal storm flowage, or flooding, or any riverfront area (collectively, "resource areas") and buffer zones where applicable, until after a Notice of Intent describing the proposed activities has been filed with the Conservation Commission and the Commission has issued an Order of Conditions covering such activities or has determined that no conditions need be imposed upon these activities.

In the case of the Blocks, development does not impact a wetland resource area, but will trigger Conservation Commission review for stormwater management and connections to a stormwater outfall in the Mystic River. Accordingly, a Notice of Intent will need to be filed with the Conservation Commission, which will hold a public hearing, with legal notice provided to abutters. Generally, the Conservation Commission will consider the Massachusetts Department of Environmental Protection's ("MassDEP") Stormwater Management Standards. The Assembly Row development routinely has received these Orders of Conditions for several other Blocks. The entire process generally has taken 30-60 days to complete.

While there have been no appeals of the previous Orders of Conditions at Assembly Row, technically, the appeal process after the issuance of an Order of Conditions would require that, within 10 business days (not including weekends or holidays), an aggrieved party (a denied applicant or abutter injured by the development) must file a Request for Superseding Order of Conditions with the MassDEP. MassDEP will schedule a site visit and review the relevant information prior to issuing a Superseding Order of Conditions, either upholding

the original decision, or supplanting it with a new one. If dissatisfied with the Superseding Order of Conditions, a further appeal to the Office of Administrative Dispute Resolution, where an administrative law judge will hold a full adjudicatory hearing, can be advanced. This is a de novo review. Finally, an appeal of the adjudicatory decision may be taken to the state Superior Court pursuant to the provisions of M.G.L. c. 30A. This is a review of the record only, disposed via Cross-Motions for Judgment on the Pleadings. No new evidence is generally admitted (there are small exceptions). The Judge reviews the record of the proceeding below under a very deferential standard, and will only overturn the decision if it is arbitrary and capricious, or based on an error of law.

Completion of Hazardous Waste cleanup activates (actions to date are detailed in Section C)

In Massachusetts, hazardous waste sites are managed pursuant to M.G.L. c. 21E and the Massachusetts Contingency Plan ("MCP") (310 CMR 40.000 et seq.). M.G.L. c. 21E utilizes a privatized system whereby Licensed Site Professionals ("LSPs") are retained by a property owner or responsible party to oversee the cleanup of most contaminated properties. An LSP is an environmental scientist or engineer experienced in cleaning up oil and hazardous material contamination. LSPs are licensed by the state Board of Registration of Hazardous Waste Site Cleanup Professionals (usually referred to as the LSP Board), based on education, experience, and passing an examination on applicable regulations and technical issues. An LSP gathers and evaluates information about the contamination and recommends a course of action for meeting MassDEP cleanup requirements. These recommendations are presented in the form of written Opinions, and are signed by both the responsible party and the LSP before they are sent to MassDEP. Opinions and remedial actions usually do not require MassDEP approval, so work can begin promptly. Once the cleanup is complete, the LSP submits a final Opinion to MassDEP stating that the property has been cleaned up to MassDEP standards.

6. Process: briefly describe the environmental study and permit processes, from preliminary discussions to final action, including any appeal periods. Also include the total costs for a building permit.

Assembly Square Campus:

- Assembly Row See Section 5(b) above. Building permit costs are discussed in Section D.

- 5 Middlesex Ave findings by way of subsurface geotechnical and environmental investigations do not require any permits to commence redevelopment activities once Special Permits are received for individual building projects. The total cost for a building permit is \$25/\$1000 for against the direct cost of the hard cost of the construction.
- 96 Middlesex Ave - N/A

Cambridge Crossing Campus

N/a

7. Code(s), Regulations

- a. Include with your response a copy of the relevant state and local environmental code(s) and regulations. (Federal statutes and regulations need not be included with your response.)

The following regulations and statutes are attached in Exhibit C.7:

- MEPA – M.G.L. c. 30 §§ 60 et seq. and 301 CMR 11.00;
- Wetlands/Stormwater – M.G.L. c. 131, §40 and 310 CMR 10.00;
- Hazardous Waste - M.G.L. c. 21E and 310 CMR 40.0000;
- Flammable Storage/Garage – M.G.L. c. 148 §§ 13-14 and Somerville Ordinances, Section 8-166; and
- Noise – 310 CMR 7.10, the MassDEP Noise Policy and Somerville Ordinances, Section 9-112 – 9-119.

