RECORD OF THE REGULAR MEETING OF THE BROOKLINE SCHOOL COMMITTEE HELD ON **THURSDAY, FEBRUARY 6, 2020** AT 6:00 PM IN THE WALSH SCHOOL COMMITTEE ROOM, 5TH FLOOR, TOWN HALL. STATUTORY NOTICE OF THIS MEETING WAS FILED WITH THE TOWN CLERK.

School Committee Members Present: Ms. Schreiner-Oldham (Chair), Ms. Federspiel (Vice Chair), Dr. Abramowitz, Ms. Charlupski, Ms. Ditkoff, Ms. Monopoli, Mr. Pearlman, and Ms. Scotto. School Committee Members Absent: Mr. Glover. Also present: Ms. Normen, Dr. Gittens, Ms. Ngo-Miller, Mr. Cannon, and Ms. Coyne.

Others Present: Director of Data Analysis and Information Management Erin Cooley and Dr. Jerome McKibben (McKibben Demographic Research).

Ms. Federspiel called the meeting to order at 6:00 PM.

1. ADMINISTRATIVE BUSINESS

a. Calendar

Ms. Federspiel noted upcoming events on the calendar.

b. Consent Agenda

ACTION 20-12

On a motion of Ms. Scotto and seconded by Ms. Ditkoff, the School Committee VOTED UNANIMOUSLY to approve the items included in the Consent Agenda.

i. Past Record: January 16, 2019 School Committee Meeting
ii. Acceptance of Early Childhood Special Education Targeted Federal Program Improvement Grant (Attachment A).

2. PUBLIC COMMENT

No public comment was provided.

3. STUDENT REPORT

Mr. Cannon reported that the Student Legislature Communications Subcommittee met with representatives of the *Sagamore* newspaper to discuss outreach. The Student Legislature continues to work on possible changes to the policies on use of headphones, senior signups for sports, field trip absences, and homework. Members of the Math and English Departments expressed some concerns regarding proposed changes to the Homework Policy. Students participating in the French Exchange left today. Several clubs are working on climate initiatives and will be making presentations on sustainability and recycling.

4. PRESENTATIONS AND DISCUSSIONS OF CURRENT ISSUES

a. FY 2019 Final Financial Report

Ms. Normen reported that the FY 2019 Final Financial Report was submitted to the state. The district will be submitting an amendment.

b. FY 2021 Budget Update

Ms. Normen presented an FY 2021 Budget Update (Attachment B). She explained operating costs for leased budgets and the composition of Services. The Town-School Partnership Committee will be meeting on February 13, 2020. At that point the Town Administrator will provide the schools with the Town Meeting appropriation figure. The current projected figure is $126,364,233. The public hearing on the FY 2021 Budget will take place this evening. The School Committee will be asked to vote on the Town Meeting Appropriation for the Schools on February 13, 2020. Over the next two months, the School Committee will continue to discuss the allocation of funds.

In response to questions, Ms. Normen expanded on the following: review of contracts to evaluate whether any services should be brought in-house; review of software and subscriptions; which 2018 Override Planned FY 2021 expenses are not included in the proposed budget; ability to analyze the cost of leasing vs purchasing equipment; and why the district uses a number of transportation vendors. Members expressed concern that the proposed budget does not include all of the items that were proposed in the 2018 Override, including additional Brookline High School staffing to keep pace with enrollment increases. Members requested additional information on Brookline High School and K-8 School projected staffing needs and how the size of Public Schools of Brookline Central Administration compares to other districts.

5. Public Hearing on the FY 2021 Budget and School Choice

Ms. Federspiel stated that the School Choice Law contained in the Education Reform Act of 1993 presumes that each School Committee will admit non-resident students under the School Choice Program, unless there is a vote to the contrary by June 1 of each year. The vote must follow a hearing on the issue of whether or not to participate. The Public Schools of Brookline (PSB) have not participated in School Choice. This evening, we are combining the public hearings on the budget and School Choice since the proposed FY 2021 budget does not include funds for School Choice. The School Committee plans to vote on the FY 2021 Budget on February 13, 2020. The School Committee intends to vote on School Choice at the first School Committee meeting after the election, May 14, 2020. The budget public hearing is an opportunity for the public to express their concerns with the proposed budget. The School Committee welcomes and will be listening very carefully to these concerns, but, as is our practice, will not be responding to individual comments.

The following people provided comments on the FY 2021 Budget: Gayle Davis, Julie Jette, Karen Stensrude, Matthew Bracken, Danna Parker, Steven Ehrenberg, Susan Balogh, Beth Jones, Eli Silk, Naomi Sweitzer, Nathan Shpritz, Alex Bookman, Jessica O'Keefe, Mariah Nobrega, Charu, and Cindy Drake. Comments included the following: teachers are demoralized and aren't listened to or supported by the administration; focus efforts and funding on what happens in the classroom; commit to and support (including training) a research-based reading curriculum with phonics-based learning; screen all children referred to Leveled Literacy Intervention for dyslexia; consider replicating the Driscoll Language and Academic Home Base (LAHB) program at other schools; in

accordance with the Public Schools of Brookline (PSB) Policy Manual, the School Committee needs to understand the budget, be confident that the funds meet the balance between needs and resources and be satisfied that program funding will enable staff to carry out the educational mission successfully; the proposed cut of 15 Override planned teachers and an administrator at Brookline High School will impact what happens in the classroom; the administration needs to supply data to allow the School Committee to make evidence-based decisions; prioritize what happens in the classroom; need to justify the past increases in central administration; classroom consolidation can negatively impact teaching and learning; need to address the decline in services and curriculum and this won't happen if the teaching staff is reduced; don't use 2018 Override funds to close the budget deficit; reduce central administration; don't increase class sizes; Parent Advisory Committee for Innovation is advocating for increasing investment in the type of learning the Enrichment Challenge and Support (ECS) Program supports; urge better integration of a well-rounded education, including ample time devoted to science and social studies, and ready access to an ECS specialist for every PSB teacher; be clear about changes that have occurred that might impact the need for planned Override spending; and develop a clear plan to address enrollment changes.

There being no more members of the public signed up to speak, Ms. Federspiel closed the public hearing on the FY 2021 Budget and School Choice.

6. PRESENTATIONS AND DISCUSSIONS OF CURRENT ISSUES

a. Enrollment Report Presentation

Director of Data Analysis and Information Management Erin Cooley and Dr. Jerome McKibben provided a presentation (Attachments C and D) on the Cropper GIS Consulting, LLC and McKibben Demographic Research 2019 Demographic Study Report (Attachment E). Ms. Cooley stated that the Massachusetts School Building Authority (MSBA) enrollment projections are not yet finalized. While the methodologies of Cropper/McKibben and the MSBA differ, initial MSBA and final Cropper numbers indicate that Public Schools of Brookline (PSB) enrollment growth is leveling off. PSB K-8 enrollment is now projected to essentially remain stable at current levels for the foreseeable future while Brookline High School will continue to grow before stabilizing. Ms. Cooley reviewed PSB facility challenges, the purpose of enrollment forecasts, previous PSB enrollment projections, the Enrollment Projections Working Group membership and May 2019 recommendations, and the rationale for using an external consultant to identify and use a more complex methodology.

Dr. McKibben reviewed the data, assumptions, methodology, and findings included in the Demographic Study Report. The Executive Summary of the Report states the following:

1. The resident total fertility rate for the Brookline Public Schools over the life of the forecasts is below replacement level. (1.47 vs. the replacement level of 2.1)

2. Most in-migration to the district continues to occur in the 20-to-34-year-old age groups.

3. The 35-to-49-year-olds and their 0-to-14-year-old children continue to move to the outer suburbs. These population groups account for the largest segment of the district's out-migration flow and will increase steadily over the next 10 years. The second largest migration outflow is in the 70+ age groups.
4. The primary factors causing the district's enrollment to increase over the next 10 years are the increase in empty nest households turning over, and a sustained rate of in-migration of young households.
5. Changes in year-to-year enrollment over the next ten years will primarily be due to small cohorts entering and moving through the school system in conjunction with larger cohorts leaving the system.
6. The elementary enrollment (K-5) will steadily increase over the next five years school years and then stabilize
7. The median age of the district's population will decrease from 34.1 in 2010 to 33.6 in 2030.
8. Even if the district continues to have some amount of annual new housing unit construction over the next 10 years, the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.
9. Total district enrollment is forecasted to increase by 266 students, or 3.5%, between 2019-20 and 2024-25. Total enrollment will decrease by 35 students, or -0.4%, from 2024-25 to 2029-30.

In response to questions, Dr. McKibben expanded on the following: how the analysis dealt with buffer zones; which planned developments were included in the analysis; patterns of renting instead of pursuing home ownership; private school attendance; correlation between high education and work participation and lower fertility rates; conversion of single-family homes to multi-family homes; and the level of migration and churn. Members suggested that it would be helpful to show the trends for one cohort of students. Members expressed concern that the projections do not incorporate large planned developments, e.g., Puddingstone. Enrollment Projections Working Group members urged caution in making assumptions that are additive. School Committee members discussed how the Report may factor into budgetary decisions.

b. Presentation and Possible Vote on Brookline High School (BHS) Course Catalog Changes 2020-2021

Ms. Scotto and Dr. Gittens presented the proposed BHS Course Catalog Changes 2020-2021 (Attachment F). The Whipple Writing Fellowship was established in memory of David Whipple who graduated Brookline High School in 2012. The Fellowship will offer BHS students who love the written word an opportunity to develop and expand their skills as writers. Participants will join a supportive cohort of fellow aspiring writers, receive stipends to encourage their work, and learn from writers across a spectrum of professional writing styles how to craft a pieces of writing that will ultimately be presented in a public forum and submitted for publication. The Curriculum Subcommittee reviewed this proposal on February 4, 2020. School Committee members

expressed strong support for this proposal. No vote is needed at this time. There may be a future School Committee vote to accept funds.

The new Global Studies Course will be available to students in 10th grade as an alternative to the traditional Modern World History offering in the Social Studies Department. The course will present the story of the modern world through thematic lenses, rather than a chronological approach. The course will offer both Standard and Honor seats. This course, which will offer students a third option, is FTE neutral, and will be relatively simple to schedule. If approved, course planning will take place over the summer, and the course will start in the fall. Some funds will be needed for planning time (funds may be available in the Office of Teaching and Learning Budget). The Curriculum Subcommittee reviewed this proposal on February 4, 2020. School Committee members expressed strong support for this proposal.

ACTION 20-13
On a motion of Ms. Scotto and seconded by Ms. Charlupski, the School Committee VOTED UNANIMOUSLY to approve the addition of the 10th Grade Global Studies Course to the 2020-2021 BHS Course Catalog, as shown in Attachment E.

7. NEW BUSINESS
There was no new business to discuss.

8. PROPOSED EXECUTIVE SESSION
By unanimous roll call vote at 10:10 PM, the School Committee entered into Executive Session pursuant to Massachusetts General laws chapter 30A section 21(a) for Purpose 3: to discuss strategy with respect to collective bargaining with the Brookline Educators Union, Units A, B, and Paraprofessionals, because the chair declared that an open meeting may have a detrimental effect on the bargaining or litigating position of the public body. Ms. Schreiner-Oldham announced that the meeting will not reconvene in open session at the end of the Executive Session. By unanimous roll call vote at 11:00 PM, the School Committee reconvened in public session for the purpose of adjournment.

9. ADJOURNMENT
Ms. Schreiner-Oldham adjourned the meeting at 11:00 PM.

Respectfully Submitted,

Robin E. Coyne, Executive Assistant
Brookline School Committee

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BENJAMIN LUMMIS
INTERIM SUPERINTENDENT OF SCHOOLS

MARY ELLEN N. NORMEN
DEPUTY SUPERINTENDENT
FOR ADMINISTRATION AND FINANCE

Request for Grant Acceptance

February 6, 2020

Motion: School Committee Accepts the grant award as determined by the awarding authority for the grant listed below:

Source	Grant	Award	Assumption	FY20 Projected Balance/(Deficit)*	Account Number
Federal Grant Administered by the Special Education Planning and Policy Unit (SEPP)	Early Childhood Special Education Targeted Federal Program Improvement Grant – Grant 298	$10,000.00	Last awarded in FY17	$0	3220SEE2

*Any deficit or balance will be the responsibility of the Superintendent to adjust. Grant managers should not assume that the operating budget will have funding available to cover any over expenditures of grant awards.

7. Supplies and Materials: Items costing less than $5,000 per unit or having a useful life of less than one year.	Comments	Amount	Select a Primary Function
Other Instructional Materials (non-testing/assessment)	Materials in support of our Early Education Programs working with students on IEPs. Materials will include books for our 23 classrooms to support social and emotional learning, supplies to outfit break spaces in classrooms and common areas; materials and supplies to create "sensory kits" for children to build self regulation skills.	$4,750	Early Childhood Special Education Targeted Improvement (298)
Other Instructional Materials (non-testing/assessment)	Purchase of supporting instructional materials (puppets, cooperative games), materials to create a lending "Social Emotional" Backpack to be borrowed and brought home to support family engagement. Create a parent lending library to support home school connections with social and emotional learning. Purchase materials to implement Tucker Turtle Strategy.Purchase Social Emotional Curriculum Materials like Second Step.	$4,750	Early Childhood Special Education Targeted Improvement (298)
Other	Printing of supporting durable posters to display PBS Program Wide Expectations.	$500	Early Childhood Special Education Targeted Improvement (298)
Sub-Total		$10,000	

If "Other" has been selected above, you must provide details in the corresponding Comment sections.

PUBLIC SCHOOLS of BROOKLINE

INTERIM SUPERINTENDENT'S FY 2021 BUDGET RECOMMENDATION

February 6, 2020

PUBLIC SCHOOLS of BROOKLINE

Town Meeting Appropriation Request - Summary

Program	FY20 STM	FY21 Override Plan 4/2018	FY21 Override Plan Adjusted 12/2019	FY 21 Override Plan with Known Revenue and Mandatory Expenses - 1/2020	Interim Supt's FY21 Request
Revenue					
Total Revenue	$ 119,872,443	$ 126,824,345	$ 125,304,298	$ 125,882,952	$ 126,112,627
Expenses					
Personnel	$ 104,045,184	$ 109,805,819	$ 110,350,000	$ 110,256,672	$ 109,099,464
Services	$ 11,502,584	$ 12,248,617	$ 13,997,419	$ 13,430,972	$ 12,867,901
Supplies	$ 1,799,606	$ 2,116,617	$ 2,602,305	$ 2,116,617	$ 1,934,633
Other	$ 1,290,721	$ 1,288,570	$ 1,091,863	$ 1,278,220	$ 1,147,837
Utilities	$ 0	$ 0	$ 10,350	$ 10,350	$ 10,350
Capital	$ 1,234,348	$ 1,364,723	$ 1,191,685	$ 1,364,723	$ 1,203,048
Transfers to Municipal Dept.	$ 0	$ 0	$ 300,058	$ 252,922	$ 101,000
Expense Total	$ 119,872,443	$ 126,824,346	$ 129,543,725	$ 128,710,476	$ 126,364,233
Surplus/(Deficit)	$ 0	$ 0	$ (4,239,427)	$ (2,827,524)	$ (251,606)

Operating Costs for Leased Buildings

Program	FY20 STM	FY21 Override Plan 4/2018	FY21 Override Plan Adjusted 12/2019	FY 21 Override Plan with Known Revenue and Mandatory Expenses - 1/2020	Interim Supt's FY21 Request
Operating Budget					
Estimated Impact of Level Funded Grants (shortfall)				$ 138,410	$ 138,410
Impact of Declining Poverty Level on Title 1 Grant					$ 242,000
Student Opportunity Act					$ 229,440
Circuit Breaker Transportation Reimbursement					$ (100,000)
Building Department (HVAC Staffing)			$ 225,000	$ 225,000	$ 225,000
Building Department (Maintenance)			$ 100,000	$ 100,000	$ 100,000
Recreation - Intramurals			$ 100,000	$ 100,000	
Total School Committee Allocations			**$ 425,000**	**$ 563,410**	**$ 834,850**
Total Operating Budget			**$ (4,664,427)**	**$ (3,390,934)**	**$ (1,086,456)**

FY19 Services - Top 8 expense codes

Category	Dollar Amount All	Dollar Amount Top 8
TUITION TO NON PUBLIC SCHOOLS	$ 5,036,095.49	$ 11,899,283.84
TRANSPORT-PRIVATE CARRIER	$ 3,120,631.34	
GENERAL CONSULT SERVICES	$ 1,764,803.15	
BUILDING CLEANING SERVICE	$ 574,097.86	
COMPUTER SOFTWARE R & M	$ 560,667.19	
SPECIAL EDUCATION REIMBURSEMENTS	$ 286,297.74	
COPY EQUIP + RENTAL/LEASES	$ 371,071.43	
LEGAL SERVICES	$ 185,619.64	
OTHER SERVICE CATEGORIES	$ 701,182.63	
TOTAL	$ 12,600,466.47	

- Total dollar amount for services = $12,600,466.47
  - Top 8 categories make up 94% of total ($11,899,283.84)
- Examples of Other Service Categories include:
  - Online books, subscriptions and tools ($132,905.44)
  - Student Activities & Programs ($65,284.24)
  - Athletic event officials ($62,570.00)
  - Moving expenses ($30,668.05)

Questions?

Important dates:

- Feb 10 - Student Opportunity Act Next Update
- Feb 13 - Town School Partnership Meeting
- Feb 24 - OpenGov FY21 Budget Live

PUBLIC SCHOOLS of BROOKLINE

ENROLLMENT FORECASTS:

2020-21 to 2029-30

FEBRUARY 6, 2020

Enrollment Update

From Interim Superintendent's Budget Report: January 30th

- Cropper/McKibben to present enrollment forecasts 2/6/20
- MSBA enrollment projections not finalized as of 2/6/20
- Top Line Message -
  - While the methodologies of Cropper/McKibben and MSBA differ, initial (MSBA) and final (Cropper) numbers indicate PSB's enrollment growth is leveling off
  - PSB K-8 enrollment is now projected to essentially remain stable at current levels for the foreseeable future while BHS will continue to grow before stabilizing

Facility Challenges at PSB

- Continued overcrowding at our schools.
  - Enrollment remains more than 1,500 students greater than FY 2006.
- Sub-standard facilities, particularly for our most vulnerable populations.
- Outdated buildings (Driscoll, Pierce, and Baker Schools) that are at or nearing end of life.
- Need for additional classroom spaces for Special Education and English Learner Education programs.
- BEEP - Returning 14 classrooms into K-8 schools.
- Office space for employees who provide essential services to students, families, and schools every day.

Why Use Enrollment Forecasts?

- Essential planning tool that helps the district make informed decisions about:
  - Operational costs for staffing, transportation, food service, facility use, etc.
  - Facility needs in relation to class sizes, grade configurations, staffing, technology, etc.
  - Short and long term planning for PSB's future
    - Capital Projects (expansion and/or renovation)
    - Programming/Services
    - Academic Opportunities

Recent History - PSB Enrollment Projections

- 2009 - MGT as part of the 2009 Facilities Master Plan (updated in 2012)
- 2013 - Brookline School Population and Exploration Committee (B-SPACE) Report
- 2014 - Override Study Committee
- SY 2015 - 16: PSB Report led by Interim Superintendent Joseph Connelly
- Fall 2016 - Fall 2019 - Internal report developed by cross-department team
  - Introduced most recent methodology
- Spring 2019 - Enrollment Projections Working Group (EPWG)
  - Charged with providing recommendations to School Committee and Town for enrollment forecasts and methodology moving forward

EPWG Members

- **Cliff Brown** - Advisory Committee Member, Town Meeting Member, Member of Fiscal Advisory Committee member
- **Erin Cooley** - Director of Data Analysis & Information Management, PSB
- **Meaghan Geaney** - Coordinator of Registration and Enrollment, PSB
- **Jed Fehrenbach** - GIS Manager, Town
- **Ben Lummis**, - Interim Superintendent, PSB
- **Nathan Shpritz** - Town Meeting Member, Fiscal Advisory Committee member
- **Mike Toffel** - Town Meeting Member, Fiscal Advisory Committee member

EPWG Recommendations - May 2019

1. Town Clerk and School Department Work Together to Improve the Birth to Five Census
2. Move from Point Projections to Ranges
3. Determine when METCO and Materials Fee Students are Included
4. Survey Licensed Pre-School and Day Care Centers Annually
5. **Use an External Consultant to Identify and Use a More Complex Methodology**
6. Integrate enrollment projection work done with Massachusetts School Building Authority with these efforts for FY 2020

Using an External Consultant to Identify and Use a More Complex Methodology - May 2019

- Likely will need support in determining which approach fits best for Brookline
- External firm could use a variety of methods and make a determination about which is the best fit for the Brookline (cohort survival using birth to K for kindergarten, cohort survival using a rolling average of kindergarten enrollment, linear regression, average percentage increase, etc.)
- External firms have capability to develop forecast using a much wider set of variables including fertility and mortality rates, in and out migration, population age, home sales, housing conversions and construction, and long term demographic shifts.
- Could look at this complex set of data within each school assignment zone to identify how they may impact enrollment in different parts of the town.

Cropper & McKibben GIS

- Hired in October 2019
- Expertise in using demographic data to develop an accurate forecast of enrollment
  - Demographers, geographers and planners who use GIS as a tool to help answer long-standing questions
- Developed studies for 100's of school districts of all sizes across the United State including: Newton, Needham and Wellesley
- Since November 2019 Cropper has worked with:
  - PSB Data Team
  - PSB Registration and Enrollment
  - Enrollment Projections Working Group (EPWG)
  - Town Planning Department
  - Town GIS Manager

Dr. Jerome McKibben

- Over 20 years experience in projecting enrollments, population, and housing
- Holds a Ph.D in Demography from Bowling Green University and has taught demography, statistics, and sociology at several universities within the U.S. and in Europe.
- State Demographer of Indiana for 6 years
- Recipient of Fulbright Scholar Award in Berlin, Germany in 2002
- Has testified before state legislatures, courts, and the US Congress on census and population issues
- Specializes in population and enrollment analysis/projections, redistricting, policy and planning, research methods and statistics, needs assessments, and race/ethnicity based issues

Public Schools of Brookline, MA
Demographic Study

February 6, 2020

McKibben Demographic Research
Jerome McKibben, Ph.D.
Rock Hill, SC
j.mckibben@mckibbendemographics.com
978-501-7069

Cropper GIS Consulting, LLC
Matthew Cropper
Delaware, OH
mcropper@croppergis.com
614-451-1242

Cropper GIS

McKibben Demographics

Assumptions

a. The national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)

b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30-year fixed home mortgage stays below 5.0%;

c. The rate of mortgage approval stays at 2015-2019 levels and lenders do not return to "sub-prime" mortgage practices;

d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;

e. The rate of housing foreclosures does not exceed 125% of the 2015-2019 average of Norfolk County for any year in the forecasts;

f. The district has at least 110 existing single-family home sales annually between 2019 and 2029;

g. The unemployment rates for the Norfolk County and the Boston Metropolitan Area will remain below 6.0% for the 10 years of the forecasts;

Assumptions

i. The district has at least 110 existing single-family home sales annually between 2019 and 2029;

j. The rate of students transferring out of The Public Schools of Brookline will remain at the 2015-16 to 2019-20 average.

k. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;

l. There will be no building moratorium within the district;

m. The State of Massachusetts does not change any of its current laws regarding inter-district transfers, school vouchers or charter schools;

n. No new charter schools open in the district or surrounding area in the next 10 years;

o. Businesses within the district and The Public Schools of Brookline area will remain viable;

p. The number of existing home sales in the district that are a result of "distress sales" (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;

Assumptions

q. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by home owners over the age of 60;

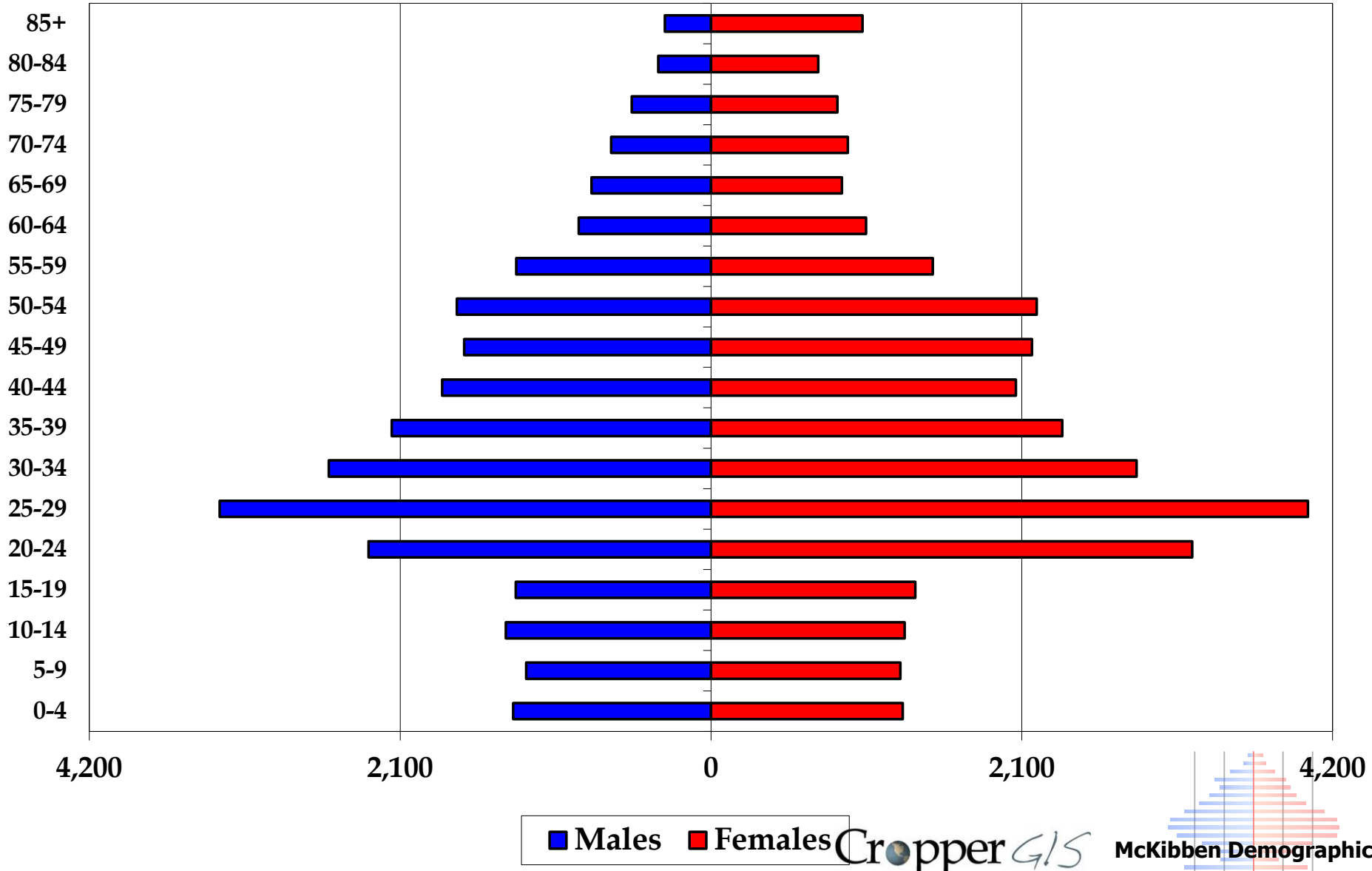
r. Private school and home school attendance rates will remain constant;

s. The rate of foreclosures for commercial property remains at the 2014-2018 average for Norfolk County;

t. All currently planned, platted, approved and permitted housing developments are built out and completed by 2028. All housing units constructed are occupied by 2029;

u. In regards to the aforementioned assumption, the following building projects are included in the assumptions: The 420 Harvard/49 Coolidge project, 25 units completed by June 2020. The 384 Harvard (JCHE) project. 62 units, completed by August 2020. The 455 Harvard project. 17 units, completed by June 2020. The 136 Babcock project. 45 units completed by June 2021. The Residence of South Brookline-Hancock Village. 175 units completed by January of 2022.

The Public Schools of Brookline, MA Total Population – 2000 Census



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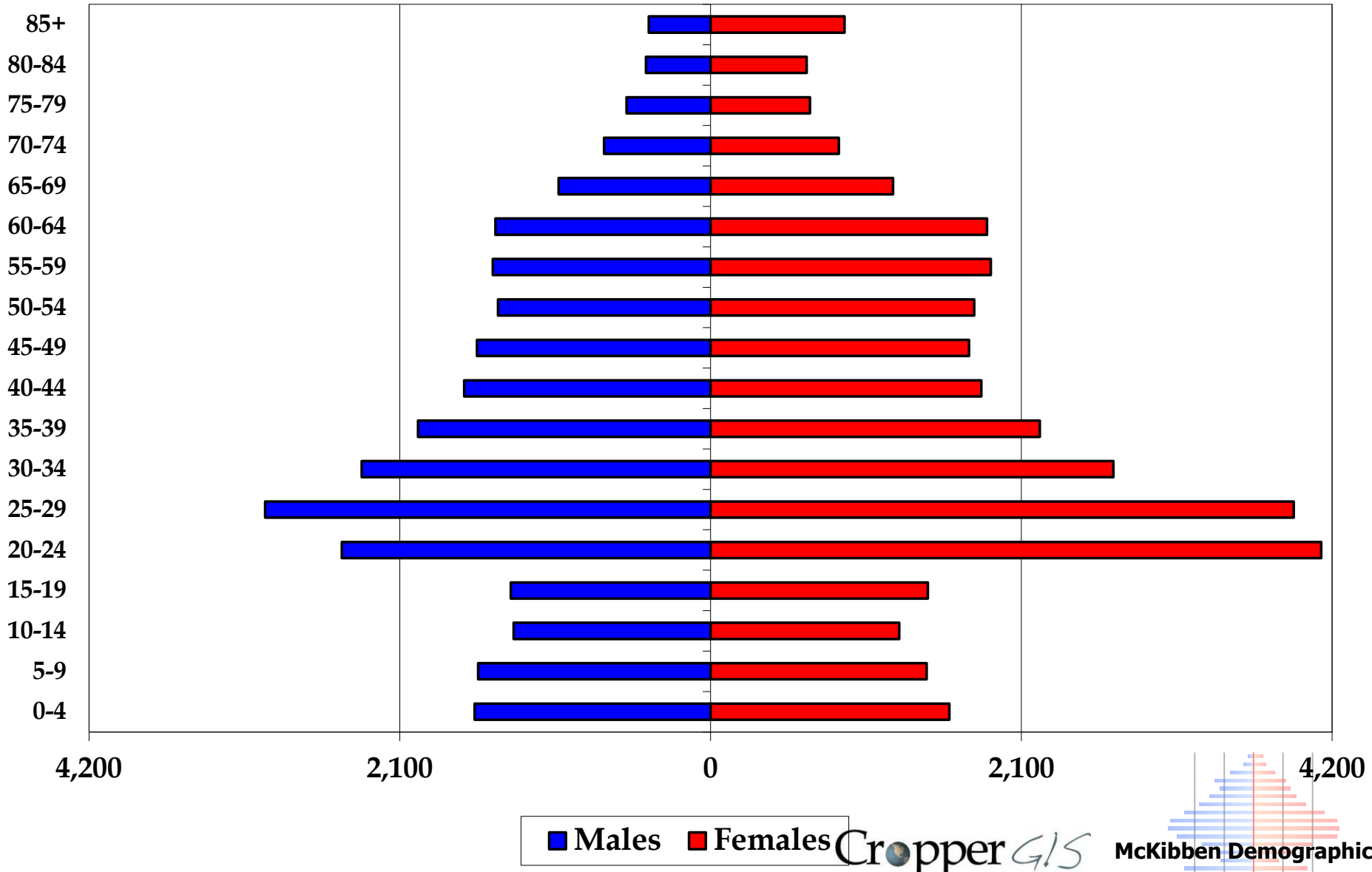
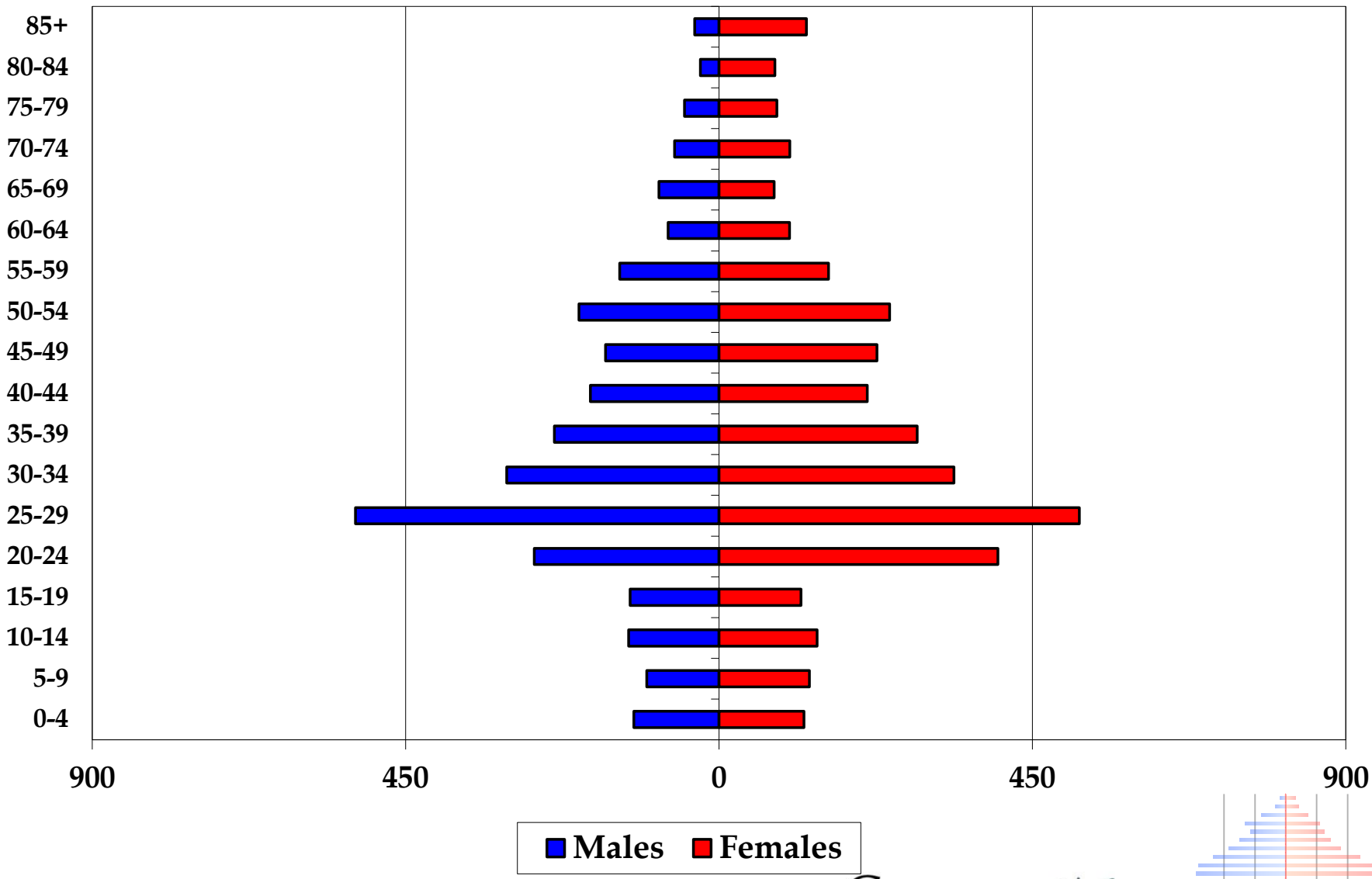


