NORTH MIDDLESEX REGIONAL SCHOOL DISTRICT

Cost Savings Alternatives Study - *August 2022*

EDWARD J. COLLINS, JR. CENTER FOR PUBLIC MANAGEMENT

JOHN W. McCORMACK GRADUATE SCHOOL OF POLICY AND GLOBAL STUDIES

Contents

1 Introduction

1.1 Executive Summary

The North Middlesex Regional School District, like many districts in Central and Western Massachusetts, is experiencing sustained enrollment declines, an aging population, and minimal economic growth. At the same time, educational costs are rising at a rapid rate coupled with significant capital investments necessary to maintain existing facilities. Geographically, the District is one of the largest in the State, and following suit with other rural districts, it has regionalized middle and high school services. Separately, each local municipality continues to maintain an elementary school which is a cornerstone for the respective community's identity. Over the years, both District leadership and elected officials have been presented with substantial decisions surrounding capital investments for the various facilities combined with "right-sizing" operations to balance fiscal, academic, and community needs.

This study focuses on one of these challenges, developing alternatives for facilities usage. The study team has examined trends in costs and enrollment across the district, as well as comprehensively evaluated existing facilities including their current use. Additionally, considerable analysis has been completed focusing on the underlying community trends, which fuel enrollment, such as demographic and economic data. These analyses have resulted in key findings, discussed in detail later in this report, and summarized below.

- Population growth is relatively stagnant at 1.82% over the past ten years, lagging the state (7.37%) and county (8.58%) significantly. Further, the population is aging, with 55 & up increasing at a far higher rate than the state overall, with median ages drastically higher than the state average. (Section 2.5)
- Enrollment in District schools has declined by 17% over the past 10 years. Foundation enrollment (number of school-aged children for which the district is responsible) has declined 20%. (Section 3.2)
- Population growth projections and economic development and building trends suggest these trends will continue. (Section 6.2) Enrollment is projected to continue to decline. (Section 6.1.2)
- Comparative analysis with 25 similar districts places NMRSD at or below the average per pupil expenditures for the cohort as well as the state in all categories except Operations & Maintenance. NMRSD is the 2nd largest district by gross square footage per student and calculates well above the average. Generally, any opportunities for meaningful savings are most likely to be found by "right-sizing" the district facilities to the current and projected enrollment, optimizing capital investments rather than chasing large reductions in operating costs. The District is already operating very lean. (Section 3.1.2)
- Although enrollment is down across all schools, the small student body at Ashby will be down to a single class per grade in all grades but one in FY2023. By 2026, it is projected to reduce all grades to a single class. This phenomenon has created a challenging environment for staffing, as well as limited options for student placement. (Section 3.3)
- Ashby Elementary School's enrollment was the lowest by a wide margin among other K-4 schools in the comparison cohort, but the highest for gross square foot per student. (Section 3.3.2)
- Ashby Elementary School requires substantial and immediate repairs to remedy building code deficiencies, including asbestos and accessibility issues. Presently an entire wing of the school has been decommissioned due to asbestos and other deterioration. (Section 5.2.2)
- The estimated costs to address the minimum required work at Ashby Elementary School are $4.7M, however the estimate does not include the full scope necessary to modernize and update the facility. (Section 5.2.2)

Based on these key findings, the study team developed four alternatives for the District to consider as they determine a path forward. Three base assumptions were applied to the formulation of each alternative given their interrelated nature to facilities use, operations, and investment. Further detail is discussed in Section 7.1, though the assumptions are summarized below.

- Renovations to Hawthorne Brook, estimated to cost $15,130,000.
- Renovations to Spaulding Middle School, primarily to address accessibility issues, estimated to cost $625,000.
- The Keystone Collaborative lease agreement should be terminated upon expiration. This action will result in an annual revenue loss of approximately $400,000, however, the space is necessary to execute any of the alternatives, either permanently or temporarily.

Alternative #1 – Complete the Minimum Required Renovations to Ashby Elementary School (Section 7.2)

- The cost estimate for the renovations at Ashby Elementary School is based upon the 2020 Facility Condition Assessment, which has been updated to approximate a $4.7 million investment. According to the current operating agreement which considers enrollment, this cost would fall almost entirely to Ashby taxpayers.
- This alternative would result in significant excess capacity and have little impact on long-term operating costs. It would, however, maintain a District presence in each member town (a goal of the District), be the least disruptive to students, and align with an extremely important community sentiment as expressed during the public engagement process.

Alternative #2 – Renovate and Modernize Ashby; Redistrict (West) Townsend to Increase Enrollment at Ashby (Section 7.3)

- To modernize Ashby Elementary School and make the facility more inclusive, the scope should include expanding the building, specifically, relocating the cafeteria to the main level where it is accessible to all, as well as complete other improvements that would make the redistricting effort more palatable for Townsend families. This scope of work is estimated to cost $13 million, but would be shared by Ashby and Townsend, and be more likely to receive additional MSBA support.
- This alternative would require a very difficult, and likely highly controversial, redistricting effort that would not be guaranteed to result in the targeted two classes per grade.
- Ashby would benefit from the additional students by increasing programmatic and placement options, as well as find it easier to recruit and retain qualified teachers for special programs.

Alternative #3 – Move Ashby Students to Squannacook Early Childhood Center (Section 7.4)

- This is the most economical, and readily achievable, option. Other than minor renovations to Squannacook, primarily bringing the kitchen back to operational capacity as well as some cosmetic attention including painting, this alternative requires little capital outlay. There may be costs associated with an existing solar panel lease at Ashby Elementary School should the location be closed, but SECC could serve the students in its current configuration.
- Transportation costs (and travel time) would increase, and Ashby would lose an important piece of its community identity and charm.

Alternative #4 – Create a Regional Early Education Center; Ashby and Townsend K-1 attend Squannacook, 2-4 attend Spaulding Memorial (Section 7.5)

- This alternative is also an economical consideration, as implementation would require renovations to the area of Squannacook currently serving as Administration offices. The targeted space would create two additional classrooms for students totaling an estimated $965,000.
- Offers an opportunity for expanded and enhanced early childhood education, including capacity to potentially grow the pre-K program to include tuition-paying students. Class sizes are optimized at both Spaulding and SECC, with substantial expansion capacity available.
- Ashby K-4 students would face increased travel time (and cost); Ashby parents who participated in the public input process were strongly opposed to closure of Ashby Elementary.

The information that follows is intended to provide data in which to ground a discussion about the future of the District. The study team understands this is a sensitive and difficult discussion and makes no representation that any option is preferred over another. The decision ultimately rests with the School Committee and the Town Meetings in each member community, and the study team encourages challenging the data in this report as well as conducting additional research to help arrive at a decision that is in the best interest of the students and their communities.

1.2 Impetus for Study

The North Middlesex Regional School District (NMRSD) has experienced a considerable and sustained decline in enrollment over the past decade. At the same time, significant capital repairs have been deferred on Ashby Elementary School, which have resulted in substantial degradation of the facility and further, the closure of one wing within the school due to the presence of asbestos and other building issues. The facility also requires significant mechanical investments and has several areas with accessibility issues. In 2019, NMRSD commissioned facility condition assessments for Ashby Elementary School and Hawthorne Brook Middle School, which identified specific concerns at both facilities. The other NMRSD facilities are in good overall condition, though some space limitations exist and routine capital investments are needed. NMRSD determined declining enrollment and the corresponding per pupil expenditure increases warranted further investigation and discussion prior to developing a capital investment strategy.

With the Town of Pepperell as the lead applicant, NMRSD secured a grant from the Commonwealth Community Compact Cabinet's Best Practices Program. The Edward J. Collins, Jr. Center for Public Management (Collins Center or "study team") was engaged to conduct a study identifying facility alternatives and present the School Committee with capital investment options.

1.3 Methodology for Study

The Collins Center study team collected data from various sources, including NMRSD, the member towns, the Massachusetts Department of Elementary and Secondary Education (DESE), the Massachusetts Department of Revenue (DOR), the United States Census Bureau, and the US Bureau of Labor Statistics. The scope was designed to be flexible and adaptable as the study progressed, to allow the study team to focus on issues identified at each step. Initial interviews were conducted with the NMRSD Superintendent, his staff, and member town administrators. Data was collected from the sources noted above, and a first site visit was made to familiarize the study team with NMRSD facilities. This preliminary analysis included:

- Assembly and analysis of enrollment and financial information from NMRSD and DESE;

- Review of facilities data, including previous assessments, floor plans, capital expenditure trends, and other information from NMRSD facilities staff; and
- Collection of demographic data from the U.S. Census Bureau, the Massachusetts Department of Revenue, and other sources for NMRSD, member towns, and Middlesex County.

The preliminary analysis resulted in the compilation of baseline data, which was then used to inform the public engagement process and provide a foundation for discussing the challenges facing NMRSD. Based on enrollment and demographic trends observed in the initial analysis, and partially on the preliminary condition assessments of the elementary and middle school buildings (specifically Squannacook Early Childhood Center (SECC), Ashby Elementary School, and Hawthorne Brook Middle School), facilities issues emerged as a significant area of concern. A survey was deployed to gather public input, and a series of virtual public engagement sessions was held to collect public feedback. During these sessions, the baseline data assembled in the preliminary analysis was presented to guide the discussions. Additional information on the public engagement process is presented in Section 4.

Following completion of the public engagement plan, the results of the survey, public forums, and the baseline data were presented to the NMRSD School Committee for discussion and feedback. Based on the School Committee's input, additional research was conducted to develop a comparative cohort including like demographics, enrollments, and expenditure data. Middlesex County and Massachusetts information was also requested to support the context of later results. Anecdotal information garnered from School Committee members and community members during the public engagement sessions provided additional data surrounding residential growth and the potential for enrollment trends to reverse.

The comparative analysis, which considered per pupil expenditures across different categories (per DESE's uniform chart of account structure), class sizes, and available data on facilities, indicated that NMRSD was either at or below peer averages in almost all categories except those related to physical footprint. This, coupled with the demographic and enrollment trends, allowed the study team to focus on strategies for optimizing facilities usage.

The study team conducted additional site visits to Squannacook ECC and the elementary and middle schools with the intent of further refining available alternatives and cost estimates. Given the steady decline in enrollment at Ashby Elementary School and the significant investment required to keep the building open, the team focused on a more in-depth review of that facility as well as options to redistribute Ashby students to other buildings. Enrollment projections were completed using FY2022 data. Ultimately, class size modeling, construction scopes, and cost estimates were developed for four potential alternatives.