Copies of the relevant codes and regulations are included in Exhibit C.7: Codes and Regulations.

- b. Are amendments to the relevant environmental code(s) and regulations pending or proposed?

☐ Yes ☒ No

If Yes, please provide detail:

8. Noise Restrictions: detail all noise restrictions or limitations affecting Site and any exceptions to or exemptions from same. Attach the appropriate statutory and other authorities.

Noise restrictions for Assembly Square are governed locally by the City of Somerville Noise Control Ordinance (Sec. 9-112 – 9-119 of the City Ordinances) and the MassDEP noise regulations at 310 CMR 7.10. However, as these are restrictions that simply must be abided by, neither requires obtaining a permit or an approval.

The MassDEP noise regulations (310 CMR 7.10) provide that “No person owning, leasing or controlling a source of sound shall willfully, negligently, or through failure to provide necessary equipment, service, or maintenance or to take necessary precautions cause, suffer, allow, or permit unnecessary emissions from said source of sound that may cause noise.” 310 CMR 7.10(1). Thus, the regulations limit “unnecessary” noise. To the extent that the noise is necessary, sound levels do not violate 310 CMR 7.10. Prolonged unattended noise or equipment that is not outfitted with available enclosures or other equipment which would suppress the sound thus violate 310 CMR 7.10.

The MassDEP also has a Noise Policy that specifies that a source of sound will be considered in violation of the noise regulations if it “increases the broadband sound level by more than 10 dB(A) above ambient or produces a ‘pure tone’ condition-when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by 3 decibels or more.” Both criteria are measured at the property line and at the nearest inhabited residence.

The Somerville Noise Control Ordinance makes it “unlawful for any person to make, continue or cause to be made or continued any loud, unnecessary or unusual noise or any noise which either annoys, disturbs, injures or endangers the comfort, repose, health, peace, or safety of others within the limits of the city.” Somerville Ordinances, § 9-112. The most relevant defined noise disturbances relevant to the development and use of the Blocks include: operating mechanical equipment in a manner causing a noise disturbance; construction or demolition work before 7 am or after 7 pm on weekends or before 9 am and after 7 pm on weekends unless otherwise authorized by the City; allowing alarms to sound for more than a few minutes; allowing a stationary non emergency signaling device to continue for more than 10 minutes; unmuffled engine exhausts; the use of defective wagons, carts, motor vehicles, trucks that are so out of repair or loaded as to cause a noise disturbance; loading and unloading, opening, closing or other handling of boxes, crates, building materials, garbage cans or similar materials between 7pm and 7am; loudspeakers or public address systems causing a noise disturbance between 10 pm and 7 am unless otherwise authorized;; and vibration perceptible from a property boundary.

Unless reasonably necessary to the preservation of life, health, safety or property, the following sound levels in excess of ambient noise levels at the property line violate the noise ordinance:

Duration of Sound	I	II	III
	7 am to 6 pm (all districts)	6pm to 10 pm (residential districts) 6pm to 7am (all other districts)	10 pm to 7 am (residential districts)
Less than 10 minutes	75 db	70 db	60 db
Between 10 minutes and 2 hours	70 db	60 db	50 db
In excess of 2 hours	60 db	50 db	40 db

Pile drivers, jackhammers, and other construction equipment are exempt from this section of the noise ordinance, as are lawn mowers and power saws.

D. Building

1. Permits: specify all required building permits, and name government issuer of same.

Assembly Square Campus

The three building sites comprising 1.5 million square feet at Assembly Row all conform to the Assembly Row Planned Unit Development (PUD) Master Plan, as approved by the City of Somerville Planning Board. Each building also requires a final level approval under the PUD Master Plan - a Special Permit with Site Plan Review-A (SPSRA). Following approval of the SPSRA, each building requires a Building Permit from the Building Division of the Somerville Inspectional Services Department.

Cambridge Crossing Campus:

The neighborhood development plan was approved in 2014. Each development requires a special permit with a site plan review (SPSRA). Following approval of the SPSRA, each building requires a Building Permit from the respective Building Division of the Somerville, Cambridge, or Boston Inspectional Services Department.

