Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Enrollment projections prepared for:

Manchester Essex Regional School District
Essex Elementary
June 24, 2024 Enrollment Meeting

The information herein represents historical enrollment and a projection using the latest data available from the Department of Elementary and Secondary Education, Department of Public Health, U.Mass Donahue Institute, and US Census. While every effort is made to have as accurate a projection as possible using the MSBA's established Enrollment Methodology, the MSBA does not and cannot predict the impact to enrollment of future, unknown events. The MSBA relies on the District to communicate and document any anticipated acute, local changes that may impact enrollment.

Refer to this link for additional information: https://massschoolbuildings.org/index.php/building/prerequisites/enrollment_methodology

Overview

The Massachusetts School Building Authority ("MSBA") works with local communities to create affordable, sustainable, and energy efficient schools across Massachusetts. A critical early component in achieving these objectives begins with an appropriate design enrollment that positions the district to efficiently meet space capacity needs throughout future enrollment variations. Based on an agreed upon design enrollment, the MSBA collaborates with each district and its designer to aggressively pursue strategies to create right-sized facilities that are more affordable to construct and less costly to operate and maintain.

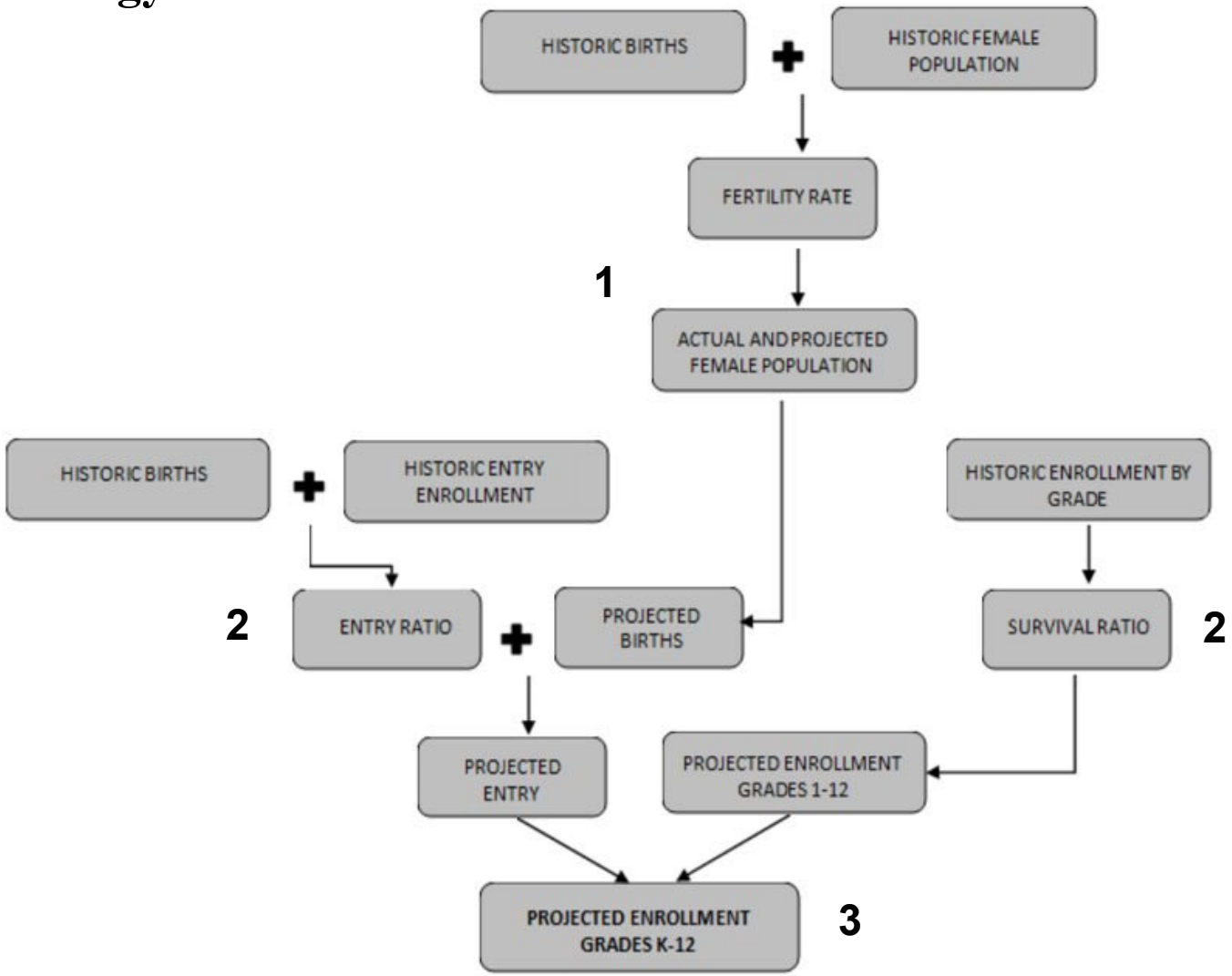
The MSBA, with the assistance of its consultant, developed a data driven enrollment projection methodology based on the modified grade-to-grade cohort survival methodology ("enrollment methodology"). The MSBA's enrollment methodology generates a baseline enrollment projection using historic enrollment data (Department of Elementary and Secondary Education), birth data (Massachusetts Department of Public Health), female population data (US Census Bureau) and female population projections (University of Massachusetts's Donahue Institute, "UMDI") as follows:

- Birth and female population data are used to calculate fertility rates;
- Fertility rates are applied to actual and projected female populations;
- Birth data and Kindergarten enrollment data is used to calculate an average birth-to-kindergarten ratio;
- The birth-to-kindergarten ratio is applied to actual and projected births to generate Kindergarten enrollments;
- Historic enrollment data is used to calculate average grade-to-grade survival ratios (the proportion of students enrolled in one grade and school year to the number of students enrolled in the next grade and school year) to project the number of students in each grade;
- Grade-to-grade survival ratios are applied to actual and projected student enrollments to generate grade 1-12 enrollment projections; and,
- The baseline enrollment is calculated using the 10-year average of projected enrollments for the grades to be considered in the proposed feasibility study.