1.4 Structure of This Report

This report intends to chronologically present information about NMRSD, outlining community information and offering historical trends leading to present conditions. These present conditions include an in-depth look at the current state of school facilities and how well they are positioned to accommodate the predicted enrollment trends. As discussed in the previous section, the study was designed to be flexible, allowing for an adaptable and progressive report to be shaped as new information was revealed. The Table of Contents outlines the individual sections and subsections, but a general overview is as follows:

- **NMRSD/Community Overview –** Section 2 offers an overview of NMRSD and profiles of the member towns. Detailed population trends from census and state data are presented, as are projections from UMass's Donahue Center and available data on construction activity. This section is intended to provide

context to better understand why the region's low growth rate and aging population is presenting such a challenge for NMRSD.

- **NMRSD Trends –** Section 3 presents Districtwide and school-level enrollment trends, as well as an analysis of data showing how NMRSD compares to similar districts across the state.
- **Community Engagement –** Section 4 provides an overview of the Public Input Survey and Public Engagement Sessions. A full report on the survey is also included in the Appendices.
- **School Facilities –** Section 5 included assessments of all school facilities, including additional details on those facilities requiring significant investments. An assessment discussion previously completed on Hawthorne Brook Middle School and Ashby Elementary School and the general construction cost environment is also included in this section.
- **Enrollment Projections –** Section 6 presents the enrollment projections prepared for modeling the facilities usage analyses. This section also includes methodology. Note that this section is summary projections only. Complete projections are included in the Appendices.
- **Facilities Alternatives –** Section 7 presents four alternatives for adapting existing facilities to accommodate NMRSD students moving into the future. No recommendations are made; however, observations are presented with each alternative, including benefits and challenges.
- **NMRSD Operating Agreement –** Section 8 contains an overview of the operating agreement as well as an assessment of the agreement's compliance with Massachusetts guidelines on regional district operating agreements.
- **Appendices –** Various supporting and reference data are presented in Section 9.

2 North Middlesex Regional School District & Community Overview

This section provides an overview of the District and member towns, and includes information from Town websites, publicly available data from state and federal sources, and other publicly available sources.

2.1 District Overview

NMRSD was established in 1956 to provide education to the students of the towns of Ashby, Dunstable, Pepperell, and Townsend. It is not clear from the original operating agreement and subsequent amendments what grades were originally included or if any or all the towns retained a local district. Over the years, Ashby and Pepperell withdrew, then rejoined; and Dunstable withdrew, leaving the district with its current member towns and inclusive of all grades K-12 as of 1970. Also in 1970, the apportionment of both capital and operating costs was established to assess *operating based on districtwide enrollment per town and capital costs for improvement (including debt service) based on pupils enrolled at that school*. The NMRSD Operating Agreement is discussed in Section 8; however, this is an important point to keep in mind when reading subsequent sections.

NMRSD is served by a nine-member Regional School Committee. Committee members are elected, with three at-large, three from Pepperell, two from Townsend, and one member from Ashby. Consistent with Massachusetts General Laws Chapter 71, the School Committee is charged with developing and appraising educational, financial, and operational goals, policies, and procedures for the regional District, and employing a Superintendent to implement and administer the same.

NMRSD operates seven schools:

- Squannacook ECC, a preschool serving students from all member towns, located in Townsend;
- Ashby Elementary School, serving kindergarten through 4th grade students from Ashby, located in Ashby;
- Spaulding Memorial School, serving kindergarten through 4th grade students from Townsend, located in Townsend;
- Varnum Brook Elementary School, serving kindergarten through 4th grade students from Pepperell as well as NMRSD elementary special education program, located in Pepperell;
- Hawthorne Brook Middle School, serving 5th through 8th grade students from Ashby and Townsend, located in Townsend;
- Nissitissit Middle School, serving 5th through 8th grade students from Pepperell, located in Pepperell; and
- North Middlesex Regional High School, serving 9th through 12th grade students from all member towns, located in Townsend.

NMRSD is geographically one of the larger regional K-12 districts in the state and generally serves a rural population with little industry remaining in the region. Each community is becoming increasingly residential with the bulk of the remaining commercial activity being service-oriented. All three communities are aging (discussed in Section 2.5), growth-targeting economic development is not a priority, and enrollment across NMRSD has steadily declined over the past decade. As such, NMRSD faces significant fiscal challenges each year; and there is not sufficient new growth to support the increasing costs of education under the current configuration.

2.2 Ashby Community Profile

Ashby was first settled in 1676 and was officially incorporated in 1767. The town was formed from portions of Townsend, Lunenburg, Fitchburg, and Dorchester-Canada (a portion of Ashburnham). Though some mills existed in the town, the community remained primarily an agricultural one with most of the land being used historically for farming through 1900s. Ashby was at one time home to numerous apple orchards the remnants of which can still be found in the woods behind present day homes.

Still a small town today, Ashby is primarily a residential community consisting almost entirely of single-family homes and a limited number of businesses. Ashby includes a large portion of the Willard Brook State Forest, including Damon Pond, Trap Falls, and hiking trails. Willard Brook contains 2,597 acres of land of varied terrain. Ashby also hosts several community events each year including the Ashby 3 July Bonfire, Summer Night Band Concerts on The Common, 9/11 Ceremony, Winter Holiday Band Concert, Farmers Markets on The Common, and more.

2.2.1 Government

Ashby has an Open Town Meeting form of government with a three-member elected Selectboard acting as the Chief Executive Office. The Selectboard appoints the Town Administrator who serves as the Chief Administrative Officer to manage the day-to-day operations of the town. Ashby has several elected and appointed boards and committees who also serve the town. According to Town Bylaws, Annual Town Meeting is held on the first Saturday in May each year and the Annual Town Election is held the fourth Monday in April each year.

2.2.2 Demographics

According to US Census 2020 data, the Ashby population is comprised of 3,193 residents, which makes it the least populous municipality in Middlesex County. The median age of residents is 50.3, which is about 25% higher than the median Massachusetts age of 39.6. The race and ethnicity of residents are reported as 94% white, 1% Asian, 2% Hispanic, and 3% as two or more races/ethnicities. The median household income is $97,269, which is about 20% higher than the Massachusetts median income of $84,385. The town has approximately 1,320 units of housing. 93% are owner-occupied and 97% are single unit homes. The median home value for owner-occupied homes is $272,500. Population trends are discussed in further detail in Section 2.5.

2.2.3 Economy

Per the Massachusetts Department of Revenue (DOR) FY22 data, Ashby has a total assessed value of approximately $401M, of which residential comprises 93% and commercial, industrial, and personal property (CIP) comprise about 7%. The single tax rate is 17.69%. The town's total revenue receipts were $9.2M in FY22. Of the total revenue, 77% is tax levy and State Aid contributes 7%. Local receipts and other comprise the rest. The Massachusetts Department of Labor Employment and Wages (ES-202) Quarterly Report dated March 2021, reports that Ashby had a total of 89 industry establishments, employing 359 people with the majority being in construction and goods producing.

Ashby is a member town of the Montachusett Regional Planning Commission (MRPC). The Montachusett Region Comprehensive Economic Development Strategy (MRCEDS), which is an MRPC local resource, is updated every five years to assist member towns. MRPC also provides ongoing staff support to the region's Comprehensive Economic Development Committee (CEDC), which meets jointly at least three times per year and provides technical resources and grant assistance to area towns. Programs include Expedited Permitting Program (Chapter 43D), Brownfield site assessments, and the Community Development Block Grant (CDBG) program. Labor Force and Employment data included in MRCEDS report, states that educational services, healthcare and social assistance, manufacturing, and retail trade represent largest employing industries in the region.

2.2.4 Geography

According to the United States Census Bureau, the town has a total area of 24.2 square miles, of which 23.8 square miles is land and 0.4 square miles is water. Located at the northwestern corner of Middlesex County, Ashby is bordered by New Ipswich, New Hampshire, and Mason, New Hampshire, Townsend , Lunenburg, and Ashburnham.

2.2.5 Transportation

Route 31 and Route 119 run through Ashby. The routes overlap to the east of the town center. Ashby belongs to the Montachusett Regional Transit Authority (MRTA), but there is no direct public transportation other than paratransit services with the nearest service in the city of Fitchburg to the south.

2.3 Townsend Community Profile

Townsend was first settled in 1676 in an area known by indigenous people of the area as Wistequassuck and was incorporated in 1732. Named after Charles Townshend, the town initially used the same spelling, but the "h" was dropped in patriotic fervor following the Townshend Acts of 1767.

As the 19th Century progressed, manufacturing interests grew; and Townsend also had many farms. Manufacturing included the production of stockings, clothing, pails, and tubs. The major industry, however, was the production of coopering stock. Once the railroad came to town, many of the goods produced were shipped via railroad, which furthered the development of industry. With the quicker mode of transportation, local farms were also able to increase their production and delivery. As was true of much of New England, however, by the middle of the 20th Century, many manufacturing and agricultural businesses began to slow.

Since then, Townsend has become a suburban residential town with a local service industry and has retained its rural character. The town adopted its current governing charter in 1999, and Memorial Hall was restored 10 years later. In 2007, Townsend celebrated its 275th anniversary with many activities and a parade.

2.3.1 Government

Townsend has an Open Town Meeting form of government with a three-member elected Select Board. The Select Board is deemed to be the Chief Executive Office of the town. They serve as the chief policy-setting body in town.

The Select Board appoints the Town Administrator, who serves as the Chief Administrative Officer of the town under the direction of the Select Board, to manage the day-to-day operations of the town. Per the Townsend Bylaws, Town Meeting is held on the first Tuesday in May each year and requires no fewer than 75 voters as a quorum to conduct town business. The Annual Town Election is held on the fourth Monday in April each year. Townsend has many appointed and elected boards, committees, and commissions including the Board of Health, Board of Water Commissioners, Conservation Commission, Capital Planning Committee, Finance Committee, Planning Board, Recreation Commission, and Zoning Board of Appeals.