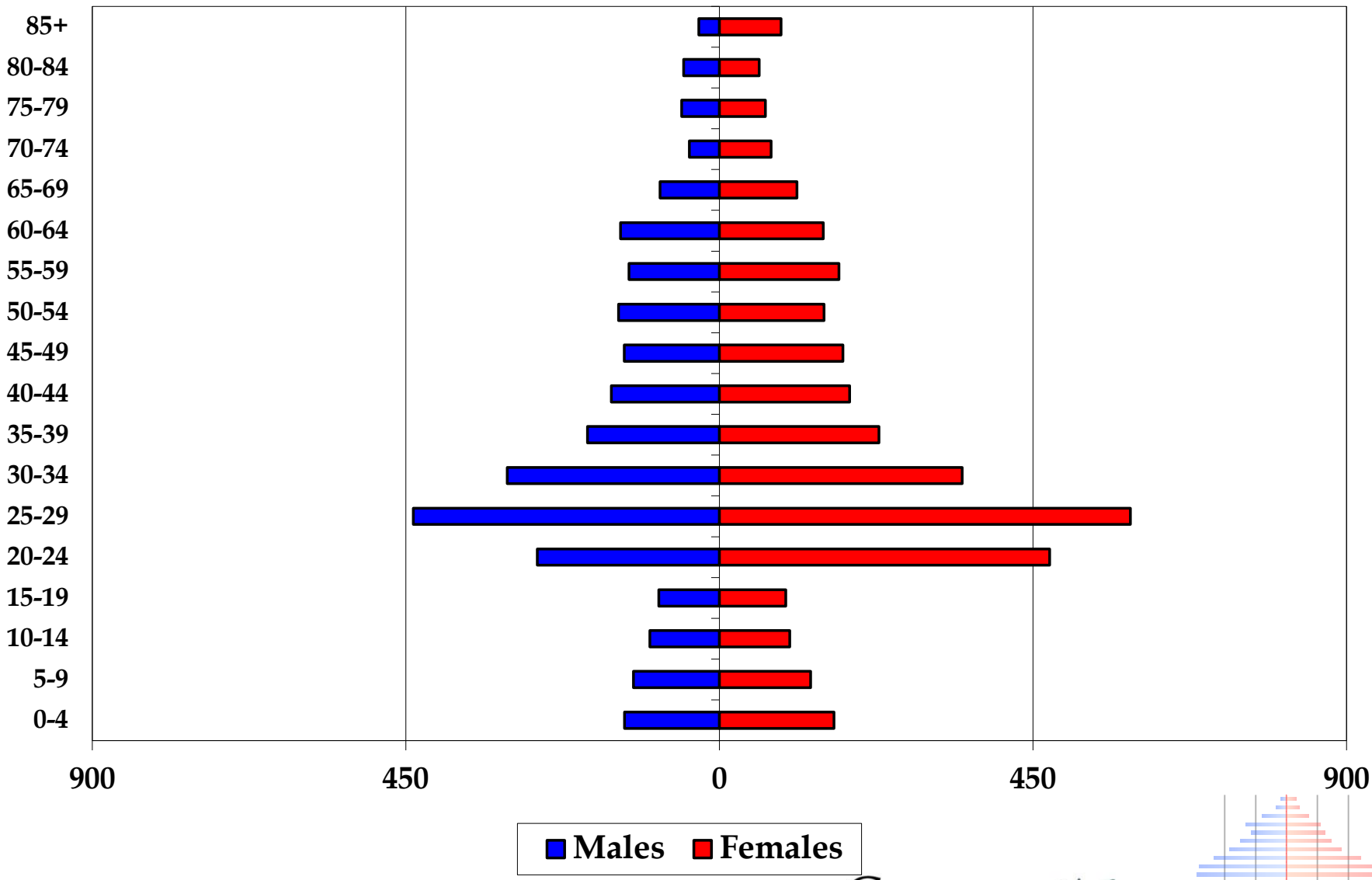
Driscoll Elementary Zone Population – 2000 Census



Cropper GIS

McKibben Demographics

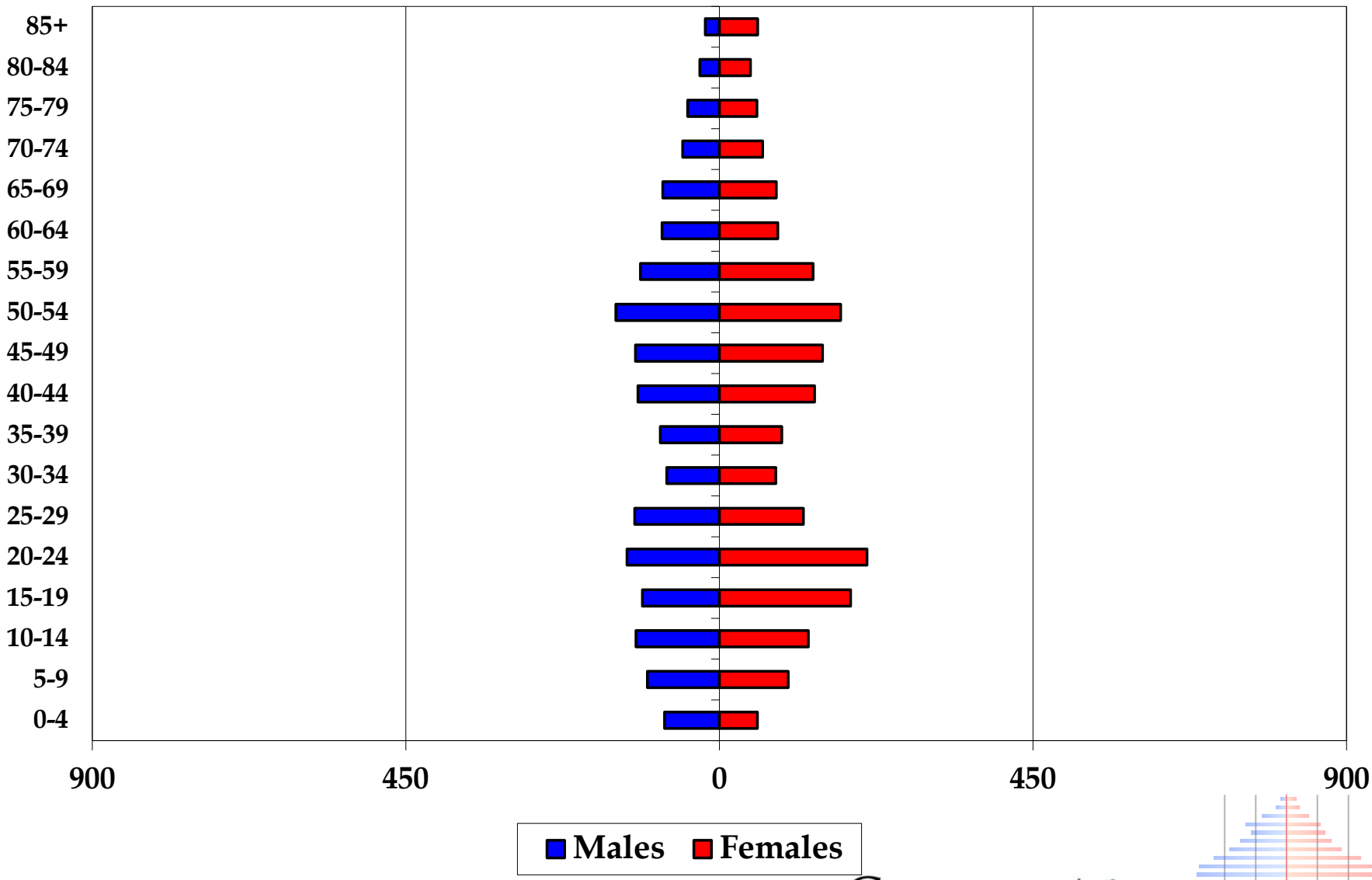
Driscoll Elementary Zone Population – 2010 Census



Cropper GIS

McKibben Demographics

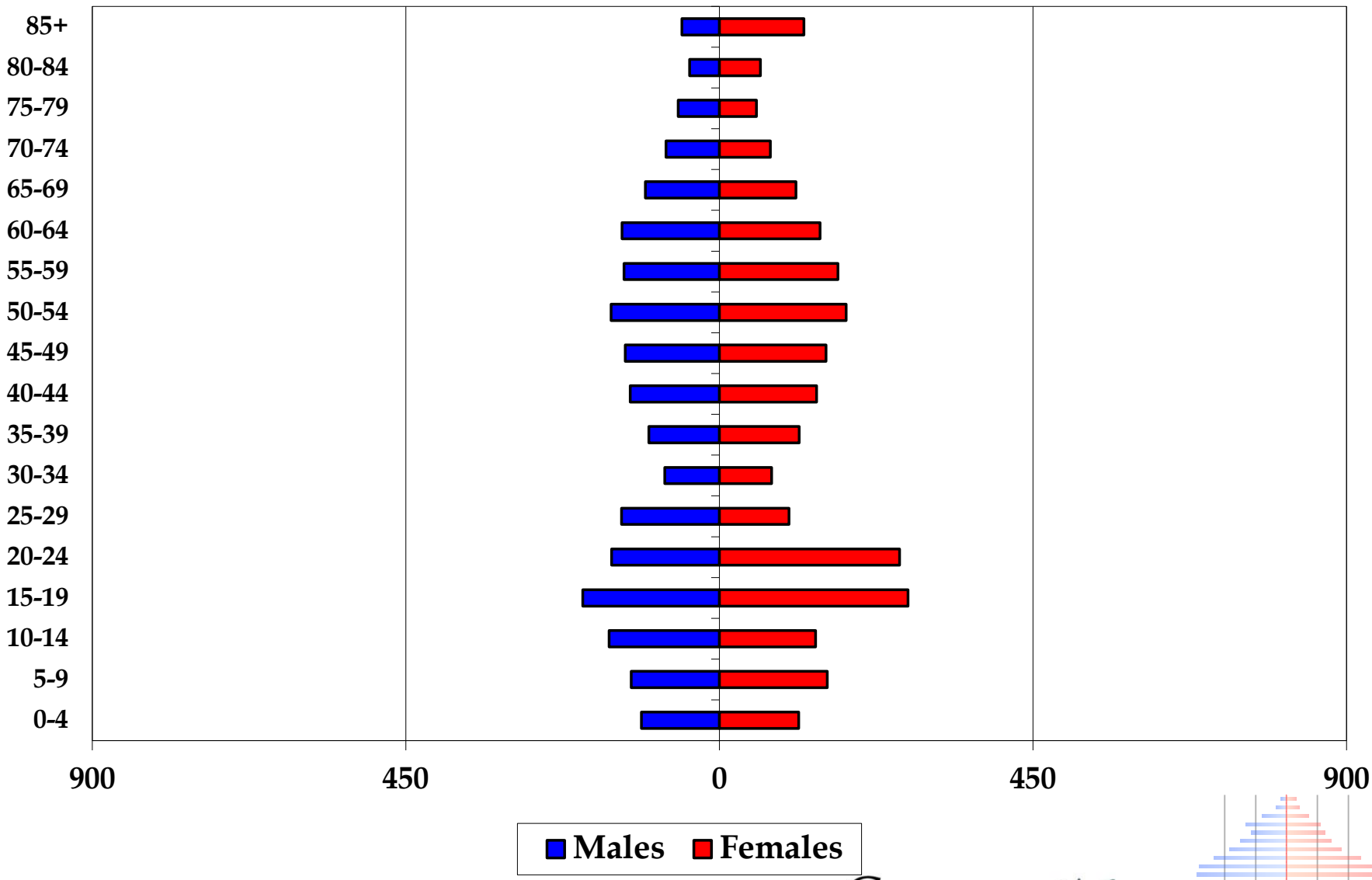
Heath Elementary Zone Population – 2000 Census



Cropper GIS

McKibben Demographics

Heath Elementary Zone Population – 2010 Census



Cropper GIS

McKibben Demographics

Table 1: Forecasted District Total Population Change, 2010 to 2020

	2010	2015	*2010-2015 Change*	2020	*2015-2020 Change*	*2010-2020 Change*
BAKER	6,120	6,210	*1.5%*	6,230	*0.3%*	*1.8%*
COOLIDGE CORNER	10,993	11,320	*3.0%*	11,600	*2.5%*	*5.5%*
DRISCOLL	5,977	6,160	*3.1%*	6,270	*1.8%*	*4.9%*
HEATH	4,531	4,540	*0.2%*	4,620	*1.8%*	*2.0%*
LAWRENCE	8,977	9,130	*1.7%*	9,270	*1.5%*	*3.3%*
LINCOLN	6,001	6,040	*0.6%*	6,030	*-0.2%*	*0.5%*
PIERCE	9,370	9,460	*1.0%*	9,550	*1.0%*	*1.9%*
RUNKLE	6,761	6,830	*1.0%*	7,000	*2.5%*	*3.5%*
DISTRICT TOTAL	**58,730**	**59,690**	***1.6%***	**60,570**	***1.5%***	***3.1%***

Table 2: Household Characteristics by Forecasted Area, 2010 Census

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
BAKER	927	42.0%	2,206	6,008	2.72
COOLIDGE CORNER	998	20.5%	4,860	10,865	2.24
DRISCOLL	537	19.3%	2,778	5,941	2.14
HEATH	491	36.1%	1,359	3,746	2.76
LAWRENCE	748	17.8%	4,205	8,638	2.05
LINCOLN	703	25.4%	2,762	5,987	2.17
PIERCE	968	23.3%	4,149	9,097	2.19
RUNKLE	699	25.2%	2,772	6,570	2.37
DISTRICT TOTAL	**6,070**	**24.2%**	**25,091**	**56,852**	**2.27**

Table 3: Householder Characteristics by Forecasted Area, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders Who Own Homes
BAKER	44.0%	22.6%	68.7%
COOLIDGE CORNER	28.5%	19.7%	38.0%
DRISCOLL	29.2%	16.7%	40.5%
HEATH	38.5%	30.0%	80.2%
LAWRENCE	28.2%	18.0%	41.7%
LINCOLN	35.7%	23.0%	49.7%
PIERCE	33.6%	20.3%	43.7%
RUNKLE	32.1%	17.8%	62.4%
DISTRICT TOTAL	**32.5%**	**20.1%**	**48.8%**

Table 4: Percentage of Households that are Single Person Households and Single Person Households that are over age 65 by Forecasted Area, 2010 Census

	Percentage of Single Person Households	Percentage of Single Person Households and are 65+
BAKER	19.4%	8.4%
COOLIDGE CORNER	34.1%	12.0%
DRISCOLL	37.7%	8.8%
HEATH	20.0%	11.1%
LAWRENCE	40.2%	9.8%
LINCOLN	37.8%	13.1%
PIERCE	35.3%	12.0%
RUNKLE	28.2%	6.7%
DISTRICT TOTAL	**33.4%**	**10.4%**

Table 5: Elementary Enrollment (2019) Compared to Forecasted Enrollment of Elementary Areas (2024, 2029)

	2019	2024	2019-2024 Change	2029	2024-2029 Change	2019-2029 Change
BAKER	750	824	*9.9%*	881	*6.9%*	*17.5%*
COOLIDGE CORNER	888	979	*10.2%*	1,042	*6.4%*	*17.3%*
DRISCOLL	601	546	*-9.2%*	530	*-2.9%*	*-11.8%*
HEATH	524	562	*7.3%*	611	*8.7%*	*16.6%*
LAWRENCE	679	662	*-2.5%*	651	*-1.7%*	*-4.1%*
LINCOLN	576	543	*-5.7%*	519	*-4.4%*	*-9.9%*
PIERCE	842	794	*-5.7%*	739	*-6.9%*	*-12.2%*
RUNKLE	582	553	*-5.0%*	537	*-2.9%*	*-7.7%*
DISTRICT TOTAL	**5,442**	**5,463**	***0.4%***	**5,510**	***0.9%***	***1.2%***

Table 6: Age Under One to Age Ten Population Counts, by Year of Age: 2010 Census

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
BAKER	71	74	72	77	102	78	116	120	120	104	91
COOLIDGE CORNER	120	121	118	133	106	93	108	96	98	96	78
DRISCOLL	73	55	63	54	56	59	56	49	46	44	42
HEATH	35	34	43	52	61	54	53	62	61	50	63
LAWRENCE	101	94	82	92	75	75	66	59	73	63	58
LINCOLN	71	63	65	71	67	63	70	64	61	61	65
PIERCE	134	107	123	107	88	95	93	72	85	93	78
RUNKLE	78	69	83	68	54	81	82	76	65	70	75
DISTRICT TOTAL	**682**	**617**	**648**	**653**	**609**	**598**	**644**	**599**	**609**	**581**	**548**

Table 7: Comparison of District Resident Enrollment by Grade with 2010 Census Counts by Age, 2010-2019

2010 Census	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years	12 years	13 years
Public Schools of Brookline Total	**682**	**617**	**648**	**653**	**609**	**598**	**644**	**599**	**609**	**581**	**548**	**528**	**520**	**509**
2019 Grade	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**					
2019 Enrollment	624	657	582	618	561	521	557	512	474					
% of Census Counts by Age	91.5%	106.5%	89.8%	94.6%	92.1%	87.1%	86.5%	85.5%	77.8%					
2018 Grade	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**				
2018 Enrollment	645	680	605	665	571	545	554	542	489	499				
% of Census Counts by Age	94.6%	110.2%	93.4%	101.8%	93.8%	91.1%	86.0%	90.5%	80.3%	85.9%				
2017 Grade	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**			
2017 Enrollment	631	691	621	660	585	550	568	531	510	497	506			
% of Census Counts by Age	92.5%	112.0%	95.8%	101.1%	96.1%	92.0%	88.2%	88.6%	83.7%	85.5%	92.3%			
2016 Grade	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**		
2016 Enrollment	627	678	633	677	584	549	576	531	500	509	492	479		
% of Census Counts by Age	91.9%	109.9%	97.7%	103.7%	95.9%	91.8%	89.4%	88.6%	82.1%	87.6%	89.8%	90.7%		
2015 Grade	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
2015 Enrollment	633	696	621	704	598	553	610	543	507	500	507	480	446	
% of Census Counts by Age	92.8%	112.8%	95.8%	107.8%	98.2%	92.5%	94.7%	90.7%	83.3%	86.1%	92.5%	90.9%	85.8%	
2014 Grade		**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2014 Enrollment		685	645	685	620	530	634	541	506	507	494	478	431	473
% of Census Counts by Age		111.0%	99.5%	104.9%	101.8%	88.6%	98.4%	90.3%	83.1%	87.3%	90.1%	90.5%	82.9%	92.9%
2013 Grade			**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
2013 Enrollment			631	676	618	539	656	562	519	533	493	466	445	475
% of Census Counts by Age			97.4%	103.5%	101.5%	90.1%	101.9%	93.8%	85.2%	91.7%	90.0%	88.3%	85.6%	93.3%
2012 Grade				**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
2012 Enrollment				666	633	539	651	574	517	549	492	446	436	479
% of Census Counts by Age				102.0%	103.9%	90.1%	101.1%	95.8%	84.9%	94.5%	89.8%	84.5%	83.8%	94.1%
2011 Grade					**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2011 Enrollment					602	550	658	567	532	538	516	437	425	458
% of Census Counts by Age					98.9%	92.0%	102.2%	94.7%	87.4%	92.6%	94.2%	82.8%	81.7%	90.0%
2010 Grade						**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2010 Enrollment						545	618	572	532	527	532	445	424	448
% of Census Counts by Age						91.1%	96.0%	95.5%	87.4%	90.7%	97.1%	84.3%	81.5%	88.0%

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McKibben Demographics

K-8th Live-Attend Matrix

Where K-8th Students Live

Where K-8th Students Attend		Baker	Coolidge Corner	Driscoll	Heath	Lawrence	Lincoln	Pierce	Runkle	Out of District	Unmatched	**Live Out, Attend In (K-8)**
		761	**801**	**496**	**404**	**584**	**605**	**837**	**579**	**401**	**0**	**1342**
Edith C. Baker School	**750**	650	2		2		3	2	1	90		**100**
Coolidge Corner School	**888**	1	702	31	2	74	2	23	6	47		**186**
Michael Driscoll School	**600**	6	15	415		7	5	33	79	40		**185**
Heath School	**525**	71	2	2	371		2	1	21	55		**154**
Amos A. Lawrence School	**679**	3	54	6	4	443	14	120	4	31		**236**
William H. Lincoln School	**576**	13	6	4	12	6	454	13	14	54		**122**
Pierce School	**842**	1	5	8	2	45	101	626	9	45		**216**
John D. Runkle School	**582**	13	11	25	10	8	22	16	439	38		**143**
Non-PSB K-8 School	**26**	3	4	5	1	1	2	3	6	1		
Live In, Attend Out (K-8)	**967**	**111**	**99**	**81**	**33**	**141**	**151**	**211**	**140**			

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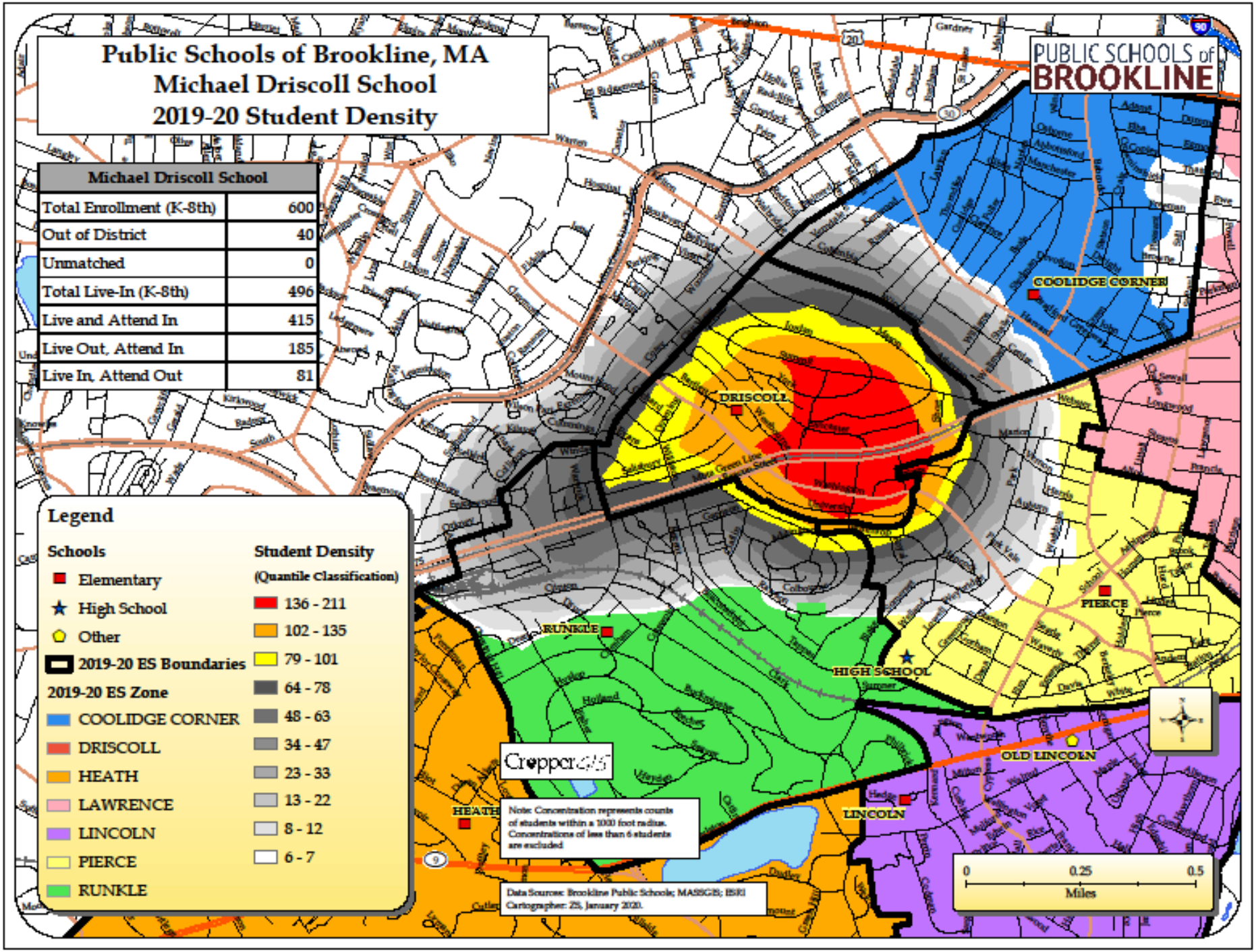
McKibben Demographics

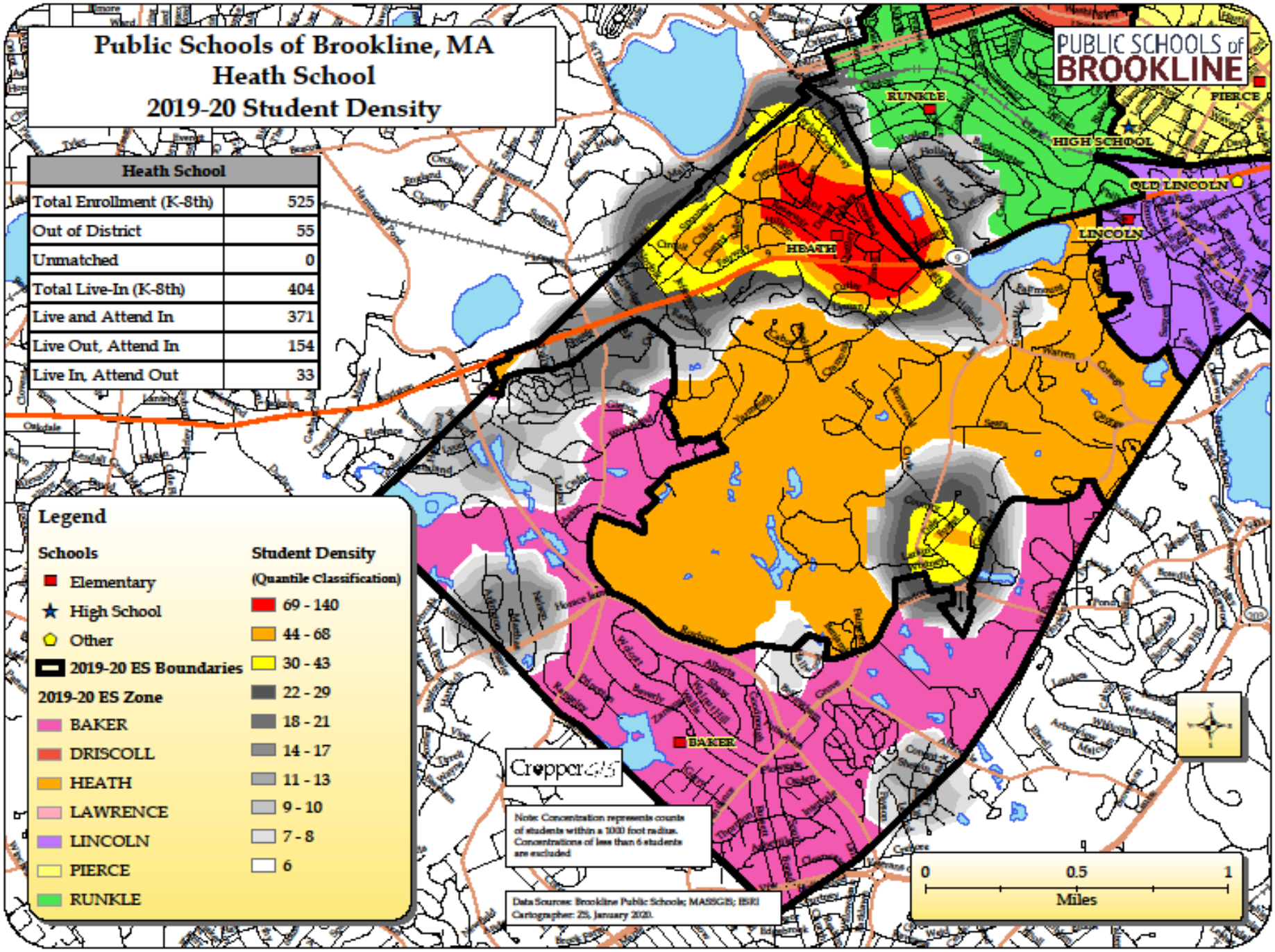
Public Schools of Brookline, MA
Michael Driscoll School
2019-20 Student Density

Michael Driscoll School	
Total Enrollment (K-8th)	600
Out of District	40
Unmatched	0
Total Live-In (K-8th)	496
Live and Attend In	415
Live Out, Attend In	185
Live In, Attend Out	81



Public Schools of Brookline, MA
Heath School
2019-20 Student Density

Heath School	
Total Enrollment (K-8th)	525
Out of District	55
Unmatched	0
Total Live-In (K-8th)	404
Live and Attend In	371
Live Out, Attend In	154
Live In, Attend Out	33



Appendix E: Housing Development Estimated Timeline

TOWN OF BROOKLINE—DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
Potential Residential/Mixed-use Development Projects in various stages of Permitting Processes—November 21, 2019

PROJECT	TOTAL UNITS	STUDIO	1-BR	2-BR	3-BR	4-BR	AGE-RESTRICTED	NOTES	ESTIMATED EARLIEST CONSTRUCTION COMPLETION *
40 Centre	40	16	14	5	5	0	-	In litigation.	On hold/ unknown
420 Harvard/49 Coolidge	25	3	6	11	5	0	-	Under construction	June 2020
384 Harvard (JCHE)	62	0	52	10	0	0	YES	Under construction	August 2020
1299 Beacon	55	0	13	42	0	0	YES (55+)	Comprehensive Permit (CP) issued. Next step: apply for Building Permit.	Nov. 2022
1180 Boylston	50	0	15	33	2	0	YES (55+)	CP issued. Next step: apply for Building Permit	Nov. 2022
Waldo/Durgin (10 Pleasant & 5 Waldo)	143	**0**	85	58	0	0	-	Secured Zoning Amendment. Next step: Special Permit Process. Estimate based on developer's estimate of earliest date.	March 2024
455 Harvard	17	0	10	5	2	0	-	Under construction	June 2020
136 Babcock	45	20	13	7	5	0	-	Issued Building Permit	June 2021
21 Crowninshield	8	0	0	0	8	0	-	Nearing end of construction	June 2020
Residences of South Brookline—Hancock Village	175	3	79	43	50	0	-	Building Permit application anticipated early 2020	Jan. 2022
Puddingstone—Hancock Village	230	0	54	140	24	12	-	CP filed Oct. 29, 2018. Developer has not indicated construction plans or timetable, and has three other large projects in process.	On hold/ unknown
118 Gerry/121 Independence Drive	36	0	16	20	0	0	-	Special Permit Issued. Next step: Building Permit.	Sept. 2021
1223 Beacon (Hampton Court)	123	8	38	52	25	0	-	CP hearing on hold. Developer has not indicated construction plans or timetable, and has three other large projects in process.	On hold/ unknown
445 Harvard	25	0	12	10	3	0	-	CP anticipated end of 2019. Developer notes he won't likely start construction for three years.	January 2025
500 Harvard	30	3	17	7	3	0	-	CP hearing to open Dec. 2019.	June 2023
217 Kent	90	32	43	6	9	0	-	In pre-CP process. Assuming CP hearing opens January 2020.	June 2023
209 Harvard	44	36	0	3	5	0	-	In pre-CP process. Assuming CP hearing opens February 2020.	August 2023

*Estimates are based on the following assumptions:

1. Everything goes smoothly (from developer's perspective) & the market stays strong.
2. Comprehensive Permit public hearing process takes 12 months.
3. Preparation of Construction Documents for Building Permit takes 12 months.
4. Construction takes 1 ½ to 2 years from date of Building Permit.
5. Building projects used in the forecast are highlighted.