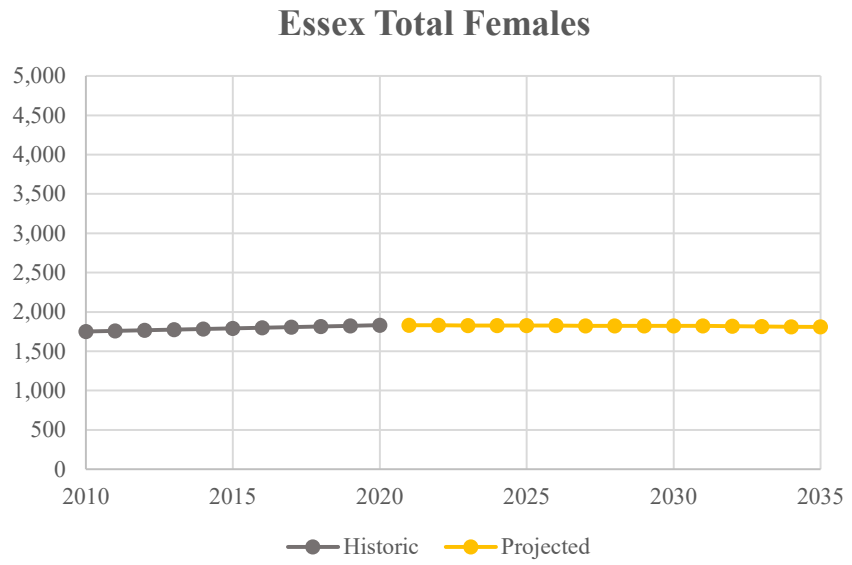
A critical component in setting the design enrollment is an ongoing dialogue with the district throughout the process to understand what they are experiencing in their schools and in their community. Based on district-supplied information, the MSBA generates a baseline enrollment projection using its enrollment methodology. The MSBA and the district meet to share and review the baseline enrollment projection and to further discuss potential grade configurations, school consolidations, housing development and other local factors that the district believes may impact enrollment projections.

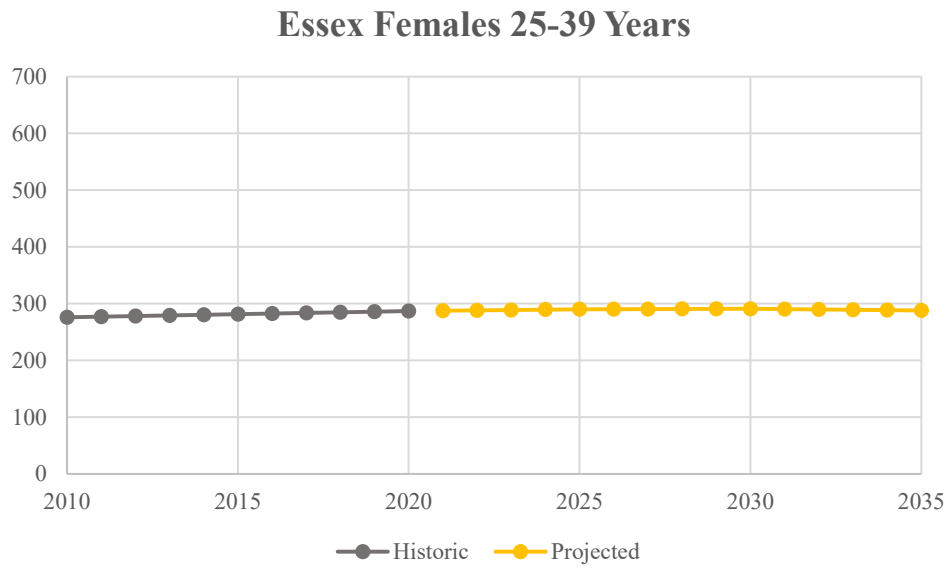
Upon agreement of a design enrollment, the MSBA and the district continue to collaborate to further develop the total square foot of the proposed project as informed by the MSBA's space guidelines and the district's educational program. The MSBA grant will be informed in large part by the eligible square footage of the project which is needed to house the student population generated by the enrollment projection.

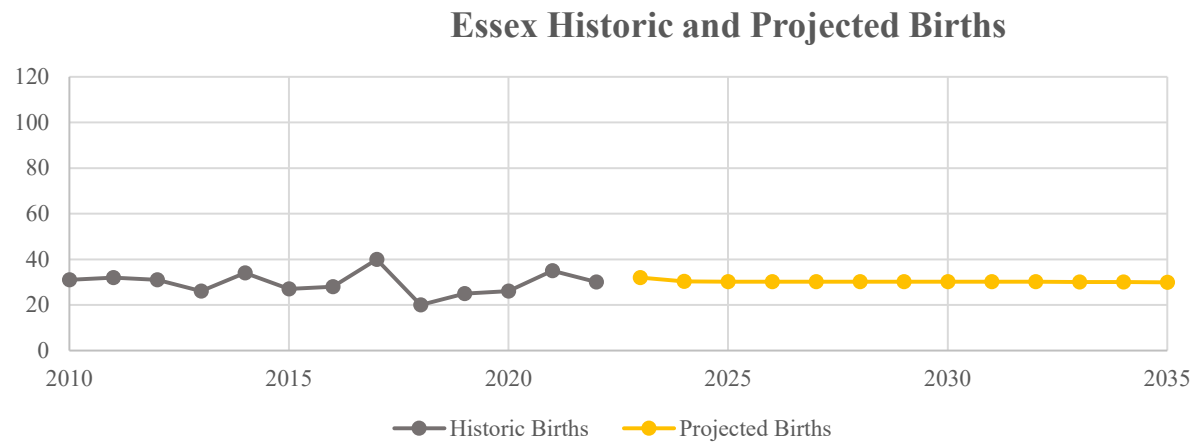
Methodology Overview



Overall female population had been increasing through 2020 and is projected to decrease slightly going forward. The 25-39 Female Age Group is projected to increase slightly through 2028 then decline slightly. Historic births have been fairly stable but are projected to remain stable.