2.3.2 Demographics

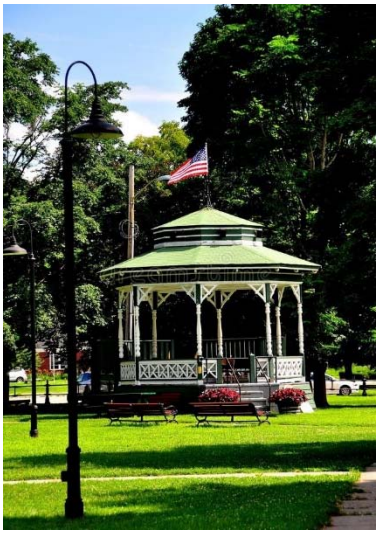
According to US Census 2020 data, the Townsend population is comprised of 9,127 residents. The median age of residents is 41.3 years compared to the median Massachusetts age of 39.6. Race and ethnicity of residents are 93% white, 1.6% Asian, 3.5% Hispanic or Latino, 1.3% African American or Black alone, and 3% as two or more races. The median household income is $97,462 which is about 11% higher than the Massachusetts median income of $84,385. Townsend has 85%, or 3.571 households, that are owner-occupied with a median home value for owner-occupied homes of $302,300. Additional demographic information and trends are presented in Section 2.5.

2.3.3 Economy

Per the Massachusetts Department of Revenue (DOR) FY22 data, Townsend has a total assessed value of approximately $1.1B, of which residential comprises about 92% and commercial, industrial, and personal property (CIP) 8%. The single tax rate is $17.61. The town's total revenue receipts were approximately $25M in FY22. Of the total revenue, approximately 80% is tax levy, local receipts are 7%, and State Aid contributes 7%. Other comprises the remaining 6%. The Massachusetts Department of Labor Employment and Wages (ES-202) Quarterly Report dated March 2021, reports that Townsend had a total of 214 industry establishments, with the majority being in construction and goods producing, educational, health and other services, and manufacturing.

2.3.4 Geography

According to the United States Census Bureau, the total area of Townsend is 33.1 square miles, of which 32.9 square miles is land and .2 square miles is water. The Squannacook River headwaters flow from the town's western hills. Townsend is bordered by Mason, New Hampshire and Brookline, New Hampshire to the north, Pepperell to the east, Groton and Shirley to the southeast, Lunenburg to the south, and Ashby to the west.



2.3.5 Transportation

For automobile transportation, Townsend is served by Route 119 , which runs east-west through Townsend, and Route 13, which runs north-south. The Fitchburg MBTA Commuter Rail Station, which is a part of the Fitchburg line, is the closest station to Townsend. It is located approximately 8.3 miles from Townsend and offers service from Fitchburg to Boston. The Townsend Council on Aging also offers a Roadrunner Van by appointment for residents.

2.4 Pepperell Community Profile

Pepperell was first settled in 1720 as a part of Groton, and was officially incorporated as its own town in 1775. The founders named it after Sir William Pepperrell, a Massachusetts colonial soldier who led the Siege of Louisbourg during King George's War. The town was noted for its good soil and orchards. By 1837, when the population was 1,586, Pepperell had three paper mills. The local mills also produced palm leaf hats, boots, and shoes.

The town also became known for its railroad stations along the Nashua River from 1848 through the 1940s. In 2001, what had been the railroad corridor to transport goods was paved over to become a part of the Nashua River Rail Trail, which remains a popular recreational trail today. One of only three covered bridges on public Massachusetts roads that is open to vehicular traffic (and the only one east of the Connecticut River) is located on Groton Street in Pepperell.

Today, Pepperell is a primarily residential community with a rural character and many trails, parks, and conservation areas including Bemis Road, Gulf Brook, Heald Street Orchard, Nashua River Islands, Pepperell Springs Conservation Area, Nissitissit Meadows and more. With a small historic downtown, it has a New England small-town feel and hosts many community events including the Annual July 4th Parade and the Fall Festival.

2.4.1 Government

Pepperell has an Open Town Meeting form of government with a three-member elected Select Board. According to the Town Charter, the Select Board are deemed to be the Chief Executive Office of the Town. They serve as the chief policymaking agency and licensing authority. The Select Board appoints the Town Administrator, who serves as the Chief Administrative Officer of the town under the direction of the Select Board, to carry out the daily business and long-term planning for Pepperell. Per the Town Bylaws, Town Meeting is held on the fourth Monday in April each year and requires no fewer than 75 voters as a quorum to conduct town business. The Annual Town Election is held on the fourth Monday in April each year. Pepperell has numerous appointed and elected boards, committees, and commissions including the Conservation Commission, Finance Committee, Commission on Disability, Board of Assessors, Planning Board, Zoning Board of Appeals, and more.

2.4.2 Demographics

According to US Census 2020 data, the Pepperell population is comprised of 11,604 residents and includes the village of East Pepperell. The median age of residents is 42.6 years, which is about 10% higher than the median Massachusetts age of 39.6. The race and ethnicity of residents are reported as 91% white, 5% Asian, 2% Hispanic or Latino, 1% African American or Black alone, and 1% as two or more races/ethnicities. The median household income is $105,377, which is about 12% higher than the Massachusetts median income of $84,385. The town has approximately 4,571 units of housing. 79% are owner-occupied. The median home value for owner-occupied homes is $364,700.

2.4.3 Economy

Per the Massachusetts Department of Revenue (DOR) FY22 data, Pepperell has a total assessed value of approximately $1.5B, of which residential comprises about 94% and commercial, industrial, and personal property (CIP) 6%. The single tax rate is $17.15. The town's total revenue receipts were $31M in FY22. Of the total revenue, approximately 83% is tax levy, local receipts are 9%, and State Aid contributes 6%. Other comprises the remaining 2%. The Massachusetts Department of Labor Employment and Wages (ES-202) Quarterly Report dated March 2021, reports that Pepperell had a total of 273 industry establishments, with the majority being in construction and goods producing, educational and health services, and manufacturing.

Pepperell began the process of revising their Master Plan in 2019; and it is focused on economic development appropriate to the town's character. Draft goals include 1) to re-establish the Economic Advisory Committee (EDAC)), 2) to build upon the EDSAT Study and encourage private investment through active outreach, 3) to encourage attraction of small business to develop sustainable economy, 4) to redevelop the Peter Fitzpatrick School and former Pepperell Paper Mill for economic growth, and more.

2.4.4 Geography

According to the United States Census Bureau, the town has a total area of 23.2 square miles, of which 22.6 square miles is land and 0.6 square miles is water. Pepperell is located at the confluence of the Nissitissit River with the Nashua River. Pepperell borders Brookline and Hollis, New Hampshire to the north, Dunstable to the east, Groton to the south, Townsend to the west.

2.4.5 Transportation

For automobile transportation, Pepperell is served by state routes 111, 113, and 119. The closest MBTA Commuter Rail Station, which is a part of the Fitchburg line, is located approximately 8 miles from Pepperell and offer service from Fitchburg to Boston. The Pepperell Council on Aging also offers a van service, by appointment, for residents with disabilities and seniors in the local service area.

2.5 Population Trends

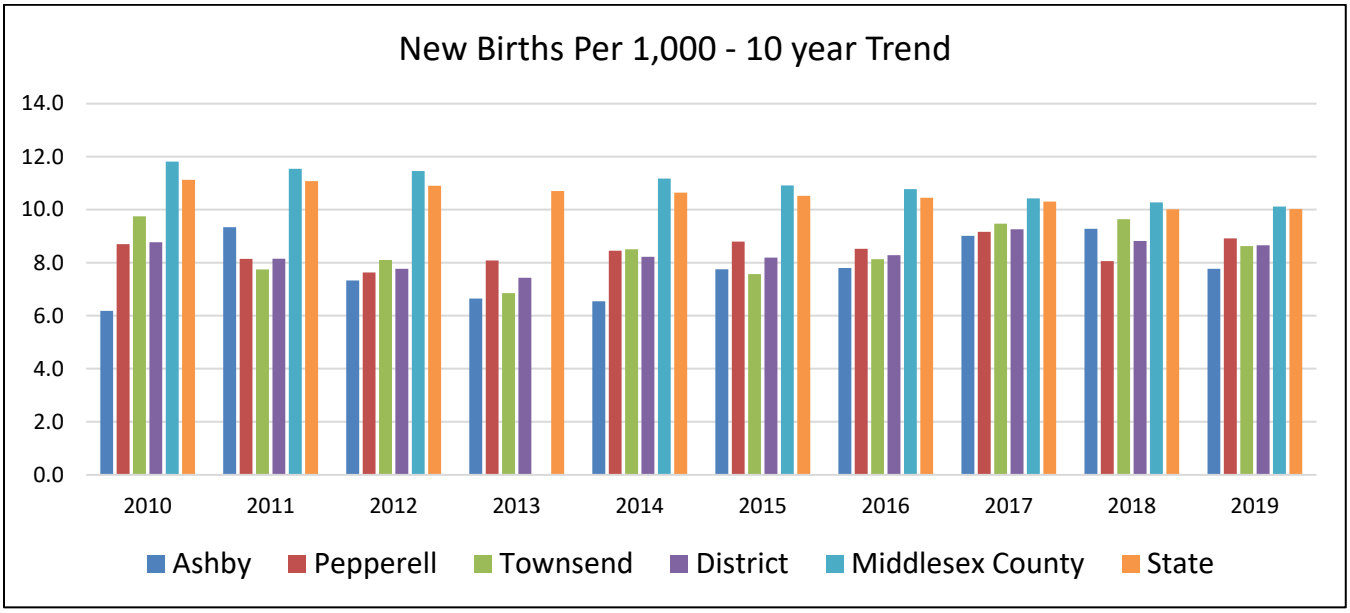
Like many rural communities in central and western Massachusetts, the NMRSD member towns have seen minimal growth in the past decade. This is especially noticeable when comparing NMRSD towns 10-year growth of 1.82% to Massachusetts overall, and even more so in comparison with the rest of Middlesex County, which, at 8.58%, has exceeded the state average of 7.37%.