2. Process

- a. Briefly describe the building permit process, from pre-application discussions to final action, including any appeal periods.

Communication with the Somerville Planning Department includes building plans and uses of the space is the first step. Special uses that exceed existing codes will require a special permit or variance and Board of Alderman approval depending on the nature of the proposal. All building plans and specifications, completed by registered architects and engineers in the State of Massachusetts along with any required affidavits, reports or calculations required under Massachusetts Building Code in coordination with the City of Somerville's building code requirements

- b. Briefly describe the estimated cost to obtain a building permit for the project.

Please attach a copy of the building permit ordinance.

The cost of a building permit is based on the estimated cost of the job, For the first \$100,000 of estimated cost the fee is \$20 per \$1,000, for a project that is over \$100,000 the price is \$21 per \$1,000. A Building plan review fee of \$4 per \$1,000 is added when a building permit review includes plans for the Inspector to

review. A Zoning plan review fee of \$1 per \$1,000 is added when a building permit review requires a zoning decision by the planning reviewer.

3. Timetable: outline the timetable for a building permit process for a project such as that proposed by the Project and include whether the community can commit to a timetable for approval.

Assembly Square Campus:

- Block 5B, 250,000 square feet, has final level Special Permit with Site Plan Review approval from the Somerville Planning Board. An application to the Building Division of the Somerville Inspectional Services Department for building permit can be submitted and approved by December of 2018.
- Block 7, two 500,000 square foot towers totaling 1 million square feet, requires final level Special Permit with Site Plan Review approval from the Somerville Planning Board. This process requires 60-90 days. An application to the Building Division of the Somerville Inspectional Services Department for building permit can be submitted and obtained by May of 2019.
- Block 9, 250,000 square feet, requires final level Special Permit with Site Plan Review approval from the Somerville Planning Board. This process requires 60-90 days. An application to the Building Division of the Somerville Inspectional Services Department for building permit can be submitted and obtained by May of 2019.
- **5 Middlesex Ave:** The developer will submit an initial Master plan application on March 14, 2018; first formal Planning hearing tentatively targeted shall be May 3, 2018 with subsequent planning Board hearings for June and perhaps July. Assuming a July vote that is successful we would be able to submit special Permit applications for specific building projects in August. Assuming one of more special Permits are issued in September 2018 construction will be able to commence approximately 6-7 months after receipt of the Special Permit, subject to building permit review period. I cannot speak to "community commitment".

Cambridge Crossing Campus:

The Cambridge Crossing master plan was approved on September 11th, 2014. Development requires final level Special Permit with Site Plan Review approval from the Somerville Planning Board.

4. Restrictions: outline any height restrictions relevant to Site.

Assembly Square Campus:

- **Assembly Row:** height limit is 250 feet.
- **5 Middlesex Ave:** The development team is seeking a waiver on master plan submission allowing specific parcels to be built up to but not to exceed 250' in height.
- **96 Middlesex Ave:** The site height limit is 125 feet.

Cambridge Crossing Campus:

The approved height ranges depending on building location with a maximum height limit of 220 feet.

E. Utilities

For each of the following utilities/services, list the name of the utility/service provider, the person assigned to work with the Project and the relevant contact information for that person.

- ☐ Water - DPW - City of Somerville
- ☐ Wastewater - DPW - City of Somerville
- ☐ Electricity - Eversource
- ☐ Natural Gas - National Grid
- ☐ Solid Waste - N/A
- ☐ Drainage/Storm Water - DPW - City of Somerville
- ☐ Telecommunications - Comcast, Fios/Verizon
- ☐ Broadband - Comcast, Fios/Verizon

1. Water: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned.

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Municipal water for domestic use and fire protection is provided by the City of Somerville through a looped system of water mains within the streets adjacent to and surrounding the Site. Existing water lines serving the Site range in size from 8-inch to 20-inch diameter pipes. The existing water mains in the adjacent streets are shown on the accompanying existing conditions plan. Fire hydrant flow tests conducted in 2015 by FRT for fire protection design on adjacent properties indicate that the static pressure within the water system is approximately 70 psi and available flow from the system at a minimum residual pressure of 20 psi is in excess of 7,500 gpm. Somerville receives its municipal water from the Massachusetts Water Resources Authority (MWRA).