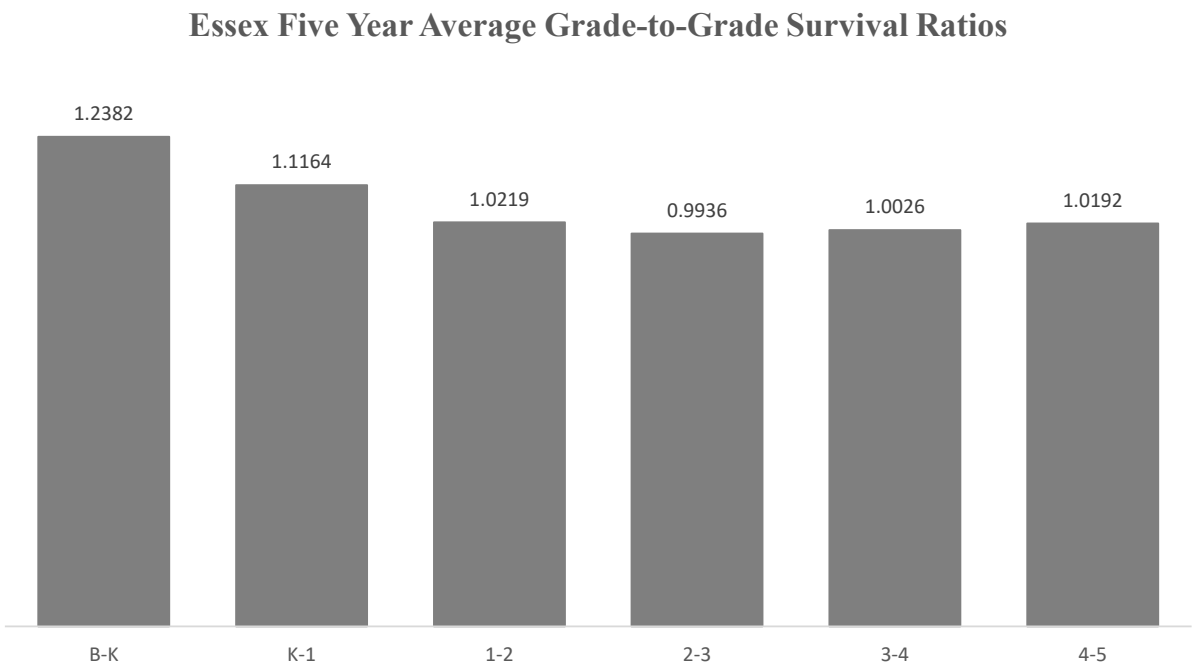






Maternal Age	Average Fertility Rate 2020-2022
10-14 Yrs	0.00%
15-19 Yrs	0.00%
20-24 Yrs	0.00%
25-29 Yrs	0.00%
30-34 Yrs	21.10%
35-39 Yrs	10.30%
40-44 Yrs	0.00%
Total Birth Rate	1.66%

Below is a look at the five year average Grade-to-Grade ratios for Essex. Ratios above 1.0 indicate an in-migration of students as they transition to the next grade. Ratios below 1.0 indicate an out-migration of students. Review of the ratios for the Essex Elementary School indicate an overall net in-migration of student into the school. Examples of how the MSBA calculated the Birth to Kindergarten ratio as well as Grade-to-Grade survival ratios are at the bottom of the page.



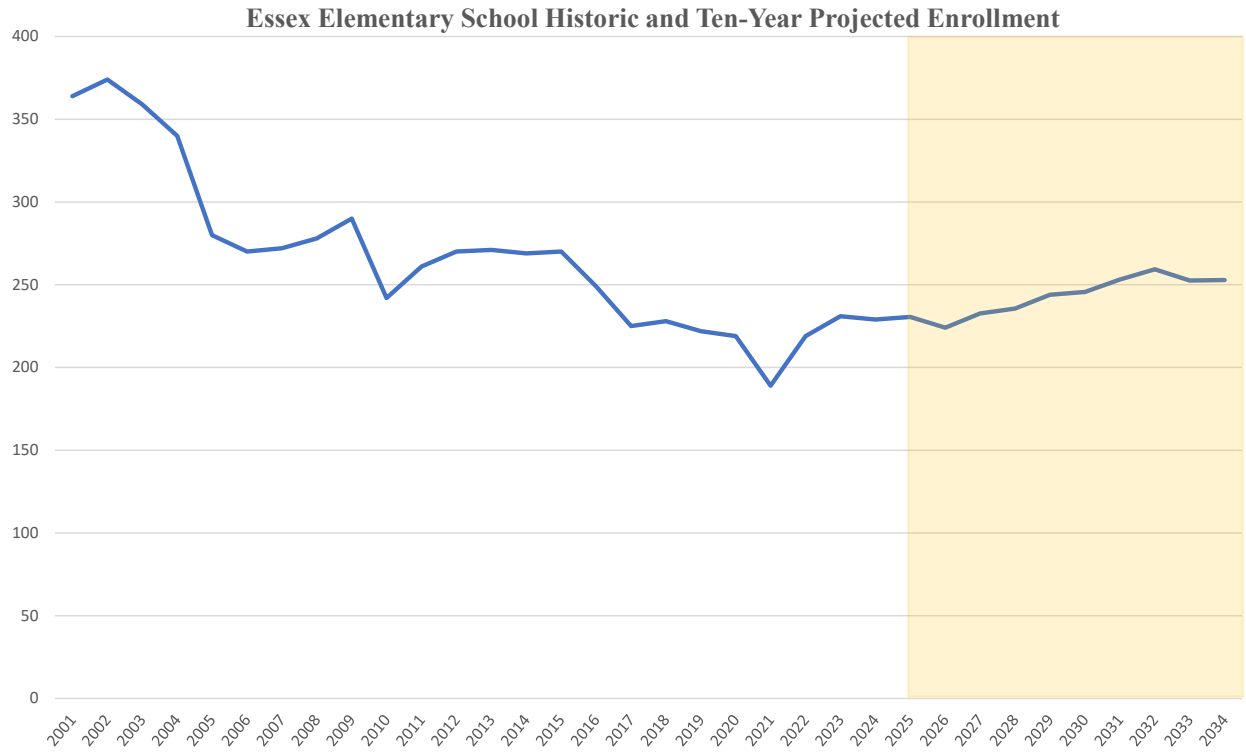
CALCULATING B-K RATIO:

FY24 'actual' K enrollment / 2018 'actual' births	=	36 / 20	=	1.8000	repeat for the prior (4) yrs	avg the (5) yrs together	= 1.2382

CALCULATING GRADE-TO-GRADE SURVIVAL RATIOS, grades K-1 example:

FY24' actual' grade 1 enrollment / FY23'actual' K enrollment	=	36 / 34	=	1.0588	repeat for the prior (4) yrs	avg the (5) yrs together	= 1.1164

The Essex enrollment for grades K-5 had been trending downward since 2002, stabilized in 2020, and is projected to trend upward through the enrollment projection period.



The 5-yr averages of the grade-to-grade survival ratios are shown at the top. The unshaded data below presents the K-5 enrollment in the Essex Elementary School as reported by DESE through FY24 (School Year 2023-24). The shaded area presents the MSBA's base projection by grade for the next ten years. Average enrollments for the 10 projected years are shown at the bottom.

	B-K	K-1	1-2	2-3	3-4	4-5
5yr survival:	1.2382	1.1164	1.0219	0.9936	1.0026	1.0192

FY	Births (in CY)	K	1	2	3	4	5	TTL
2001	34	38	42	50	41	32	42	364
2002	40	37	39	44	52	43	37	374
2003	37	37	34	39	46	53	40	359
2004	30	34	36	32	39	41	52	340
2005	46	32	37	39	39	41	43	280
2006	31	34	32	37	41	40	43	270
2007	28	37	37	32	37	42	43	272
2008	36	40	34	39	41	41	42	278
2009	32	41	43	38	40	45	42	290
2010	31	36	38	41	43	38	46	242
2011	32	52	38	41	43	42	45	261
2012	31	42	50	42	46	45	45	270
2013	26	39	45	51	43	46	47	271
2014	34	39	43	45	50	44	48	269
2015	27	38	44	46	48	48	46	270
2016	28	27	40	44	45	45	48	249
2017	40	29	28	37	46	43	42	225
2018	20	35	31	32	37	48	45	228
2019	25	31	38	29	37	39	48	222
2020	26	39	33	40	30	36	41	219
2021	35	28	36	31	36	26	32	189
2022	30	38	43	40	32	38	28	219
2023	32	34	38	41	42	35	41	231
2024	30	36	36	40	39	43	35	229
2025	30	31	40	37	40	39	44	261
2026	30	32	35	41	37	40	40	254
2027	30	43	36	35	41	37	41	263
2028	30	37	48	37	35	41	37	266
2029	30	40	41	49	36	35	42	274
2030	30	37	44	42	49	37	36	276
2031	30	37	42	45	42	49	37	283
2032	30	37	42	43	45	42	50	289
2033	30	37	42	43	42	45	43	283
2034	30	37	42	43	42	43	46	283

	K	1	2	3	4	5	TTL
10 yr projected avg:	37	41	42	41	41	42	243

Base Enrollment grades K-5: 243

Housing data from the Department of Revenue indicates that Essex has averaged 6 new housing units annually over the last 10 years. The average number of students per housing unit was trending downward until stabilizing over the last three years.

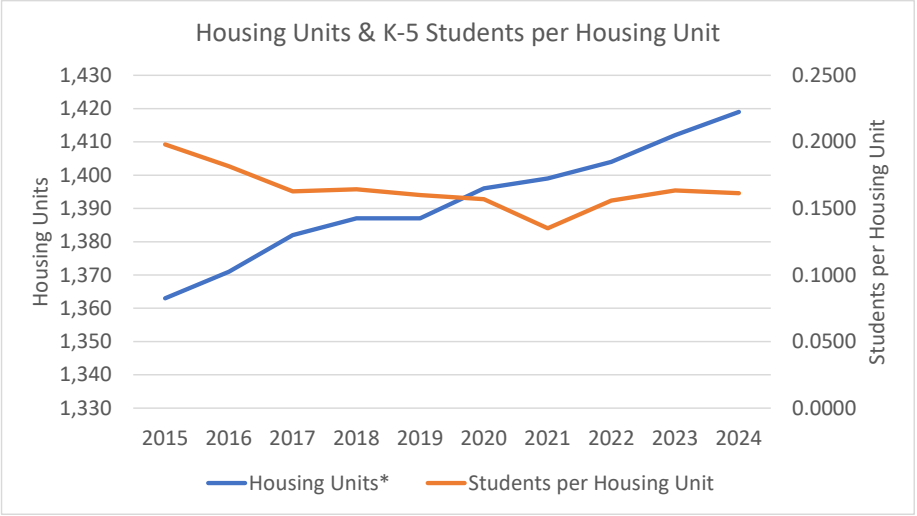
FY	Single Family 101	Condominiums 102	Miscellaneous Residential 103,109	Two Family 104	Three Family 105	Apartment 111-125	Housing Units*	Change	K-5 Enrollment	Students per Housing Unit
2015	984	80	40	234	18	7	1,363	-1	270	0.1981
2016	985	81	38	242	18	7	1,371	8	249	0.1816
2017	989	90	37	242	18	6	1,382	11	225	0.1628
2018	994	89	36	244	18	6	1,387	5	228	0.1644
2019	993	97	35	238	18	6	1,387	0	222	0.1601
2020	992	103	35	242	18	6	1,396	9	219	0.1569
2021	994	104	35	242	18	6	1,399	3	189	0.1351
2022	994	104	34	248	18	6	1,404	5	219	0.1560
2023	1,000	104	36	248	18	6	1,412	8	231	0.1636
2024	1,003	109	35	248	18	6	1,419	7	229	0.1614