2010 vs. 2020 Census Comparison

			2010 vs. 2020	
	2010	**2020**	**Pop. Inc.**	**As %**
Ashby	3,074	3,193	119	3.87%
Pepperell	11,497	11,604	107	0.93%

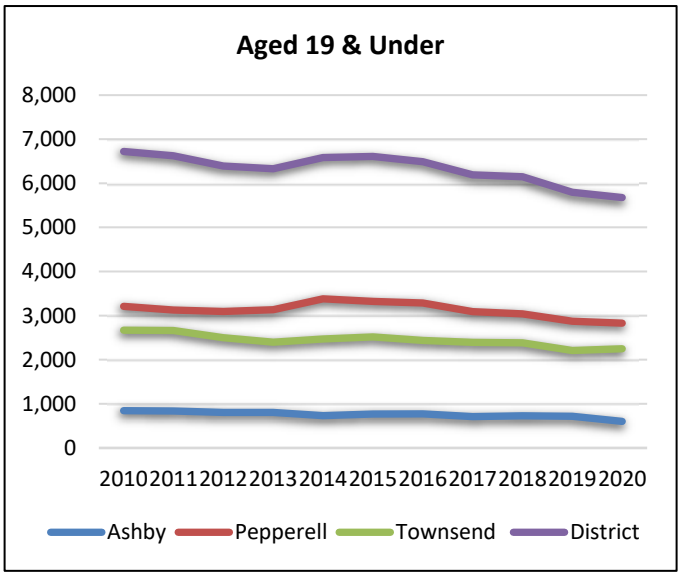
Townsend	8,926	9,127	201	2.25%
North Middlesex RSD	23,497	23,924	427	1.82%
Middlesex County	1,503,085	1,632,002	128,917	8.58%
Massachusetts	6,547,629	7,029,917	482,288	7.37%

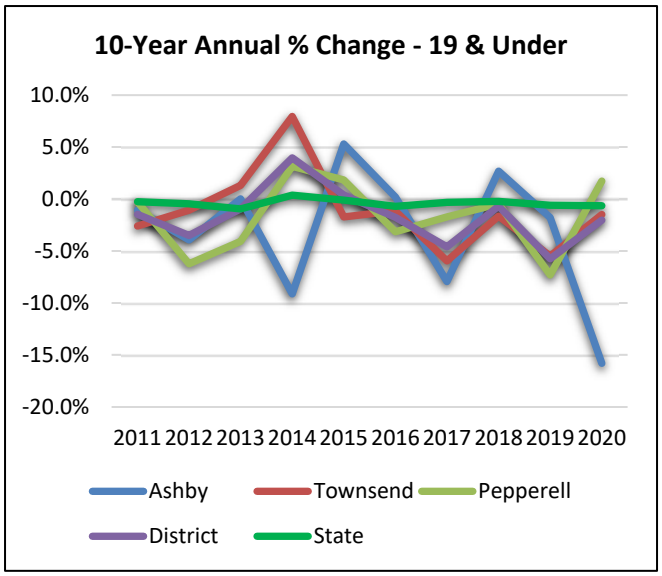
There are no indications that this trend will abate in the future, as new births in the three-member towns continue to significantly lag that of the county and state. Although this gap has closed slightly in recent years, the relatively small size of the town populations has not resulted in a significant reversal of overall population trends.

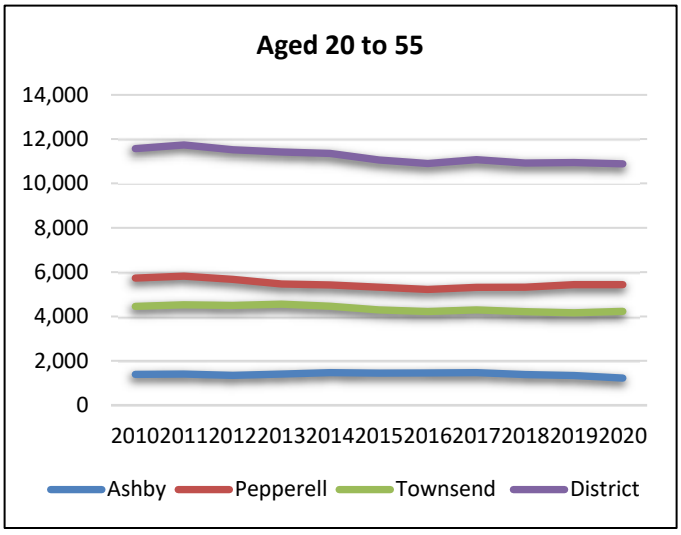


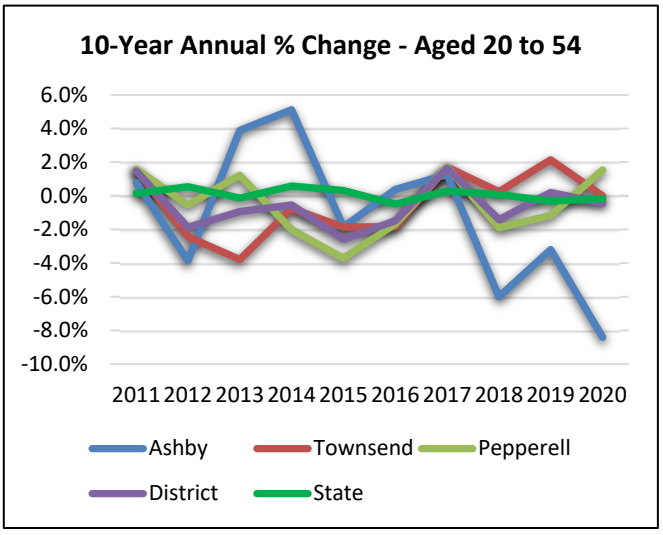
What is most concerning for the future of the NMRSD are the aging trends found in the member towns. The small amount of population growth in the past 10 years is largely attributable to the growth of 55 and over residents, which is a group unlikely to contribute to future enrollment. The number of residents aged 19 and under, as well as those residents aged 20 to 54, has steadily declined from the 2010 census counts. This trend, as with population growth, is magnified even further when comparing to the state and county.

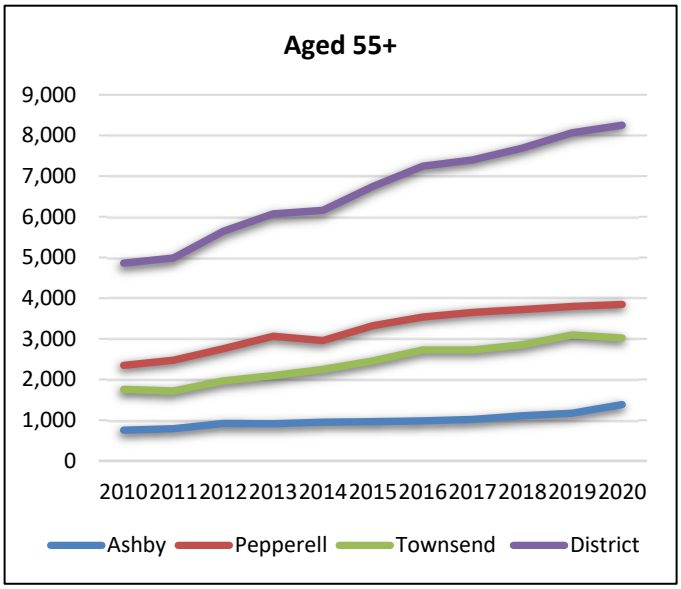
The charts below illustrate total populations by broad age category, in each member town as well as NMRSD, and additionally compare the rates of growth to that found in Massachusetts as a whole (where such data is available).

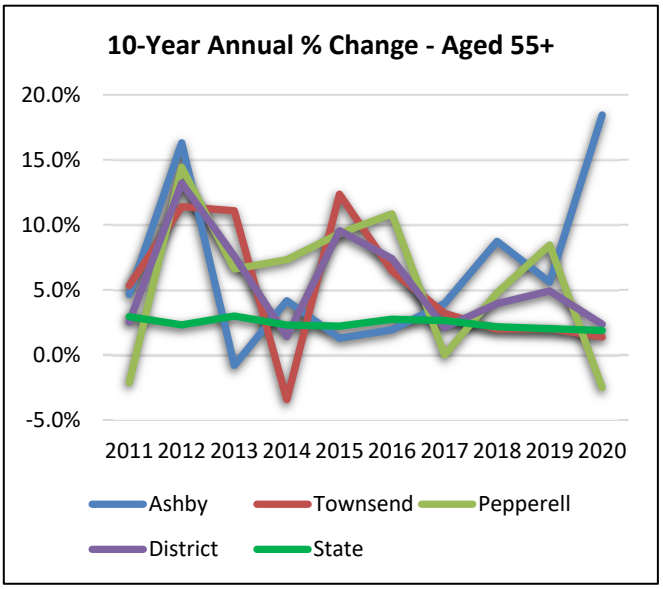












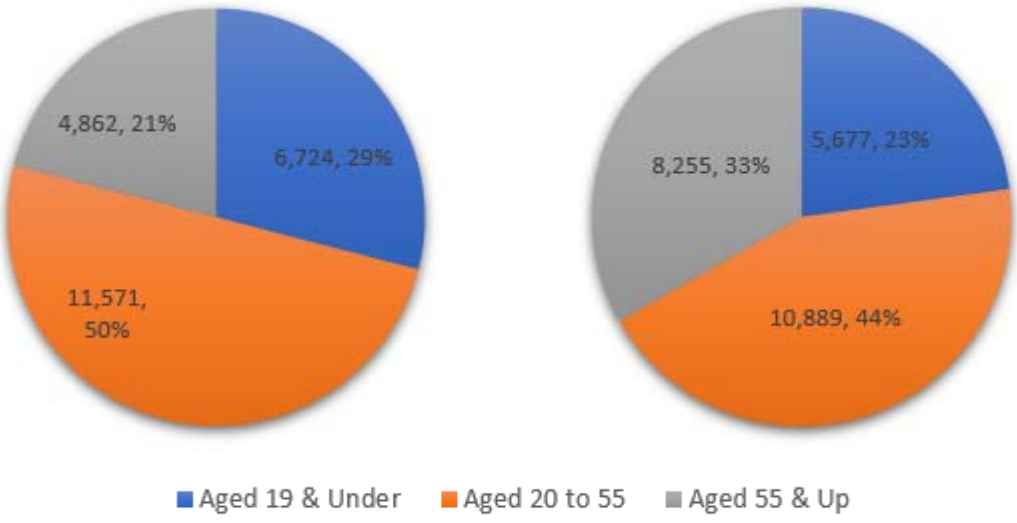
Median age data is consistent with this trend, and further illustrates the challenge facing NMRSD, especially within the town of Ashby, where the 10-year increase in median age of 8.5 years is in stark contrast to the Statewide average increase of 0.9 years. A more modest increase is depicted in Pepperell and Townsend, at 2.6 years and 2.1 years respectively.