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McKibben Demographics

The Public Schools of Brookline

Total	2010	2015	2020	2025	2030
0-4	3,209	3,140	3,080	3,190	3,130
5-9	3,031	3,450	3,310	3,480	3,490
10-14	2,606	2,870	3,290	3,120	3,320
15-19	2,817	2,760	3,020	3,360	3,340
20-24	6,618	6,280	6,300	6,740	6,640
25-29	6,949	7,030	6,740	6,890	7,230
30-34	5,079	5,220	5,200	5,110	5,380
35-39	4,201	4,000	4,080	4,030	4,080
40-44	3,495	3,530	3,380	3,350	3,360
45-49	3,325	3,210	3,310	2,920	2,930
50-54	3,218	3,250	3,160	3,230	2,870
55-59	3,366	3,130	3,170	3,080	3,160
60-64	3,322	3,110	2,900	2,880	2,820
65-69	2,259	3,020	2,810	2,540	2,540
70-74	1,587	1,950	2,660	2,430	2,190
75-79	1,239	1,330	1,650	2,270	2,070
80-84	1,087	1,010	1,090	1,340	1,850
85+	1,322	1,400	1,420	1,490	1,690
Total	58,730	59,690	60,570	61,450	62,090
Median Age	34.1	34.1	34.4	33.9	33.6

Births	3,020	2,970	2,890	2,920
Deaths	2,120	2,210	2,360	2,540
Natural Increase	900	760	530	380
Net Migration	120	150	300	240
Change	1,020	910	830	620

Differences between period Totals may not equal Change due to rounding.

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McKibben Demographics

The Public Schools of Brookline

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	257	262	257	251	252	252	252	252	252	252	252	252	252	252	252
K	633	582	609	603	600	626	625	630	628	633	628	629	625	622	623
1	696	627	566	615	614	623	631	630	635	633	638	634	633	629	627
2	621	678	631	574	613	616	624	631	630	635	633	636	633	632	628
3	704	633	691	645	573	617	620	628	635	634	639	632	635	632	631
4	598	677	621	680	624	565	610	611	621	628	627	626	619	622	619
5	553	584	660	605	657	613	555	598	600	612	619	616	615	608	611
6	610	549	585	665	582	651	607	550	591	594	605	612	609	608	602
7	543	576	550	571	618	563	628	586	531	570	574	586	593	590	589
8	507	531	568	545	561	612	556	620	579	524	563	563	576	583	580
Total: K-8	**5,465**	**5,437**	**5,481**	**5,503**	**5,442**	**5,486**	**5,456**	**5,484**	**5,450**	**5,463**	**5,526**	**5,534**	**5,538**	**5,526**	**5,510**
9	500	500	531	554	521	550	600	545	608	567	514	552	552	564	571
10	507	509	510	542	557	529	558	609	553	617	576	522	560	560	572
11	480	492	497	489	512	540	513	541	591	536	598	559	506	543	543
12	446	479	506	499	474	510	538	511	539	589	534	596	557	504	541
Total: 9-12	**1,933**	**1,980**	**2,044**	**2,084**	**2,064**	**2,129**	**2,209**	**2,206**	**2,291**	**2,309**	**2,222**	**2,229**	**2,175**	**2,171**	**2,227**
Total: K-12	**7,398**	**7,417**	**7,525**	**7,587**	**7,506**	**7,615**	**7,665**	**7,690**	**7,741**	**7,772**	**7,748**	**7,763**	**7,713**	**7,697**	**7,737**
SP	13	16	19	17	19	19	19	19	19	19	19	19	19	19	19
Total: K-12	**7,398**	**7,417**	**7,525**	**7,587**	**7,506**	**7,615**	**7,665**	**7,690**	**7,741**	**7,772**	**7,748**	**7,763**	**7,713**	**7,697**	**7,737**
Change		19	108	62	-81	109	50	25	51	31	-24	15	-50	-16	40
Percent Change		0.3%	1.5%	0.8%	-1.1%	1.5%	0.7%	0.3%	0.7%	0.4%	-0.3%	0.2%	-0.6%	-0.2%	0.5%
Total: K-8	**5,465**	**5,437**	**5,481**	**5,503**	**5,442**	**5,486**	**5,456**	**5,484**	**5,450**	**5,463**	**5,526**	**5,534**	**5,538**	**5,526**	**5,510**
Change		-28	44	22	-61	44	-30	28	-34	13	63	8	4	-12	-16
Percent Change		-0.51%	0.81%	0.40%	-1.11%	0.81%	-0.55%	0.51%	-0.62%	0.24%	1.15%	0.14%	0.07%	-0.22%	-0.29%
Total: 9-12	**1,933**	**1,980**	**2,044**	**2,084**	**2,064**	**2,129**	**2,209**	**2,206**	**2,291**	**2,309**	**2,222**	**2,229**	**2,175**	**2,171**	**2,227**
Change		47	64	40	-20	65	80	-3	85	18	-87	7	-54	-4	56
Percent Change		2.43%	3.23%	1.96%	-0.96%	3.15%	3.76%	-0.14%	3.85%	0.79%	-3.77%	0.32%	-2.42%	-0.18%	2.58%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

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McKibben Demographics

Amos A. Lawrence Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	92	80	88	87	80	81	81	82	82	83	82	81	80	80	81
1	93	89	76	90	85	78	79	79	80	80	81	80	80	79	79
2	82	88	91	78	81	83	76	77	77	78	78	79	78	78	77
3	91	85	86	86	71	79	81	74	75	75	76	75	76	75	75
4	72	88	83	79	84	69	77	79	72	73	73	73	72	73	72
5	58	79	84	76	72	82	68	75	77	71	72	71	71	70	71
6	85	62	75	77	62	68	78	65	71	73	67	68	67	67	67
7	61	79	60	73	72	60	65	75	62	68	70	65	66	65	65
8	50	61	79	59	72	71	59	64	74	61	67	69	64	65	64
Total: K-8	**684**	**711**	**722**	**705**	**679**	**671**	**664**	**670**	**670**	**662**	**666**	**661**	**654**	**652**	**651**

Total: K-8	**684**	**711**	**722**	**705**	**679**	**671**	**664**	**670**	**670**	**662**	**666**	**661**	**654**	**652**	**651**
Change		27	11	-17	-26	-8	-7	6	0	-8	4	-5	-7	-2	-1
Percent Change		3.95%	1.55%	-2.35%	-3.69%	-1.18%	-1.04%	0.90%	0.00%	-1.19%	0.60%	-0.75%	-1.06%	-0.31%	-0.15%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

Edith C. Baker Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	74	83	78	73	83	93	92	91	89	88	89	91	92	93	92
1	111	76	85	86	78	99	98	97	96	94	93	94	95	96	97
2	79	103	76	83	86	80	101	99	98	97	95	95	96	97	98
3	112	72	111	88	81	88	82	103	101	100	99	97	97	98	99
4	79	106	68	115	82	82	89	81	104	102	101	100	98	98	99
5	77	80	101	62	104	80	80	86	79	103	101	102	101	99	99
6	97	74	85	102	64	105	81	81	87	80	104	102	103	102	100
7	85	91	75	79	95	61	101	78	78	84	77	101	99	100	99
8	79	79	83	74	77	92	59	98	76	76	81	75	99	97	98
Total: K-8	**793**	**764**	**762**	**762**	**750**	**780**	**783**	**814**	**808**	**824**	**840**	**857**	**880**	**880**	**881**

Total: K-8	**793**	**764**	**762**	**762**	**750**	**780**	**783**	**814**	**808**	**824**	**840**	**857**	**880**	**880**	**881**
Change		-29	-2	0	-12	30	3	31	-6	16	16	17	23	0	1
Percent Change		-3.66%	-0.26%	0.00%	-1.57%	4.00%	0.38%	3.96%	-0.74%	1.98%	1.94%	2.02%	2.68%	0.00%	0.11%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

Coolidge Corner Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	29	31	31	31	31	31	31	31	31	31	31	31
K	105	91	92	109	105	110	112	115	117	120	121	123	124	125	123
1	110	101	85	93	115	112	115	117	120	122	125	126	127	128	129
2	101	93	96	93	93	113	110	113	115	118	120	121	122	123	124
3	111	97	92	109	103	94	114	111	114	116	119	119	120	121	122
4	96	100	96	93	102	100	91	111	108	111	113	114	114	115	116
5	88	92	93	107	92	101	99	90	110	107	110	111	112	112	113
6	77	77	94	97	102	90	99	97	88	108	105	107	108	109	109
7	85	72	78	90	93	99	87	96	94	85	105	101	103	104	105
8	79	75	75	82	83	91	97	85	94	92	83	102	98	100	101
Total: K-8	**852**	**798**	**801**	**873**	**888**	**910**	**924**	**935**	**960**	**979**	**1,001**	**1,024**	**1,028**	**1,037**	**1,042**

Total: K-8	**852**	**798**	**801**	**873**	**888**	**910**	**924**	**935**	**960**	**979**	**1,001**	**1,024**	**1,028**	**1,037**	**1,042**
Change		-54	3	72	15	22	14	11	25	19	22	23	4	9	5
Percent Change		-6.34%	0.38%	8.99%	1.72%	2.48%	1.54%	1.19%	2.67%	1.98%	2.25%	2.30%	0.39%	0.88%	0.48%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

Heath Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	31	29	31	29	27	27	27	27	27	27	27	27	27	27	27
K	67	47	55	49	58	61	62	63	64	65	65	67	67	68	69
1	71	66	45	58	60	63	64	65	66	67	68	68	69	69	70
2	66	71	61	45	61	61	64	65	66	67	68	69	69	70	70
3	74	67	72	60	46	63	63	66	67	68	69	69	70	70	71
4	56	71	62	71	61	46	64	64	67	68	69	68	68	69	69
5	68	53	68	58	69	60	45	63	63	66	67	67	66	66	67
6	62	65	55	68	54	68	59	45	62	62	65	68	68	67	67
7	54	52	63	55	62	51	64	55	42	58	58	62	65	65	64
8	37	57	53	58	53	61	50	63	54	41	57	57	61	64	64
Total: K-8	**555**	**549**	**534**	**522**	**524**	**534**	**535**	**549**	**551**	**562**	**586**	**595**	**603**	**608**	**611**

Total: K-8	**555**	**549**	**534**	**522**	**524**	**534**	**535**	**549**	**551**	**562**	**586**	**595**	**603**	**608**	**611**
Change		-6	-15	-12	2	10	1	14	2	11	24	9	8	5	3
Percent Change		-1.08%	-2.73%	-2.25%	0.38%	1.91%	0.19%	2.62%	0.36%	2.00%	4.27%	1.54%	1.34%	0.83%	0.49%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

John D. Runkle Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	16	14	15	16	16	16	16	16	16	16	16	16	16	16	16
K	63	58	62	54	63	63	62	62	61	61	60	60	59	58	56
1	66	66	61	60	61	66	66	65	65	64	64	63	62	61	60
2	71	70	66	61	63	62	67	67	66	66	65	65	64	63	62
3	69	74	71	63	61	62	61	66	66	65	65	64	64	63	62
4	69	69	78	70	62	60	61	60	65	65	64	64	63	63	62
5	53	66	71	71	66	60	58	59	58	63	63	61	61	60	60
6	69	66	65	73	70	65	59	57	58	57	62	62	60	60	59
7	62	70	68	64	73	69	64	58	56	57	56	61	61	59	59
8	65	60	70	65	63	72	68	63	57	55	56	54	59	59	57
Total: K-8	**587**	**599**	**612**	**581**	**582**	**579**	**566**	**557**	**552**	**553**	**555**	**554**	**553**	**546**	**537**

Total: K-8	**587**	**599**	**612**	**581**	**582**	**579**	**566**	**557**	**552**	**553**	**555**	**554**	**553**	**546**	**537**
Change		12	13	-31	1	-3	-13	-9	-5	1	2	-1	-1	-7	-9
Percent Change		2.04%	2.17%	-5.07%	0.17%	-0.52%	-2.25%	-1.59%	-0.90%	0.18%	0.36%	-0.18%	-0.18%	-1.27%	-1.65%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

Michael Driscoll Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	15	14	16	17	-	-	-	-	-	-	-	-	-	-	-
K	61	61	61	70	56	61	61	62	62	63	62	61	60	58	57
1	70	58	62	60	63	55	59	59	60	60	61	60	59	58	56
2	57	76	68	68	63	66	57	61	61	62	62	63	62	61	60
3	73	63	81	66	63	62	65	56	60	60	61	61	62	61	60
4	72	70	61	77	66	62	61	64	55	59	59	60	60	61	60
5	72	68	73	58	82	65	61	60	63	54	58	58	59	59	60
6	69	66	75	73	64	85	68	63	62	66	56	60	60	61	61
7	57	66	68	74	66	62	82	66	61	60	64	54	58	58	59
8	65	58	64	68	78	67	63	83	67	62	61	63	53	57	57
Total: K-8	**596**	**586**	**613**	**614**	**601**	**585**	**577**	**574**	**551**	**546**	**544**	**540**	**533**	**534**	**530**

Total: K-8	**596**	**586**	**613**	**614**	**601**	**585**	**577**	**574**	**551**	**546**	**544**	**540**	**533**	**534**	**530**
Change		-10	27	1	-13	-16	-8	-3	-23	-5	-2	-4	-7	1	-4
Percent Change		-1.68%	4.61%	0.16%	-2.12%	-2.66%	-1.37%	-0.52%	-4.01%	-0.91%	-0.37%	-0.74%	-1.30%	0.19%	-0.75%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

Pierce Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	106	96	108	99	93	95	94	94	93	93	90	89	87	85	88
1	108	113	91	103	95	91	91	90	90	89	89	87	86	84	83
2	107	106	111	87	96	92	88	88	87	87	86	85	84	83	81
3	90	111	108	109	91	98	94	90	90	89	89	87	86	85	84
4	87	91	114	106	104	90	97	93	89	89	88	87	85	84	83
5	85	83	84	110	106	101	87	94	90	86	86	85	84	82	81
6	85	88	76	90	103	105	100	86	93	89	85	84	83	82	80
7	81	86	84	80	79	101	103	98	84	91	87	83	82	81	80
8	75	80	83	81	75	77	98	100	95	81	88	84	81	80	79
Total: K-8	**824**	**854**	**859**	**865**	**842**	**850**	**852**	**833**	**811**	**794**	**788**	**771**	**758**	**746**	**739**

Total: K-8	**824**	**854**	**859**	**865**	**842**	**850**	**852**	**833**	**811**	**794**	**788**	**771**	**758**	**746**	**739**
Change		30	5	6	-23	8	2	-19	-22	-17	-6	-17	-13	-12	-7
Percent Change		3.64%	0.59%	0.70%	-2.66%	0.95%	0.24%	-2.23%	-2.64%	-2.10%	-0.76%	-2.16%	-1.69%	-1.58%	-0.94%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

William H. Lincoln Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	65	66	65	62	62	62	61	61	60	60	59	57	56	55	57
1	67	58	61	65	57	59	59	58	58	57	57	56	55	54	53
2	58	71	62	59	70	59	61	61	60	60	59	59	58	57	56
3	84	64	70	64	57	71	60	62	62	61	61	60	60	59	58
4	67	82	59	69	63	56	70	59	61	61	60	60	59	59	58
5	52	63	86	63	66	64	57	71	60	62	62	61	61	60	60
6	66	51	60	85	63	65	63	56	70	59	61	61	60	60	59
7	58	60	54	56	78	60	62	60	54	67	57	59	59	58	58
8	57	61	61	58	60	81	62	64	62	56	70	59	61	61	60
Total: K-8	**574**	**576**	**578**	**581**	**576**	**577**	**555**	**552**	**547**	**543**	**546**	**532**	**529**	**523**	**519**

Total: K-8	**574**	**576**	**578**	**581**	**576**	**577**	**555**	**552**	**547**	**543**	**546**	**532**	**529**	**523**	**519**
Change		2	2	3	-5	1	-22	-3	-5	-4	3	-14	-3	-6	-4
Percent Change		0.35%	0.35%	0.52%	-0.86%	0.17%	-3.81%	-0.54%	-0.91%	-0.73%	0.55%	-2.56%	-0.56%	-1.13%	-0.76%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years

Cropper GIS McKibben Demographics

9-12th Live-Attend Matrix

Where 9-12th Students Attend		Where 9-12th Students Live: Brookline	Out of District	Unmatched	Live Out, Attend In (9-12)
		1923	**166**	**0**	**165**
Brookline High School	**2064**	**1899**	165		**165**
Non-PSB High School		24	1		
Live In, Attend Out (9-12)	**24**	**24**			

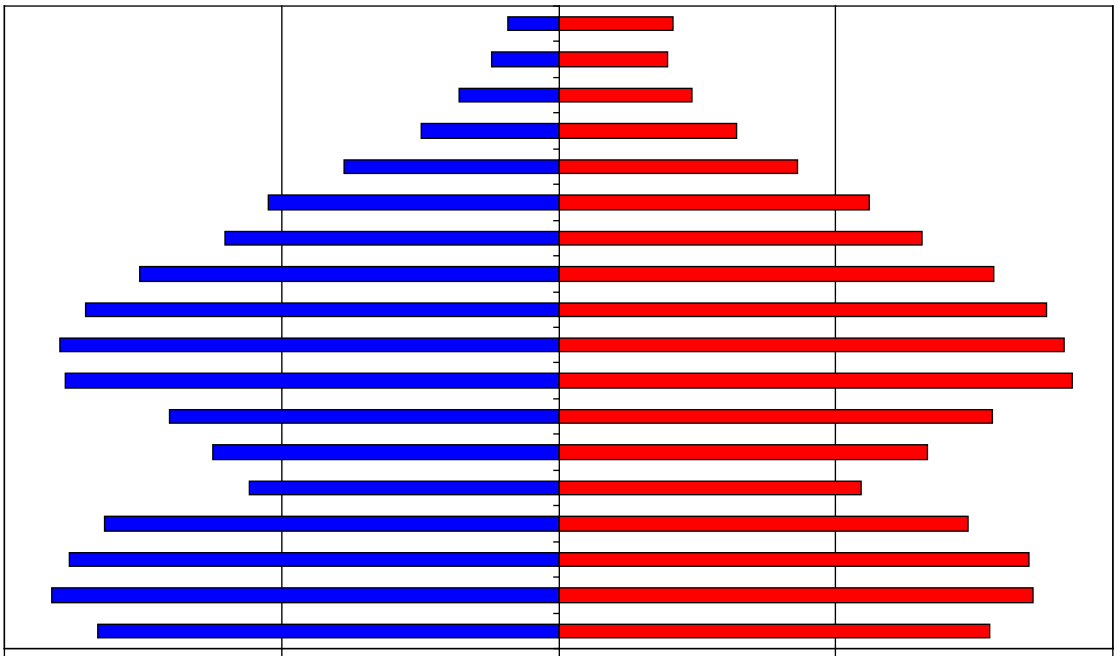
Cropper GIS

McKibben Demographics

PUBLIC SCHOOLS of BROOKLINE

Public Schools of Brookline, MA

Demographic Study Report 2019



Cropper GIS

McKibben Demographics

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Executive Summary

1. The resident total fertility rate for the Brookline Public Schools over the life of the forecasts is below replacement level. (1.47 vs. the replacement level of 2.1)

2. Most in-migration to the district continues to occur in the 20-to-34-year-old age groups.

3. The 35-to-49-year-olds and their 0-to-14-year-old children continue to move to the outer suburbs. These population groups accounts for the largest segment of the district's out-migration flow and will increase steadily over the next 10 years. The second largest migration outflow is in the 70+ age groups.

4. The primary factors causing the district's enrollment to increase over the next 10 years are the increase in empty nest households turning over, and a sustained rate of in-migration of young households.

5. Changes in year-to-year enrollment over the next ten years will primarily be due to small cohorts entering and moving through the school system in conjunction with larger cohorts leaving the system.

6. The elementary enrollment (K-5) will steadily increase over the next five years school years and then stabilize

7. The median age of the district's population will decrease from 34.1 in 2010 to 33.6 in 2030.

8. Even if the district continues to have some amount of annual new housing unit construction over the next 10 years, the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.

9. Total district enrollment is forecasted to increase by 266 students, or 3.5%, between 2019-20 and 2024-25. Total enrollment will decrease by 35 students, or-0.4%, from 2024-25 to 2029-30.

INTRODUCTION

By demographic principle, distinctions are made between projections and forecasts. A projection extrapolates the past (and present) into the future with little or no attempt to take into account any factors that may impact the extrapolation (e.g., changes in fertility rates, housing patterns or migration patterns) while a forecast results when a projection is modified by reasoning to take into account the aforementioned factors.

To maximize the use of this study as a planning tool, the ultimate goal is not simply to project the past into the future, but rather to assess various factors' impact on the future. The future population and enrollment change of each school district is influenced by a variety of factors. Not all factors will influence the entire school district at the same level. Some may affect different areas at dissimilar magnitudes and rates causing changes at varying points of time within the same district. The forecaster's judgment, based on a thorough and intimate study of the district, has been used to modify the demographic trends and factors to more accurately predict likely changes. Therefore, strictly speaking, this study is a forecast, not a projection; and the amount of modification of the demographic trends varies between different areas of the district as well as within the timeframe of the forecast.

To calculate population forecasts of any type, particularly for smaller populations such as a school district, realistic suppositions must be made as to what the future will bring in terms of age specific fertility rates and residents' demographic behavior at certain points of the life course. The demographic history of the school district and its interplay with the social and economic history of the area is the starting point and basis of most of these suppositions particularly on key factors such as the age structure of the area. The unique nature of each district's and attendance area's demographic composition and rate of change over time must be assessed and understood to be factors throughout the life of the forecast series. Moreover, no two populations, particularly at the school district and attendance area level, have exactly the same characteristics.

The manifest purpose of these forecasts is to ascertain the demographic factors that will ultimately influence the enrollment levels in the district's schools. There are of course, other non-demographic factors that affect enrollment levels over time. These factors include, but are not limited to transfer policies within the district; student transfers to and from neighboring districts; placement of "special programs" within school facilities that may serve students from outside the attendance area; state or federal mandates that dictate the movement of students from one facility to another (No Child Left Behind was an excellent example of this factor); the development of charter schools in the district; the prevalence of home schooling in the area; and the dynamics of local private schools.

Unless the district specifically requests the calculation of forecasts that reflect the effects of changes in these non-demographic factors, their influences are held constant for the life of the forecasts. Again, the main function of these forecasts is to determine what impact demographic changes will have on future enrollment. It is quite possible to calculate special "scenario" forecasts to measure the impact of school policy modifications as well as planned economic and financial changes. However, in this case the results of these population and enrollment forecast are meant to represent the most likely scenario for changes over the next 10 years in the district and its attendance areas.

The first part of the report will examine the assumptions made in calculating the population forecasts for the Public Schools of Brookline. Since the results of the population forecasts drive the subsequent enrollment forecasts, the assumptions listed in this section are paramount to understanding the area's demographic dynamics. The remainder of the report is an explanation and analysis of the district's population forecasts and how they will shape the district's grade level enrollment forecasts.

DATA

The data used for the forecasts come from a variety of sources. The Public Schools of Brookline provided enrollments by grade and attendance center for the school years 2016-2017 to 2019-2020. Birth and death data for the years 2000 through 2017 were obtained from the Massachusetts Department of Health. The net migration values were calculated using Internal Revenue Service migration reports for the years 2000 through 2017. The data used for the calculation of migration models came from the United States Bureau of the Census, 2005 to 2010, and the models were designed using demographic and economic factors. The base age-sex population counts used are from the results of the 2010 Census.

Recently the Census Bureau began releasing annual estimates of demographic variables at the block group and tract level from the American Community Survey (ACS). There has been wide scale reporting of these results in the national, state and local media. However, due to the methodological problems the Census Bureau is experiencing with their estimates derived from ACS data, particularly in areas with a population of less than 60,000, the results of the ACS are not used in these forecasts. For example, given the sampling framework used by the Census Bureau, each year only 800 of the over 26,000 current households in the district would have been included. For comparison 3,800 households in the district were included in the sample for the long form questionnaire in the 2000 Census. As a result of this small sample size, the ACS survey result from the last 5 years must be aggregated to produce the tract and block group estimates.

To develop the population forecast models, past migration patterns, current age specific fertility patterns, the magnitude and dynamics of the gross migration, the age specific mortality trends, the distribution of the population by age and sex, the rate and type of existing housing unit sales, and future housing unit construction are considered to be primary variables. In addition, the change in household size

relative to the age structure of the forecast area was addressed. While there was a slight drop in the average household size in the Public Schools of Brookline as well as most other areas of the state during the previous 20 years, the rate of this decline in the district has been forecasted to decrease slightly over the next ten years.

ASSUMPTIONS

For these forecasts, the mortality probabilities are held constant at the levels calculated for the year 2010. While the number of deaths in an area are impacted by and will change given the proportion of the local population over age 65, in the absence of an extraordinary event such as a natural disaster or a breakthrough in the treatment of heart disease, death rates rarely move rapidly in any direction, particularly at the school district or attendance area level. Thus, significant changes are not foreseen in district's mortality rates between now and the year 2029. Any increases forecasted in the number of deaths will be due primarily to the general aging of the district's population and specifically to the increase in the number of residents aged 65 and older.

Similarly, fertility rates are assumed to stay fairly constant for the life of the forecasts. Like mortality rates, age specific fertility rates rarely change quickly or dramatically, particularly in small areas. Even with the recently reported rise in the fertility rates of the United States, overall fertility rates have stayed within a 10% range for most of the last 40 years. In fact, the vast majority of year to year change in an area's number of births is due to changes in the number of women in child bearing ages (particularly ages 20-29) rather than any fluctuation in an area's fertility rate.

The resident total fertility rate (TFR), the average number of births a woman will have while living in the school district during her lifetime, is estimated to be 1.47 for the total district for the ten years of the population forecasts. A TFR of 2.1 births per woman is considered to be the theoretical "replacement level" of fertility necessary for a population to remain constant in the absence of in-migration. Therefore, in the absence of migration, fertility alone would be insufficient to maintain the current level of population and enrollment within the Public Schools of Brookline over the course of the forecast period.

A close examination of data for the Public Schools of Brookline has shown the age specific pattern of net migration will be nearly constant throughout the life of the forecasts. While the number of in-and-out-migrants has changed in past years for the Public Schools of Brookline (and will change again over the next 10 years), the basic age pattern of the migrants has stayed nearly the same over the last 30 years. Based on the analysis of data it is safe to assume this age specific migration trend will remain unchanged into the future. This pattern of migration shows most of the local out-migration occurring in the 35-49 and 0-9-year-old age groups as adults leave the area to outlying suburban areas. The second group of out-migrants is those householders aged 70 and older who are downsizing their residences. Most of the local in-migration occurs in the 20-to-34-year-old age groups (the bulk of the which come from areas within 50 miles of the Public Schools of Brookline) primarily consisting of younger adults.

As the Norfolk County area is not currently contemplating any major expansions or contractions, the forecasts also assume that the current economic, political, social, and environmental factors, as well as the transportation and public works infrastructure (with a few notable exceptions) of the Public Schools of Brookline and its attendance areas will remain the same through the year 2029. Below is a list of assumptions and issues that are specific to the Public Schools of Brookline. These issues have been used to modify the population forecast models to more accurately predict the impact of these factors on each area's population change. Specifically, the forecasts for the Public Schools of Brookline assume that throughout the study period:

a. The national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)
b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30-year fixed home mortgage stays below 5.0%;
c. The rate of mortgage approval stays at 2015-2019 levels and lenders do not return to "sub-prime" mortgage practices;
d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;
e. The rate of housing foreclosures does not exceed 125% of the 2015-2019 average of Norfolk County for any year in the forecasts;
f. The district has at least 110 existing single-family home sales annually between 2019 and 2029;
g. The unemployment rates for the Norfolk County and the Boston Metropolitan Area will remain below 6.0% for the 10 years of the forecasts;
h. The intra district student transfer policy between "Buffer Zones" remains unchanged over the next 10 years;
i. The district has a transfer in of 200 Material Fee and 300 METCO students each year for the next 10 years;
j. The rate of students transferring out of The Public Schools of Brookline will remain at the 2015-16 to 2019-20 average;
k. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;
l. There will be no building moratorium within the district;
m. The State of Massachusetts does not change any of its current laws regarding inter-district transfers, school vouchers or charter schools;
n. No new charter schools open in the district or

surrounding area in the next 10 years;

o. Businesses within the district and The Public Schools of Brookline area will remain viable;
p. The number of existing home sales in the district that are a result of "distress sales" (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;
q. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by home owners over the age of 60;
r. Private school and home school attendance rates will remain constant;
s. The rate of foreclosures for commercial property remains at the 2014-2018 average for Norfolk County;
t. All currently planned, platted, approved and permitted housing developments are built out and completed by 2028. All housing units constructed are occupied by 2029;
u. In regards to the aforementioned assumption, the following building projects are included in the assumptions: The 420 Harvard/49 Coolidge project, 25 units completed by June 2020. The 384 Harvard (JCHE) project. 62 units, completed by August 2020. The 455 Harvard project. 17 units, completed by June 2020. The 136 Babcock project. 45 units completed by June 2021. The Residence of South Brookline-Hancock Village. 175 units completed by January of 2022.

If a major employer in the district or in the Greater Boston Metropolitan Area closes, reduces or expands its operations, the population forecasts would need to be adjusted to reflect the changes brought about by the change in economic and employment conditions. The same holds true for any type of natural disaster, major change in the local infrastructure (e.g., highway construction, water and sewer expansion, changes in zoning regulations etc.), a further economic downturn, any additional weakness in the housing market or any instance or situation that causes rapid and dramatic population changes that could not be foreseen at the time the forecasts were calculated.

The high proportion of high school graduates from the Public Schools of Brookline that attend college or move to urban areas outside of the district for employment is a significant demographic factor. Their departure is a major reason for the extremely high out-migration in the 18-to-24-year-old age group, and was taken into account when calculating these forecasts. The out-migration of graduating high school seniors is expected to continue over the period of the forecasts and the rate of out-migration has been forecasted to remain the same over the life of the forecast series.

Finally, all demographic trends (i.e., births, deaths, and migration) are assumed to be linear in nature and annualized over the forecast period. For example, if 1,000 births are forecasted for a 5-year period, an equal number, or proportion of the births are assumed to occur every year, 200 per year. Actual year-to-year variations do and will occur, but overall year to year trends are expected to be constant.

METHODOLOGY

The population forecasts presented in this report are the result of using the Cohort-Component Method of population forecasting (Siegel, and Swanson, 2004: 561-601) (Smith et. al. 2004). As stated in the **INTRODUCTION**, the difference between a projection and a forecast is in the use of explicit judgment based upon the unique features of the area under study. Strictly speaking, a cohort projection refers to the future population that would result if a mathematical extrapolation of historical trends. Conversely, a cohort-component forecast refers to the future population that is expected because of a studied and purposeful selection of the components of change (i.e., births, deaths, and migration) and forecast models are developed to measure the impact of these changes in each specific geographic area.

Five sets of data are required to generate population and enrollment forecasts. These five data sets are:

1. a base-year population (here, the 2010 Census population for the Public Schools of Brookline and its attendance areas);
2. a set of age-specific fertility rates for the district to be used over the forecast period and its attendance areas;
3. a set of age-specific survival (mortality) rates for the district and its attendance areas;
4. a set of age-specific migration rates for the district and its attendance areas; and;
5. the historical enrollment figures by grade.

The most significant and difficult aspect of producing enrollment forecasts is the generation of the population forecasts in which the school age population (and enrollment) is embedded. In turn, the most challenging aspect of generating the population forecasts is found in deriving the rates of change in fertility, mortality, and migration. From the standpoint of demographic analysis, the Public Schools of Brookline is classified as a "small area" population (as compared to the population of the state of Massachusetts or to that of the United States). Small area population forecasts are more complicated to calculate because local variations in fertility, mortality, and migration may be more irregular than those at the regional, state or national scale. Especially challenging is the forecast of the migration rates for local areas, because changes in the area's socioeconomic characteristics can quickly change from past and current patterns (Peters and Larkin, 2002).

The population forecasts for the Public Schools of Brookline were calculated using a cohort-component method with the populations divided into male and female groups by five-year age cohorts that range from 0-to-4 years of age to 85 years of age and older (85+). Age- and sex-specific fertility, mortality, and migration models were constructed to

specifically reflect the unique demographic characteristics of each of the attendance areas in the Public Schools of Brookline.