*Apartments with more than 3 units are counted as 1

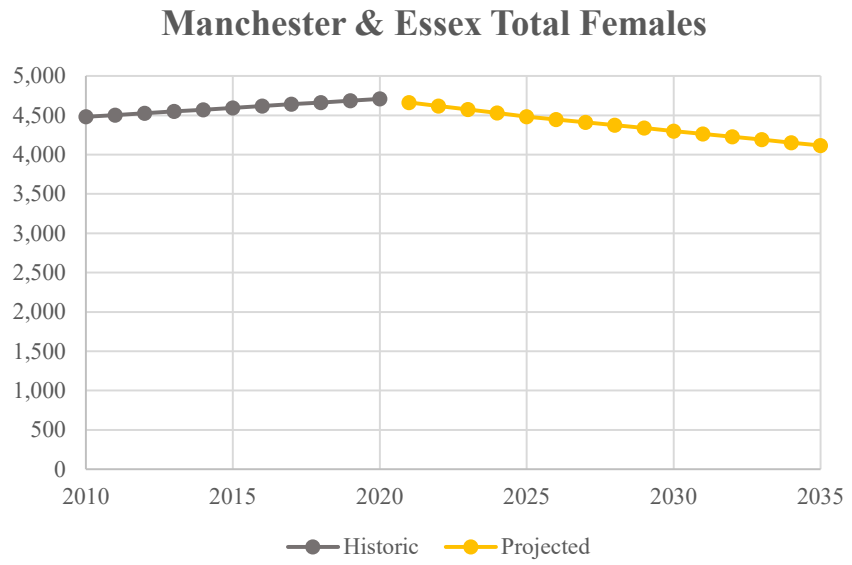
Summary of Housing Project Descriptions from Enrollment Questionnaire

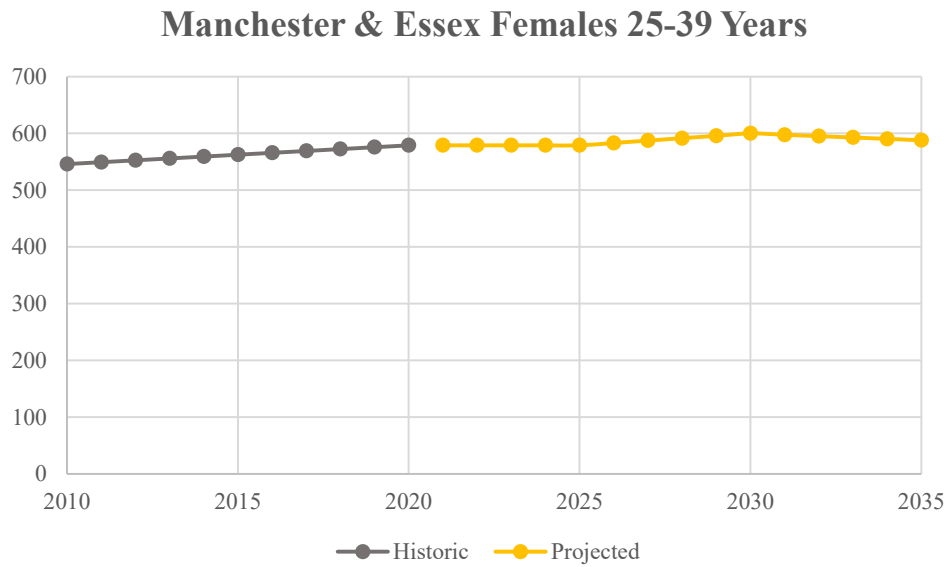
Development Name	Description; please include a breakdown of the type of units in this development, i.e., 50% single bedroom units, 50% 2+ bedrooms	Estimated Completion Year
The Sanctuary, Manchester	82 Single Family Units and duplex homes each with 2 or 3 bedrooms. Under Construction.	Litigation
30 Apple Street, Essex	Possible Development (no details) if the Essex Elementary School remains on existing site.	2030
12 Story Street, Essex	Existing School could be repurposed. Potential for 30 Units, 15 one-bedroom and 15 two-bedroom, no specific plans.	2030
Riverview Hill, Essex	Preliminary discussion for multi-unit buiding, potentital issues with connecting to town sewer.	2026
George Fuller House, Essex	Former bed and breakfast for sale, expressed interest in a dozen, two-bedroom units in place, perhaps as 55+ housing.	2026
VanWyck Parcel, Essex	Potential development with capacity of up to 50 new bedrooms, some site issues may challenge development.	2028