Existing water infrastructure is shown on Exhibit E: Existing Conditions.

a. Costs - For water service to project on Site, estimate the cost of each of the following:

- (i) Impact Fee
No cost
- (ii) Extension of water line(s)
No cost
- (iii) Installation of water line(s)
No cost
- (iv) Tap Fee(s)
- (v) Other relevant fees and assessments
None

2. Wastewater: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned.

Municipal sewer is provided by the City of Somerville. The site is served by multiple gravity sewer lines in the adjacent streets ranging in size from 8-inch to 15-inch diameter. The existing sewer lines in the adjacent streets are shown on the accompanying existing conditions plan. FRT has met the municipal requirements for inflow and infiltration (I/I) mitigation for the entire sewer flow from the Assembly Row Planned Unit Development Preliminary Master Plan, last

amended in 2014. It is anticipated that the sewer flows from the Site will be within the total flow rate from the PUD that has been permitted by the City of Somerville and for which mitigation obligations has been met.

Existing sewer infrastructure is shown on Exhibit E: Existing Conditions.

a. Costs - For wastewater service to project on Site, estimate the cost of each of the following:

- (i) Impact Fee
No cost
- (ii) Extension of sewage line(s)
No cost
- (iii) Installation of wastewater line(s)
No cost
- (iv) Tap Fee(s)
- (iv) Other relevant fees and assessments
None

3. Electricity: Please provide name of service provider, distance to Site, if dual feed available, capacity of line and system (including peak usage), and any capital improvements planned.

Primary electric distribution (13.8 kV) and service is provided by Eversource Energy through existing underground, concrete encased duct banks within several of the streets at Assembly Square. The existing duct bank system is shown on Exhibit E: Existing Conditions.

Renewables are being investigated

a. What is the expected proportion of renewable energy in the utility's generation mix over the next 20 years?

The Massachusetts Renewable Portfolio Standard requires retail electricity suppliers to provide customers with a minimum percentage of electricity from renewable energy. The law requires suppliers to increase the percentage of renewable energy by currently increases by 1 percent each year. In 2016, the Massachusetts RPS required suppliers to purchase enough renewable energy to cover 11 percent of their customers' retail load. Under the existing policy, the percentage of renewable energy will reach 25 percent by 2030 and 33 percent by 2038.

- b. What options are or will be available for the project to use up to 100% renewable energy to serve their load?

Massachusetts is a deregulated energy state. Renewable sourced energy can be procured from the grid through Eversource.

Amazon or Federal Realty Investment Trust could enter in to a Power Purchase Agreement for an offsite solar plant and utilize Remote Net Metering to bring the power to the site.

Federal Realty currently has 1.03 Mega Watts (MW) of solar installed at the site and 3.5 MW deployed in the state. Federal Realty could potentially develop additional solar on behalf of Amazon, through a combination of onsite and offsite solar, to satisfy renewable requirements under a 20-30 year Power Purchase Agreement.

- c. What options are currently available to purchase power at Site on the open market?

Primary electric distribution (13.8 kV) and service is provided by Eversource Energy.

In addition, the proposed campus sites are located across the Mystic River from the Mystic Generating Station, a massive producer of waste heat. Taking advantage of the waste heat produced by the power plant to deliver district wide heating to both campuses is a unique sustainability opportunity. In addition proximity to the Mystic River provides for possibilities for geothermal power generation and/or heating and cooling.

- d. What is the cost per kWh?

The average cost of electricity at Assembly Square is \$0.37 per KWh including supply and delivery charges

4. Natural Gas: Please provide name of service provider, distance to Site, line size, capacity of line and system, and any capital improvements planned. Include any costs to the Project.

Natural gas is provided by National Grid at 22 psi through a series of gas lines within the adjacent streets ranging in size from 8-inch to 12-inch. The existing gas lines are shown on Exhibit E: Existing Conditions.

5. Telecommunication & Broadband

Telecommunications, including fiber network, are available in existing duct banks within the adjacent streets. With few exceptions, each duct bank contains 8 or 10 4-inch ducts, with ducts assigned to Verizon, Comcast, RCN and FRT (reserved for future use to accommodate additional provider or dark fiber).

- a. Provider(s) - Name and describe providers of telecommunications (including cellular coverage) services to Site, and all high speed data links available to Site.