Median Age

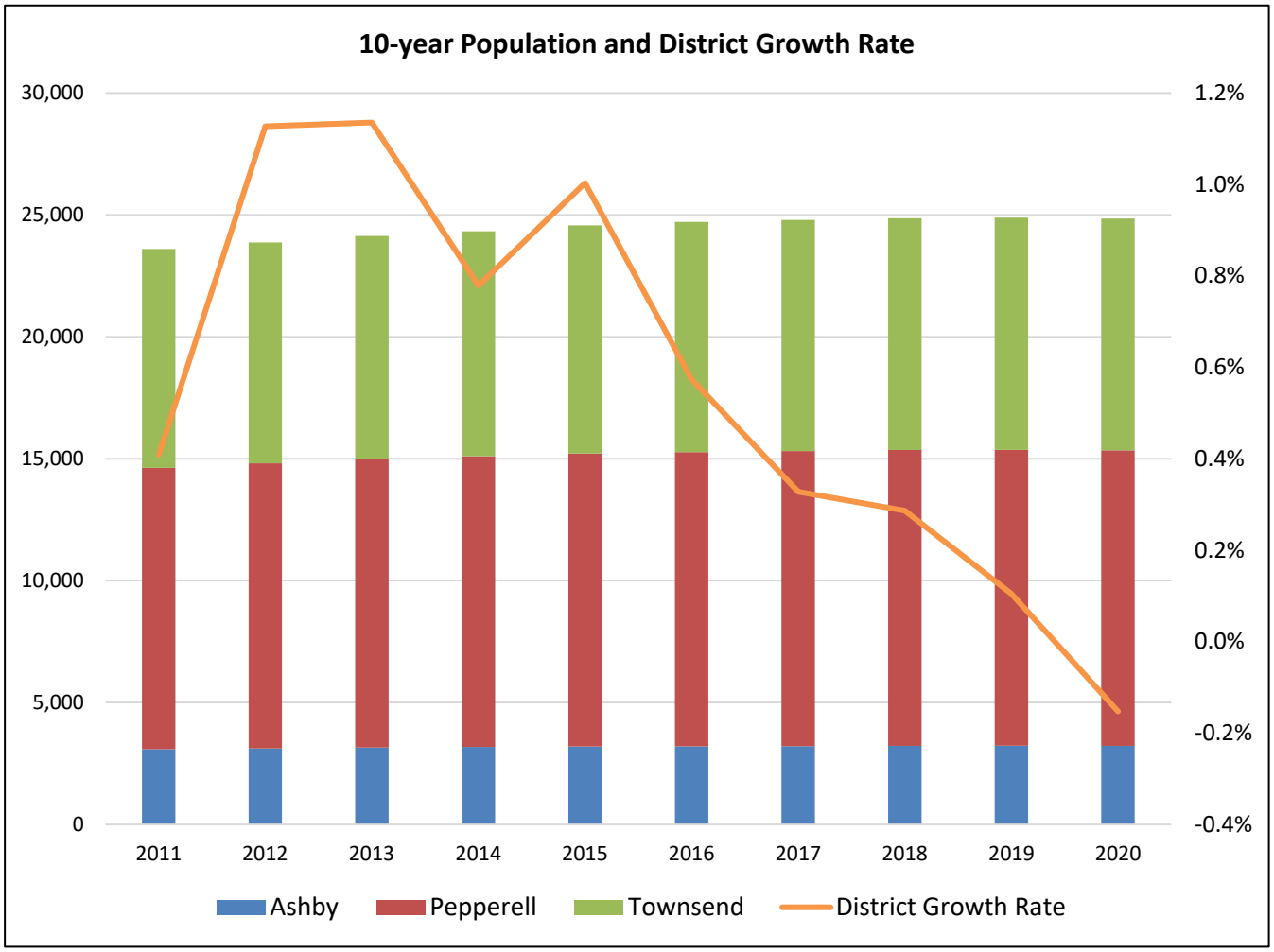
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	10-Yr Chg.
Ashby	41.8	43.1	43.8	44.8	45.8	45.5	45.4	45.9	46.9	45.9	50.3	8.5
Pepperell	40	40.6	42	43.1	42.3	42.8	43.5	42.9	42.8	44	42.6	2.6
Townsend	39.2	39.5	40.1	41.1	39.6	39.5	39.8	39.6	39.9	43.2	41.3	2.1
Massachusetts	38.7	38.9	39.1	39.2	39.3	39.3	39.4	39.4	39.4	39.5	39.6	0.9

When viewed graphically, the shift in population ages is very clear. NMRSD is aging at a significant rate, resulting in a population mix that is less likely to produce an increase in the number of school-age children.

2010 vs 2020 Age Comparison - Census



Compared to 2010, the populations of ages 19 & under and ages 20-54 have declined 15.6% and 5.9%, respectively, while the population over 55 has increased nearly 70%. This population aging, combined with the general slow rate of growth across Ashby, Townsend, and Pepperell, as compared with Middlesex County and Massachusetts overall, has had a dramatic impact on enrollment trends, as shown in the chart below.



Enrollment trends will be discussed in greater detail in Section 3, but it is a useful illustration to show the overall NMRSD growth relative to the changes in population experienced by the member towns.

3 North Middlesex Regional School District Trends

3.1 Overview

This study collected enrollment data from the school year commencing in 2010 (Fiscal Year 2011, or FY2011, and sometimes noted as SY2010-2011, or SY11). Fiscal data was collected beginning in FY2012, as that was the earliest data set in which the account structure was consistent and could be easily aligned through the year. Enrollment data is presented most often as Fiscal Year to align with the expenditure data, however a data point noting, for example, FY2011 refers to enrollment as of October 1, 2010. Further, enrollment comparisons and other comparisons made between districts rely on FY2020 data, as that is the most recent full data available from DESE.

Using FY2020 data for the comparative analysis also allows for trends to be observed without the impact of the COVID-19 pandemic disrupting the data. With the closure of schools across the state in early 2020, enrollment data for FY2021 was highly influenced (as shown in various charts below). Further, with the massive amount of federal and state stimulus and relief funding, the shift in the types of accounts and funds used for many expenditures, combined with delivery model adjustments to instruction for both remote and hybrid models, the data for FY2021 is highly variable and unreliable, therefore, unsuitable for a valid comparative or trend analysis.

3.1.1 Enrollment Trends

Enrollment trends were compiled using data provided primarily by DESE's October 1 standards. This uniform and publicly available metric allows valid comparisons between all Massachusetts schools. Further, some of the analysis which follows, including average class sizes and classroom utilization, also relies upon data provided by NMRSD for two reasons: 1) the data is not collected by DESE and thus not available for comparative analysis, and/or 2) DESE data does not adequately illustrate how classrooms are actually used based on a school's unique spaces, student needs, and staff expertise. The enrollment trends also provide the basis for the enrollment projections presented later in Section 6, which in turn inform the space utilizations considered in the facility alternatives presented in Section 7.

It should be noted, as the study progressed, the elementary school data comparisons against cohort districts displayed a disparity, which spurred additional research. The study team opted to present more detail surrounding the elementary schools primarily due to the unique circumstances which unfolded in the Ashby Elementary School enrollment and facility conditions data, which are discussed later in this section and in Section 5.2.

3.1.2 Cohort Comparative Analysis

To align the various metrics, trends, and indicators on enrollment, space utilization, and expenditures, the study team developed a cohort of 25 districts upon which to base comparison. As district size, grades served, and available resources are such important aspects of the operating environment, the study team used certain criteria to select the cohort. The criteria were as follows; 1) enrollment +/- 500 students of NMRSD FY2020 enrollment; 2) Districts serving grades PK-12; and 3) Relative District Wealth falling below 100%. Relative District Wealth is an indicator of community wealth (personal income and property value) calculated by DESE for the Chapter 70 aid program. A district at 100% Relative District Wealth has the capacity to fully fund its foundation budget. Districts under 100% have lower personal income and property value, thus are considered less wealthy whereas districts above the 100% threshold are determined to be wealthier.

The comparative data that follows in this section includes FY2020 data (from DESE) on each of the districts in this cohort, which are listed in the table below.

North Middlesex Regional School District

Comparative 25 District Analysis - FY2020 Data

District Name	District Type	County	# of Schools	District Sq. Miles	FY 2020 Enrollment	FY 2020 Teacher FTE	Teachers per 100 Students	*Relative District Wealth
Ashland	Municipal	Middlesex	5	12	2,849	202	7.1	74%
Auburn	Municipal	Worcester	5	15	2,636	186	7.0	56%
Bedford	Municipal	Middlesex	4	14	2,689	237	8.8	91%
Danvers	Municipal	Essex	7	13	3,417	265	7.8	89%
Dartmouth	Municipal	Bristol	6	61	3,580	274	7.6	85%
Dighton-Rehoboth	Regional	Bristol	5	70	2,850	220	7.7	64%
Easton	Municipal	Bristol	6	29	3,579	258	7.2	77%
Freetown-Lakeville	Regional	Bristol	5	72	2,832	199	7.0	68%
Grafton	Municipal	Worcester	6	23	3,205	238	7.4	69%
Hampden-Wilbraham	Regional	Hampden	7	42	3,005	212	7.0	67%
Hanover	Municipal	Plymouth	5	16	2,649	194	7.3	78%
Holliston	Municipal	Middlesex	4	19	2,910	213	7.3	72%
Longmeadow	Municipal	Hampden	6	9	2,847	244	8.6	84%
Middleborough	Municipal	Plymouth	5	69	2,989	218	7.3	51%
Nashoba	Regional	Worcester	6	66	3,180	260	8.2	83%
North Middlesex	**Regional**	**Middlesex**	**7**	**80**	**3,090**	**247**	**8.0**	**56%**
Northampton	Municipal	Hampshire	6	34	2,698	236	8.7	90%
Norwood	Municipal	Norfolk	8	10	3,490	280	8.0	66%
Pembroke	Municipal	Plymouth	5	22	2,723	190	7.0	57%
Randolph	Municipal	Norfolk	6	10	2,742	249	9.1	88%
Saugus	Municipal	Essex	6	11	2,607	211	8.1	88%
Stoughton	Municipal	Norfolk	8	16	3,492	302	8.7	62%
Tewksbury	Municipal	Middlesex	7	21	3,348	261	7.8	84%
Wakefield	Municipal	Middlesex	7	7	3,485	264	7.6	92%
Wilmington	Municipal	Middlesex	8	17	3,166	271	8.5	80%
		Average	**6.0**	**30.3**	**3,042**	**237.2**	**7.8**	**75%**
		Median	**6.0**	**18.6**	**2,989**	**237.9**	**7.7**	**77%**
		NMRSD +/- Avg.	**1.0**	**49.9**	**48**	**10.2**	**0.2**	**-19%**
		NRMSD Rank	**4**	**1**	**11**	**11**	**10**	**24**

3.1.3 Per Pupil Expenditure (PPE) Data

Historical General Fund expenditures were analyzed with the objective of presenting a per pupil expenditure (PPE) base leveraging DESE's 10 standardized primary account function codes. DESE mandates all schools utilize a Uniform Chart of Accounts (UCOA), which helps to ensure that all expenditures are reported consistently, and cross district comparisons are appropriate. This method of comparative analysis enabled the identification of specific cost areas where NMRSD exceeded the industry, as well as recognize those areas where NMRSD was already operating leanly, thus additional cost savings opportunities are unlikely. Depending on the expenditure

category and available data, PPE is presented at the school, district, cohort, and state level for each of the functional categories.