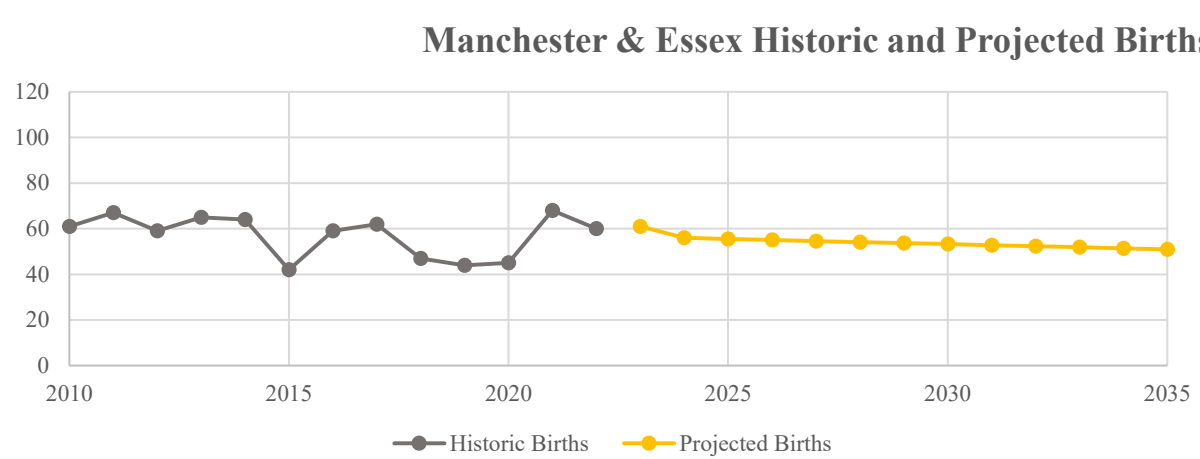
Town of Essex Note: It is possible that none of the above projects actually ever come to fruition. All of the projects are in a proposed or exploratory phase.



Overall female population for the District had been increasing through 2020 and is projected to decrease going forward. The 25-39 Female Age Group is projected to incline slightly then stablize in the later years of the projection period. Historic births have been fairly stable but are projected to decrease slightly going forward.

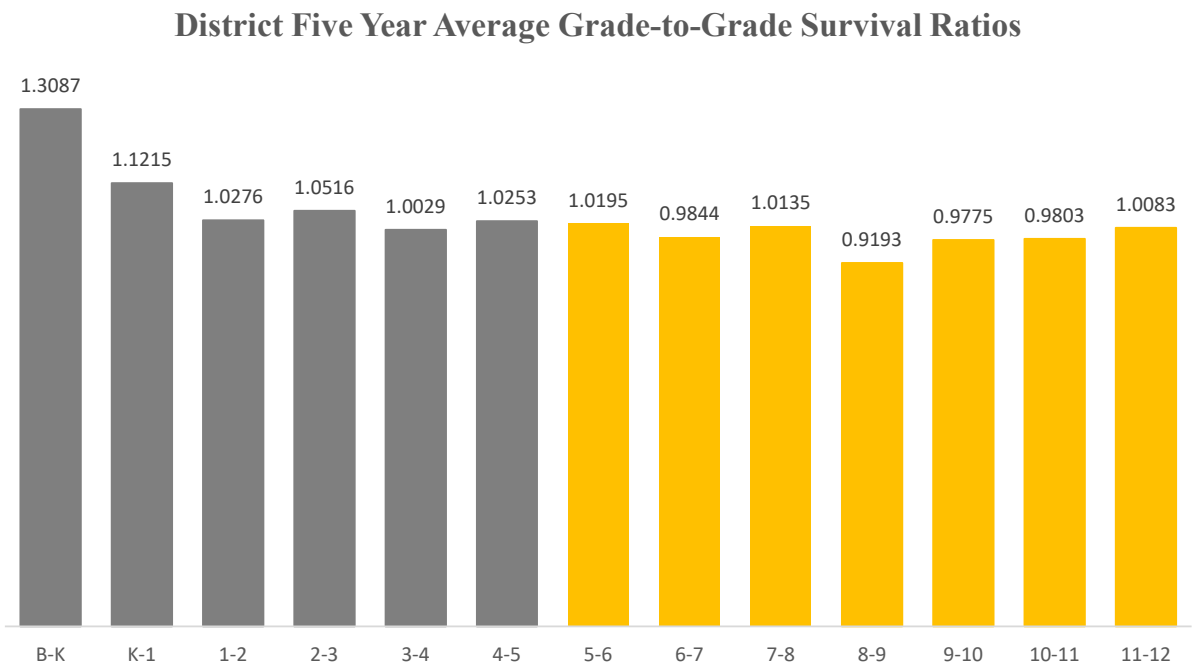






Maternal Age	Average Fertility Rate 2020-2022
10-14 Yrs	0.00%
15-19 Yrs	0.00%
20-24 Yrs	0.00%
25-29 Yrs	0.00%
30-34 Yrs	19.14%
35-39 Yrs	11.31%
40-44 Yrs	0.00%
Total Birth Rate	1.24%

Below is a look at the District's five year average Grade-to-Grade ratios. Ratios above 1.0 indicate an in-migration of students as they transition to the next grade. Ratios below 1.0 indicate an out-migration of students. Review of the ratios for Manchester-Essex indicate an in-migration of students through the elemntary and middleschool grades with a noticeable dip in the grade 8-9 ratio. Examples of how the MSBA calculated the Birth to Kindergarten ratio as well as Grade-to-Grade survival ratios are at the bottom of the page.