Verizon, Comcast and RCN all provide telecommunications and fiber optic high speed data service to the site.

- b. Fiber maps/routes

See Exhibit E: Existing Conditions

- c. Estimated cost of dark fiber lease/ownership

The landlord will provide Amazon with access to the leading dark fiber network in the region as part of its negotiated rent. The network will be scalable from four strands of dark fiber to 144 strands of dark fiber depending on the Amazon's needs over time. The dark fiber network is fully redundant with no single point of failure and connects to all of the region's major data centers including, but not limited to, 50 and 70 Innerbelt Road in Somerville, 300 Bent Street in Cambridge, 230 Congress Street and 1 Summer Street in Boston. The dark fiber network also has the benefit of being accessible to all properties in this proposal. Finally, because the dark fiber network will be provided directly by the Landlord it creates the opportunity to work with Amazon to create unique 5G campus driven solutions.

- d. Is any telecommunication license required for dark fiber install or use?

No.

- e. Process to install new fiber lines to reach Site

Dark fiber is available on or near the site. The network will be scalable from four strands of dark fiber to 144 strands of dark fiber depending on the Tenant's needs over time. The dark fiber network is fully redundant with no single point of failure and connects to all of the region's major data centers including, but not limited to 50 and 70 Innerbelt Road in Somerville, 300 Bent Street in Cambridge, 230 Congress Street and 1 Summer Street in Boston. The dark fiber network also has the benefit of being accessible to all other development locations in Somerville. Because the dark fiber network will be provided directly by the Landlord it creates an opportunity to work with the Tenant to create unique 5G campus driven solutions.

F. Transportation

- 2. Roads: describe road access to Site and any planned improvements. Include details of how employees may commute into Site via personal auto or rideshare. Use specific highway names, road names, bridges, etc.**

Assembly Square Campus:

Assembly Square is accessible via Interstate Route 93 and Route 28/The Fellsway. The Assembly Square Transportation Management Association, comprising the largest land owners and employers at Assembly Square will provide options for commuters, including:

- Rideshare and ride matching incentives;
- Guaranteed ride home – using a combination of rideshare and local taxi services to ensure employees using rideshare , transit or bike will be provided transportation in the event of emergencies;
- Transit incentives to reduce transit costs;
- And bicycle and pedestrian incentives.

Cambridge Crossing Campus:

- The site is located adjacent to the Community College MBTA Orange line station and Bunker Hill Community College via the Gilmore Bridge.
- Site is 2 miles from Interstate 93, 3 miles from Interstate 90, and 3.5 miles from Logan International Airport.

- 3. Tram or Light Rail: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.**

Assembly Square Campus:

There is no light rail service to the site.

Cambridge Crossing Campus:

The Site sits adjacent to the MBTA Green Line and is served by the Lechmere station. Lechmere is a light rail station and the present-day northern terminus of the MBTA Green Line “H” branch, which connects to

- Science Park,
- North Station (with connections to northbound commuter rail and the Orange Line),
- Haymarket (with connections to the Orange Line);

- Government Center (with connections to the Blue Line);
- Park Street (with connections to the Red Line and the Green Line B, C, and D branches);
- Boylston;
- Ten additional stops on the E Branch terminating at Heath Street.

Lechmere Station is located at Lechmere Square in East Cambridge, Massachusetts near the intersection of Cambridge Street and Monsignor O'Brien Highway (Route 28). Green Line trains run around a balloon loop, inside which is a small yard used for midday and overnight storage. The station has two platforms, which are not connected within fare control; the outbound terminus is on the northeast side of the loop and the inbound platform is on the southwest side. Lechmere station is fully handicapped accessible.

Service runs regularly every 5-9 minutes from 5:38 am until 8:00 pm and then every 7-15 minutes from 8:00 p.m. until closing at 12:47 a.m.

a. Extension or new tram/light rail service

A major expansion of service northbound is planned to open in 2021. The Green Line Extension (GLX) adds seven new stations throughout Somerville on two branches. One branch extends to the northwest serving one station to Union Square. The main branch serves northwest serving five stations located throughout Somerville and also a portion of Medford.

The project also includes the relocation of the Lechmere Station from its current location to a spot located within the Cambridge Common site.