The enrollment forecasts were calculated using a modified average survivorship method. Average survivor rates (i.e., the proportion of students who progress from one grade level to the next given the average amount of net migration for that grade level) over the previous five years of year-to-year enrollment data were calculated for grades two through twelve. This procedure is used to identify specific grades where there are large numbers of students changing facilities for non-demographic factors, such as private school transfers or enrollment in special programs.

The survivorship rates were modified or adjusted to reflect the average rate of forecasted in and out-migration of 5-to-9, 10-to-14 and 15-to-17-year-old cohorts to each of the attendance centers in the Public Schools of Brookline for the period 2010 to 2015. These survivorship rates then were adjusted to reflect the forecasted changes in age-specific migration the district should experience over the next five years. These modified survivorship rates were used to project the enrollment of grades 2 through 12 for the period 2015 to 2020. The survivorship rates were adjusted again for the period 2020 to 2025 to reflect the predicted changes in the amount of age-specific migration in the district for the period.

The forecasted enrollments for Kindergarten and first grade are derived from the 5-to-9-year-old population of the age-sex population forecast at the elementary attendance center district level. This procedure allows the changes in the incoming grade sizes to be factors of forecasted population change and not an extrapolation of previous class sizes. Given the potentially large amount of variation in kindergarten enrollment due to parental choice, changes in the state's minimum age requirement, and differing district policies on allowing children to start kindergarten early, first grade enrollment is deemed to be a more accurate and reliable starting point for the forecasts (McKibben, 1996). The level of the accuracy for both the population and enrollment forecasts at the school district level is estimated to be ±2.0% for the life of the forecasts.

RESULTS AND ANALYSIS OF THE POPULATION FORECASTS

A number of general demographic factors will influence the growth rate of the Public Schools of Brookline during this period, and include the following:

a. The households that in-migrated in the last decade and have stayed in the district, will have mostly passed through prime childbearing ages by 2019, thereby reducing the overall proportion of the population at risk of having children;
b. The remaining population in childbearing ages (women ages 15-45) will have fewer children;
c. The locally born 18-to-24-year-old population, in prime childbearing ages, will continue to leave the area to go to college or to other urban areas, with the magnitude of this out-migration flow slowly increasing; and,
d. The district will experience an increase in housing stock, with 350 new units being built between 2020 and 2024, and;
e. The district will continue to have a large proportion of their housing units (particularly in the rental units) that are occupied by childless households in their 20s and 30s.

The Public Schools or Brookline will continue to experience significant in-migration (movement of new young families into the district) over the next 10 years. However, the size and age structure of the pool of potential in-migrants will change and the effects of the in-migration of families on population growth will be greatly offset by the continued steady growing out-migration of young adults as graduating seniors (both high school and college) continue to leave the district.

From 2020 to 2025, the district's total population is forecasted to increase by 880 or 1.5% to 61,450. From 2025 to 2030, the population is forecasted to continue to increase by an additional 640 persons or 1.0%. During the 10 years of this forecasts series, seven of the eight elementary attendance areas are forecasted to increase in population with the growth rates ranging from 0.3% in the Baker areas to 5.8% in the Coolidge Corner area (See Table 1 for population forecast results of each elementary attendance area for the period 2010 to 2020) The Lincoln area will see a slight decline over the decade, losing 100 people or -1.7%.

While all elementary areas will see some amount of gross in-migration, (primarily in the 24-to-39 age group,) all areas also will continue to see gross out-migration. This out-migration primarily will be young adults, 18-to-22 years old, as graduating high school seniors continue to leave the district to go to college or seek employment in other urban areas. Consequently, most of the attendance areas will experience a modest reduction in their average household size.

As stated in the ASSUMPTIONS and emphasized above, the impact of the high proportion of high school graduates that leave the district to continue on to college or to seek employment in large urban areas is significant to the size and structure of the future population of the district. Up to 70% of all births occur to non-college women between the ages of 20 and 34. As the graduating seniors continue leave the district, the number of women at risk of childbirth during the next decade declines. Consequently, along with the district's fertility rate being far below the replacement level, the relatively small number of non-college women in the district ages 20-29 will keep the number of births declining at a modest rate despite the district having a stable population (see the population pyramids in the Appendix C of this report for a graphic representation of the age distributions of the district and all of the attendance areas).

As a general rule of thumb, for every two high school seniors that leave the district, one new household must move into the district to replace the young adults that have left and

to replace their lost potential fertility. Over the course of the 10 year forecast period, the average number of graduating seniors will be approximately 540 per year and at least 75% of them will move out of the district within three years of graduation. Using the general rule, approximately 200 new families will be required to move into the district every year or 2,000 new families over the next 10 years to replace the graduating seniors and their lost fertility. It is forecasted that the impact of the increasing out-migration of young adults will continue to be mostly (but not completely) offset by new young family in-migration and that the total number of births will continue to decline slightly throughout the forecast period.

Another factor that needs to be considered is the birth dynamics of the last twenty years. An examination of national birth trends shows there was a large "Baby Boomlet" born between 1980 and 2000. This Boomlet was nearly as large as the Baby Boom of the 1950s and 1960s. However, unlike the Baby Boom, the Boomlet was a regional and not a national phenomenon (McKibben, et. al. 1999). Because Massachusetts did not have a Baby Boomlet, most of the expected enrollment growth will have to result from in-migration and not from an increase in the grade cohort size.

Clearly, the dominant factor that has affected the population growth rates of the Public Schools of Brookline over the last 20 years has been the number, pace and cost of new housing unit construction. However, the dynamics of this in migration flow are more complex than many realize. There is a common misconception that any changes in the economy, housing market or transportation system will have an immediate impact on the size of an area's population and the total impact of that change will be experienced immediately.

A second factor is the construction of rental units in the district. While it is true that the households moving into these new housing units bring many school age (particularly elementary) children into the district, they also bring many preschool age children as well. Consequently, the full impact of the growth in existing home sales and new home construction is not seen immediately in elementary enrollment as it takes three to seven years for all of the children to age into the schools. This "delayed demographic reaction" is a key issue when attempting to ascertain the impact and duration of enrollment change brought about by the new construction. This is a key issue since the number of births in the Public Schools or Brookline is insufficient to maintain current enrollment levels.

Of additional concern are the issues of the district's aging population and the growing number of "empty nest" households, particularly in the Heath attendance area. For example, after the last school age child leaves high school, the household becomes an "empty nest" and most likely will not send any more children to the school system. In most cases, it takes 20 to 30 years before all original (or first time) occupants of a housing area move out and are replaced by new, young families with children. This principle also applies to children leaving elementary school and moving on the middle school. Households can still have school age children in the district's school, but also in effect be "empty nest" of elementary age children.

Note as well the stability in the median age of the population in the Public Schools of Brookline and all of its attendance areas (see population forecasts in the appendix for the median age for each forecast year for the district and each elementary attendance area). The district as a whole will see the median age of its population in a range of from 34.1 in 2010 to 33.6 in 2030. Unlike the vast majority of school districts in the United States that will experience a significant increase (anywhere from 2.5 to 4.5 years) in their median ages over the next 10 year, the Public Schools of Brookline will not. The factors that are causing this stabilization in the median age are the presence of a college and young professional population (ages 20-34) that tend to move into the district in their early 20s and leave by their mid-30s, and the construction of new rental housing units that will primarily attract households in their 20s and 30s.

However, even while the district as a whole continues to attract some new young families, many areas of the district that have concentration of single family, owner occupied housing units will experience "empty nesting". It should be noted that many of these "childless" households are single persons and/or elderly (See Table 4). Consequently, if many of these housing units "turnover" and attract households of similar characteristics, they will add little to the number of school age children in the district. Furthermore, many of the empty nest households will "down size" to smaller households within the district or the immediate area (this trend is tied directly to the number of "elder housing units" built in the district or adjacent towns). In these cases, new housing units may be built in an areas (age restricted), yet there is no corresponding increase in school enrollment.

There are several additional factors that are responsible for the difference between growth in population and growth in housing stock and existing home sales. Included among these factors are people buying new "move up" or retirement homes in the same area or district, (an important point since the children in move up homes tend to be of middle or high school age); children moving out of their parents homes and establishing residence in the same area; the increase in single-individual households; and divorce, with both parents remaining in the same area.

One final and important issue, although the district's population will stay fairly stable over the next 10 years, the distribution of the population (and that of the school age population) will change significantly. With the combination of the new rental housing being built in the Baker area and the prevalence of existing housing units "turning over" (particularly in the Heath area) the distribution of the district's population and school age students will shift south over the next 10 years.

RESULTS AND ANALYSIS OF ENROLLMENT FORECASTS

Elementary Enrollment (K-8)

The total K-8 elementary enrollment of the district is forecasted to increase from 5,442 in 2019-20 to 5,463 in 2024-25, a rise of 21 students or 0.4%. From 2024-25 to 2029-30, elementary enrollment is expected to grow by 47 students to 5,510. This will represent a 0.9% increase over the five-year period. Five of the eight elementary attendance areas will experience a net decrease in enrollment over the next ten years (see Appendix A, Table 5).

The reason for this increasing, if choppy, pattern in the elementary enrollment over the next ten years is the convergence of the effects of three factors, all reaching their peak influence roughly by 2026. The building of new housing units, (mostly rental) that will attract young households that have or will have children, the year to year variations of cohort sizes in the elementary grades, and the turnover of households that currently empty nest. Each of these factors will contribute in part to the growth in elementary enrollment until 2027.

The building of at least 350 new rental housing units over the next five years will have a significant impact on the enrollment patterns of the district. In fact, it is one of the major reasons that the Baker, Coolidge Corner and Heath attendance areas show a net enrollment increase over the next 10 years. However, it is important to note that there is a disconnect between the population increase that is a result of these new building and the impact on enrollment change. While these new units will have many children living in them (Children per households) the K-8 student yield (school age children per household) is much smaller. Appendix E, Table 2 shows the student yield per household for selected apartment complexes in the district. Note that in all four examples, the average student yield per unit is .62 or less. The number of children per household in each of these examples would undoubtable be greater than 1.

Secondly, over the last several years, one of the main reasons growth rate in the elementary enrollment was increasing was due to the fact that the number of children entering kindergarten and 1st grade was slightly increasing and the number of students leaving elementary school after completing 5th grade was smaller. This trend will continue over most of the next eight years. From 2015-16 to 2019-20 the incoming 1st grade cohorts will average 626 students in size whereas the outgoing 8th grade cohorts have averaged on 537. Over the last 3 years in the incoming 1st grade class averaged 598 while the outgoing 8th grade averaged only 558. As long as this imbalance continues (and it is forecasted to do so for most of the next eight years) there will be increase in the elementary grades. After 2019-20, this trend continues. Over the next eight years the first grade cohorts will average about 632 students and the outgoing 8th grade cohorts will average 572 students. For the next 5 years, the aforementioned number of in-migrating young families will be at a level that is sufficient to keep the total elementary enrollment growing, although this trend alone will not be enough to keep the elementary enrollment increasing. A key point in regards to the impact of cohort size in the district is the fact that the "breakeven point" for the 8th grade cohorts is approximately 575. Years where the district has more that 575 8th grade students moving on the high school, there will be a decline in elementary enrollment the next year.

The third factor is the rise of the number of empty nest households in the district. In 2010 the district had 32.5% of their households headed by people ages 35-54 (The ages the majority of people have school aged children). The district's proportion of households in these age groups has dropped over the last ten years as people aged and the households became empty nest. This trend will continue for at least the next 10 years as empty nest households will become the dominate household type in the district. Fortunately, the large bubble of empty nest households that were in the district over the last 10 years will reach their 70s during the life of these forecasts. Post 70 year old households are the stage of life when are most likely to downsize, allowing new young families with children to move in. Consequently, areas that have a large number of owner occupied single family homes will see a rise in the number homes "turning over" and begin to see school age children from these homes. Attendance areas such as Baker and Heath will be the primary (but not exclusive) beneficiaries of this trend.

The demographic factors that will become the most influential over the next 10 years are the growth rate of empty nest households in the attendance areas, the number and rate of existing homes sales, the rate and magnitude of existing housing unit "turn over", the size and type of new rental housing units, the number of new home sales, the relative size of the elementary and pre-school age cohorts and each area's fertility rate. Each of these factors will vary in the scale of their influence and timing of impact on the enrollment trends of any particular elementary area.

As the area becomes more dependent upon existing home sales to attract new families (and no prospect of new housing units being built), the overall elementary enrollment trend of the district will decline. Areas such as Lincoln will see their elementary enrollments slowly decline. Thus, the best primary short- and long-term indicator for enrollment change in most of the attendance areas will be the year-to-year rate of housing turnover. If the total fertility rates of all the attendance areas remain at their current low levels (and they are forecasted to do so) they will ensure that enrollments will continue to see slowing growth (stabilization) even if the levels of net out-migration are greatly reduced.

Additionally, sub-areas that are characterized by the relatively high percentage of rental housing units and large concentrations of young adults tend to have more stable population distribution and enrollment trends. In Brookline, the Lawrence area is a good example of this trend. In these cases, young adults or the newly married, move to these areas and establish households. Because the population is in prime child bearing ages, these areas also have both a high absolute number of births and a higher than the district average birth

rate. Later, as family size increases, these families often move to single family homes--usually to (relatively) moderately priced single family homes in other parts of the school district or the surrounding area. However, in the case of Lawrence, unlike areas like this in other districts, the key intervening variable is what proportion of the rental housing units are occupied by college students. If the number of housing units in the area occupied by college students increases or decreases, then there would be an inverse effect on enrollment.

High School Enrollment (9-12)

Enrollment at the high school level is forecasted to grow from 2,064 in 2019-20 to 2,309 in 2024-25, an increase of 245 students or 11.9%. After 2024-25, the high school enrollment trend will begin to stabilize. The net result for the five-year period 2024-25 to 2029-30 will be a decrease of 82 students to 2,227 and a rate of decrease of -3.6%.

The aforementioned effects of changes in cohort size on elementary enrollment are also affecting the growth patterns of the high school population. The difference is that the current "wave" of larger cohort sizes (presently in the elementary grades) will begin to reach 9th grade in every year until the 2024-25 school year. Over the next five years, the larger sized grade cohorts that are in the middle school and elementary grades will enter high school. Until these larger sized cohorts of students pass through the high school grades, there will be growth in the enrollment at the district's high school, most likely ending in 2024. After that point, high school enrollment will begin to stabilize. It should be noted that the large drop in high school enrollment that will occur in the 2025-26 and 2027-28 school years are a result of the large 12th grade graduating classes that left the year before (these are the district's current 7th and 5th grade classes), not do to any major demographic changes.

It is important to remember that the vast majority of this future high school enrollment growth will be a result of students aging into those grades. Specifically, students who already live in the district (and not in-migration of students ages 14 to 18) will be the primary cause of the forecasted increase in high school enrollment. Additionally, as was mentioned earlier, these forecasts represent the demographic changes that will affect high school enrollment. Any changes in the district's student transfer policy and/or changes in special high school level programs will need to be added or subtracted from the forecast result

High school enrollment is the most difficult of all the grade levels to project. The reason for this is the varying and constantly changing dropout rates, particularly in grades 10 and 11. For these forecasts, the dropout rates at the high school grades were calculated for each grade level over the last five years. These five-year averages were then held constant for the life of the forecast. The effects of any policy changes dealing with any school's dropout rates, program placement or reassignment of former students to new grade levels will need to be added or subtracted from the forecast results. The rate of the Public Schools of Brookline 8th grade students that choose to attend high school in private or out of district public school schools is also held constant the average rate of the last five years.

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Appendix A: Supplemental Tables

Table 1: Forecasted District Total Population Change, 2010 to 2020

	2010	2015	*2010-2015 Change*	2020	*2015-2020 Change*	*2010-2020 Change*
BAKER	6,120	6,210	*1.5%*	6,230	*0.3%*	*1.8%*
COOLIDGE CORNER	10,993	11,320	*3.0%*	11,600	*2.5%*	*5.5%*
DRISCOLL	5,977	6,160	*3.1%*	6,270	*1.8%*	*4.9%*
HEATH	4,531	4,540	*0.2%*	4,620	*1.8%*	*2.0%*
LAWRENCE	8,977	9,130	*1.7%*	9,270	*1.5%*	*3.3%*
LINCOLN	6,001	6,040	*0.6%*	6,030	*-0.2%*	*0.5%*
PIERCE	9,370	9,460	*1.0%*	9,550	*1.0%*	*1.9%*
RUNKLE	6,761	6,830	*1.0%*	7,000	*2.5%*	*3.5%*
DISTRICT TOTAL	**58,730**	**59,690**	***1.6%***	**60,570**	***1.5%***	***3.1%***

The two key variables in the Table 2 are the percent of households with under 18 population (both preschool and school age) and the mean household size. The table also shows how much each attendance area deviates from the district average. In the case of percent with under 18 population, while the district overall has 24.2% of the households with children (the US average is 34.6%), the attendance areas range from a high of 40.2% in Baker to a low of 17.8% in Lawrence. For mean household size, the district is at 2.27 (The US average is 2.58) with the attendance areas ranging from a high of 2.76 in Heath to a low of 2.05 in Lawrence.

Table 2: Household Characteristics by Elementary Area, 2010 Census

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
BAKER	927	42.0%	2,206	6,008	2.72
COOLIDGE CORNER	998	20.5%	4,860	10,865	2.24
DRISCOLL	537	19.3%	2,778	5,941	2.14
HEATH	491	36.1%	1,359	3,746	2.76
LAWRENCE	748	17.8%	4,205	8,638	2.05
LINCOLN	703	25.4%	2,762	5,987	2.17
PIERCE	968	23.3%	4,149	9,097	2.19
RUNKLE	699	25.2%	2,772	6,570	2.37
DISTRICT TOTAL	**6,070**	**24.2%**	**25,091**	**56,852**	**2.27**

Table 3 shows the number of households aged 35-54 (the ages where most people have school age children), the number of householders over the age of 65, and housing tenure (home owners versus renters). For the 35-54 household group the district average is 32.5% (the US average 43.7%) with a range of 44.0% in Baker to 28.2% in Lawrence. Households over the age of 65, which in most case are empty nest households that have no school age children in them, are the ones most likely to "turnover" in the next ten years with the new occupants that do have children. The district has 20.1% of the households over 65 (the US average is 17.5%) with the attendance areas ranging from 30.0% in Heath to 17.8% in Runkle. Home ownership tends to be strongly correlated with age structure and the number of school age children. The district has 48.8% of their households in owner occupied housing units (the US average is 68.9%). The attendance areas range from a high of 80.2% in Heath to a low of 38.0% in Coolidge Corner.

Table 3: Householder Characteristics by Elementary Area, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders Who Own Homes
BAKER	44.0%	22.6%	68.7%
COOLIDGE CORNER	28.5%	19.7%	38.0%
DRISCOLL	29.2%	16.7%	40.5%
HEATH	38.5%	30.0%	80.2%
LAWRENCE	28.2%	18.0%	41.7%
LINCOLN	35.7%	23.0%	49.7%
PIERCE	33.6%	20.3%	43.7%
RUNKLE	32.1%	17.8%	62.4%
DISTRICT TOTAL	**32.5%**	**20.1%**	**48.8%**

Table 4 shows the distribution of single person households in the district. This variable tends to be strongly correlated with housing tenure as most single people live in rental units. The district has 33.4% of its households that are single person (the US average is 16.2%) the attendance areas range from a high of 40.2% in Lawrence to a low of 19.4% in Baker.

Table 4: : Percentage of Households that are Single Person Households and Single Person Households that are over age 65 by Elementary Area, 2010 Census

	Percentage of Single Person Households	Percentage of Single Person Households and are 65+
BAKER	19.4%	8.4%
COOLIDGE CORNER	34.1%	12.0%
DRISCOLL	37.7%	8.8%
HEATH	20.0%	11.1%
LAWRENCE	40.2%	9.8%
LINCOLN	37.8%	13.1%
PIERCE	35.3%	12.0%
RUNKLE	28.2%	6.7%
DISTRICT TOTAL	**33.4%**	**10.4%**

Table 5: Elementary Enrollment (2019) Compared to Forecasted Enrollment of Elementary Areas (2024, 2029)

	2019	2024	2019-2024 Change	2029	2024-2029 Change	2019-2029 Change
BAKER	750	824	*9.9%*	881	*6.9%*	*17.5%*
COOLIDGE CORNER	888	979	*10.2%*	1,042	*6.4%*	*17.3%*
DRISCOLL	601	546	*-9.2%*	530	*-2.9%*	*-11.8%*
HEATH	524	562	*7.3%*	611	*8.7%*	*16.6%*
LAWRENCE	679	662	*-2.5%*	651	*-1.7%*	*-4.1%*
LINCOLN	576	543	*-5.7%*	519	*-4.4%*	*-9.9%*
PIERCE	842	794	*-5.7%*	739	*-6.9%*	*-12.2%*
RUNKLE	582	553	*-5.0%*	537	*-2.9%*	*-7.7%*
DISTRICT TOTAL	**5,442**	**5,463**	***0.4%***	**5,510**	***0.9%***	***1.2%***

Table 6: Age Under One to Age Ten Population Counts, by Year of Age, by Elementary Area: 2010 Census

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
BAKER	71	74	72	77	102	78	116	120	120	104	91
COOLIDGE CORNER	120	121	118	133	106	93	108	96	98	96	78
DRISCOLL	73	55	63	54	56	59	56	49	46	44	42
HEATH	35	34	43	52	61	54	53	62	61	50	63
LAWRENCE	101	94	82	92	75	75	66	59	73	63	58
LINCOLN	71	63	65	71	67	63	70	64	61	61	65
PIERCE	134	107	123	107	88	95	93	72	85	93	78
RUNKLE	78	69	83	68	54	81	82	76	65	70	75
DISTRICT TOTAL	**682**	**617**	**648**	**653**	**609**	**598**	**644**	**599**	**609**	**581**	**548**

Table 7 is a calculation of the district proportion of children enrolled in each grade compared to the number of children counted in each age category in the 2010 Census. The calculation for the 2010 enrollment is used as a base. The percentages in 2010 by age group are all less than 100% as no school district has all of the children living in the district enrolled in public schools (the other are in private schools, charters, home schooled, etc.).

For example, the 6-year-olds in 2010 are in first grade. The 618 students enrolled represents 96% of the 644 6-year-olds counted in the census. The next rows up are the enrollment for the year 2011. These 6-year-olds are now 7 years old and in second grade. The 658 second grade students in 2011 represents 102.2 % of the 644, total population in that age cohort. That means the district experienced a 6.2 percentage point increase (in-migration) of children born in 2004. The top row compares the 2019 enrollment by grade. The 6-year-old cohort in 2010 is now in 10th grade. The 557 students enrolled is 86.5% of the cohort total from 2010.

Note that consistently the district tends to attach students in grades kindergarten through four in all age groups over the decade. This reparents the in-migration of young households with school age children. Conversely, note that in most years and age cohorts, the district number of students (and proportions) declines after grade four. This represents the out-migration of households from the district.

Table 7: Comparison of District Resident Enrollment by Grade with 2010 Census Counts by Age, 2010-2019

2010 Census	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years	12 years	13 years
Public Schools of Brookline Total	**682**	**617**	**648**	**653**	**609**	**598**	**644**	**599**	**609**	**581**	**548**	**528**	**520**	**509**
2019 Grade	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**					
2019 Enrollment	624	657	582	618	561	521	557	512	474					
% of Census Counts by Age	91.5%	106.5%	89.8%	94.6%	92.1%	87.1%	86.5%	85.5%	77.8%					
2018 Grade	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**				
2018 Enrollment	645	680	605	665	571	545	554	542	489	499				
% of Census Counts by Age	94.6%	110.2%	93.4%	101.8%	93.8%	91.1%	86.0%	90.5%	80.3%	85.9%				
2017 Grade	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**			
2017 Enrollment	631	691	621	660	585	550	568	531	510	497	506			
% of Census Counts by Age	92.5%	112.0%	95.8%	101.1%	96.1%	92.0%	88.2%	88.6%	83.7%	85.5%	92.3%			
2016 Grade	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**		
2016 Enrollment	627	678	633	677	584	549	576	531	500	509	492	479		
% of Census Counts by Age	91.9%	109.9%	97.7%	103.7%	95.9%	91.8%	89.4%	88.6%	82.1%	87.6%	89.8%	90.7%		
2015 Grade	**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	
2015 Enrollment	633	696	621	704	598	553	610	543	507	500	507	480	446	
% of Census Counts by Age	92.8%	112.8%	95.8%	107.8%	98.2%	92.5%	94.7%	90.7%	83.3%	86.1%	92.5%	90.9%	85.8%	
2014 Grade		**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
2014 Enrollment		685	645	685	620	530	634	541	506	507	494	478	431	473
% of Census Counts by Age		111.0%	99.5%	104.9%	101.8%	88.6%	98.4%	90.3%	83.1%	87.3%	90.1%	90.5%	82.9%	92.9%
2013 Grade			**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
2013 Enrollment			631	676	618	539	656	562	519	533	493	466	445	475
% of Census Counts by Age			97.4%	103.5%	101.5%	90.1%	101.9%	93.8%	85.2%	91.7%	90.0%	88.3%	85.6%	93.3%
2012 Grade				**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
2012 Enrollment				666	633	539	651	574	517	549	492	446	436	479
% of Census Counts by Age				102.0%	103.9%	90.1%	101.1%	95.8%	84.9%	94.5%	89.8%	84.5%	83.8%	94.1%
2011 Grade					**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2011 Enrollment					602	550	658	567	532	538	516	437	425	458
% of Census Counts by Age					98.9%	92.0%	102.2%	94.7%	87.4%	92.6%	94.2%	82.8%	81.7%	90.0%
2010 Grade						**K**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2010 Enrollment						545	618	572	532	527	532	445	424	448
% of Census Counts by Age						91.1%	96.0%	95.5%	87.4%	90.7%	97.1%	84.3%	81.5%	88.0%

Appendix B: Population Forecasts

Brookline Public Schools

Total	2010	2015	2020	2025	2030
0-4	3,209	3,140	3,080	3,190	3,130
5-9	3,031	3,450	3,310	3,480	3,490
10-14	2,606	2,870	3,290	3,120	3,320
15-19	2,817	2,760	3,020	3,360	3,340
20-24	6,618	6,280	6,300	6,740	6,640
25-29	6,949	7,030	6,740	6,890	7,230
30-34	5,079	5,220	5,200	5,110	5,380
35-39	4,201	4,000	4,080	4,030	4,080
40-44	3,495	3,530	3,380	3,350	3,360
45-49	3,325	3,210	3,310	2,920	2,930
50-54	3,218	3,250	3,160	3,230	2,870
55-59	3,366	3,130	3,170	3,080	3,160
60-64	3,322	3,110	2,900	2,880	2,820
65-69	2,259	3,020	2,810	2,540	2,540
70-74	1,587	1,950	2,660	2,430	2,190
75-79	1,239	1,330	1,650	2,270	2,070
80-84	1,087	1,010	1,090	1,340	1,850
85+	1,322	1,400	1,420	1,490	1,690
Total	58,730	59,690	60,570	61,450	62,090
Median Age	34.1	34.1	34.4	33.9	33.6

Births	3,020	2,970	2,890	2,920
Deaths	2,120	2,210	2,360	2,540
Natural Increase	900	760	530	380
Net Migration	120	150	300	240
Change	1,020	910	830	620

Differences between period Totals may not equal Change due to rounding.

Baker Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	396	360	350	420	360
5-9	538	480	460	540	560
10-14	463	530	460	430	520
15-19	410	420	480	340	360
20-24	232	250	240	310	220
25-29	247	240	270	320	360
30-34	296	260	250	340	360
35-39	435	310	270	270	360
40-44	496	440	310	290	290
45-49	479	500	450	310	290
50-54	454	480	510	440	310
55-59	488	440	470	500	440
60-64	409	470	430	410	440
65-69	247	390	450	360	350
70-74	176	230	360	370	300
75-79	159	160	200	300	300
80-84	107	130	130	160	240
85+	89	120	140	150	190
Total	6,120	6,210	6,230	6,260	6,250
Median Age	40.4	42.9	45.3	42.8	40.4

Births	250	220	200	210
Deaths	220	250	290	320
Natural Increase	30	-30	-90	-110
Net Migration	50	60	120	90
Change	80	30	30	-20

Differences between period Totals may not equal Change due to rounding.

Coolidge Corner Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	598	600	570	630	630
5-9	491	580	580	670	710
10-14	386	480	560	560	650
15-19	429	400	490	580	580
20-24	2,039	1,870	1,840	2,090	2,030
25-29	1,480	1,580	1,410	1,450	1,720
30-34	963	930	1,030	920	1,010
35-39	813	780	750	810	720
40-44	530	720	680	530	610
45-49	538	520	710	460	320
50-54	466	530	520	700	460
55-59	503	460	520	510	690
60-64	488	480	440	500	490
65-69	334	450	440	380	450
70-74	243	300	390	390	330
75-79	216	190	240	330	330
80-84	191	170	160	190	270
85+	285	280	270	260	270
Total	10,993	11,320	11,600	11,960	12,270
Median Age	30.4	30.8	31.7	30.0	29.5

Births	620	600	590	610
Deaths	380	380	390	410
Natural Increase	240	220	200	200
Net Migration	90	90	110	100
Change	330	310	310	300

Differences between period Totals may not equal Change due to rounding.

Driscoll Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	300	320	330	330	350
5-9	254	350	330	340	330
10-14	201	240	330	310	330
15-19	182	180	210	310	290
20-24	735	710	830	860	830
25-29	1,029	930	940	1,080	1,060
30-34	653	710	530	540	760
35-39	418	410	400	230	300
40-44	342	320	330	320	160
45-49	314	340	320	330	320
50-54	295	310	330	310	320
55-59	301	290	300	330	300
60-64	291	280	250	270	300
65-69	197	260	240	230	240
70-74	117	170	230	210	200
75-79	120	110	150	200	190
80-84	108	100	90	120	170
85+	118	130	130	140	150
Total	5,977	6,160	6,270	6,460	6,600
Median Age	32.2	32.5	31.6	30.0	30.7

Births	320	320	320	340
Deaths	190	200	210	230
Natural Increase	130	120	110	110
Net Migration	40	50	50	40
Change	170	170	160	150

Differences between period Totals may not equal Change due to rounding.

Heath Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	226	210	240	270	280
5-9	281	340	330	360	380
10-14	296	250	320	290	320
15-19	467	440	400	440	500
20-24	414	420	380	350	360
25-29	240	320	340	330	310
30-34	153	210	270	380	300
35-39	216	190	240	310	420
40-44	267	210	200	240	310
45-49	288	270	210	200	230
50-54	337	280	260	210	200
55-59	307	330	280	260	200
60-64	284	270	290	230	210
65-69	216	250	240	240	180
70-74	150	170	210	180	190
75-79	112	130	150	180	160
80-84	102	90	110	120	140
85+	175	160	150	150	160
Total	4,531	4,540	4,620	4,740	4,850
Median Age	39.4	37.1	35.6	34.3	34.6

Births	180	210	230	250
Deaths	210	210	220	220
Natural Increase	-30	0	10	30
Net Migration	60	60	100	90
Change	30	60	110	120

Differences between period Totals may not equal Change due to rounding.

Lawrence Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	444	430	420	400	410
5-9	335	460	430	430	410
10-14	284	320	440	410	410
15-19	354	330	360	500	460
20-24	1,141	1,100	1,080	1,260	1,250
25-29	1,356	1,340	1,300	1,320	1,460
30-34	987	960	940	810	910
35-39	639	640	600	510	460
40-44	506	530	530	470	400
45-49	446	440	480	470	420
50-54	404	440	440	470	450
55-59	471	390	430	420	460
60-64	518	430	370	390	400
65-69	364	470	390	320	350
70-74	250	320	420	340	280
75-79	159	220	280	370	300
80-84	164	130	180	230	300
85+	154	180	180	210	260
Total	8,977	9,130	9,270	9,330	9,390
Median Age	32.9	33.0	33.2	32.1	31.6

Births	410	400	370	390
Deaths	300	320	350	390
Natural Increase	110	80	20	0
Net Migration	50	50	60	50
Change	160	130	80	50

Differences between period Totals may not equal Change due to rounding.

Lincoln Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	336	330	310	300	280
5-9	319	350	330	320	300
10-14	294	290	330	310	310
15-19	304	310	310	330	320
20-24	459	420	410	410	410
25-29	582	580	520	500	490
30-34	509	520	520	470	460
35-39	482	450	470	480	420
40-44	428	410	400	410	420
45-49	350	370	370	340	370
50-54	361	350	360	360	340
55-59	358	350	330	350	350
60-64	379	320	320	310	320
65-69	265	340	280	280	270
70-74	191	220	300	250	250
75-79	126	170	190	260	210
80-84	109	110	130	160	210
85+	151	150	150	170	200
Total	6,001	6,040	6,030	6,010	5,930
Median Age	37.0	37.4	38.0	38.8	39.7

Births	320	300	290	270
Deaths	230	240	260	280
Natural Increase	90	60	30	-10
Net Migration	-60	-50	-50	-40
Change	30	10	-20	-50

Differences between period Totals may not equal Change due to rounding.