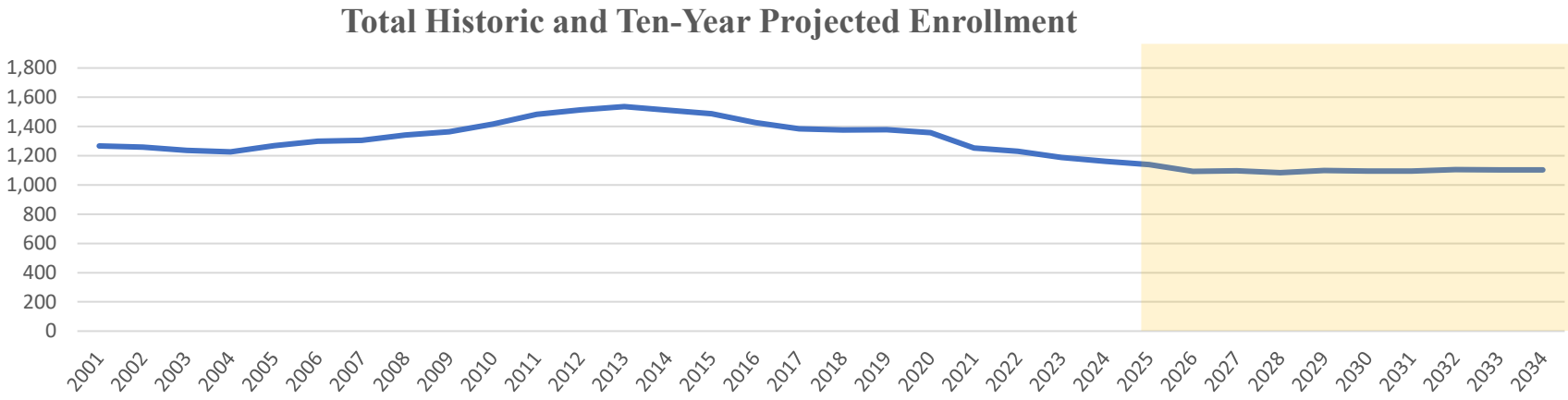
CALCULATING B-K RATIO:

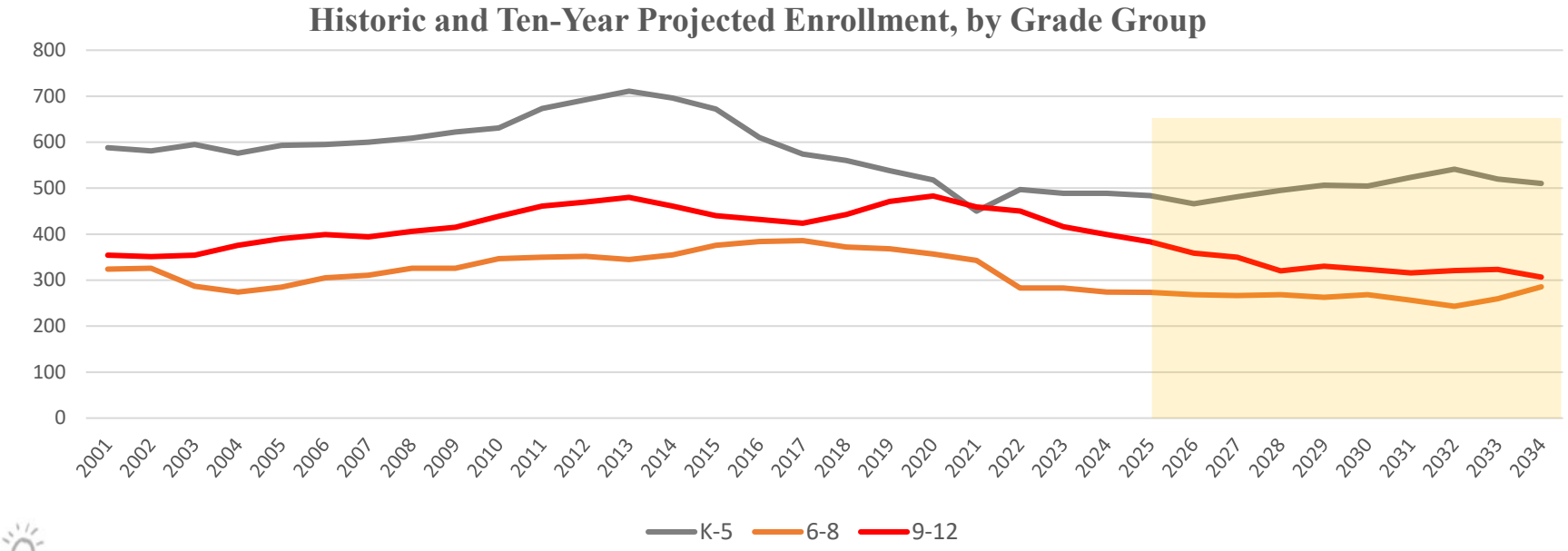
FY24 'actual' K enrollment / 2018 'actual' births	=	76 / 47	=	1.6170	repeat for the prior (4) yrs	avg the (5) yrs together	= 1.3087

CALCULATING GRADE-TO-GRADE SURVIVAL RATIOS, grades K-1 example:

FY24' actual' grade 1 enrollment / FY23'actual' K enrollment	=	78 / 73	=	1.0685	repeat for the prior (4) yrs	avg the (5) yrs together	= 1.1215

The Manchester-Essex's total enrollment increased during the 2000's, peaked in 2013, has been declining since. The enrollment is projected to stabilize through 2034. Enrollment for grades K-5 followed a similar trajectory but is project to increase then stabilize during during the later years in the projection period. Middle and high school grades are projected to trend downward then stabilize.





The District's 5-yr averages of the grade-to-grade survival ratios are shown at the top. The unshaded data below presents the District's K-12 enrollment as reported by DESE through FY24 (School Year 2023-24). The shaded area presents the MSBA's base projection by grade for the next ten years. Average enrollments for the 10 projected years are shown at the bottom.