The \$2.1 Billion project is currently under construction and fully funded. A system map of the GLX can be found at <http://greenlineextension.eot.state.ma.us/documents/about/ProposedMap/projectpro.pdf>

Full project information can be found at <http://greenlineextension.eot.state.ma.us/>

(i) Will State/Commonwealth/Province or local government(s) commit to acquire right-of-way to assure tram or light rail service to Site?

☐ Yes ☒ No

(ii) If Yes, provide letter of commitment and identify funding source(s).

4. Metro or Subway: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

The MBTA Orange Line's Assembly station is in the heart of Assembly Square with two headhouses located on Foley Street and Revolution Drive, just steps from the four buildings comprising 1.5 million square feet of office space. One stop inbound towards Boston connects Cambridge Crossing via Community College Orange Line Station and 1.8 million square feet of office space.

On the Orange Line, downtown Boston is just minutes away from Assembly Square. The Orange Line also provides direct connections to commuter rail serving communities north of Boston via North Station and commuter rail servicing the metro-west region via Back Bay station. The Orange Line also provides direct connections to residential communities, including Roxbury and Forest Hills to the south and Medford and Malden and Melrose to the north.

See Exhibit F.4: MBTA map

a. Extension or new service commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire right-of-way to assure metro service to Site?

☐ Yes ☐ No

(ii) If Yes, provide letter of commitment and identify funding source(s).

[Click here to enter text.](#)

5. Commuter Train Service: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

The Orange Line also provides direct connections to commuter rail serving communities north of Boston via North Station and Malden Center station and commuter rail servicing the metro-west region via Back Bay station. The Orange Line also provides direct connections to residential communities, including Roxbury and Forest Hills to the south and Medford and Malden and Melrose to the north. Commuters living south of Boston and arriving at South Station on the commuter rail are able to connect to the Orange Line via Red Line to Downtown Crossing.

a. Extension or new service commitment

PROJECT

REAL ESTATE SECTION

RE -54

PROPRIETARY AND CONFIDENTIAL

(i) Will State/Commonwealth/Province or local government(s) commit to acquire right-of-way to assure rail service to Site?

☐ Yes ☐ No

(ii) If Yes, provide letter of commitment and identify funding source(s).

[Click here to enter text.](#)

6. Ferry Service for employee commuting: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

Metropolitan Boston has a growing system of 16 locations connected by active ferry routes. These locations include commuter water routes from Hingham, Hull, Salem and Lynn as well as 9 different locations in the Inner Harbor itself including Logan Airport, Lewis Wharf in East Boston, the Charlestown Navy Yard, Rows Wharf and Long Wharf Downtown and various locations in the Seaport District. Backed by state, municipal, corporate and civic interests, the non-profit organization Boston Harbor Now (BHN) is currently preparing a strategic plan with the goal of expanding the current water transportation system in Boston Harbor within a one to five-year timeframe.

Two new locations for ferry or water shuttle service for early implementation are linked to sites accessible to the proposed Amazon campuses.

The first site is Lovejoy Wharf at North Station to be linked to Atlantic Wharf at South Station. This connection will enhance cross-harbor mobility, and link Amazon locations on the Orange Line to the Seaport District. It will also link the rail and commuter lines coming into North Station from the north with the rail and commuter lines coming into South Station from the south and add a direct connection to the MBTA Red Line. The state, city and private developers have already committed funding for the dock infrastructure and initial operational stages of this first new addition to the water transportation system.

A second site across the Mystic River from Assembly Square at the hotel and casino development in Everett will connect to Pier 4 or the Fan Pier in the Seaport District. A fleet of low-profile boats, now in construction, will provide this cross-harbor service and link Logan Airport. A proposed pedestrian bridge across the Mystic River will link the Assembly Orange Line station to the new hotel and casino docking facility.

a. Extension or new service commitment

PROJECT

REAL ESTATE SECTION

RE -55

PROPRIETARY AND CONFIDENTIAL

(i) Will State/Commonwealth/Province or local government(s) commit to acquire right-of-way to assure ferry service to Site?

☐ Yes ☒ No

(ii) If Yes, provide letter of commitment and identify funding source(s).

[Click here to enter text.](#)

7. Bus Service: name of provider, details of system (maps) of areas served, and planned improvements. Also include data on the reliability of the service and delays.