Pierce Elementary Zone

Total	2010	2015	2020	2025	2030
0-4	558	530	510	490	490
5-9	439	540	510	490	470
10-14	374	410	520	490	470
15-19	302	360	400	510	490
20-24	880	840	900	850	950
25-29	1,147	1,180	1,140	1,150	1,100
30-34	971	960	1,000	990	1,000
35-39	771	780	780	840	830
40-44	550	530	540	570	630
45-49	518	430	400	430	470
50-54	509	490	400	370	410
55-59	490	490	480	380	370
60-64	509	450	450	440	360
65-69	358	460	400	410	400
70-74	293	310	400	360	360
75-79	230	230	250	340	300
80-84	197	190	190	200	280
85+	274	280	280	280	290
Total	9,370	9,460	9,550	9,590	9,670
Median Age	35.1	34.5	34.0	34.1	34.3

Births	540	520	500	490
Deaths	380	380	390	400
Natural Increase	160	140	110	90
Net Migration	-60	-60	-50	-50
Change	100	80	60	40

Differences between period Totals may not equal Change due to rounding.

Runkle Elementary Zone

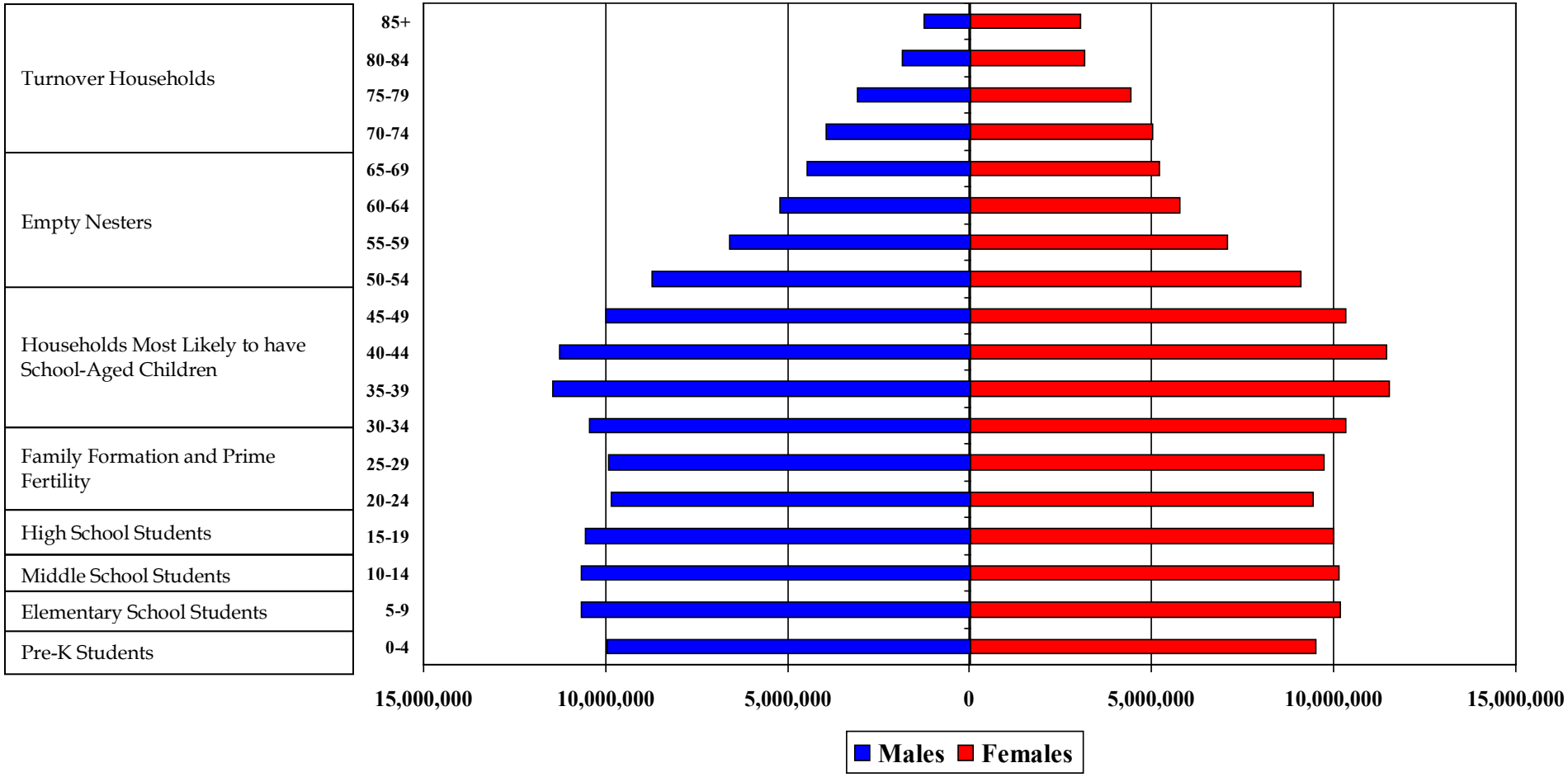
Total	2010	2015	2020	2025	2030
0-4	351	360	350	350	330
5-9	374	350	340	330	330
10-14	307	350	330	320	310
15-19	369	320	370	350	340
20-24	719	670	620	610	590
25-29	869	860	820	740	730
30-34	546	670	660	660	580
35-39	427	440	570	580	570
40-44	375	370	390	520	540
45-49	393	340	370	380	510
50-54	392	370	340	370	380
55-59	448	380	360	330	350
60-64	443	410	350	330	300
65-69	278	400	370	320	300
70-74	168	230	350	330	280
75-79	117	120	190	290	280
80-84	109	90	100	160	240
85+	76	100	120	130	170
Total	6,761	6,830	7,000	7,100	7,130
Median Age	33.6	33.8	35.1	36.6	38.1

Births	380	400	390	360
Deaths	210	230	250	290
Natural Increase	170	170	140	70
Net Migration	-50	-50	-40	-40
Change	120	120	100	30

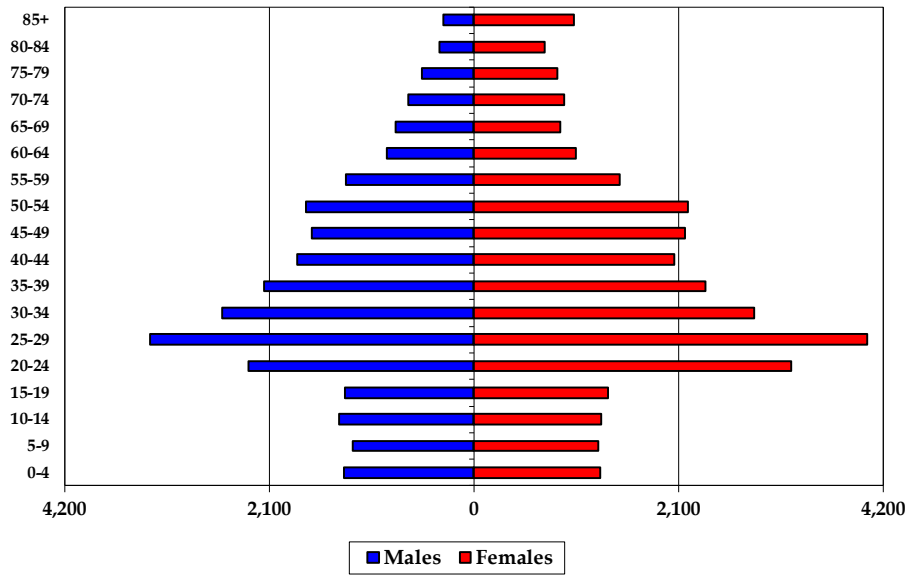
Differences between period Totals may not equal Change due to rounding.

Appendix C: Population Pyramids

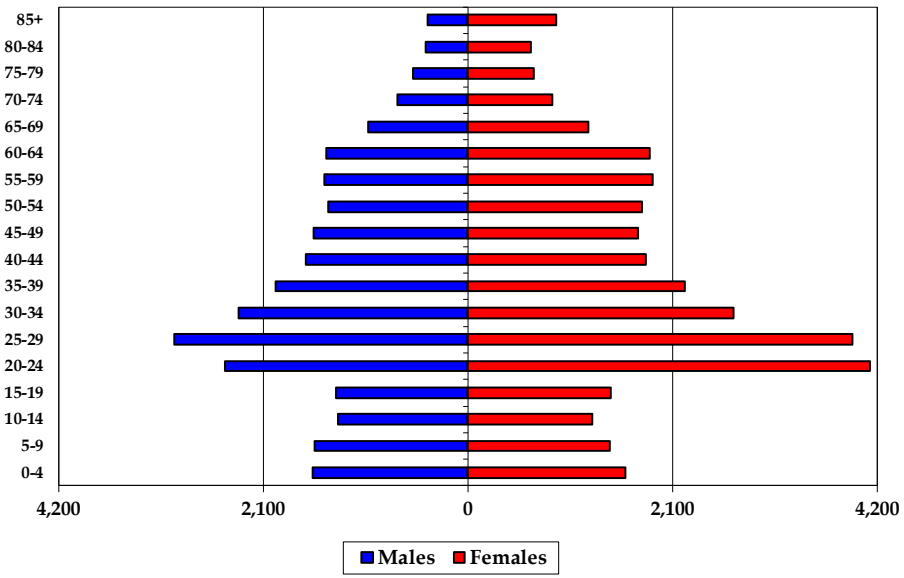
Population pyramids are graphic representations showing age-sex distribution of a geographic area. They are essentially a demographic fingerprint. They can be placed into broad typologies, but no two areas have the same exact characteristics.



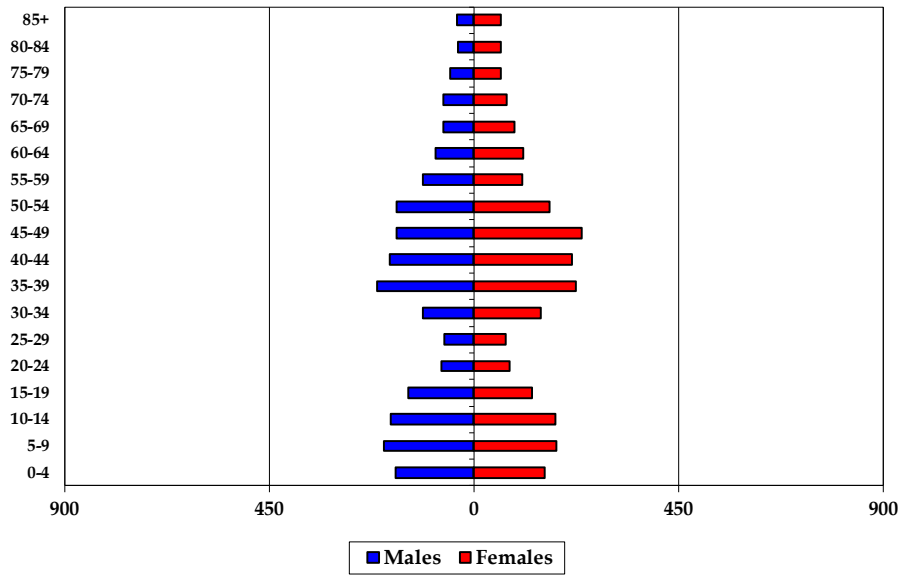
Brookline, Massachusetts Total Population – 2000 Census



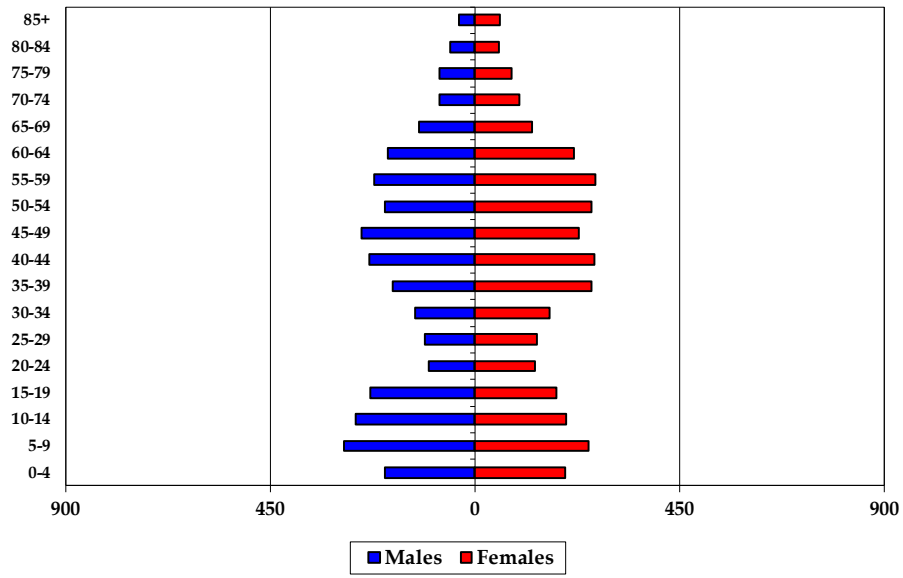
Brookline, Massachusetts Total Population – 2010 Census



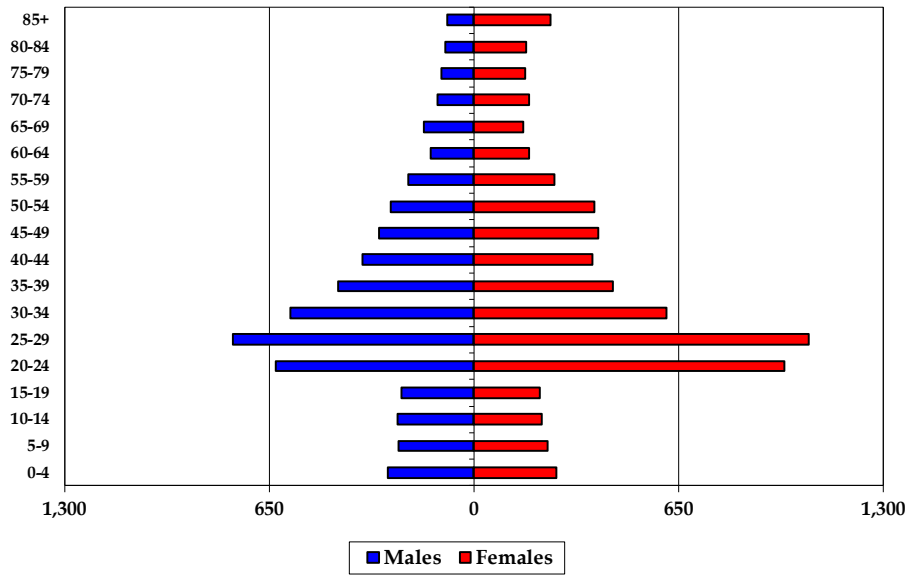
Baker Elementary Zone Population – 2000 Census



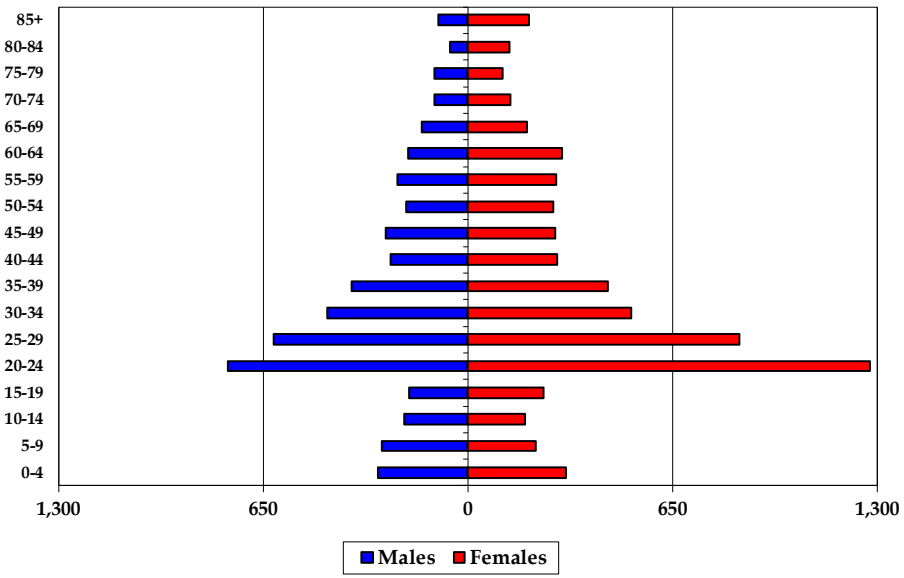
Baker Elementary Zone Population – 2010 Census



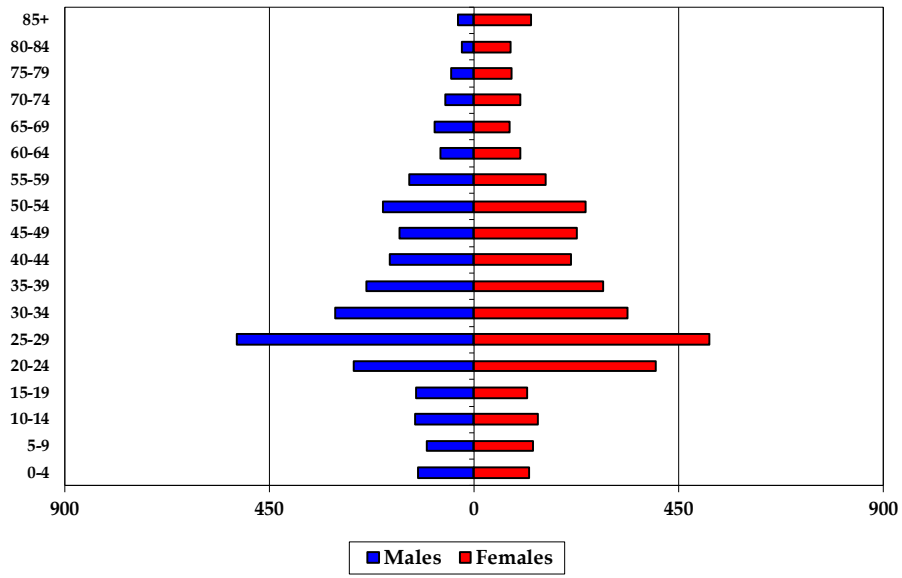
Coolidge Corner Elementary Zone Population – 2000 Census



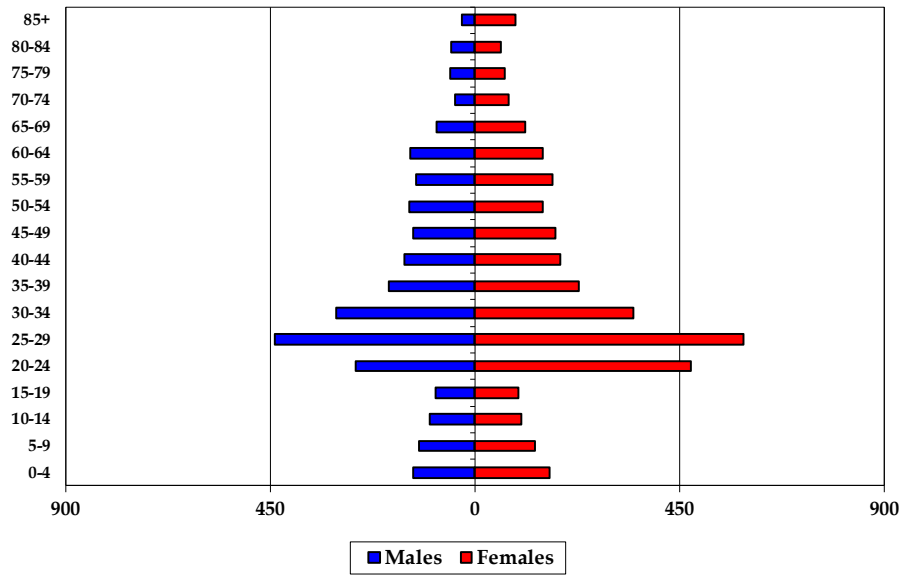
Coolidge Corner Elementary Zone Population – 2010 Census



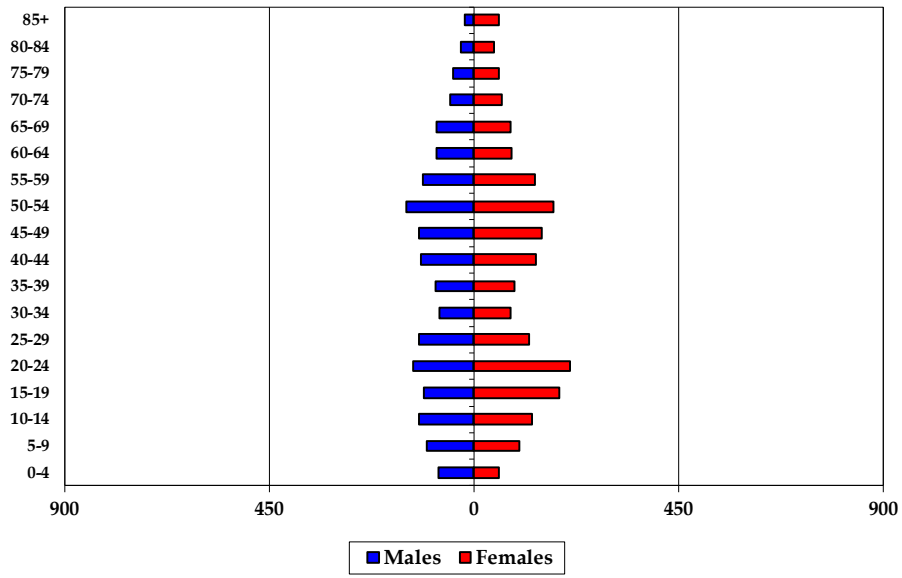
Driscoll Elementary Zone Population 2000 Census



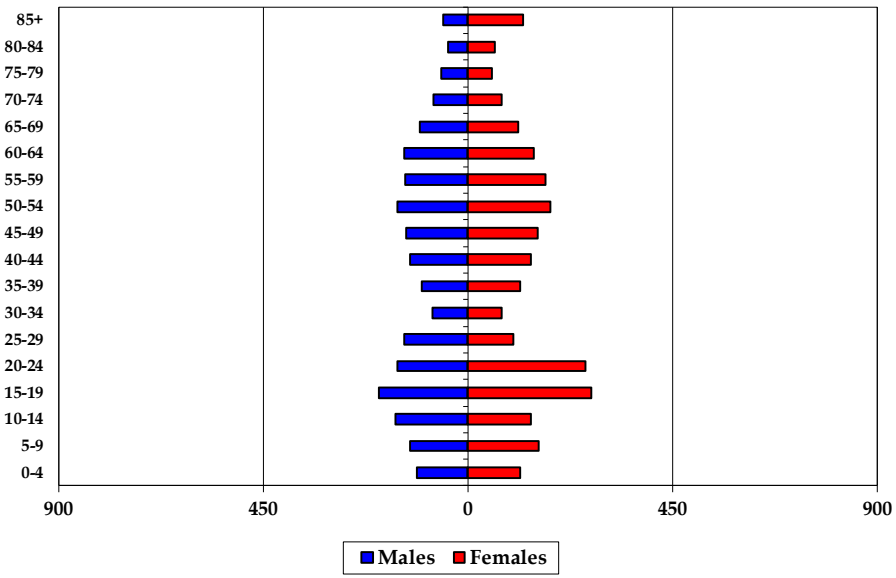
Driscoll Elementary Zone Population – 2010 Census



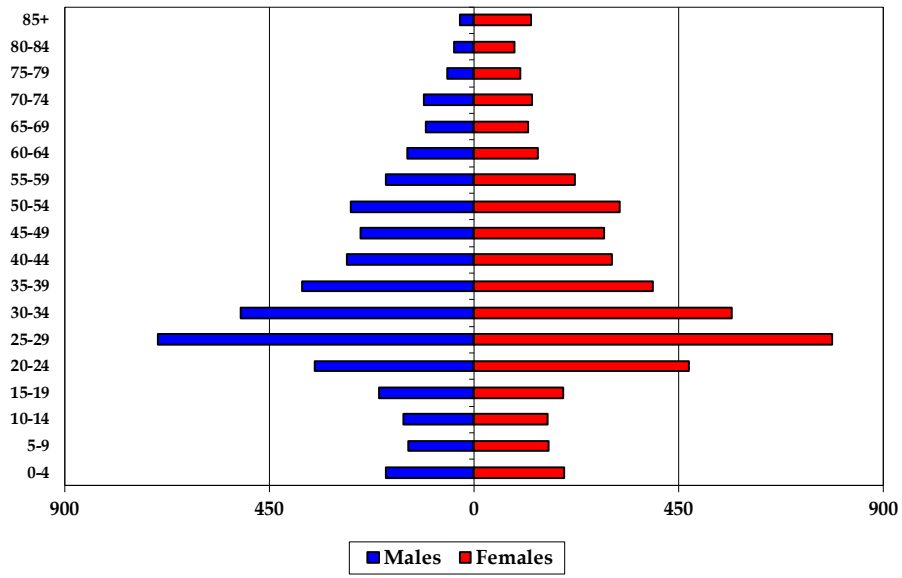
Heath Elementary Zone Population – 2000 Census



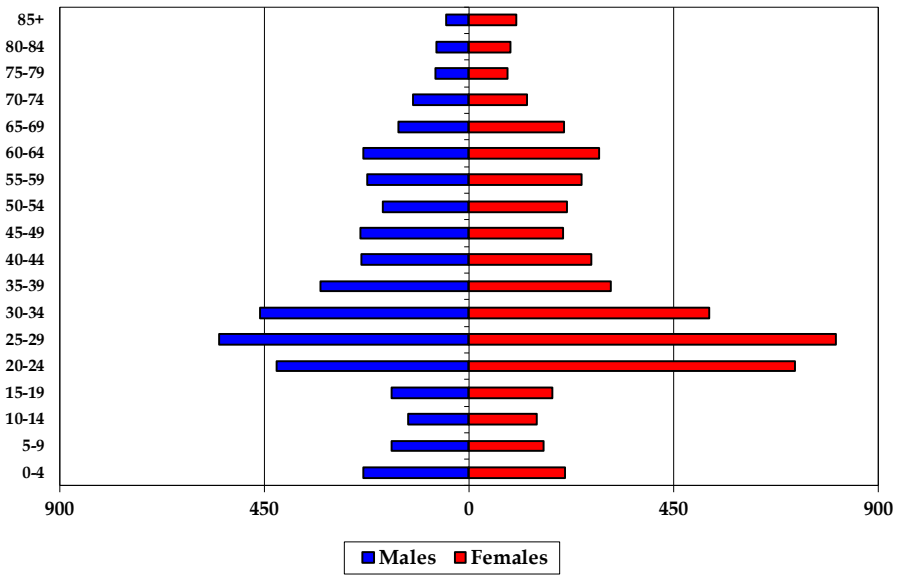
Heath Elementary Zone Population – 2010 Census



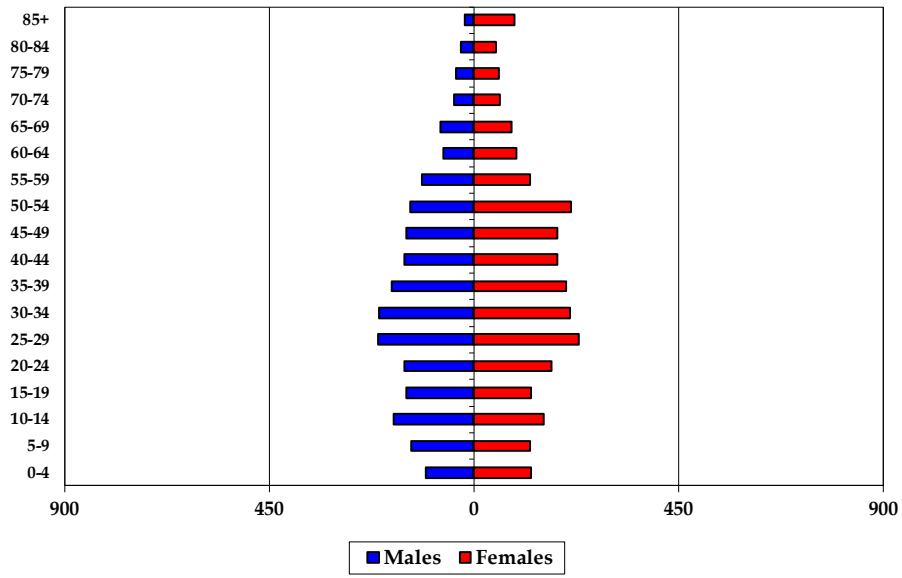
Lawrence Elementary Zone Population – 2000 Census



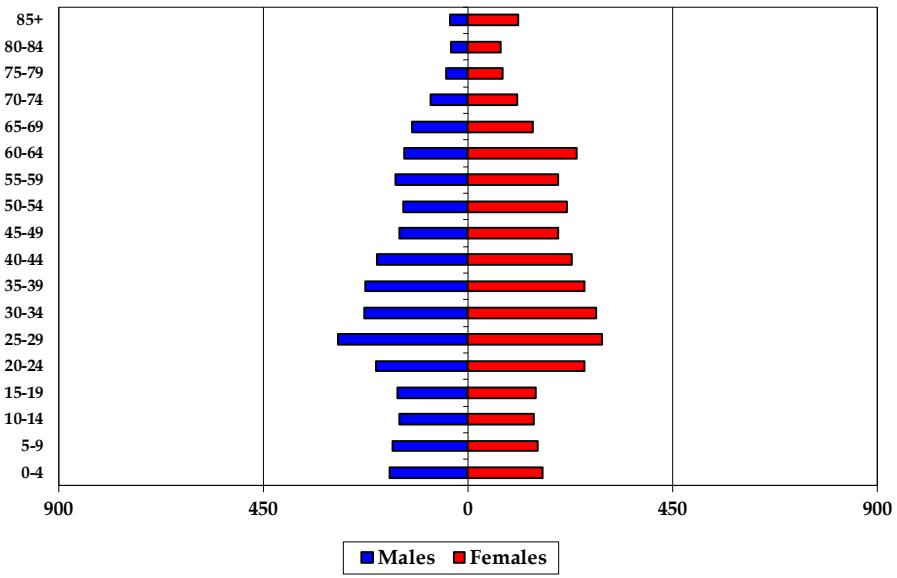
Lawrence Elementary Zone Population – 2010 Census



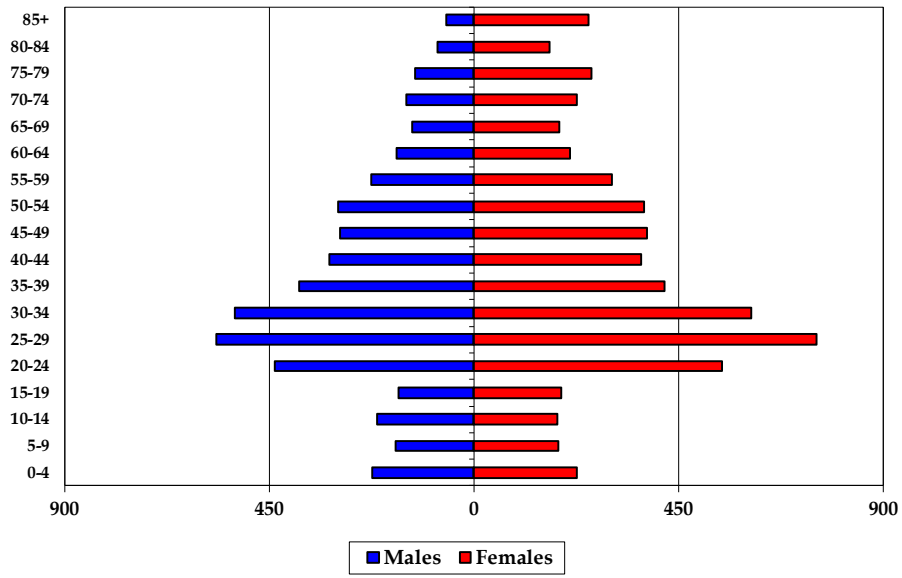
Lincoln Elementary Zone Population – 2000 Census



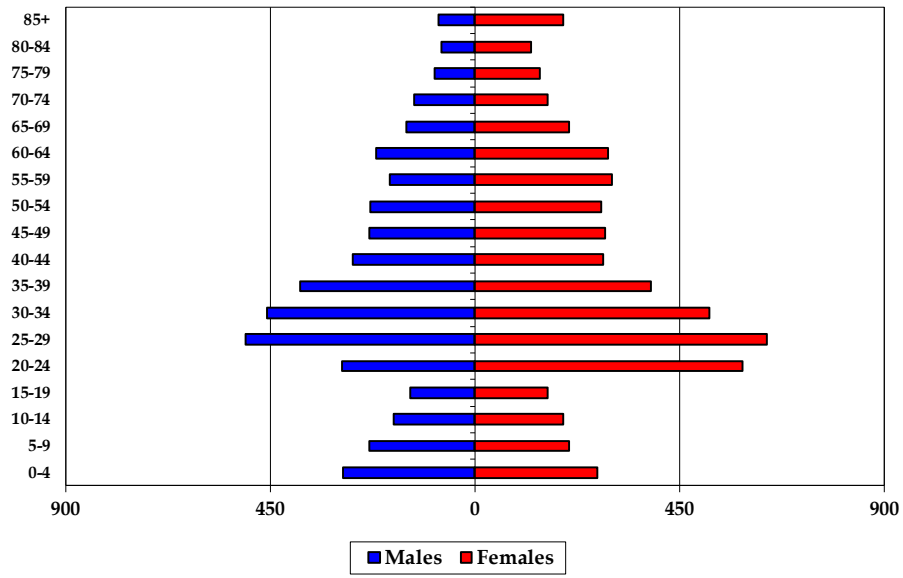
Lincoln Elementary Zone Population – 2010 Census