	B-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12
5yr survival:	1.3087	1.1215	1.0276	1.0516	1.0029	1.0253	1.0195	0.9844	1.0135	0.9193	0.9775	0.9803	1.0083

FY	Births (in CY)	K	1	2	3	4	5	6	7	8	9	10	11	12	TTL	K-5	6-8	9-12
2001	68	88	99	107	99	94	101	113	120	91	102	83	91	78	1,266	588	324	354
2002	89	84	92	98	108	100	99	97	109	120	96	94	76	85	1,258	581	326	351
2003	98	94	88	101	105	110	97	89	92	106	99	85	96	74	1,236	595	287	354
2004	81	83	98	90	97	104	104	91	89	94	100	98	91	87	1,226	576	274	376
2005	99	87	100	102	100	98	106	104	91	90	106	94	99	91	1,268	593	285	390
2006	74	90	90	99	108	105	103	105	107	93	104	101	96	98	1,299	595	305	399
2007	76	88	94	92	107	109	110	102	103	106	101	95	99	99	1,305	600	311	394
2008	68	92	92	96	107	112	110	111	109	106	114	100	98	94	1,341	609	326	406
2009	59	100	106	97	98	106	115	113	106	107	107	109	102	97	1,363	622	326	415
2010	61	109	101	110	104	100	107	122	116	109	117	110	110	102	1,417	631	347	439
2011	67	110	116	115	116	108	108	110	127	113	123	113	116	109	1,484	673	350	461
2012	59	99	112	124	122	122	113	109	118	125	121	126	110	113	1,514	692	352	470
2013	65	106	108	116	129	126	126	117	112	116	125	125	116	114	1,536	711	345	480
2014	64	99	115	109	113	130	130	126	119	110	118	116	115	112	1,512	696	355	461
2015	42	81	108	117	116	117	133	132	124	120	101	111	115	113	1,488	672	376	440
2016	59	62	87	106	119	115	121	133	131	120	111	99	108	114	1,426	610	384	432
2017	62	70	67	88	112	122	115	123	132	131	115	103	98	108	1,384	574	386	424
2018	47	76	81	73	92	115	123	117	125	130	131	114	100	98	1,375	560	372	443
2019	44	74	82	85	81	98	118	127	113	128	129	122	113	107	1,377	538	368	471
2020	45	83	75	86	91	80	103	118	128	111	125	127	121	110	1,358	518	357	483
2021	68	56	78	72	84	86	74	102	113	128	96	117	123	123	1,252	450	343	459
2022	60	66	82	83	82	88	96	78	96	109	113	93	121	123	1,230	497	283	450
2023	61	73	74	84	86	81	91	99	80	104	93	114	86	123	1,188	489	283	416
2024	56	76	78	77	87	90	81	93	98	83	106	92	112	89	1,162	489	274	399
2025	55	58	85	80	81	87	92	83	92	99	76	104	90	113	1,140	483	273	383
2026	55	59	65	88	84	81	89	94	81	93	91	75	102	91	1,093	466	268	358
2027	55	89	66	66	92	85	83	91	93	82	85	89	73	102	1,098	481	266	350
2028	54	79	100	68	70	92	87	85	90	94	76	83	88	74	1,084	495	269	320
2029	54	80	88	103	71	70	95	88	84	91	86	74	82	88	1,100	506	263	330
2030	53	73	90	90	108	72	72	97	87	85	84	84	73	82	1,096	505	268	323
2031	53	73	82	92	95	108	73	73	95	88	78	82	83	73	1,095	524	256	316
2032	52	72	81	85	97	95	111	75	72	96	81	76	80	83	1,105	541	243	321
2033	52	71	81	84	89	97	98	113	74	73	89	79	75	81	1,103	520	260	323
2034	51	71	80	83	88	89	99	100	111	75	67	87	78	75	1,103	511	286	307

	K	1	2	3	4	5	6	7	8	9	10	11	12	TTL	K-5	6-8	9-12
10 yr projected avg:	72	82	84	88	88	90	90	88	88	81	83	82	86	1,102	503	265	333

Base Enrollment grades K-5 503 **Base Enrollment grades K-3** 326

Housing data from the Department of Revenue indicates that the District has averaged 11 new housing units annually over the last 10 years. The average number of students per housing unit was trending downward until stabilizing over the last three years.

FY	Single Family 101	Condominiums 102	Miscellaneous Residential 103,109	Two Family 104	Three Family 105	Apartment 111-125	Housing Units*	Change	K-5 Enrollment	Students per Housing Unit
2015	2,561	268	98	412	87	19	3,445	11	672	0.1951
2016	2,576	268	95	412	90	18	3,459	14	610	0.1764
2017	2,583	277	94	426	90	16	3,486	27	574	0.1647
2018	2,588	278	94	432	84	16	3,492	6	560	0.1604
2019	2,592	290	93	414	84	16	3,489	-3	538	0.1542
2020	2,591	296	92	420	87	16	3,502	13	518	0.1479
2021	2,598	305	93	412	84	16	3,508	6	450	0.1283
2022	2,598	311	89	420	84	16	3,518	10	497	0.1413
2023	2,611	311	92	418	84	16	3,532	14	489	0.1384
2024	2,617	316	91	420	84	16	3,544	12	489	0.1380

*Apartments with more than 3 units are counted as 1

Summary of Housing Project Descriptions from Enrollment Questionnaire

Development Name	Description; please include a breakdown of the type of units in this development, i.e., 50% single bedroom units, 50% 2+ bedrooms	Estimated Completion Year
The Sanctuary, Manchester	82 Single Family Units and duplex homes each with 2 or 3 bedrooms. Under Construction.	2024
30 Apple Street, Essex	Possible Development (no details) if the Essex Elementary Scho	2024
12 Story Street, Essex	Existing School could be repurposed. Potential for 30 Units, 15	2024
Riverview Hill, Essex	Preliminary discussion for multi-unit buiding, potentital issues	2024
George Fuller House, Essex	Former bed and breakfast for sale, expressed interest in a doze	2024
VanWyck Parcel, Essex	Potential development with capacity of up to 50 new bedroom	2024

Town of Essex Note: It is possible that none of the above projects actually ever come to fruition. All of the projects are in a proposed or exploratory phase.