Assembly Square Campus:

Assembly Square is served by the MBTA's bus #90 and #92 Assembly Square Mall to Downtown Boston. Bus Route #90 connects David Square in Somerville to the MBTA Orange Line Wellington station in Medford.

In addition Partners Healthcare System provides free shuttle bus service to its 4,500 employees and visitors at Assembly Square, providing links to multiple healthcare, educational and administrative sites across Greater Boston, serving 2.5 million riders annually. The Assembly Square Transportation Management Association will work with Partners to expand the availability and service routes of this existing shuttle service.

See Exhibit F.7: Shuttle Bus Map

Cambridge Crossing Campus:

Cambridge Crossing is served by MBTA's bus #69 (Harvard to Lechmere Station), bus #80 (Arlington Center to Lechmere Station), bus #87 (Arlington Center to Lechmere Station), and bus #88 (Clarendon Hill to Lechmere Station).

a. New service or extension commitment

(i) Will State/Commonwealth/Province or local government(s) commit to acquire right-of-way to assure bus service to Site, if necessary?

☐ Yes ☐ No

(ii) If Yes, provide letter of commitment and identify funding source(s).

[Click here to enter text.](#)

8. Master Transit Plan: please provide a copy of the Master Transit Plan encompassing Site, if any.

G. Local Taxes

1. Real Property Tax Rate

a. Calculate Annual Real Property Taxes for Site

Commercial and industrial tax rate per \$1,000 is 18.21 for FY 2018. Current FY 2018 tax estimates for the current office tenants on site are \$5.00 per square foot.

2. Personal Property Tax Rate

a. Detail any personal property exclusions

3. Detail any additional local taxes (i.e., overlay, infrastructure)

None.

INCENTIVES

Please provide a summary of total incentives offered by the State/Commonwealth/Province and Local Community. If there are different incentive opportunities depending on the proposed real estate site, detail each incentive by real estate site. If the incentives are the same for all sites, complete this section once. Please organize your response in accordance with the incentive categories outlined herein and provide the following information with respect to **each** incentive:

- ☐ Brief overview of the incentive
- ☐ Timing of incentive utilization/realization
- ☐ Estimated net present value (using a [6%] annual discount factor) of the incentive based on the **Project Assumptions** set forth below
- ☐ Description of any specific or unique eligibility requirements applicable to the incentive
- ☐ Description and timing of required approvals (including any legislative or other approvals that may be required)
- ☐ If the incentive is uncertain or is not guaranteed, an explanation of the factors that contribute to that uncertainty and an estimate of the level of certainty
- ☐ Description of any claw back or recapture provisions applicable to the incentive
- ☐ Whether the incentive is refundable, transferable, or may be carried forward or carried back

Project Assumptions

In order to estimate the net present value of each incentive, please use an annual discount factor of 6% and the following assumptions regarding buildout and employment ramp-up:

- ☐ An initial building campus comprised of 500,000 square feet in Year 1
- ☐ A total building campus comprised of 8,000,000 square feet upon completion of the Project
- ☐ Three phases of buildout over 15 years, starting with an initial 500,000 square feet in 2019/2020. Next, an incremental 500,000 square feet built in Years 2-5 (totaling 2,000,000 square feet over the first phase), an incremental 600,000 square feet built in Years 6-11 (totaling 3,600,000 square feet over the second phase), and the remainder built in the third phase in years 12-16 in 380,000 square foot increments (totaling 1,900,000 square feet over the third phase).

MA_Boston_Somerville Orange Line_Incentives

- ☐ Investment by the Project and/or the developer (if any) of \$600 per square foot for construction
- ☐ Initial direct Project employment of 2,500 in Years 1-2
- ☐ 50,000 direct Project employees upon completion of the Project, increasing relative to construction at the rate of one job per 160 square feet built
- ☐ Average compensation will be over \$100,000 for employees, excluding benefits. More detailed information may be available later in the process.

State/Commonwealth/Province/Local

Please complete the section below for all State/Commonwealth/Province and Local Incentives. Organize your responses by specific jurisdictions. If there are different incentives for real estate sites, organize your response accordingly.