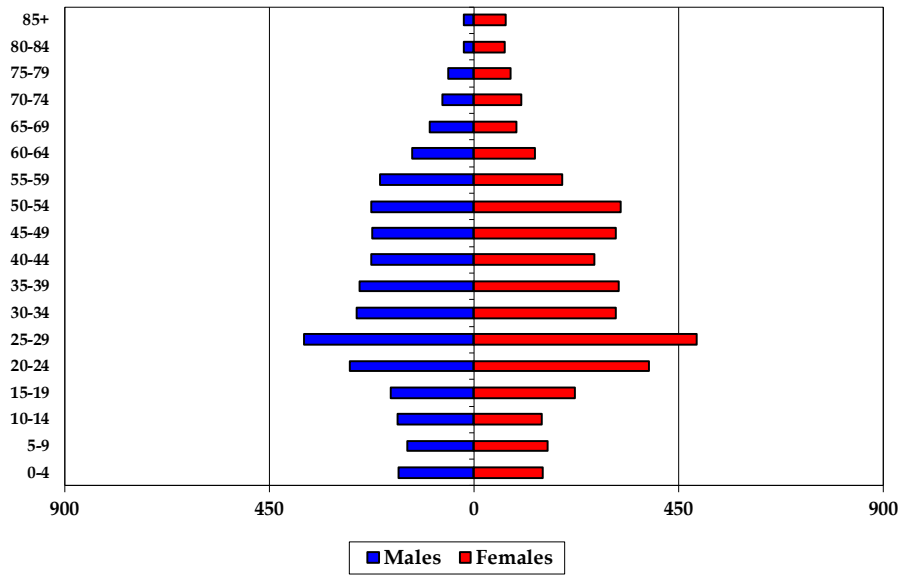
Pierce Elementary Zone Population – 2000 Census



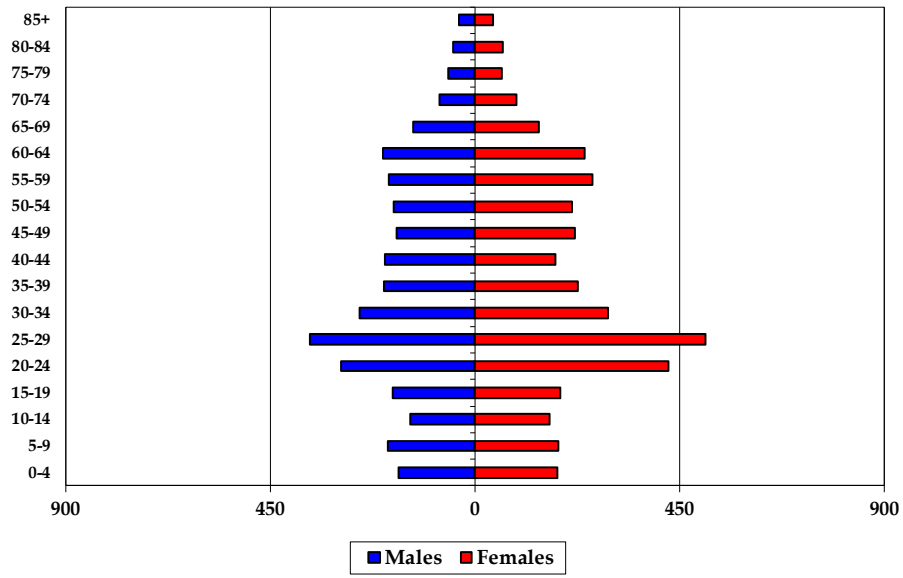
Pierce Elementary Zone Population – 2010 Census



Runkle Elementary Zone Population – 2000 Census



Runkle Elementary Zone Population – 2010 Census

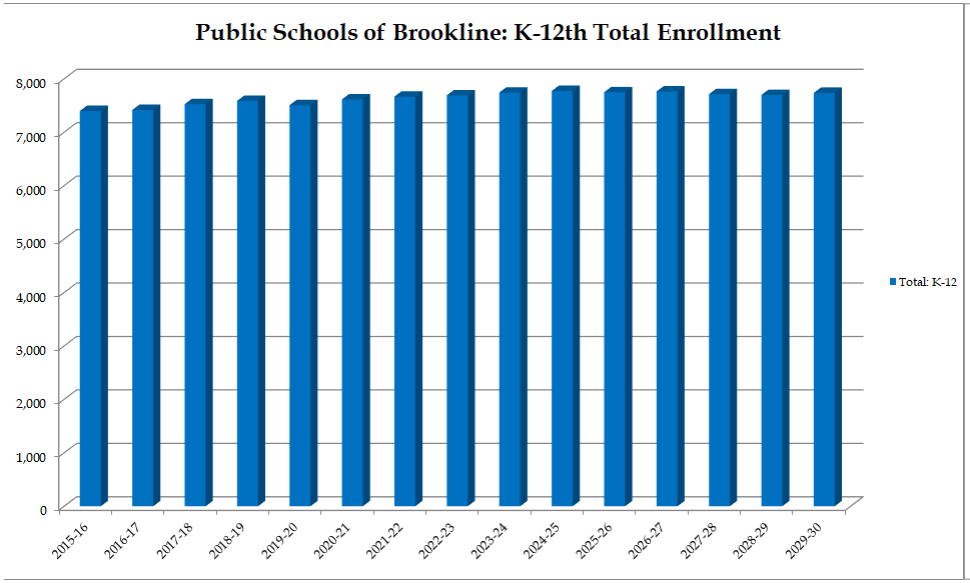


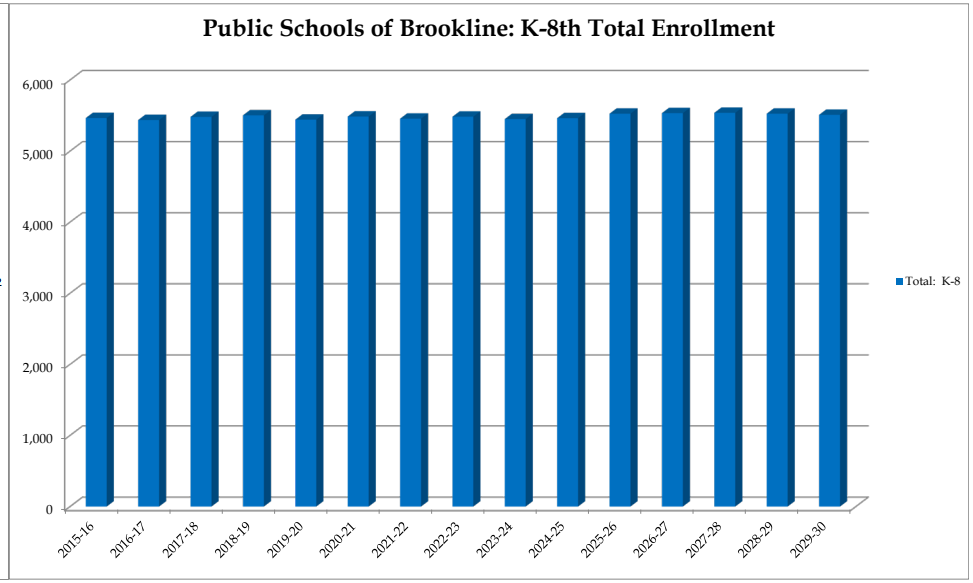
Appendix D: Enrollment Forecasts

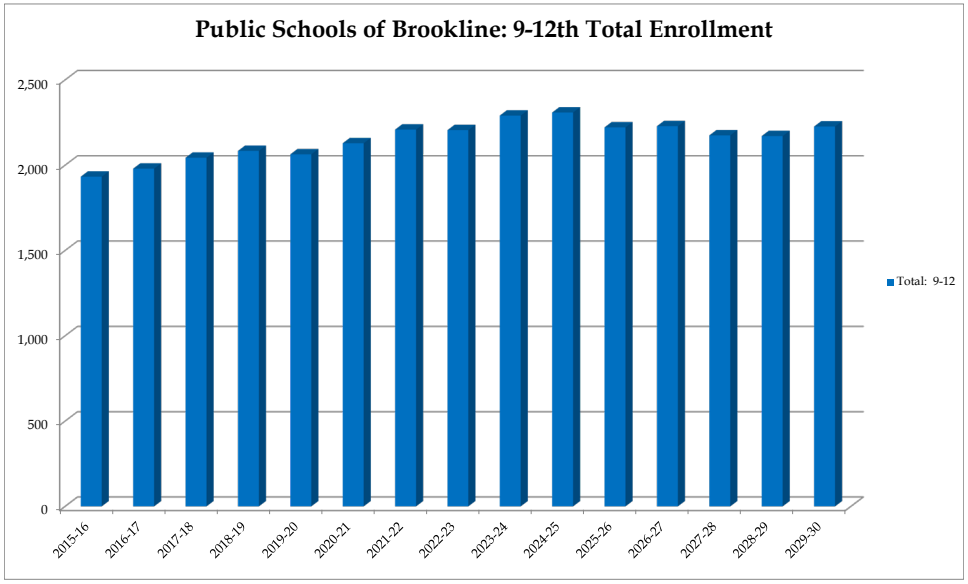
Public Schools of Brookline: Total Enrollment

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	257	262	257	251	252	252	252	252	252	252	252	252	252	252	252
K	633	582	609	603	600	626	625	630	628	633	628	629	625	622	623
1	696	627	566	615	614	623	631	630	635	633	638	634	633	629	627
2	621	678	631	574	613	616	624	631	630	635	633	636	633	632	628
3	704	633	691	645	573	617	620	628	635	634	639	632	635	632	631
4	598	677	621	680	624	565	610	611	621	628	627	626	619	622	619
5	553	584	660	605	657	613	555	598	600	612	619	616	615	608	611
6	610	549	585	665	582	651	607	550	591	594	605	612	609	608	602
7	543	576	550	571	618	563	628	586	531	570	574	586	593	590	589
8	507	531	568	545	561	612	556	620	579	524	563	563	576	583	580
Total: K-8	**5,465**	**5,437**	**5,481**	**5,503**	**5,442**	**5,486**	**5,456**	**5,484**	**5,450**	**5,463**	**5,526**	**5,534**	**5,538**	**5,526**	**5,510**
9	500	500	531	554	521	550	600	545	608	567	514	552	552	564	571
10	507	509	510	542	557	529	558	609	553	617	576	522	560	560	572
11	480	492	497	489	512	540	513	541	591	536	598	559	506	543	543
12	446	479	506	499	474	510	538	511	539	589	534	596	557	504	541
Total: 9-12	**1,933**	**1,980**	**2,044**	**2,084**	**2,064**	**2,129**	**2,209**	**2,206**	**2,291**	**2,309**	**2,222**	**2,229**	**2,175**	**2,171**	**2,227**
Total: K-12	**7,398**	**7,417**	**7,525**	**7,587**	**7,506**	**7,615**	**7,665**	**7,690**	**7,741**	**7,772**	**7,748**	**7,763**	**7,713**	**7,697**	**7,737**
SP	13	16	19	17	19	19	19	19	19	19	19	19	19	19	19
Total: K-12	**7,398**	**7,417**	**7,525**	**7,587**	**7,506**	**7,615**	**7,665**	**7,690**	**7,741**	**7,772**	**7,748**	**7,763**	**7,713**	**7,697**	**7,737**
Change		19	108	62	-81	109	50	25	51	31	-24	15	-50	-16	40
Percent Change		0.3%	1.5%	0.8%	-1.1%	1.5%	0.7%	0.3%	0.7%	0.4%	-0.3%	0.2%	-0.6%	-0.2%	0.5%
Total: K-8	**5,465**	**5,437**	**5,481**	**5,503**	**5,442**	**5,486**	**5,456**	**5,484**	**5,450**	**5,463**	**5,526**	**5,534**	**5,538**	**5,526**	**5,510**
Change		-28	44	22	-61	44	-30	28	-34	13	63	8	4	-12	-16
Percent Change		-0.51%	0.81%	0.40%	-1.11%	0.81%	-0.55%	0.51%	-0.62%	0.24%	1.15%	0.14%	0.07%	-0.22%	-0.29%
Total: 9-12	**1,933**	**1,980**	**2,044**	**2,084**	**2,064**	**2,129**	**2,209**	**2,206**	**2,291**	**2,309**	**2,222**	**2,229**	**2,175**	**2,171**	**2,227**
Change		47	64	40	-20	65	80	-3	85	18	-87	7	-54	-4	56
Percent Change		2.43%	3.23%	1.96%	-0.96%	3.15%	3.76%	-0.14%	3.85%	0.79%	-3.77%	0.32%	-2.42%	-0.18%	2.58%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years


Public Schools of Brookline: K-12th Total Enrollment
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2015-16
2016-17
2017-18
2018-19
2019-20
2020-21
2021-22
2022-23
2023-24
2024-25
2025-26
2026-27
2027-28
2028-29
2029-30
Total: K-12


Public Schools of Brookline: K-8th Total Enrollment
6,000
5,000
4,000
3,000
2,000
1,000
0
2015-16
2016-17
2017-18
2018-19
2019-20
2020-21
2021-22
2022-23
2023-24
2024-25
2025-26
2026-27
2027-28
2028-29
2029-30
Total: K-8

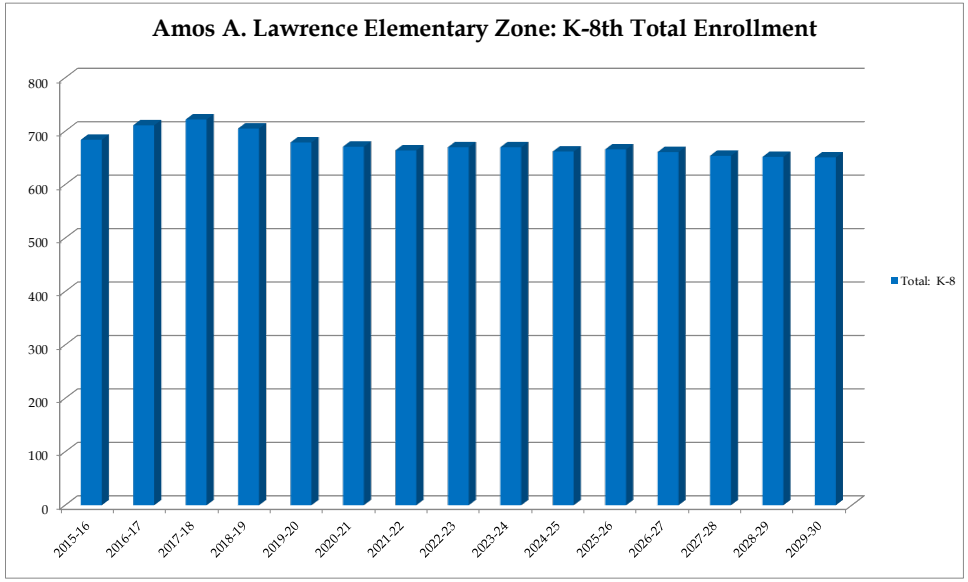

Public Schools of Brookline: 9-12th Total Enrollment
2,500
2,000
1,500
1,000
500
0
2015-16
2016-17
2017-18
2018-19
2019-20
2020-21
2021-22
2022-23
2023-24
2024-25
2025-26
2026-27
2027-28
2028-29
2029-30
Total: 9-12

Amos A. Lawrence Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	92	80	88	87	80	81	81	82	82	83	82	81	80	80	81
1	93	89	76	90	85	78	79	79	80	80	81	80	80	79	79
2	82	88	91	78	81	83	76	77	77	78	78	79	78	78	77
3	91	85	86	86	71	79	81	74	75	75	76	75	76	75	75
4	72	88	83	79	84	69	77	79	72	73	73	73	72	73	72
5	58	79	84	76	72	82	68	75	77	71	72	71	71	70	71
6	85	62	75	77	62	68	78	65	71	73	67	68	67	67	67
7	61	79	60	73	72	60	65	75	62	68	70	65	66	65	65
8	50	61	79	59	72	71	59	64	74	61	67	69	64	65	64
Total: K-8	**684**	**711**	**722**	**705**	**679**	**671**	**664**	**670**	**670**	**662**	**666**	**661**	**654**	**652**	**651**

Total: K-8	**684**	**711**	**722**	**705**	**679**	**671**	**664**	**670**	**670**	**662**	**666**	**661**	**654**	**652**	**651**
Change		27	11	-17	-26	-8	-7	6	0	-8	4	-5	-7	-2	-1
Percent Change		3.95%	1.55%	-2.35%	-3.69%	-1.18%	-1.04%	0.90%	0.00%	-1.19%	0.60%	-0.75%	-1.06%	-0.31%	-0.15%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

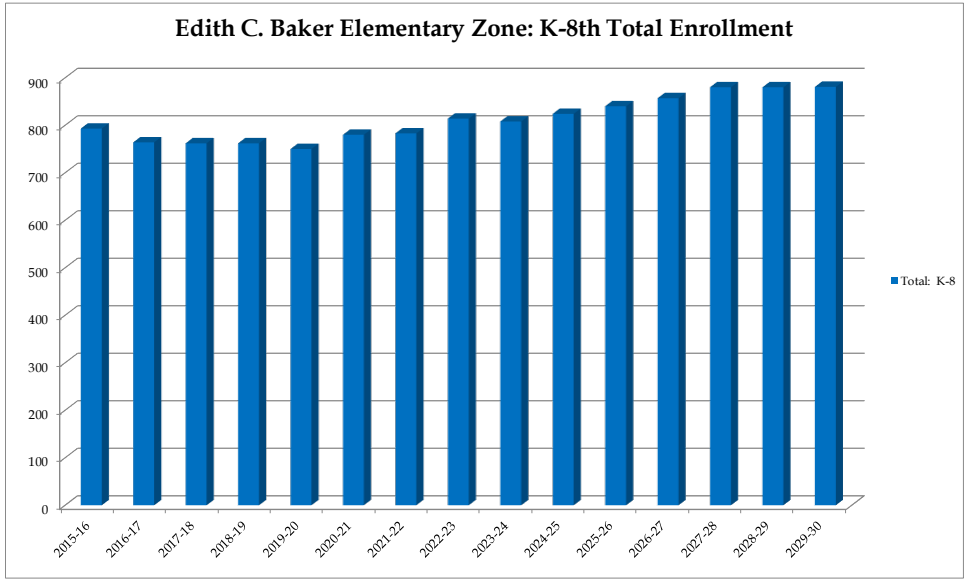


Edith C. Baker Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	74	83	78	73	83	93	92	91	89	88	89	91	92	93	92
1	111	76	85	86	78	99	98	97	96	94	93	94	95	96	97
2	79	103	76	83	86	80	101	99	98	97	95	95	96	97	98
3	112	72	111	88	81	88	82	103	101	100	99	97	97	98	99
4	79	106	68	115	82	82	89	81	104	102	101	100	98	98	99
5	77	80	101	62	104	80	80	86	79	103	101	102	101	99	99
6	97	74	85	102	64	105	81	81	87	80	104	102	103	102	100
7	85	91	75	79	95	61	101	78	78	84	77	101	99	100	99
8	79	79	83	74	77	92	59	98	76	76	81	75	99	97	98
Total: K-8	**793**	**764**	**762**	**762**	**750**	**780**	**783**	**814**	**808**	**824**	**840**	**857**	**880**	**880**	**881**

Total: K-8	**793**	**764**	**762**	**762**	**750**	**780**	**783**	**814**	**808**	**824**	**840**	**857**	**880**	**880**	**881**
Change		-29	-2	0	-12	30	3	31	-6	16	16	17	23	0	1
Percent Change		-3.66%	-0.26%	0.00%	-1.57%	4.00%	0.38%	3.96%	-0.74%	1.98%	1.94%	2.02%	2.68%	0.00%	0.11%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

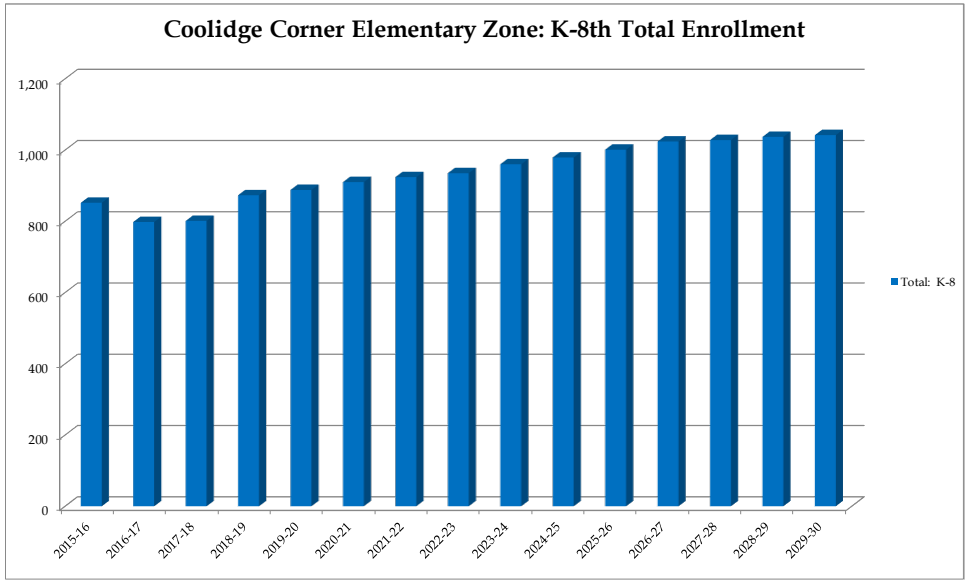


Coolidge Corner Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	29	31	31	31	31	31	31	31	31	31	31	31
K	105	91	92	109	105	110	112	115	117	120	121	123	124	125	123
1	110	101	85	93	115	112	115	117	120	122	125	126	127	128	129
2	101	93	96	93	93	113	110	113	115	118	120	121	122	123	124
3	111	97	92	109	103	94	114	111	114	116	119	119	120	121	122
4	96	100	96	93	102	100	91	111	108	111	113	114	114	115	116
5	88	92	93	107	92	101	99	90	110	107	110	111	112	112	113
6	77	77	94	97	102	90	99	97	88	108	105	107	108	109	109
7	85	72	78	90	93	99	87	96	94	85	105	101	103	104	105
8	79	75	75	82	83	91	97	85	94	92	83	102	98	100	101
Total: K-8	**852**	**798**	**801**	**873**	**888**	**910**	**924**	**935**	**960**	**979**	**1,001**	**1,024**	**1,028**	**1,037**	**1,042**

Total: K-8	**852**	**798**	**801**	**873**	**888**	**910**	**924**	**935**	**960**	**979**	**1,001**	**1,024**	**1,028**	**1,037**	**1,042**
Change		-54	3	72	15	22	14	11	25	19	22	23	4	9	5
Percent Change		-6.34%	0.38%	8.99%	1.72%	2.48%	1.54%	1.19%	2.67%	1.98%	2.25%	2.30%	0.39%	0.88%	0.48%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

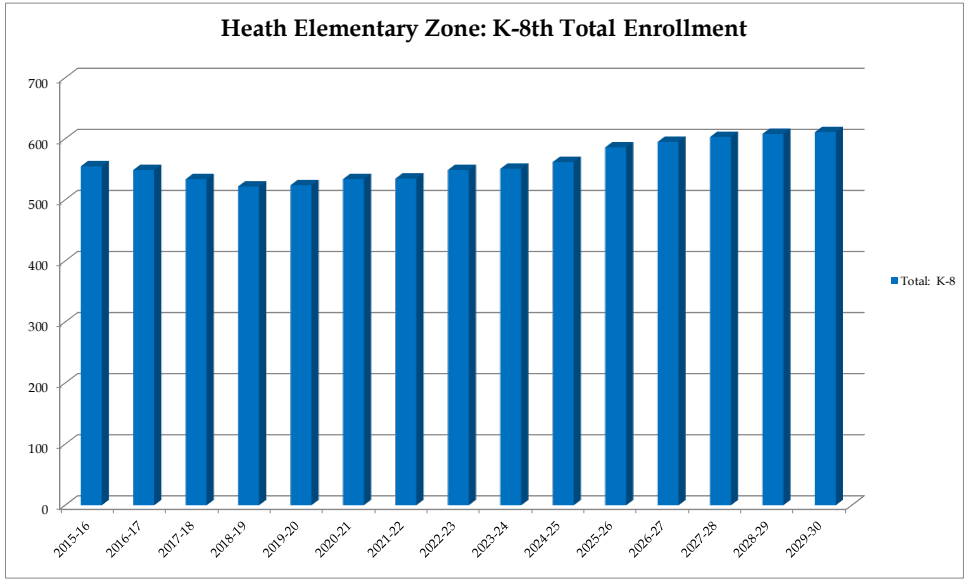


Heath Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	31	29	31	29	27	27	27	27	27	27	27	27	27	27	27
K	67	47	55	49	58	61	62	63	64	65	65	67	67	68	69
1	71	66	45	58	60	63	64	65	66	67	68	68	69	69	70
2	66	71	61	45	61	61	64	65	66	67	68	69	69	70	70
3	74	67	72	60	46	63	63	66	67	68	69	69	70	70	71
4	56	71	62	71	61	46	64	64	67	68	69	68	68	69	69
5	68	53	68	58	69	60	45	63	63	66	67	67	66	66	67
6	62	65	55	68	54	68	59	45	62	62	65	68	68	67	67
7	54	52	63	55	62	51	64	55	42	58	58	62	65	65	64
8	37	57	53	58	53	61	50	63	54	41	57	57	61	64	64
Total: K-8	**555**	**549**	**534**	**522**	**524**	**534**	**535**	**549**	**551**	**562**	**586**	**595**	**603**	**608**	**611**

Total: K-8	**555**	**549**	**534**	**522**	**524**	**534**	**535**	**549**	**551**	**562**	**586**	**595**	**603**	**608**	**611**
Change		-6	-15	-12	2	10	1	14	2	11	24	9	8	5	3
Percent Change		-1.08%	-2.73%	-2.25%	0.38%	1.91%	0.19%	2.62%	0.36%	2.00%	4.27%	1.54%	1.34%	0.83%	0.49%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

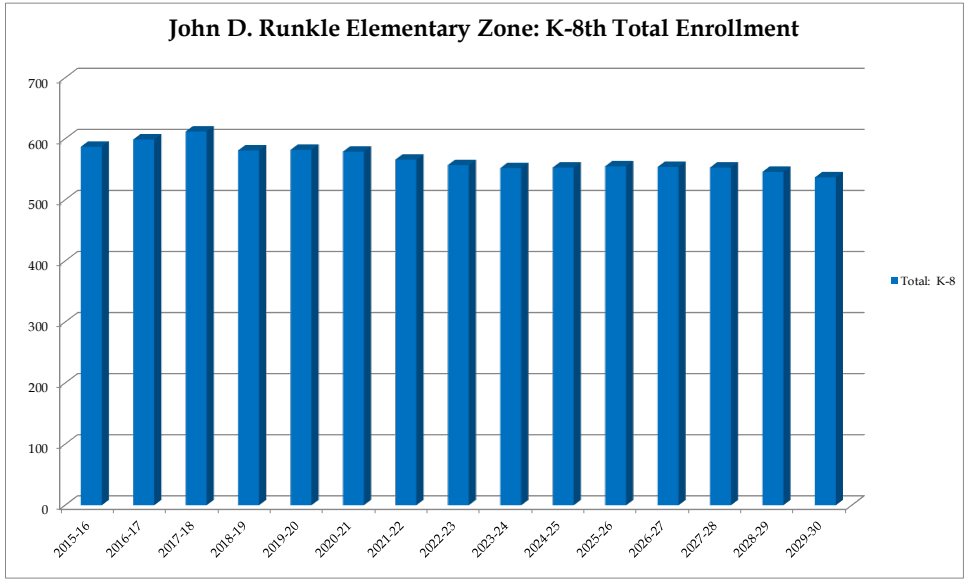


John D. Runkle Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	16	14	15	16	16	16	16	16	16	16	16	16	16	16	16
K	63	58	62	54	63	63	62	62	61	61	60	60	59	58	56
1	66	66	61	60	61	66	66	65	65	64	64	63	62	61	60
2	71	70	66	61	63	62	67	67	66	66	65	65	64	63	62
3	69	74	71	63	61	62	61	66	66	65	65	64	64	63	62
4	69	69	78	70	62	60	61	60	65	65	64	64	63	63	62
5	53	66	71	71	66	60	58	59	58	63	63	61	61	60	60
6	69	66	65	73	70	65	59	57	58	57	62	62	60	60	59
7	62	70	68	64	73	69	64	58	56	57	56	61	61	59	59
8	65	60	70	65	63	72	68	63	57	55	56	54	59	59	57
Total: K-8	**587**	**599**	**612**	**581**	**582**	**579**	**566**	**557**	**552**	**553**	**555**	**554**	**553**	**546**	**537**

Total: K-8	**587**	**599**	**612**	**581**	**582**	**579**	**566**	**557**	**552**	**553**	**555**	**554**	**553**	**546**	**537**
Change		12	13	-31	1	-3	-13	-9	-5	1	2	-1	-1	-7	-9
Percent Change		2.04%	2.17%	-5.07%	0.17%	-0.52%	-2.25%	-1.59%	-0.90%	0.18%	0.36%	-0.18%	-0.18%	-1.27%	-1.65%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

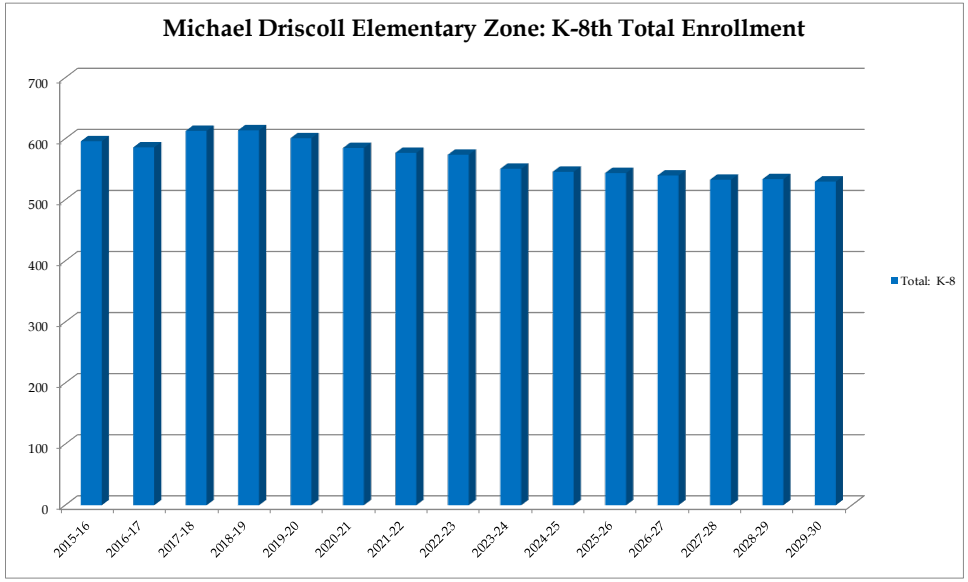


Michael Driscoll Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	15	14	16	17	-	-	-	-	-	-	-	-	-	-	-
K	61	61	61	70	56	61	61	62	62	63	62	61	60	58	57
1	70	58	62	60	63	55	59	59	60	60	61	60	59	58	56
2	57	76	68	68	63	66	57	61	61	62	62	63	62	61	60
3	73	63	81	66	63	62	65	56	60	60	61	61	62	61	60
4	72	70	61	77	66	62	61	64	55	59	59	60	60	61	60
5	72	68	73	58	82	65	61	60	63	54	58	58	59	59	60
6	69	66	75	73	64	85	68	63	62	66	56	60	60	61	61
7	57	66	68	74	66	62	82	66	61	60	64	54	58	58	59
8	65	58	64	68	78	67	63	83	67	62	61	63	53	57	57
Total: K-8	**596**	**586**	**613**	**614**	**601**	**585**	**577**	**574**	**551**	**546**	**544**	**540**	**533**	**534**	**530**

Total: K-8	**596**	**586**	**613**	**614**	**601**	**585**	**577**	**574**	**551**	**546**	**544**	**540**	**533**	**534**	**530**
Change		-10	27	1	-13	-16	-8	-3	-23	-5	-2	-4	-7	1	-4
Percent Change		-1.68%	4.61%	0.16%	-2.12%	-2.66%	-1.37%	-0.52%	-4.01%	-0.91%	-0.37%	-0.74%	-1.30%	0.19%	-0.75%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

