

City of Nashua School Enrollment Projections 2019-2029

Assumptions

Historic Enrollment Trends:

- Over the last decade school enrollments have declined an average of 124 students per year; a total of 1,489 between 2008 and 2019.
- In the past three years, the highest frequency of children enrolled outside of Nashua Public Schools is Middle School and High School. Enrollments for grades 6, 7, and 8 enrollments outside of public schools were very similar and averaged 161 students/grade/year. Grades 9 through 12 student enrollments outside of the Nashua School District were also very similar and averaged 160 students/grade/year. Averages include home school, non-public and charter school enrollments.
- Lowest enrollment outside public school is for Elementary and High School with an average of 88 and 81 students/grade/year respectively. Averages include home school, non-public and charter school enrollments.
- Enrollments in Non-Public schools have decreased in the past 5 years while enrollments in Charter schools have significantly increased, going from a K-12 total of 92 students in 2014 to a K-12 total of 1,040 students in 2019. Home Schooling annual totals have been volatile.
- Pre-K enrollment is capped and at capacity. An additional classroom in 2016 increased total enrollment capacity to 350 students.

Births:

- Births have been projected for the years 2020 to 2025.
- Fertility rates were computed for Decennial Census years (2000 and 2010) using the 5-year average of births (to alleviate data volatility) divided by the female population age 15-44. These fertility rate and female population data points were the basis of a forecast trend line.
- The overall birth rate in New Hampshire has been declining steadily. However, the number of minority births in Nashua has overall been increasing over the past 10 years– in 2010 there were 296 minority births representing 30% of all births and in 2019 there were 326 minority births equating to 37% of all births.
- Because birth rates are rising within minority populations and the impacts of over estimating births are less significant than underestimating births when planning for school facilities, the projected births are shown to be slightly higher than they have been in the last 4 years.

Assumptions (continued)

Net Migration:

- The City of Nashua has seen a negative net migration over the last decade – meaning more people have moved out of the City than have moved into the City (loss of nearly 550 persons from 2000 to 2010). This trend has been constant with all age cohorts, except those aged 25-34 where there were modest population gains that could result in additional births and a limited number of new students in coming years.
- Building permit data shows a steady increase in the number of permitted multifamily dwelling units along with a steady decline in single family homes (0.48 students estimated per single family home and 0.25 students per multi-family unit).
- It is safe to assume that at some point the single-family building permit trend will either level off or improve but will not dip into negative numbers where demolitions exceed new building. Preliminary forecasts for the state show migration levels gradually increasing.
- Given current building trends, multi-family residential growth is likely to continue, however, not likely at levels associated with a linear trend that would lead to a significant increase in the number of new units.
- Net migration is projected using a gradual increase in new building permits forecast for 2019-2031 resulting in approximately 62 new students per year.

The Projections

- Three different projection alternatives were prepared given the shifting demographic trends in the City yet all yield fairly similar results.
- Each of the methodologies is better suited to capturing different aspects of demographic change and trends.
- Overall, given the shifting trend toward re-enrolling in public schools for grade 9, the grade progression ratio methods are better suited to capturing this changing condition.
- Eventually, it is anticipated that net migration will increase in the future, thus the second most probable scenario factors in additional students moving into the district.
- The final scenario, the cohort component method, while better able to fine tune the individual variables that affect population change, is not adequately capturing the current spikes in 9th grade enrollment levels.

Alternative 1: Grade Progression Ratio

Projected Enrollment by Grade - Progression Ratio Method																	Subtotal		Ann. Change	
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	PK-12	K-12	#	%
2014	980	2019-20	343	643	819	838	900	878	879	777	817	755	1,037	908	803	781	11,178	10,835		
2015	976	2020-21	350	750	749	820	830	901	875	806	777	824	936	974	792	758	11,142	10,792	(43)	-0.4%
2016	1,054	2021-22	350	809	746	750	812	831	898	802	806	783	1,021	880	849	747	11,084	10,734	(58)	-0.5%
2017	964	2022-23	350	740	805	747	743	813	828	823	802	813	970	959	767	801	10,961	10,611	(123)	-1.1%
2018	946	2023-24	350	726	737	806	740	744	810	759	823	809	1,008	911	836	724	10,783	10,433	(178)	-1.6%
2019	883	2024-25	350	678	723	738	798	741	741	743	759	830	1,003	947	794	789	10,634	10,284	(149)	-1.4%
2020	1,031	2025-26	350	792	675	724	731	799	738	679	743	765	1,029	942	826	749	10,542	10,192	(92)	-0.9%
2021	1,025	2026-27	350	787	788	676	717	732	796	677	679	749	948	967	821	780	10,467	10,117	(75)	-0.7%
2022	1,020	2027-28	350	783	783	789	670	718	729	730	677	685	928	891	843	775	10,351	10,001	(116)	-1.1%
2023	1,015	2028-29	350	779	779	784	782	671	715	668	730	683	849	872	777	796	10,235	9,885	(116)	-1.1%
2024	1,009	2029-30	350	775	776	780	777	783	669	656	668	736	846	798	760	733	10,107	9,757	(128)	-1.3%

Based on current enrollment

Based on existing births

Based on projected births

Assumptions:


- The grade progression ratio projects future enrollment based upon trends established as each birth year cohort of students progresses from one grade to the next over the past 3 years.
- The ratio captures all variables that impacted enrollment levels for the past 3-years including historic migration; home, charter, private schooling; mortality rates; etc.
- The grade progression ratio is used to forecast grades 2 through 12 while the 3-year average percent of births enrolling in kindergarten and 1st grade was used to project those grades.
- The 3-year average was used to capture more recent trends such as a higher rate of enrollment in 9th and 10th grade.
- Projection is purely based on the grade progression ratio with no new development or residential growth forecast.