1. Tax Incentives –

For each of the following, please provide the relevant percentage (e.g. a XX% investment credit or XX% reduction in real property taxes), maximum length of incentive (e.g. 10 year credit period or 20 year abatement period), eligibility requirements (e.g. what constitutes eligible investment under an investment credit), initial and on-going compliance obligations (such as prevailing wage requirements, annual reporting, etc.), any caps (annual and/or aggregate), carryforward (if any), refundability, transferability, and assignability (e.g. to members of an affiliated group).

- a. Payroll withholding tax rebates/grants (existing or potential)
- b. Job creation tax credits (existing or potential)
- c. Investment tax credits (indicate whether investment by a developer, if any, would count)
- d. Research and development tax credits and any other incentives available in connection with R&D activity conducted by or in conjunction with universities in the State/Commonwealth/Province.
- e. Sales and use tax credits/exemptions or sharing agreements
- f. Lodging tax, airport fees, etc. credits/exemptions or sharing agreements
- g. Tax abatements of any type (indicate whether real, personal or both types of property are covered)
- h. Millage/property tax rate reductions

MA_Boston_Somerville Orange Line_Incentives

- i. Rate freezes and/or caps on income, business license and/or other taxes
- j. Film tax credits
- k. Tax incentives associated with the creation of an enterprise zone, development district or innovation zone
- l. Other tax incentives not described above

2. Workforce Education, Training, and Relocation

- a. Grants for workforce education, training, and relocation
- b. Loans for workforce education, training, and relocation (no interest/low interest)
- c. Reimbursements for workforce education, training, and relocation
- d. Other workforce education, training, and relocation programs (including but not limited to internships and cooperative education programs linked to universities and technical schools)

3. Project and Infrastructure-Related

- a. Site acquisition and preparation assistance (discretionary grants and no interest/low interest loans)
- b. Infrastructure acquisition and construction assistance (discretionary grants and no interest/low interest loans)
- c. Temporary office space to accommodate immediate hiring during initial construction
- d. State/Commonwealth/Province financing, including:
 - i. Forgivable loans
 - ii. No interest/low interest loans
 - iii. Credit enhancement
 - iv. Leases
 - v. Bond financing

MA_Boston_Somerville Orange Line_Incentives

- e. Sustainability/renewable energy programs
- f. Environmental mitigation/remediation assistance
- g. Grant/cash matching incentives
- h. Permitting fee discounts, abatements or waivers
- i. Utility fee discounts, abatements or waivers
- j. Impact or other development fee discounts, abatements or waivers
- k. Other project or infrastructure-related incentives

4. Project manager / ombudsman to coordinate/expedite approvals.

Master development processes in Somerville typically include an assigned liaison from the economic development division of OSPCD to assist in connecting master developers with the correct City agencies and officials and coordinating the permitting process from the City side.

In regards to the Project, the City of Somerville would consider hiring a full-time ombudsman for this development project exclusively and/or assign a dedicated team to facilitate permitting and approvals.

5. Other State/Commonwealth/Province Incentives

6. Describe other incentives not addressed in Item 1, 2 or 3.

Note: This document includes Somerville-specific responses to the RFI. Grayed out questions are answered in the joint Boston-Somerville response.

TAXES AND TAX POLICY

A. State/Commonwealth/Province

1. Income Taxation
2. Franchise Taxation
3. Option Taxation, State/Commonwealth/Province
4. Property Taxation
5. Sales and Use Taxation
6. Surtaxes
7. Other Taxation (State/Commonwealth/Province)

B. Local

1. Income Taxation

None

2. Franchise Taxation

None

3. Option Taxation, Local

None

4. Property Taxation

Formula: Assessed Value x \$18.21/\$1,000 Valuation

a. Personal, including Equipment, Machinery or Tools

Formula: Assessed Value Personal property x \$18.21/\$1,000 Valuation

b. Real

Formula: Assessed Value x \$18.21/\$1,000 Valuation

5. Sales and Use Taxation

No local sales and use tax.

6. Surtaxes

None

7. Other Taxation (Local)

None

C. Projected Employee Tax Burden

Detail the typical State/Commonwealth/Province and local tax burden that a company worker might anticipate if HQ2 were built on Site and the worker lived in your community. Assume the worker earns \$100,000 annually, excluding benefits.

D. Other.

MA_Boston_Somerville Orange Line_Taxes and Tax Policy

Detail any State/Commonwealth/Province tax legislation that has been proposed over the last two years that would positively or negatively impact the business community.