For the purposes of this report, certain District-wide and central office line-item accounts were reallocated across the different schools. Reallocations were made to ensure that grand totals matched DESE's data, as DESE presents their data on a district basis, not at the individual school level and therefore includes administration costs that are not necessarily assigned to a particular location code (school) in the account structure. The cost drivers used for this allocation are relatively straightforward, relying on enrollment to allocate Administration and Instructional Services (Teachers, Other Teaching Services, Professional Development, Instructional Materials/Tech, Guidance/Counseling, and Pupil Services) while Operations/Maintenance is allocated using facilities square footage. Benefits & Fixed Charges are allocated using total payroll at each school as employee benefits are the largest share of this function category. While these allocations certainly allow for some margin of error, they nonetheless provide a useful comparison within NMRSD and with the 25-district cohort.

Other allocation items to note include:

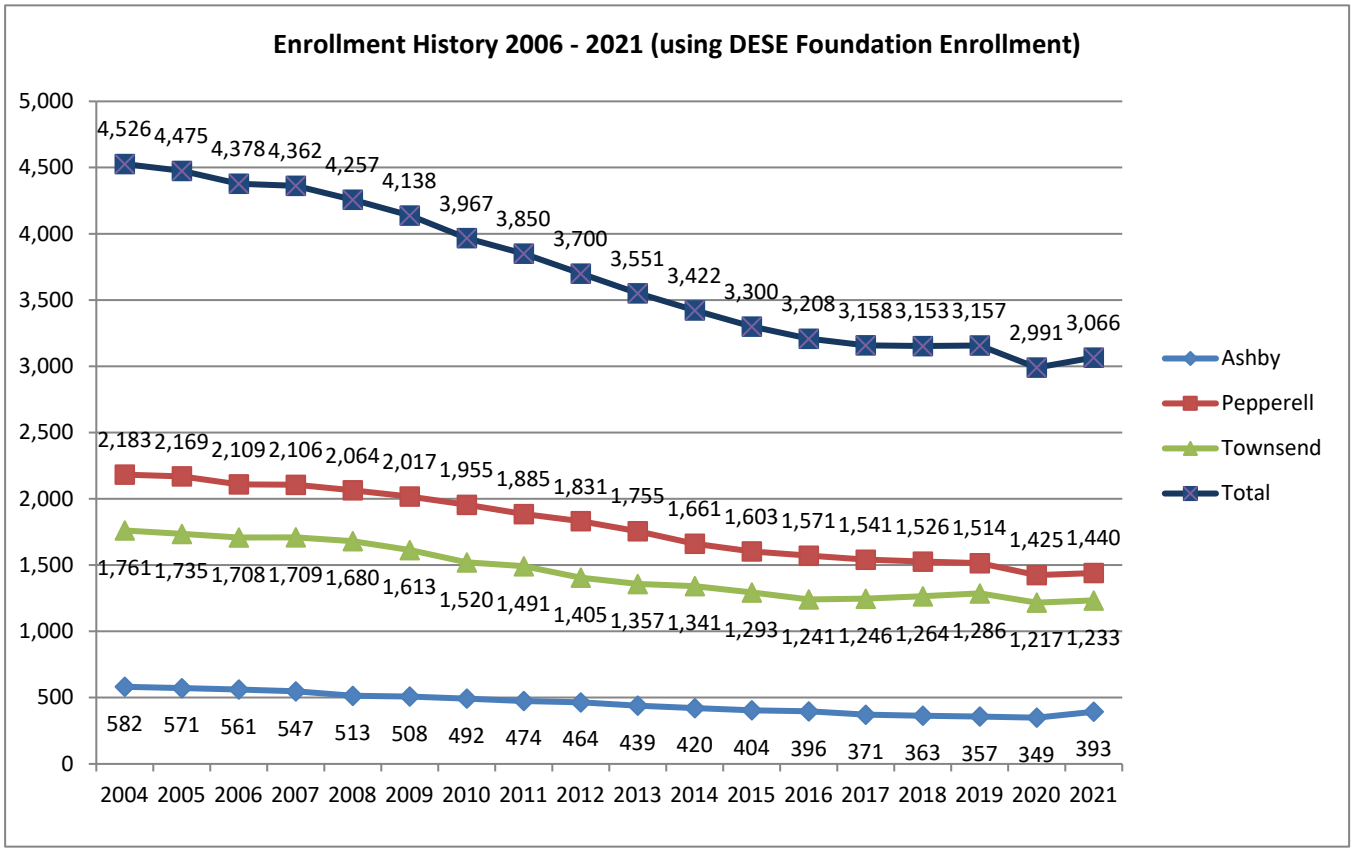
- Only in-District expenditures are considered for the school-level PPE.
- Many of these comparisons also exclude Squannacook as the facility is shared with both an outside collaborative and NMRSD administrative offices, as well as the generally high costs associated with pre-K programming.
- The closed portion of Ashby Elementary School is excluded from the Operations/Maintenance allocations because it has been completely segregated from building systems and is presently only utilized for storage.
- High School allocations are adjusted to account for the opening of the new school and reduced square footage.
- Annual enrollments at Peter Fitzpatrick School were excluded from the cost allocations, although DESE showed some students still attending up through FY2018.
- Some negligible expenditures appear through FY2013 in NMRSD accounts, but it is likely the expenditures for these 18-22 Gateway to Work Program students were accounted for elsewhere.

Finally, due to the potential for margin of error, caution should be exercised when comparing per pupil expenditures at the school level with those in comparable districts. The primary utility of the per school comparisons are for comparisons ***within*** NMRSD, as the costs adjustments and allocations used the same methodology across those schools. When presented together, the comparable district data is shown for general reference only, and not intended to be a fully exact comparison.

3.2 Districtwide Trends

3.2.1 Foundation Enrollment by Town

Enrollment has declined across all member towns as the population has declined. Foundation enrollment figures, which is the enrollment DESE uses in the calculation for Chapter 70 State Aid, is available for each member town and is shown below. Note that Foundation Enrollment differs slightly from their official October 1 data and is primarily resident students for whom the NMRSD is financially responsible. This includes children at charter schools, as well as resident children who attend other districts. Foundation Enrollment, as it is used in determining state aid and budgets, relies on actual data from two years prior, so the enrollment shown below is adjusted to reflect actual year of enrollment (i.e., the enrollment noted on the graph and table below for 2021 is enrollment as of October 1, 2021).



While not precise student enrollment at NMRSD buildings, it does illustrate the students in each town over time for comparison and trend analysis, effectively showing the "market" for students. Note that the table below shows the impact of the return to full-time, in-person learning following the COVID-19 pandemic. As assessments under the NMRSD operating agreement are based on these figures, the one-year change reflects the change in costs to the member towns for the FY2023 budget.

Change in Foundation Enrollment

DESE, as of Oct. 1

	15-year		10-year		5-year		1-year		Pre-COVID (2019)	
Town	**Enr.**	**as %**	**Enr.**	**as %**	**Enr**	**as %**	**Enr**	**as %**	**Enr.**	**as %**
Ashby	(168)	-29.9%	(81)	-17.1%	(3)	-0.8%	44	12.6%	36	10.1%
Pepperell	(669)	-31.7%	(445)	-23.6%	(131)	-8.3%	15	1.1%	(74)	-4.9%
Townsend	(475)	-27.8%	(258)	-17.3%	(8)	-0.6%	16	1.3%	(53)	-4.1%
District Total	**(1,312)**	**-30.0%**	**(784)**	**-20.4%**	**(142)**	**-4.4%**	**75**	**2.5%**	**(91)**	**-2.9%**

3.2.2 Districtwide Enrollment

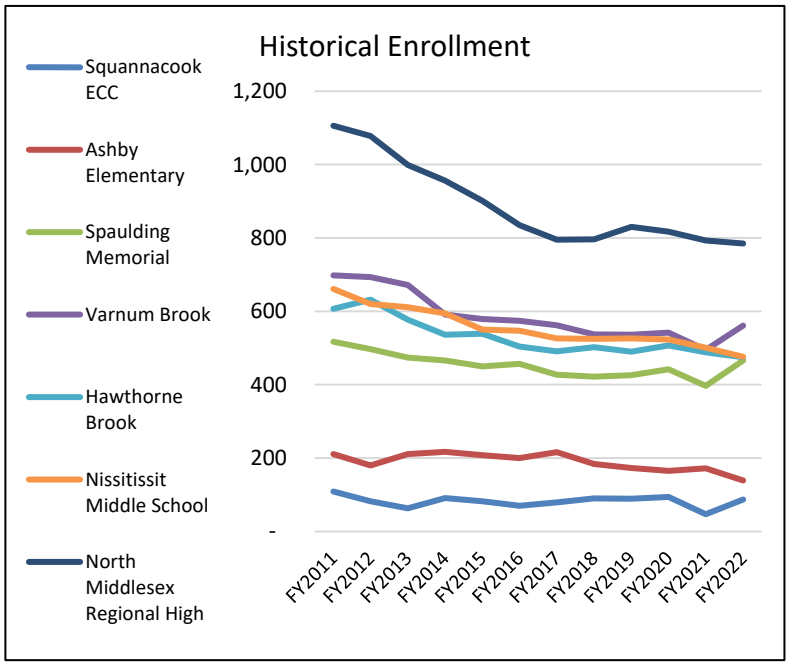
NMRSD has experienced a 17% decrease in enrollment over the past 10-years, which is reflective of the changes in population discussed in Section 2.5. Eight of the past ten years have seen a decline in enrollment, averaging -2.3% annually, although this metric is slightly skewed by the impact of the COVID-19 pandemic. Understanding the pandemic displayed an anomaly for districts nationwide, school years 2011 through 2020 were reviewed to confirm consistent enrollment trends. Enrollment was found to have declined by 21.1% between FY2011 and FY2020, further solidifying the downsizing tendency. Further, when analyzing the FY2020 through FY2022 enrollments as a three-year irregularity, a total of 81 students left NMRSD, therefore supporting a continual declining trend. The table below shows this trend by school from the school year commencing in 2012 until the current year.