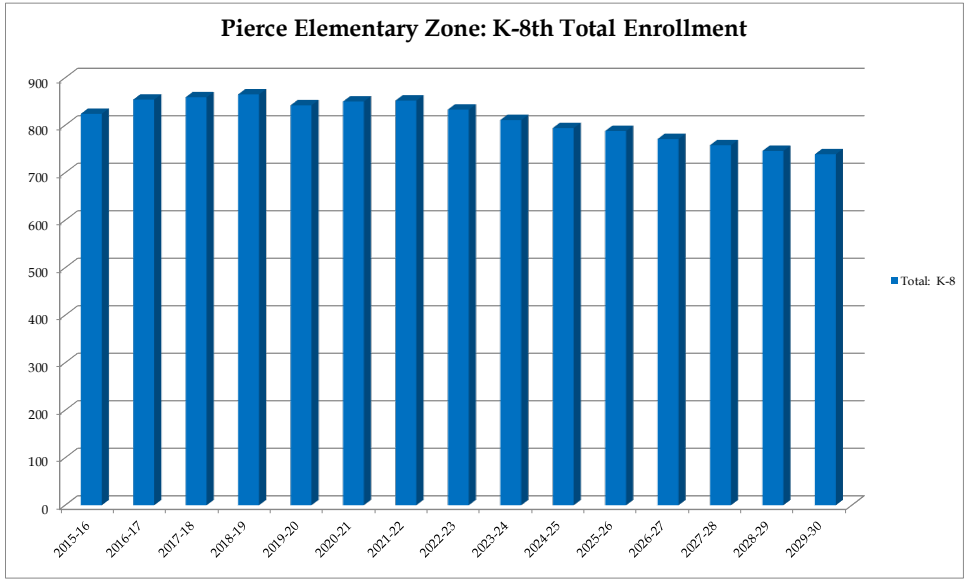


Pierce Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	106	96	108	99	93	95	94	94	93	93	90	89	87	85	88
1	108	113	91	103	95	91	91	90	90	89	89	87	86	84	83
2	107	106	111	87	96	92	88	88	87	87	86	85	84	83	81
3	90	111	108	109	91	98	94	90	90	89	89	87	86	85	84
4	87	91	114	106	104	90	97	93	89	89	88	87	85	84	83
5	85	83	84	110	106	101	87	94	90	86	86	85	84	82	81
6	85	88	76	90	103	105	100	86	93	89	85	84	83	82	80
7	81	86	84	80	79	101	103	98	84	91	87	83	82	81	80
8	75	80	83	81	75	77	98	100	95	81	88	84	81	80	79
Total: K-8	**824**	**854**	**859**	**865**	**842**	**850**	**852**	**833**	**811**	**794**	**788**	**771**	**758**	**746**	**739**

Total: K-8	**824**	**854**	**859**	**865**	**842**	**850**	**852**	**833**	**811**	**794**	**788**	**771**	**758**	**746**	**739**
Change		30	5	6	-23	8	2	-19	-22	-17	-6	-17	-13	-12	-7
Percent Change		3.64%	0.59%	0.70%	-2.66%	0.95%	0.24%	-2.23%	-2.64%	-2.10%	-0.76%	-2.16%	-1.69%	-1.58%	-0.94%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years

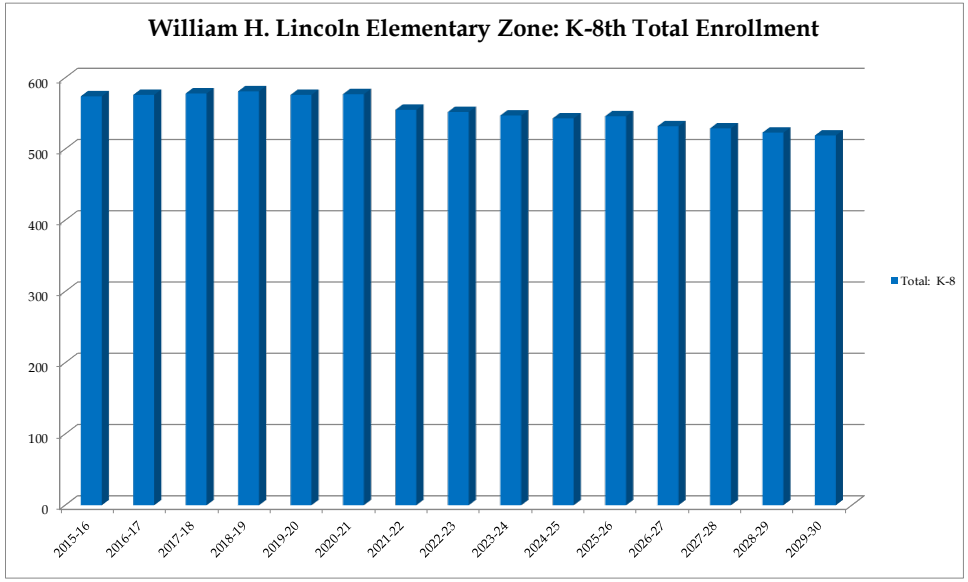


William H. Lincoln Elementary Zone

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
PK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	65	66	65	62	62	62	61	61	60	60	59	57	56	55	57
1	67	58	61	65	57	59	59	58	58	57	57	56	55	54	53
2	58	71	62	59	70	59	61	61	60	60	59	59	58	57	56
3	84	64	70	64	57	71	60	62	62	61	61	60	60	59	58
4	67	82	59	69	63	56	70	59	61	61	60	60	59	59	58
5	52	63	86	63	66	64	57	71	60	62	62	61	61	60	60
6	66	51	60	85	63	65	63	56	70	59	61	61	60	60	59
7	58	60	54	56	78	60	62	60	54	67	57	59	59	58	58
8	57	61	61	58	60	81	62	64	62	56	70	59	61	61	60
Total: K-8	**574**	**576**	**578**	**581**	**576**	**577**	**555**	**552**	**547**	**543**	**546**	**532**	**529**	**523**	**519**

Total: K-8	**574**	**576**	**578**	**581**	**576**	**577**	**555**	**552**	**547**	**543**	**546**	**532**	**529**	**523**	**519**
Change		2	2	3	-5	1	-22	-3	-5	-4	3	-14	-3	-6	-4
Percent Change		0.35%	0.35%	0.52%	-0.86%	0.17%	-3.81%	-0.54%	-0.91%	-0.73%	0.55%	-2.56%	-0.56%	-1.13%	-0.76%

Forecasts Developed December 2019
Green Cells (2019-20 and earlier) are historical data
Blue Cells (2020-21 and later) are forecasted years



Brookline High School

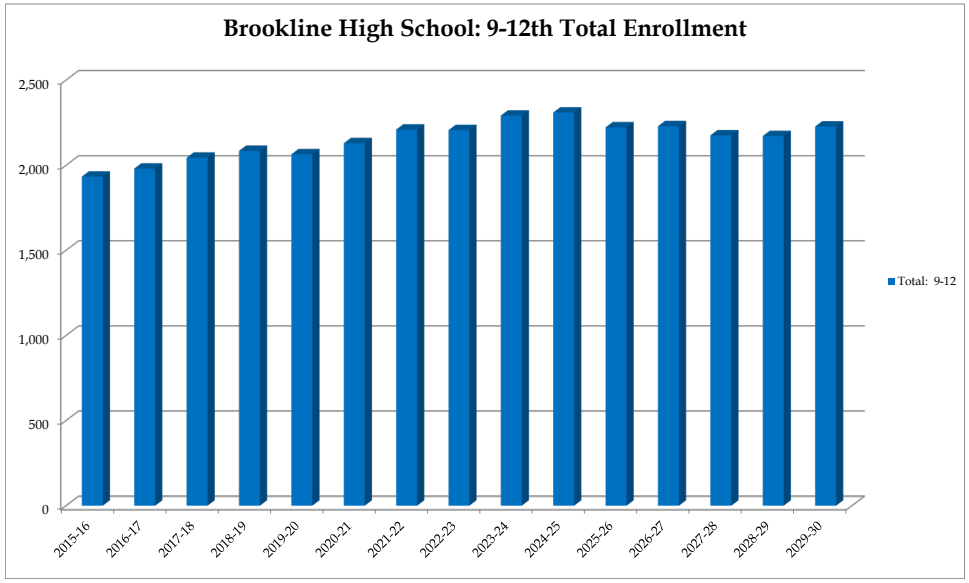
	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
9	500	500	531	554	521	550	600	545	608	567	514	552	552	564	571
10	507	509	510	542	557	529	558	609	553	617	576	522	560	560	572
11	480	492	497	489	512	540	513	541	591	536	598	559	506	543	543
12	446	479	506	499	474	510	538	511	539	589	534	596	557	504	541
Total: 9-12	**1,933**	**1,980**	**2,044**	**2,084**	**2,064**	**2,129**	**2,209**	**2,206**	**2,291**	**2,309**	**2,222**	**2,229**	**2,175**	**2,171**	**2,227**

Total: 9-12	**1,933**	**1,980**	**2,044**	**2,084**	**2,064**	**2,129**	**2,209**	**2,206**	**2,291**	**2,309**	**2,222**	**2,229**	**2,175**	**2,171**	**2,227**
Change		47	64	40	-20	65	80	-3	85	18	-87	7	-54	-4	56
Percent Change		2.43%	3.23%	1.96%	-0.96%	3.15%	3.76%	-0.14%	3.85%	0.79%	-3.77%	0.32%	-2.42%	-0.18%	2.58%

Forecasts Developed December 2019

Green Cells (2019-20 and earlier) are historical data

Blue Cells (2020-21 and later) are forecasted years



Appendix E: Housing Development Estimated Timeline

TOWN OF BROOKLINE—DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
Potential Residential/Mixed-use Development Projects in various stages of Permitting Processes—November 21, 2019

PROJECT	TOTAL UNITS	STUDIO	1-BR	2-BR	3-BR	4-BR	AGE-RESTRICTED	NOTES	ESTIMATED EARLIEST CONSTRUCTION COMPLETION *
40 Centre	40	16	14	5	5	0	-	In litigation.	On hold/ unknown
420 Harvard/49 Coolidge	25	3	6	11	5	0	-	Under construction	June 2020
384 Harvard (JCHE)	62	0	52	10	0	0	YES	Under construction	August 2020
1299 Beacon	55	0	13	42	0	0	YES (55+)	Comprehensive Permit (CP) issued. Next step: apply for Building Permit.	Nov. 2022
1180 Boylston	50	0	15	33	2	0	YES (55+)	CP issued. Next step: apply for Building Permit	Nov. 2022
Waldo/Durgin (10 Pleasant & 5 Waldo)	143	**0**	85	58	0	0	-	Secured Zoning Amendment. Next step: Special Permit Process. Estimate based on developer's estimate of earliest date.	March 2024
455 Harvard	17	0	10	5	2	0	-	Under construction	June 2020
136 Babcock	45	20	13	7	5	0	-	Issued Building Permit	June 2021
21 Crowninshield	8	0	0	0	8	0	-	Nearing end of construction	June 2020
Residences of South Brookline—Hancock Village	175	3	79	43	50	0	-	Building Permit application anticipated early 2020	Jan. 2022
Puddingstone—Hancock Village	230	0	54	140	24	12	-	CP filed Oct. 29, 2018. Developer has not indicated construction plans or timetable, and has three other large projects in process.	On hold/ unknown
118 Gerry/121 Independence Drive	36	0	16	20	0	0	-	Special Permit Issued. Next step: Building Permit.	Sept. 2021
1223 Beacon (Hampton Court)	123	8	38	52	25	0	-	CP hearing on hold. Developer has not indicated construction plans or timetable, and has three other large projects in process.	On hold/ unknown
445 Harvard	25	0	12	10	3	0	-	CP anticipated end of 2019. Developer notes he won't likely start construction for three years.	January 2025
500 Harvard	30	3	17	7	3	0	-	CP hearing to open Dec. 2019.	June 2023
217 Kent	90	32	43	6	9	0	-	In pre-CP process. Assuming CP hearing opens January 2020.	June 2023
209 Harvard	44	36	0	3	5	0	-	In pre-CP process. Assuming CP hearing opens February 2020.	August 2023

*Estimates are based on the following assumptions:

1. Everything goes smoothly (from developer's perspective) & the market stays strong.
2. Comprehensive Permit public hearing process takes 12 months.
3. Preparation of Construction Documents for Building Permit takes 12 months.
4. Construction takes 1 ½ to 2 years from date of Building Permit.
5. Building projects used in the forecast are highlighted.

Student Yield per Household for Selected Appartment Complexes

	Coolidge Corner	Runkle	Heath	Baker
K-8 Students	46	42	47	250
Total Housing Units	120	68	181	563
YIELDS	0.38	0.62	0.26	0.44

Appendix F: Live-Attend Analysis

Live Attend Matrix

The table below gives details on the schools that students attend and the school boundaries where they live. The schools of attendance are listed on the left while the boundaries where students live are listed on the top line. This student data is from October 1st, 2019 Public Schools of Brookline 2019-20 student database.

The first column of numbers to the right of the schools of attendance represents the number of students enrolled at that school. The first row of numbers below the boundaries where students live represents the total number of students living inside of that boundary. The green-colored numbers represent the number of students who live in the boundary and attend their boundary school. All other numbers represent students who attend school outside of the boundary that they live in. The bottom row represents the number of students that "Live-In and Attend-Out" by school. The blue-colored cell shows the total number of students that "Live-in and Attend-Out". The farthest right column represents the number of students that "Live-Out and Attend-In" by school. The orange-colored cell shows the total number of students that "Live-Out and Attend-In".

Live-in counts

Where K-8th Students Live

Enrolled counts

Where K-8th Students Attend		Baker	Coolidge Corner	Driscoll	Heath	Lawrence	Lincoln	Pierce	Runkle	Out of District	Unmatched	**Live Out, Attend In (K-8)**
		761	**801**	**496**	**404**	**584**	**605**	**837**	**579**	**401**	**0**	**1342**
Edith C. Baker School	**750**	650	2		2		3	2	1	90		**100**
Coolidge Corner School	**888**	1	702	31	2	74	2	23	6	47		**186**
Michael Driscoll School	**600**	6	15	415		7	5	33	79	40		**185**
Heath School	**525**	71	2	2	371		2	1	21	55		**154**
Amos A. Lawrence School	**679**	3	54	6	4	443	14	120	4	31		**236**
William H. Lincoln School	**576**	13	6	4	12	6	454	13	14	54		**122**
Pierce School	**842**	1	5	8	2	45	101	626	9	45		**216**
John D. Runkle School	**582**	13	11	25	10	8	22	16	439	38		**143**
Non-PSB K-8 School	**26**	3	4	5	1	1	2	3	6	1		
Live In, Attend Out (K-8)	**967**	**111**	**99**	**81**	**33**	**141**	**151**	**211**	**140**			

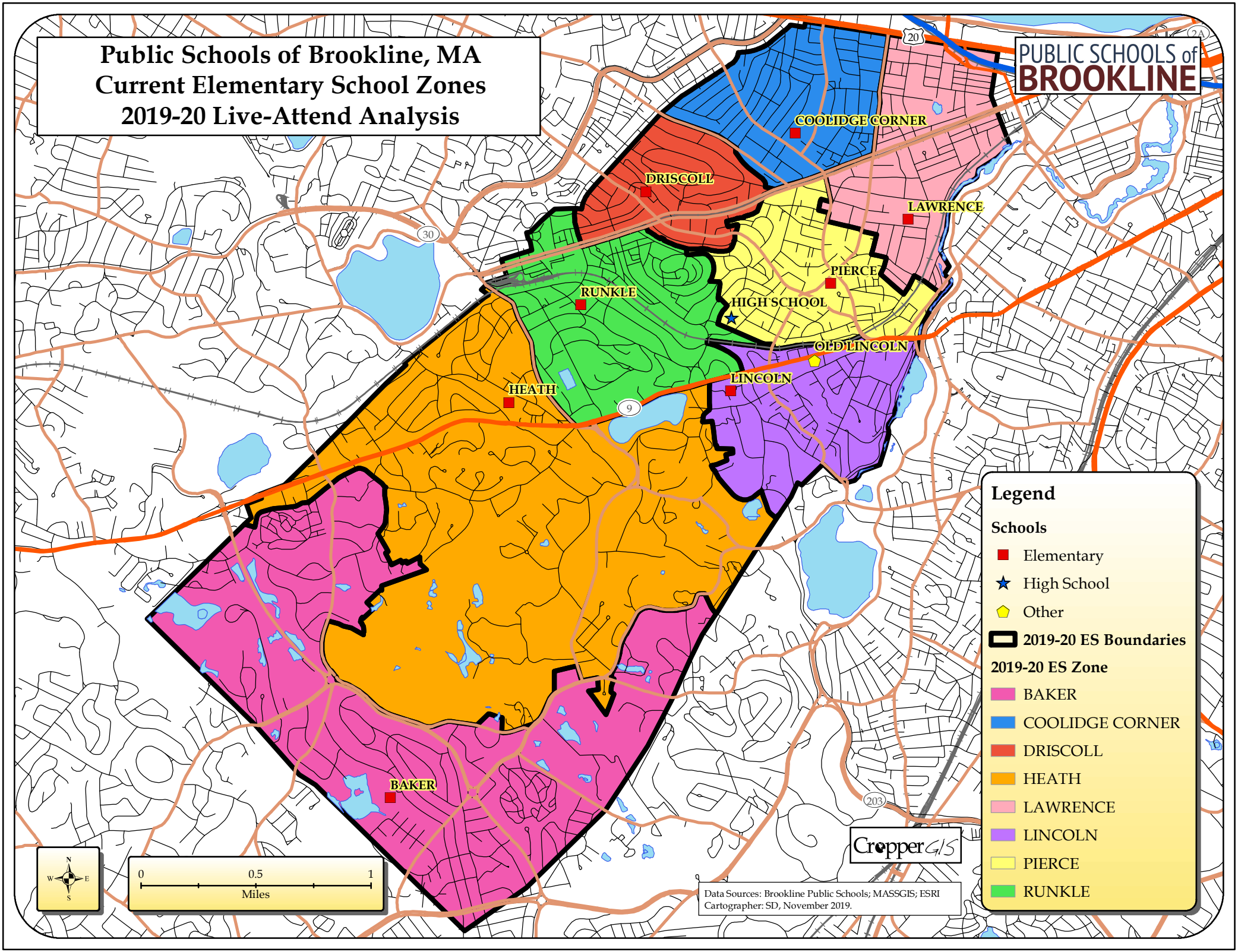
Live out and attend in totals per school. Total is shown at the top in the blue-colored cell.

Green-colored numbers represent number of students who live in the zone and attend their zoned school. All other numbers represent students who attend school outside of the zone that they live in.

Live in and attend out totals per school. Total is shown at the left in the green-colored

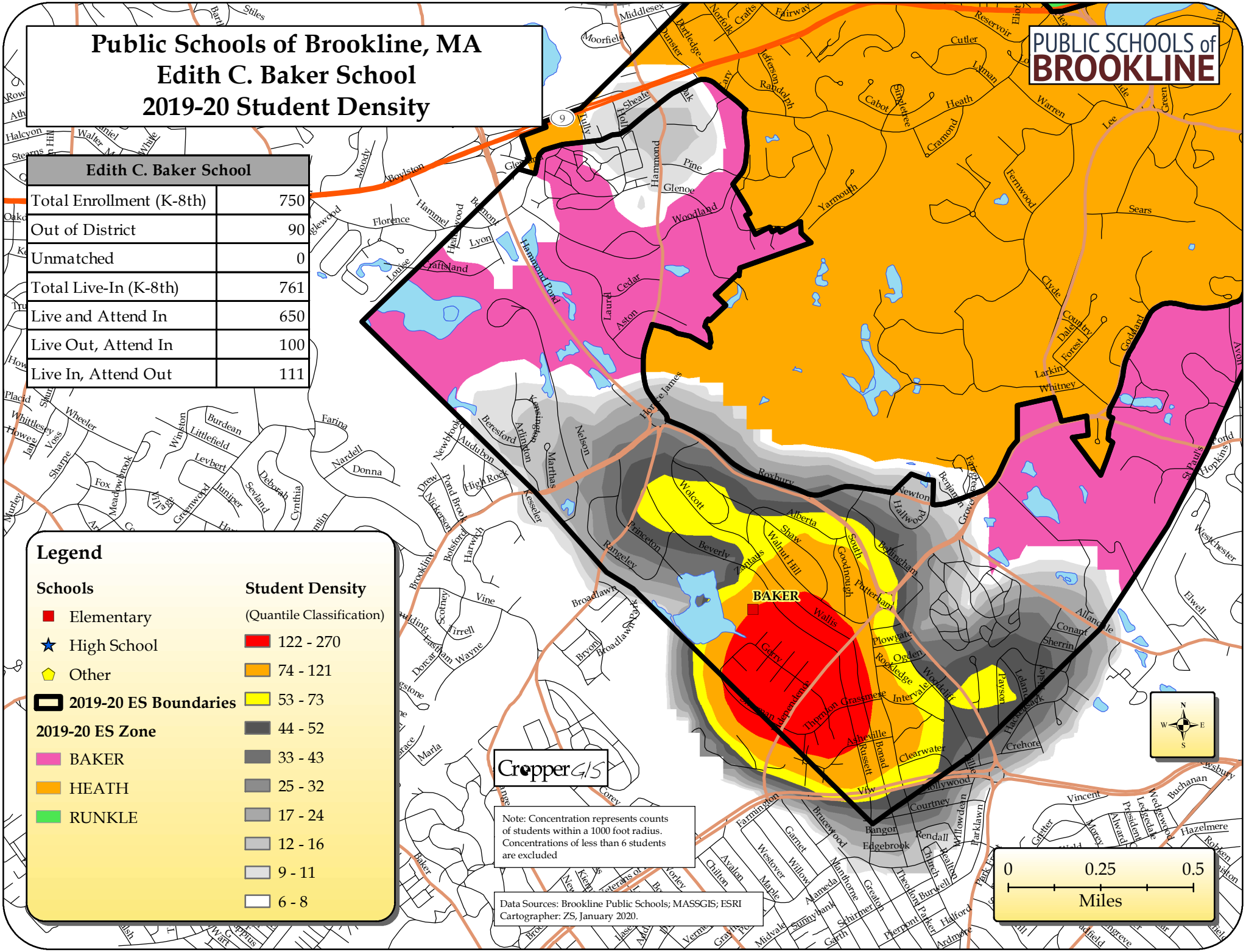
Where 9-12th Students Live

Where 9-12th Students Attend		Brookline	Out of District	Unmatched	**Live Out, Attend In (9-12)**
		1923	**166**	**0**	**165**
Brookline High School	**2064**	**1899**	165		**165**
Non-PSB High School		24	1		
Live In, Attend Out (9-12)	**24**	**24**			


Public Schools of Brookline, MA
Current Elementary School Zones
2019-20 Live-Attend Analysis
PUBLIC SCHOOLS of BROOKLINE
COOLIDGE CORNER
DRISCOLL
LAWRENCE
PIERCE
RUNKLE
HIGH SCHOOL
OLD LINCOLN
LINCOLN
HEATH
BAKER
20
30
9
203
Legend
Schools
Elementary
High School
Other
2019-20 ES Boundaries
2019-20 ES Zone
BAKER
COOLIDGE CORNER
DRISCOLL
HEATH
LAWRENCE
LINCOLN
PIERCE
RUNKLE
0
0.5
1
Miles
N
W
E
S
CropperGIS
Data Sources: Brookline Public Schools; MASSGIS; ESRI
Cartographer: SD, November 2019.

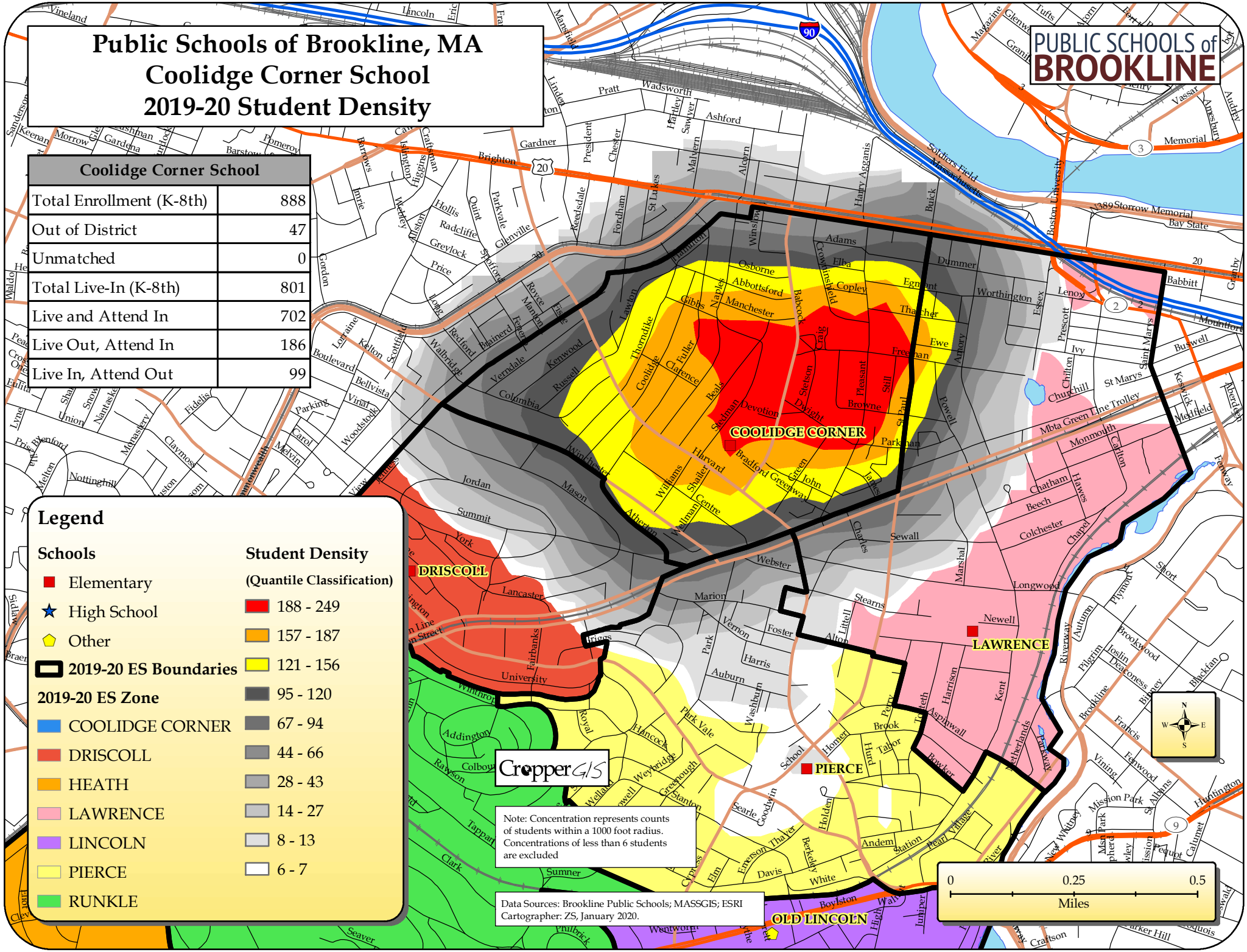
Public Schools of Brookline, MA
Edith C. Baker School
2019-20 Student Density

Edith C. Baker School	
Total Enrollment (K-8th)	750
Out of District	90
Unmatched	0
Total Live-In (K-8th)	761
Live and Attend In	650
Live Out, Attend In	100
Live In, Attend Out	111



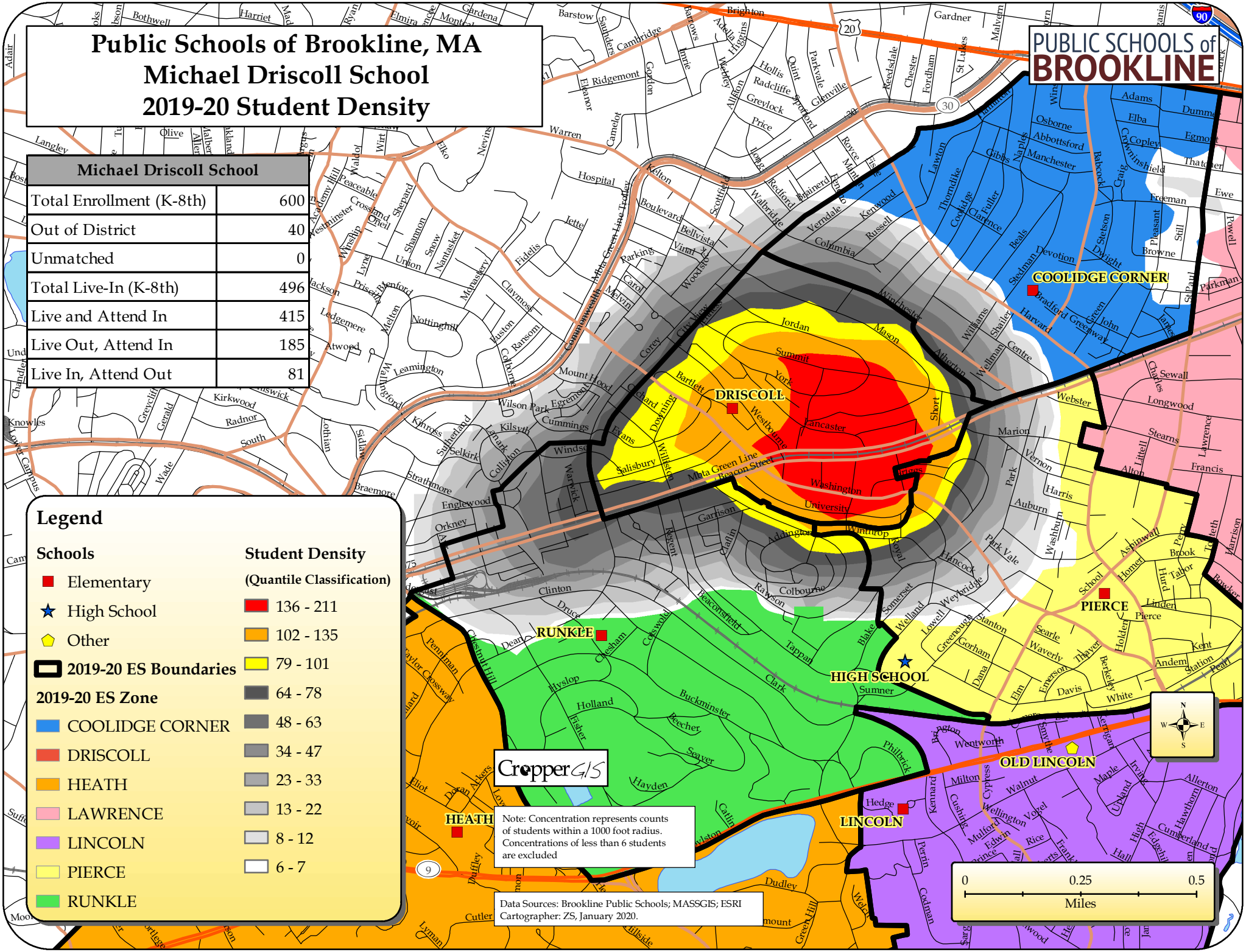
Public Schools of Brookline, MA
Coolidge Corner School
2019-20 Student Density

Coolidge Corner School	
Total Enrollment (K-8th)	888
Out of District	47
Unmatched	0
Total Live-In (K-8th)	801
Live and Attend In	702
Live Out, Attend In	186
Live In, Attend Out	99



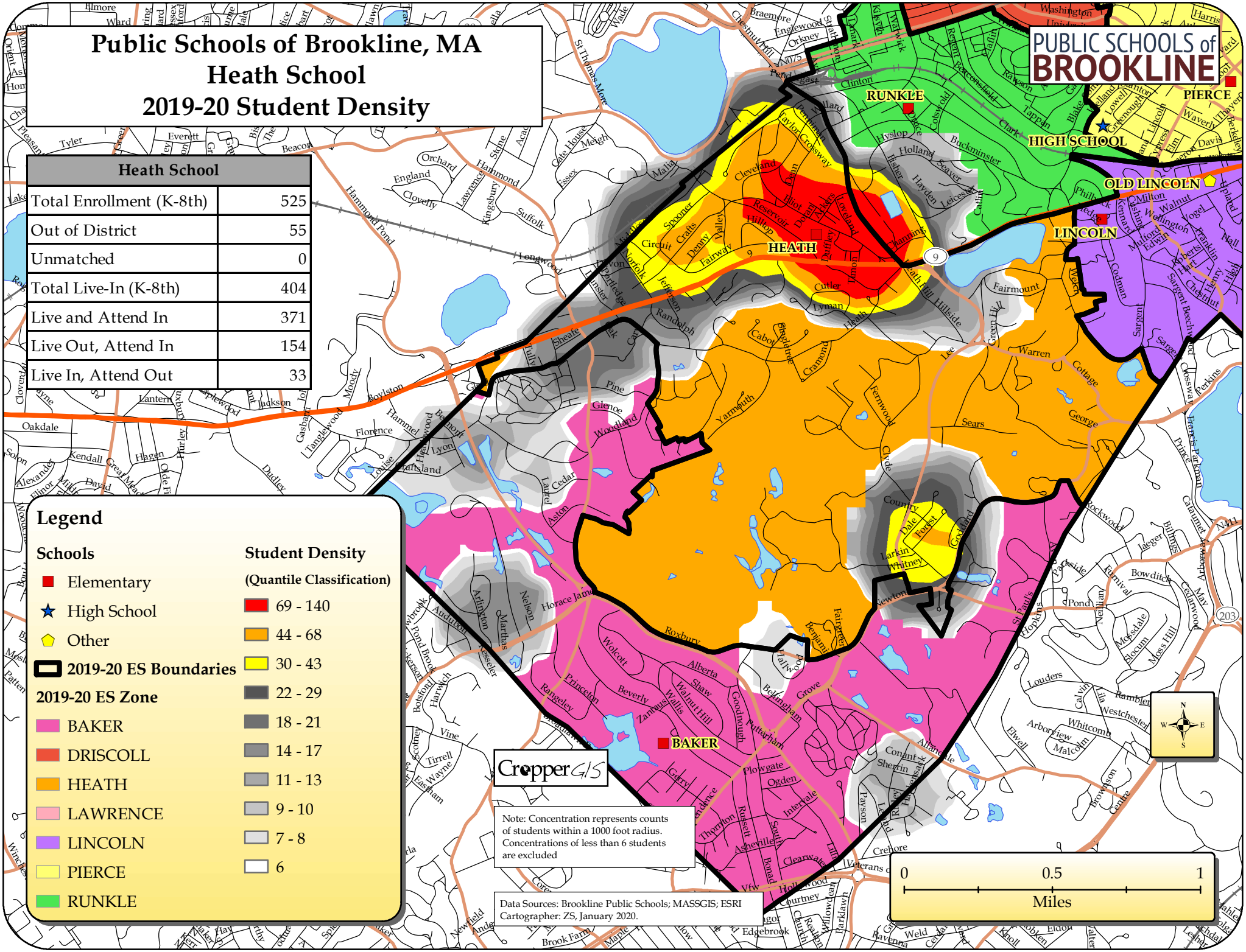
Public Schools of Brookline, MA
Michael Driscoll School
2019-20 Student Density