Caveats:

- Grade progression ratios can vary significantly from one year to the next.
- Best suited to areas with stable or consistent demographic change where no variations are anticipated in birth rates or families moving in or out of the district.
- Does not factor in any potential demographic or policy shifts that may impact enrollment.

Alternative 2: Grade Progression Ratio with Increasing Net Migration

Projected Enrollment by Grade - Progression Ratio Method																	Subtotal		Ann. Change	
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	PK-12	K-12	# K-12	% K-12
2014	980	2019-20	343	643	819	838	900	878	879	777	817	755	1,037	908	803	781	11,178	10,835		
2015	976	2020-21	350	750	749	820	830	901	877	808	779	826	938	975	793	759	11,155	10,805	(30)	-0.3%
2016	1,054	2021-22	350	809	746	750	812	831	900	806	810	787	1,026	882	851	749	11,109	10,759	(46)	-0.4%
2017	964	2022-23	350	740	805	747	743	813	832	829	810	821	980	965	770	804	11,009	10,659	(100)	-0.9%
2018	946	2023-24	350	726	737	806	740	744	814	767	833	821	1,022	922	842	728	10,852	10,502	(157)	-1.4%
2019	883	2024-25	350	678	723	738	798	742	747	752	772	845	1,024	962	806	797	10,734	10,384	(118)	-1.1%
2020	1,031	2025-26	350	792	675	724	731	800	745	691	757	783	1,054	964	841	763	10,670	10,320	(64)	-0.6%
2021	1,025	2026-27	350	787	788	676	717	733	805	691	698	770	979	993	842	796	10,625	10,275	(45)	-0.4%
2022	1,020	2027-28	350	783	783	789	670	719	738	746	698	711	963	923	868	797	10,538	10,188	(87)	-0.8%
2023	1,015	2028-29	350	780	780	785	783	672	726	687	755	713	892	908	808	822	10,461	10,111	(77)	-0.7%
2024	1,009	2029-30	350	776	777	782	779	785	679	676	696	770	895	841	795	766	10,367	10,017	(94)	-0.9%

 Based on current enrollment

 Based on existing births

 Based on projected births

Assumptions:

- The grade progression ratio projects future enrollment based upon trends established as each birth year cohort of students progresses from one grade to the next over the past 3 years.
- The ratio captures all variables that impacted enrollment levels for the past 3-years including historic migration; home, charter, private schooling; mortality rates; etc.
- The grade progression ratio is used to forecast grades 2 through 12 while the 3-year average percent of births enrolling in kindergarten and 1st grade was used to project those grades.
- The 3-year average was used to capture more recent trends such as a higher rate of enrollment in 9th and 10th grade.
- The City has seen declining net migration for more than a decade. The grade progression ratio does not account for the potential addition of new families and students. Additional net migration is incorporated and off-sets historic trends allowing for a gradual increase of new families moving to the City.

Caveats:

- Grade progression ratios can vary significantly from one year to the next.
- The grade progression ratio assumes that past enrollment trends in private, charter and homeschooling will continue into the future.

Alternative 3: Cohort Component Method

Projected Enrollment by Grade - Progression Ratio Method																	Subtotal		Ann. Change	
Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	PK-12	K-12	# K-12	% K-12
2014	980	2019-20	356	743	790	765	794	803	794	836	828	792	965	891	817	851	11,025	10,669		
2015	976	2020-21	350	749	745	791	769	803	813	754	822	842	793	941	885	785	10,842	10,492	(177)	-1.6%
2016	1,054	2021-22	350	809	742	746	795	778	813	772	742	836	843	773	934	850	10,783	10,433	(59)	-0.5%
2017	964	2022-23	350	739	801	743	750	804	790	774	762	757	840	822	768	897	10,597	10,247	(186)	-1.7%
2018	946	2023-24	350	726	733	802	747	758	816	752	764	777	761	819	816	738	10,359	10,009	(238)	-2.2%
2019	883	2024-25	350	677	719	734	806	756	772	779	743	780	783	743	814	785	10,241	9,891	(118)	-1.1%
2020	1,031	2025-26	350	791	671	720	738	816	770	737	769	759	786	764	739	783	10,193	9,843	(48)	-0.5%
2021	1,025	2026-27	350	786	784	672	724	747	833	737	730	787	767	768	760	711	10,156	9,806	(37)	-0.4%
2022	1,020	2027-28	350	782	779	785	675	733	763	797	730	748	795	750	764	731	10,182	9,832	26	0.3%
2023	1,015	2028-29	350	780	776	781	790	684	751	733	791	750	758	777	747	736	10,204	9,854	22	0.2%
2024	1,009	2029-30	350	775	773	778	786	800	701	721	728	812	760	741	774	720	10,219	9,869	15	0.1%

Based on current enrollment

Based on existing births

Based on projected births

Assumptions:

- This method is based upon a mathematical formula that allows for separate and customizable variables to account for new births; net migration and new residential construction or demolitions; transitions between home-schooling, private, charter, and public schools; and statistical survival or mortality rates.
- Net migration is shown to increase beyond levels seen in the last decade, adding new enrollments and accounting for new families and children.
- The rate at which students opt in or out of public school is based upon an average of 4 years of private and charter school enrollment data.
- The rate at which students opt out of public school to be homeschooled is based upon homeschooling enrollment data from 2014-2019.

Caveats:

- The Cohort Component method is best suited for short term projections.
- As in all methods, changing residential construction is difficult to accurately capture. While a building permit may be issued, that does not necessitate that a unit will be built or that it will be occupied by a family with children.
- This method does not capture larger grade progression shifts such as the large increase in the number of students that are added to the 9th grade enrollment totals.