North Middlesex Regional School District - All Schools

Enrollment as of Oct. 1 per DESE

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	10-year Change Pupils	10-year Change As %
Peter Fitzpatrick	1	2	1	10	10	18	-	-	-	-		
Squannacook ECC	63	91	82	70	79	90	89	94	47	87	24	38%
Ashby Elementary	211	217	208	200	216	184	173	165	172	139	(72)	-34%
Spaulding Memorial	474	466	450	457	427	422	426	442	397	466	(8)	-2%
Varnum Brook	672	591	579	574	562	537	536	542	495	561	(111)	-17%
Hawthorne Brook	577	536	539	504	491	502	490	507	488	475	(102)	-18%
Nissitissit Middle School	611	594	550	547	526	525	526	523	501	476	(135)	-22%
North Middlesex Regional High	999	956	901	835	795	796	830	817	793	785	(214)	-21%
District Total	**3,608**	**3,453**	**3,310**	**3,197**	**3,106**	**3,074**	**3,070**	**3,090**	**2,893**	**2,989**	**(619)**	**-17%**
Change over prior year	*(177)*	*(155)*	*(143)*	*(113)*	*(91)*	*(32)*	*(4)*	*20*	*(197)*	*96*		
as a %	-4.7%	-4.3%	-4.1%	-3.4%	-2.8%	-1.0%	-0.1%	0.7%	-6.4%	3.3%		

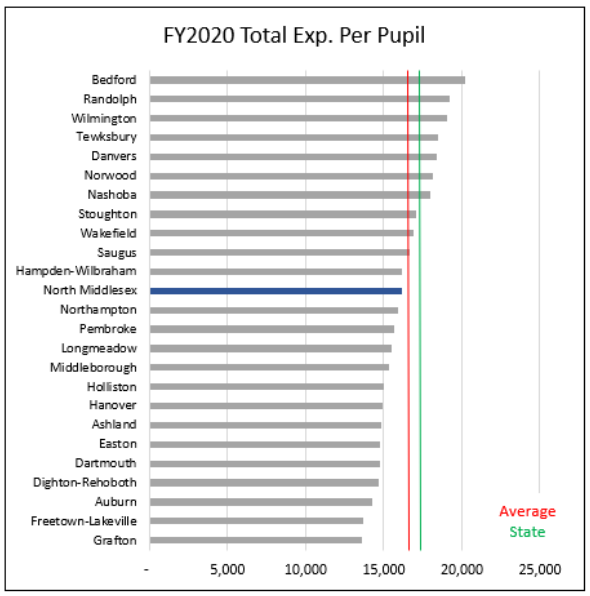
More specifically, following the return to in-person learning in FY2022 there was a slight uptick in enrollment at several schools, as illustrated by the chart on the right. While this increase is encouraging, it may be attributable to lower levels of parental concern over in-person learning environments and a sustained trend cannot be declared given the single data point. Further, the FY2022 enrollment number did not meet the FY2020 threshold of 3,090 students, it depicted a continued reduction again supporting the general declining assumptions. Therefore, the long-term trend remains a significant, and sustained, decline in enrollment.

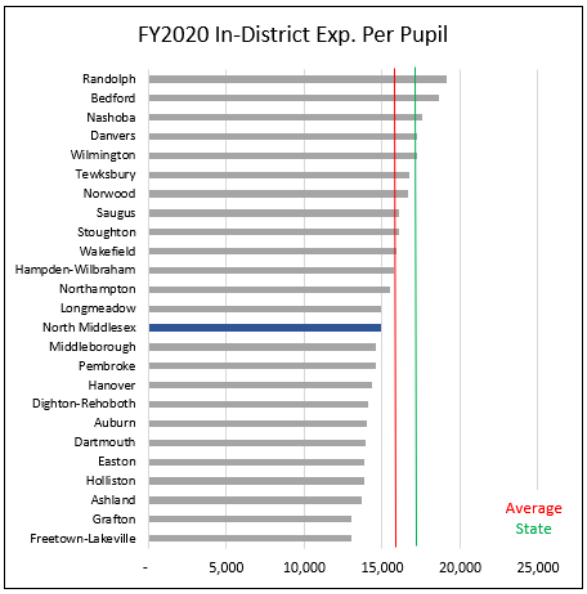


3.2.3 District Comparative Analysis

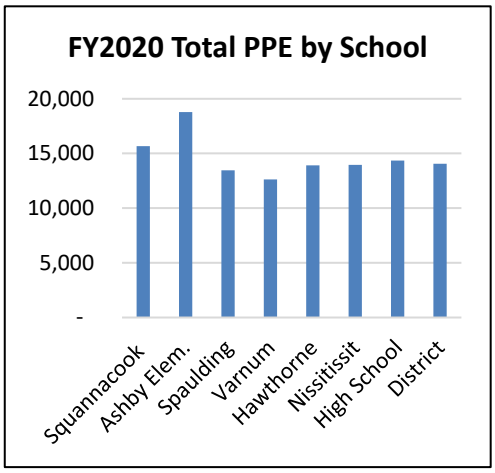
Total Expenditures Per Pupil – The chart to the left shows the FY2020 Total Expenditures Per Pupil, including out of District costs, while the chart on the right includes only in-District expenditures, across the cohort. NMRSD's total PPE was $16,163, below the cohort average of $16,298. The median was $15,930, indicating a good distribution across the cohort and resulting in NMRSD being ranked 12th. More specifically, NMRSD spent 94% of

the Total PPE for Massachusetts, which was $17,131. When considering only in-District spending, NMRSD spent $14,901 compared to the cohort average of $15,419 and state spending average of $16,984, ranking NMRSD 14th overall.

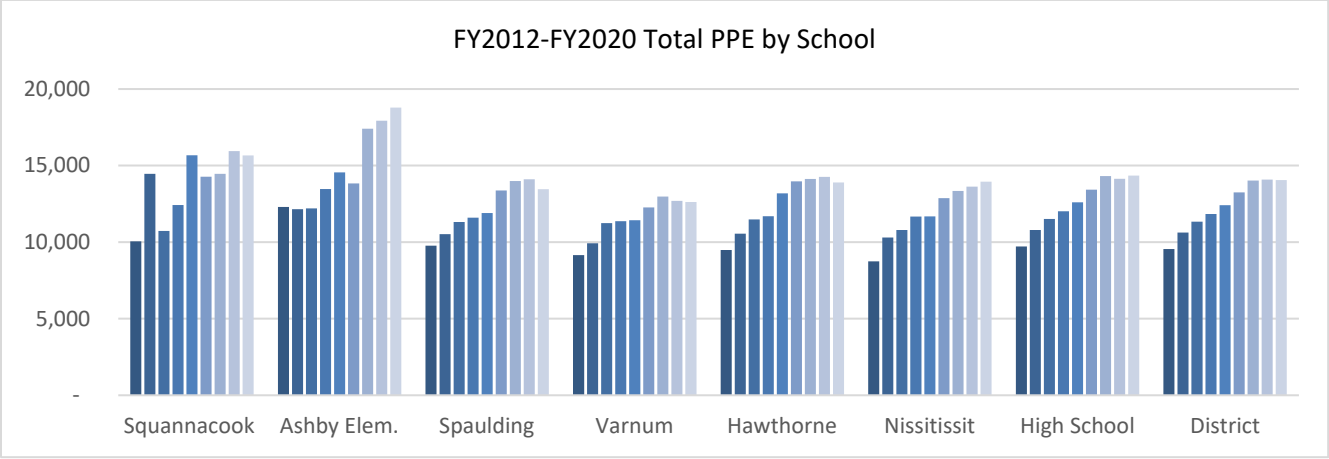




By allocating costs across the schools, as discussed in the preceding section, a by-school analysis of total per pupil expenditures (in-District, General Fund only) shows costs across NMRSD. Note that the NMRSD PPE is slightly lower than the DESE data due to the adjustments noted in the introduction, but the overall by-school comparison considers allocations equally across the different schools.



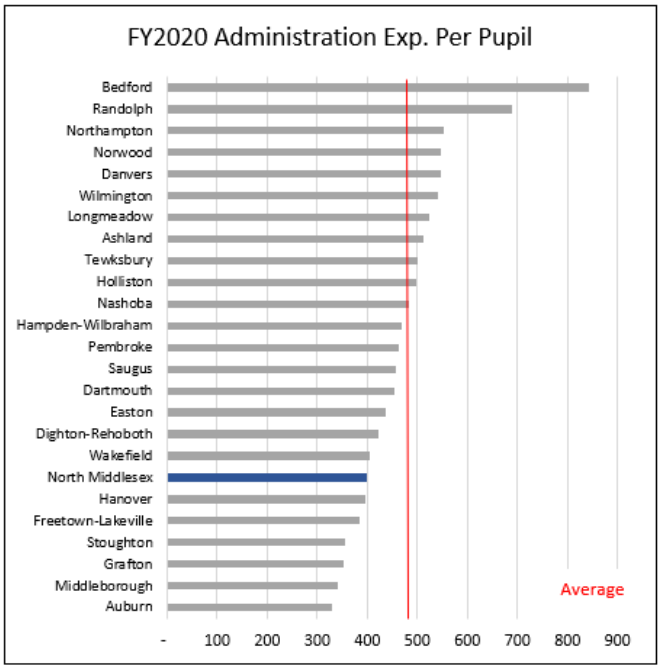
Excluding Squannacook ECC and Ashby Elementary School, most schools follow the same trends. It is important to note both Squannacook and Ashby have very low enrollment, which provides the denominator in the formula, and thus are higher. The trends shown in the chart below, however, illustrate the potential for the rapid per pupil cost escalation that accompanies declining enrollment if other adjustments aren't made.