Michael Driscoll School	
Total Enrollment (K-8th)	600
Out of District	40
Unmatched	0
Total Live-In (K-8th)	496
Live and Attend In	415
Live Out, Attend In	185
Live In, Attend Out	81



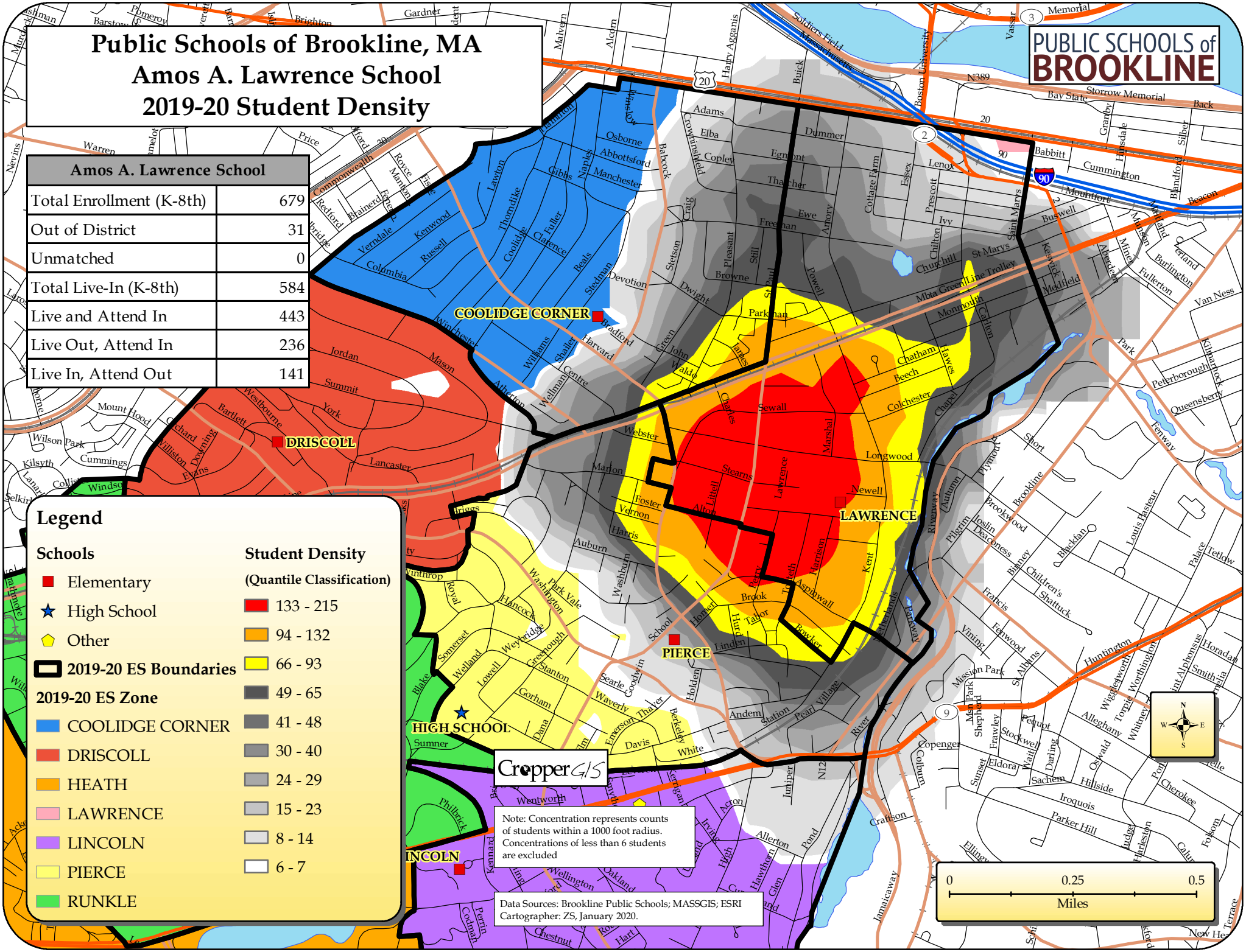
Public Schools of Brookline, MA
Heath School
2019-20 Student Density

Heath School	
Total Enrollment (K-8th)	525
Out of District	55
Unmatched	0
Total Live-In (K-8th)	404
Live and Attend In	371
Live Out, Attend In	154
Live In, Attend Out	33



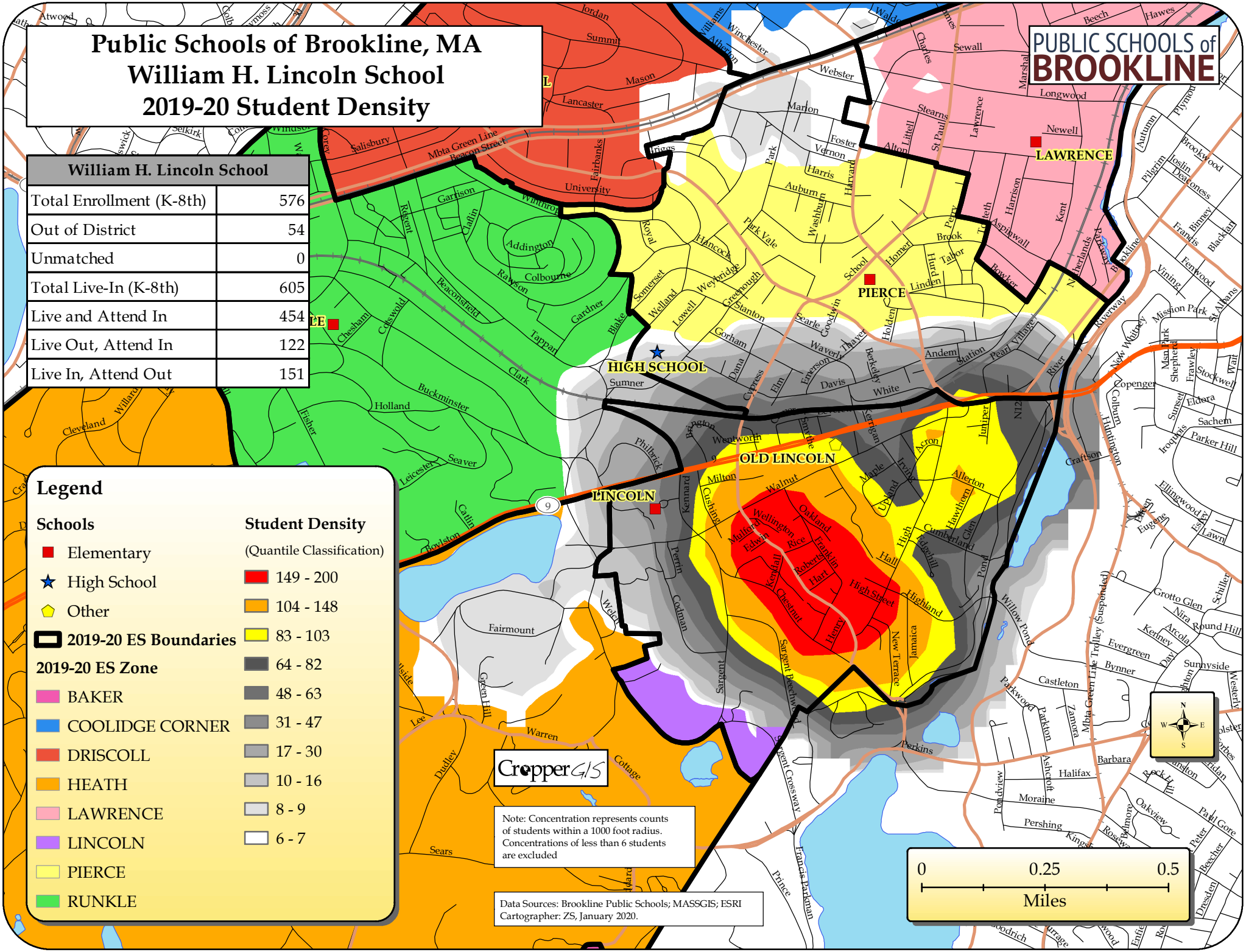
Public Schools of Brookline, MA
Amos A. Lawrence School
2019-20 Student Density

Amos A. Lawrence School	
Total Enrollment (K-8th)	679
Out of District	31
Unmatched	0
Total Live-In (K-8th)	584
Live and Attend In	443
Live Out, Attend In	236
Live In, Attend Out	141



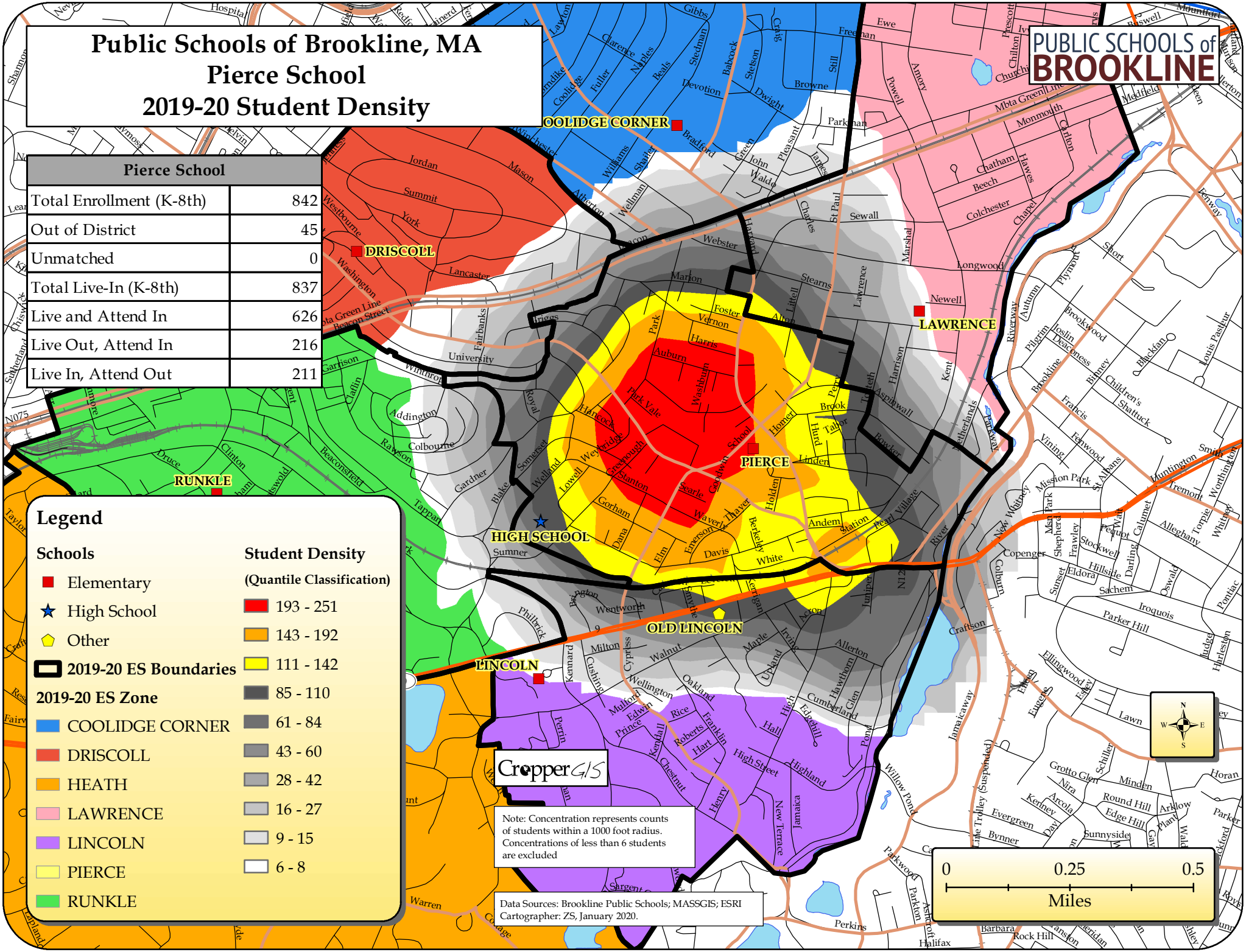
Public Schools of Brookline, MA
William H. Lincoln School
2019-20 Student Density

William H. Lincoln School	
Total Enrollment (K-8th)	576
Out of District	54
Unmatched	0
Total Live-In (K-8th)	605
Live and Attend In	454
Live Out, Attend In	122
Live In, Attend Out	151



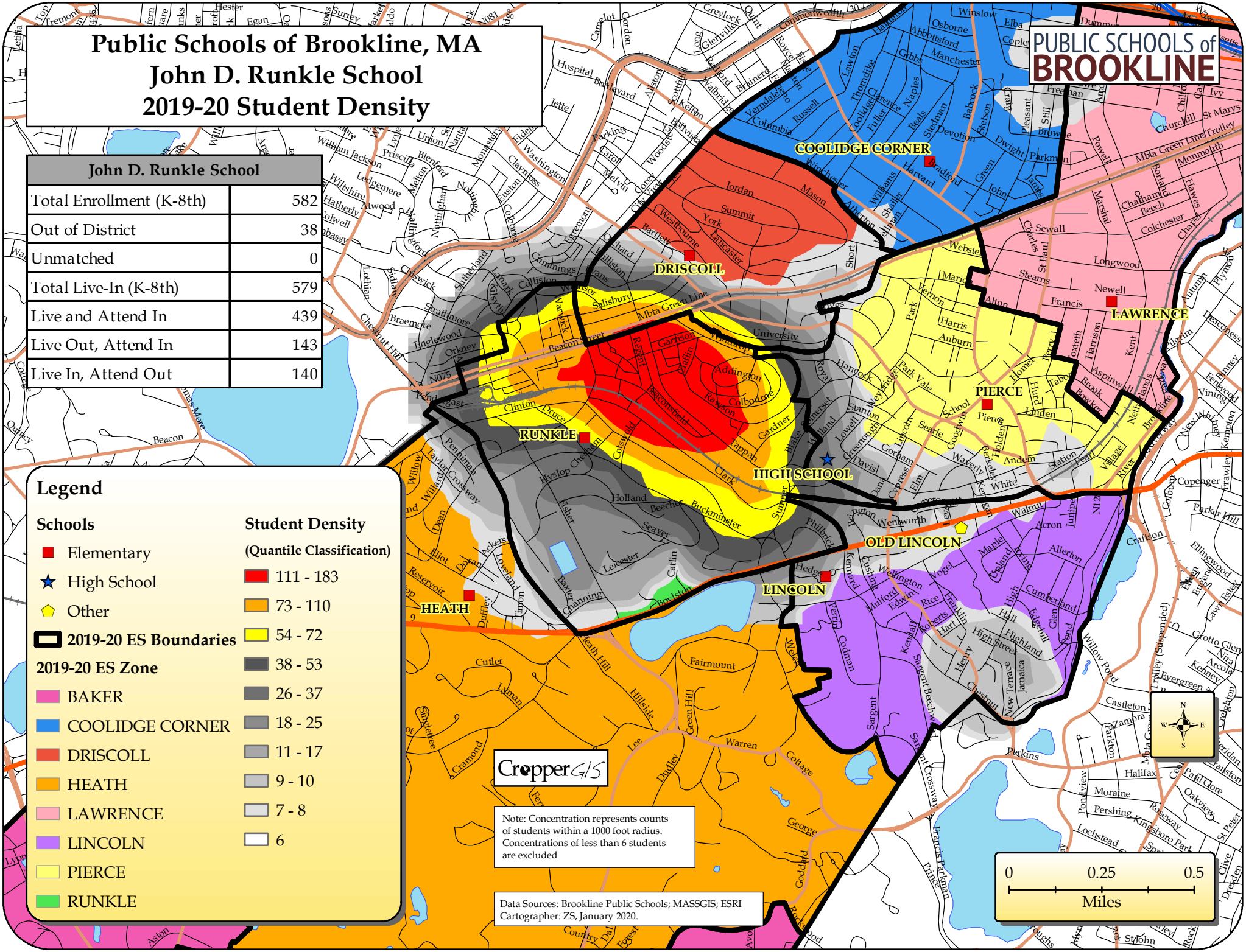
Public Schools of Brookline, MA
Pierce School
2019-20 Student Density

Pierce School	
Total Enrollment (K-8th)	842
Out of District	45
Unmatched	0
Total Live-In (K-8th)	837
Live and Attend In	626
Live Out, Attend In	216
Live In, Attend Out	211



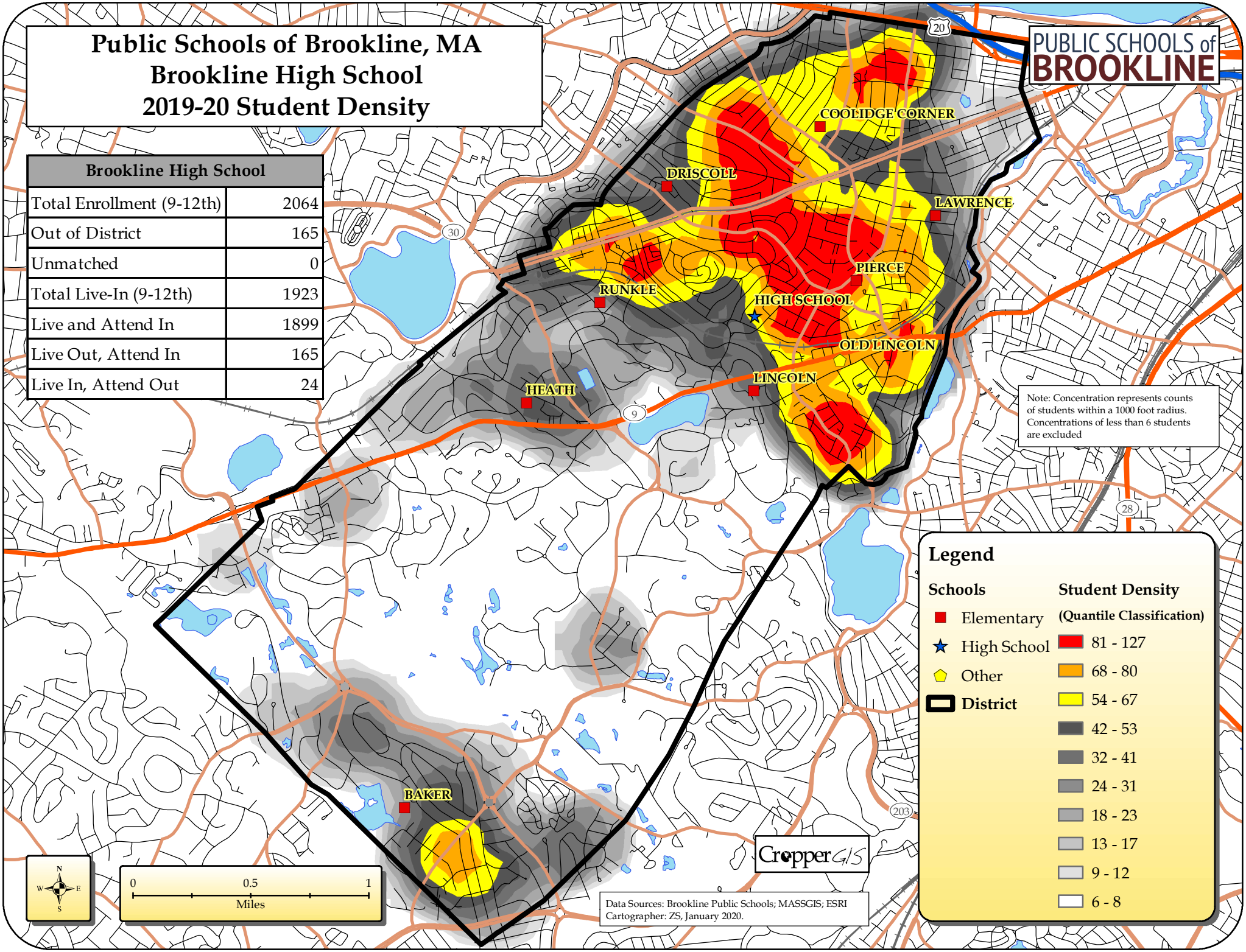
Public Schools of Brookline, MA
John D. Runkle School
2019-20 Student Density

John D. Runkle School	
Total Enrollment (K-8th)	582
Out of District	38
Unmatched	0
Total Live-In (K-8th)	579
Live and Attend In	439
Live Out, Attend In	143
Live In, Attend Out	140



Public Schools of Brookline, MA
Brookline High School
2019-20 Student Density

Brookline High School	
Total Enrollment (9-12th)	2064
Out of District	165
Unmatched	0
Total Live-In (9-12th)	1923
Live and Attend In	1899
Live Out, Attend In	165
Live In, Attend Out	24



The Whipple Writing Fellowship

Summary

The Whipple Writing Fellowship offers Brookline High Students who love the written word an opportunity to develop and expand their skills as writers. As Fellows, participants will join a supportive cohort of fellow aspiring writers, receive stipends to encourage their work, and learn from writers across a spectrum of professional writing styles how to craft a piece of writing that will ultimately be presented in a public forum and submitted for publication.

Common to the experience of all Whipple Fellows will be an intensive focus on developing their ideas via writing, regardless of the topic. The goal of the fellowship is to develop student's capacity to write with a purpose. Whether the Fellows are researching something of particular interest such as humor writing, sports writing compiling a collection of original poetry, telling the story of an unsung hero, or bringing to light an untold chapter of local history, all Fellows will engage in a similar process to develop skills under the tutelage of master teachers from Brookline High.

After applying and being accepted to the program by the end of February, the six Fellows will begin working in the Spring of 2020 to craft a writing proposal for the Summer Residency, a six week intensive period at the heart of the Fellowship. Once proposals have been finalized, Fellows will be invited to participate in the Summer Residency beginning in July to work intensely on their selected writing piece. The combination of the spring meetings and the summer residency will support the Fellows in developing their initial ideas; expand and formalize their proposals; draft and revise preliminary writing; outline the process for the length of the Fellowship, set goals and objectives tied to waypoints through the process, and ultimately culminate in the creation of an outstanding piece of original writing.

In the Fall of 2020, the Whipple Fellows will gather for an evening of public presentations that will be open to the entire community and will include the Fellows, their families, teachers, and the Whipple/Gladstone family in order to celebrate the Fellows' tremendous accomplishment. In addition, their written work will appear in the Fellowship Journal.

Year 1 Fellowship Goals

- Inspire BHS students to pursue an area of interest/passion and provide the time and resources to improve their writing skills in pursuit of that interest.
- Teach Fellows how to conduct original research to support their own writing goals and objectives.
- Support Fellows to express their knowledge through a compelling piece of written work that is well crafted, and thoughtfully refined.
- Provide Fellows with the opportunity to work in collaboration with motivated peers, and faculty to improve their own writing skills.
- To expose Fellows to different ways community members use writing in their professional lives through guest speakers.
- Support Fellows to complete a major long term writing assignment
- Provide an opportunity for Fellows to share what they have learned throughout their writing process with the larger BHS and Brookline community both in print and through professional presentations.

Fellowship Timeline 2019-2020

Sept-Jan	• Planning for the fellowship led by 2 BHS Faculty • Host 1-2 BHS community events to present the fellowship to the BHS community
Feb	• Application for the Whipple Fellowship released • Workshops provided by faculty to help students complete the application • 6 students are chosen for Year 1
March-April	• Fellows meet as a cohort 2-3 times and workshop their summer proposals for their writing projects • Formal revised proposals are submitted before April break • Proposals are accepted or further revised by the end of April • Guest speakers are chosen and booked to present to the fellows in the spring or summer sessions.
May	• Fellows create an ongoing research resource list for their summer projects • Fellows record what they are learning in a process journal

June	● Fellows meet as a cohort to share what they have learned from their research and how that information will inform their summer writing projects.
July-Aug	● Summer Residency begins with 2-3 full-day workshops with the cohort. ● Summer work continues *independently* for 5 additional weeks in the summer, including weekly dinner meetings with the cohort ● Fellows communicate formally 1X per week with the Fellowship Faculty member ● By the end of August, written piece is finalized for publication in the Fellowship Journal
Sept	● Fellows work on preparations for public presentation ● Meetings with Fellowship Faculty and cohort throughout this month
Oct	● Fellows present their work to the community ● Fellowship Journal is published and distributed

Budgeting for Year 1

Item	Cost per person	Total cost
Program Leader	$8,000	$8,000
Fellowship Faculty Stipend	$5,000	$5,000
Fellowship stipend	$1,000 x 6 student	$6,000
Guest Speaker Honorarium	$300x 4 guest speakers	$1,200
Publication of the Journal Fall and Spring edition	$500 x 2 journals	$1,000
Fellowship Writing Events/Speakers	$500 x 3 speakers	$1,500
Food/meals	$15 x 8 fellow participants (including 2 faculty)	$1,200

	10 meals over spring and summer	
Supplies	$200	$200
Total		$24,100

Job Descriptions

Program Leader
The program leader will be responsible for administering the fellowship and facilitating the roll out of new programs identified in the Long Term Vision. In addition, it is the job of the program leader to ensure that the fellowship and all associated programming fulfill the mission statement.

Responsibilities and duties for the program leader include:

- Acting as the liaison between BHS, the Whipple/Gladstone family and Brookline Community Foundation
- Publicizing the fellowship to faculty and students.
- Creating and facilitating the application and selection process, with input from the fellowship faculty.
- Helping design curriculum for the summer residency, along with the fellowship faculty.
- Supporting the fellowship faculty in the spring to aid students in crafting their proposals for the summer residency.
- Designing and implementing the summer residency including selecting community guest speakers, and arranging logistics for the sequence of fellowship meetings.
- Helping to plan and implement fundraising and fellowship programming outside of the residency.
- Planning the fall presentations for the Whipple Fellows.
- Ensuring the publication of the fellowship journals.
- Arranging any outside speakers associated with the fellowship
- Continuing to develop the roll-out of the long-term vision included as part of the BHS Writing Institute.

Fellowship Faculty
Each year, there will be a BHS Faculty member who will act as the lead teacher for the fellowship and summer residency. They will be supported in their role by the program leader and they will be expected to perform the following duties and responsibilities:

- Providing input on the application and selection process for the fellows.

- Attending any relevant fundraising events associated with the fellowship and attending the fall presentations
- Leading, with support from the program leader, the creation of any curriculum associated with the fellowship
- Leading, with support from the program leader, the proposal writing process for fellows in the spring
- Leading, with support from the program leader, and planning any workshops for the summer residency
- Leading, with support from the program leader, all summer residency activities
- Facilitating the goals and message that guest speakers should focus on when presenting to the students.
- Providing timely feedback on all written work done by fellows, including work to be published in the journal and their fall presentations
- Meeting 1:1 with fellows 1X per week for 1 hour, outside of the fellowship dinners.

Guest Speakers

In order to expose Fellows to a wide variety of writing styles, the Residency will include 3-4 outside guest speakers who have experience writing professionally and who are willing to present to the cohort on topics relating to their writing process and experiences as professionals within their field. The program director will seek to find a diverse group of guest speakers who can offer varying perspectives on different styles of writing and that would help to inform the type of writing students within the cohort are interested in. Each guest speaker will be expected to engage with the fellows for 3 hours and will receive an honorarium of $300. The format of their visit will be designed in collaboration between the speaker, the director and the faculty member. Some speakers may choose to use a workshop model, while others may choose to present directly to the fellows, among other options. Guest speakers will also be invited to attend the final presentation of the fellows work, though that will not be a condition of receiving their honorarium.

Student Fellows

Student Fellows will be recruited from Brookline High School and the program will be open to 9-11 graders. The director will use intentional strategies to actively recruit a diverse group of fellows. Students seeking to participate in the fellowship will complete an application that will give them the opportunity to explain their interest and desire to participate in the fellowship. They will also be required to submit a writing sample. The selection process for the fellowship will be evaluative and may include interviews of candidates. The director and faculty will choose the fellows based on the strength of their applications and availability to participate fully in the summer residency.

Stipends for students will be based on three factors: participation, process and product. The stipend will be divided into 2 payments of $500. Student will receive the first half of their stipend at the end of the summer residency. This part of the stipend is based on their participation in spring and summer activities, as well as, the writing they produce in the process of drafting their final product. Students will receive the second half of their stipend after successfully completing the final product for submission to the journal and having presented at the final event of the fellowship in the fall.

Long Term Vision

The fellowship remains at the heart of the long term vision and we believe that the objectives of the fellowship should be expanded to reach more students and to offer programming through a variety of means that are all focused on the power of strong writing. We see the long term vision as encompassing a three-phase roll out over the course of four years. This expansion would begin the creation of the *BHS Writing Institute*, which would include the fellowship as its flagship program, in addition to many other writing workshops and programming, summarized below.

Phase 1	Year 1	Whipple Fellowship and Summer Residency
Phase 2	Years 2 & 3	Whipple Fellowship and Summer Residency BHS Writing Institute year-long writing workshops and summer workshops Quarterly Journal BHS Institute Writing Center at BHS BHS Institute Professional Speaker Series
Phase 3	Year 4	Whipple Fellowship and Summer Residency BHS Institute year-long writing workshops and summer workshops Quarterly Journal BHS Institute Writing Center at BHS BHS Institute Professional Speaker Series BHS Regional Writing Conference for Young Writers

Phase Two Description

- In phase two of the project, other strands will begin to build the broader *BHS Writing Institute*. The Institute will add a minimum of two writing workshops open to all BHS students that will run for 3-4 days and are designed around a particular style of writing (i.e. poetry, journalism, historical nonfiction etc...). These writing workshops will be created and taught by teachers who would become members of the BHS Writing Institute Faculty. These might be conducted during school breaks or in the evenings/weekends. Ideally, participants in these workshops would be inspired to apply for the fellowship and summer institute.
- In phase two, we also believe that the BHS Writing Institute Faculty should introduce writing courses within the summer school catalog that would offer 3-6 week writing courses for students who need or want a more guided writing experience. These courses would be self-funded through tuition and would follow the summer school calendar. While these classes would be offered through BHS Summer School they would be managed and run by the BHS Writing Institute Faculty and would align with the BHS Writing Institute goals and philosophy.
- We believe that the Fellowship Journal should also grow into a quarterly publication after the first year. The publication will print all of the work from the writing workshops and summer school classes (along with the existing publication for the Whipple Fellows).
- The BHS Writing Institute would also host a professional writer speaker series for the entire BHS community.
- Finally, it might be possible to join with the current BHS writing center by using BHS Writing Institute Faculty and Whipple Fellows and BHS Writing Institute writing participants to staff the year-long writing center at BHS.

Phase Three Description

- We imagine that the BHS Writing Institute and Fellowship will stand as a national model for supporting young writers within a public school setting. In the third phase of the project, we hope to host a regional writing conference to inspire young writers from across the Commonwealth and the New England area to

share their writing with other young people. The BHS Writing Institute Faculty, Fellows and participants would staff and plan the conference.

BROOKLINE HIGH SCHOOL
Social Studies Department
Gary Shiffman, Curriculum Coordinator

Global Studies Proposal

Course Description: This multilevel course will be available to students in 10th grade as an alternative to the traditional Modern World History offering in the Social Studies Department. The course presents the story of the modern world through thematic lenses, rather than a chronological approach. Global Studies will offer both Standard seats and Honor seats, as the course, and students, benefit from the perspective of a wide range of students. Depending on the students' enrolled level, assignments will vary in number and difficulty.

I. **Learning Objectives:** Students will improve their ability to…
   - Tell a story within each thematic unit
   - Identify, explore, and explain change over time
   - Interpret historical documents in thematic context
   - Use evidence to make arguments about each theme
   - Understand chronology and key events within each case study
   - Make connections between historical case studies and current global issues