District Administration Expenditures Per Pupil

In FY2020, NMRSD spent $399 per student on the costs to run the Superintendent's office and other administrative functions, compared to an average across the cohort of $477. This expenditure places NMRSD near the bottom of their peers, spending only $68 more per student than the town of Auburn. State data for FY2020 was not available at the time of this report.

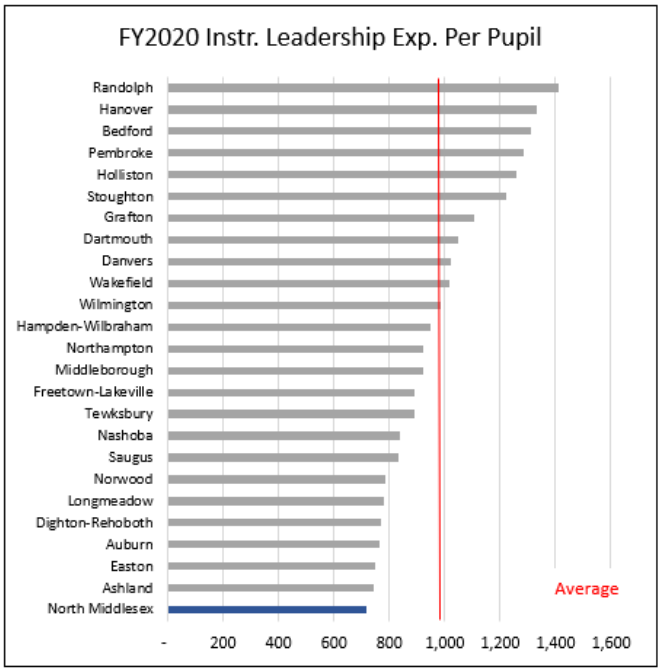
Based on this comparison, it is reasonable to assume that the NMRSD Superintendent and his staff operate a very lean office; and there are minimal cost saving opportunities to be found.

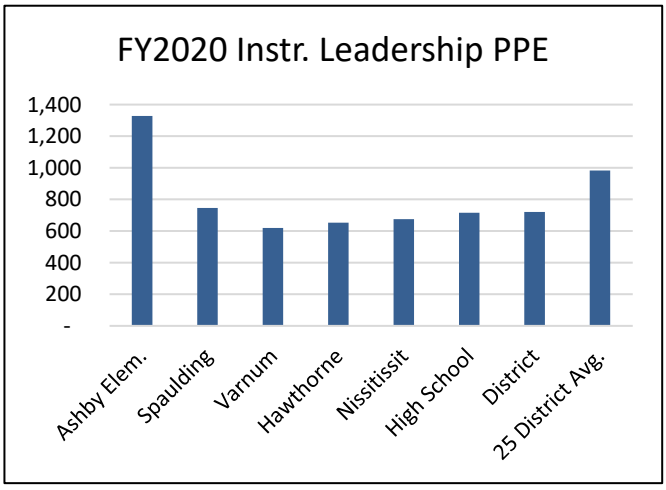


Instructional Leadership and Instructional Services Costs

Instructional Leadership expenditures encompass the principal and administrative leadership, supervisory, and front office operations at each school. As with administrative expenses, NMRSD is well below the peer group and, in fact, at the bottom of the rankings. NMRSD spends just under half of the highest cost district, Randolph; but only around 73% of the average.

This scope of this analysis doesn't delve into whether this disparity is a result of low pay, staffing levels, or other organizational factors; however, it is sufficient to determine that there are little to no cost savings to be found in Instructional Leadership overall within NMRSD. The table at the bottom shows the Instructional Leadership PPE across all NMRSD schools.





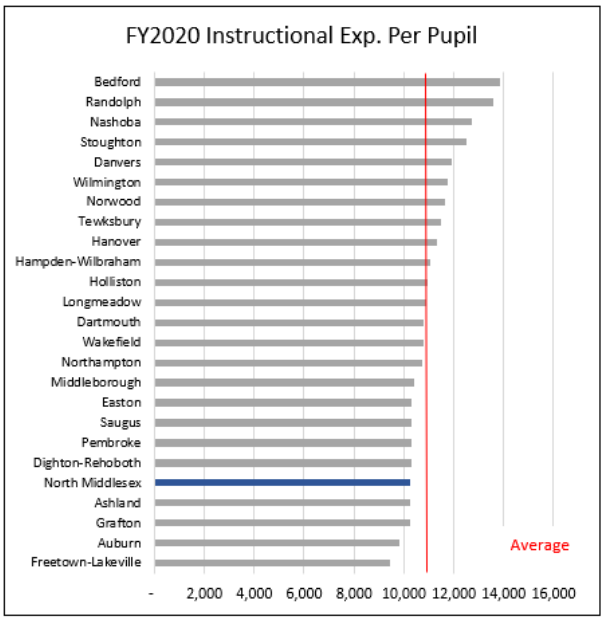
Instructional Services Expenditures

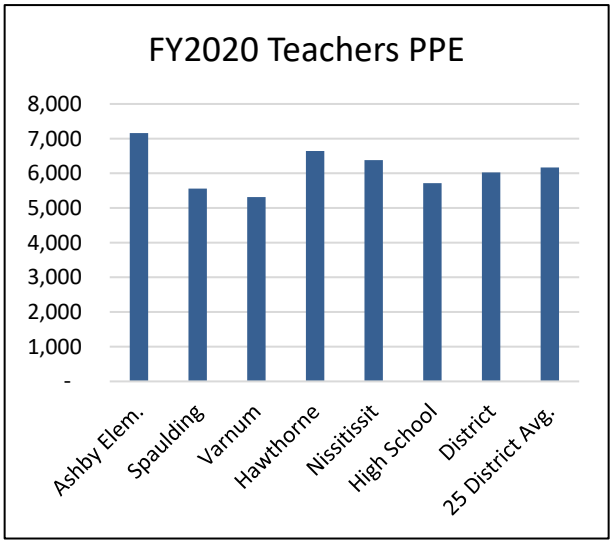
Instructional Services Expenditures includes costs for Teachers, Other Teaching Services, Professional Development, Instructional Materials/Technology, Guidance/Counseling/Testing, and Pupil Services. Pupil Services is almost exclusively transportation. North Middlesex, at $10,278, spends below average compared to the cohort at $10,733. Most of this expenditure, almost 57%, is comprised of contractually set Teacher salaries; so, there is little flexibility to reduce this expenditure ***and*** maintain the current student/teacher ratio.

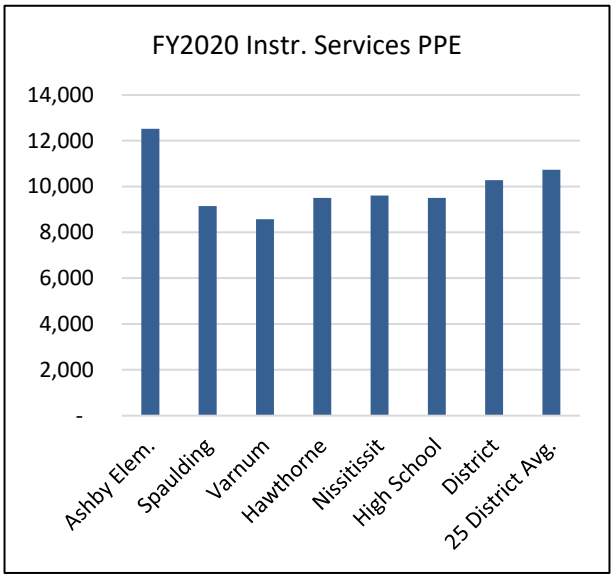
When comparing across NMRSD (below), only Ashby significantly exceeds the average. This moderates slightly when looking at teacher costs. Again, NMRSD and 25-district average should be viewed with a degree of caution due to the margin for error in comparing DESE data with NMRSD actuals; however, the comparison is still useful as it illustrates a relative level of consistency in this account grouping.

The table on the following page lists the average teacher salaries, student/teacher ratios, and teachers per 100 students according to DESE data, for FY2020. As the data indicates, NMRSD is in the bottom of the cohort for teacher salaries but has been able to maintain a low student/teacher ratio across its schools, with 1:12.5 compared to the cohort (1:12.8) and State (1:12.6). In fact, from FY2017 to FY2021, NMRSD has remained below the state average and only began to exceed in FY2022.

Of the functions included within Instructional Services, only Other Teaching Services (primarily teaching assistants) and Pupil Services (primarily transportation) exceed the cohort average. What the comparative analysis illustrates is that NMRSD is successfully maintaining student/teacher ratios despite having a lower average salary. Given the relative size of NMRSD and high average transportation costs, there is unlikely to be significant savings without negatively impacting student/teacher ratios or decreasing the amount of instructional support (aides) in classrooms.







North Middlesex Regional School District - Teacher Comparison

Comparative 25 District Analysis - FY2020 Data				
District Name	**FY 2020 Teacher FTE**	**Teachers per 100 Students**	**Student/ Teacher Ratio**	**FY20 Average Teacher Salary**
Ashland	202	7.1	14.1	83,540
Auburn	186	7.0	13.7	77,553
Bedford	237	8.8	11.3	97,644
Danvers	265	7.8	12.9	87,538
Dartmouth	274	7.6	13.1	82,263
Dighton-Rehoboth	220	7.7	13.0	79,966
Easton	258	7.2	13.9	83,580
Freetown-Lakeville	199	7.0	14.2	76,861
Grafton	238	7.4	13.5	76,344
Hampden-Wilbraham	212	7.0	13.5	82,197
Hanover	194	7.3	13.6	89,689
Holliston	213	7.3	13.7	84,877
Longmeadow	244	8.6	11.7	77,808
Middleborough	218	7.3	13.7	78,416
Nashoba	260	8.2	12.0	85,068
North Middlesex	**247**	**8.0**	**12.5**	**75,065**
Northampton	236	8.7	11.4	65,209
Norwood	280	8.0	12.4	88,388
Pembroke	190	7.0	14.3	86,750
Randolph	249	9.1	11.0	81,340
Saugus	211	8.1	12.4	78,350
Stoughton	302	8.7	11.5	87,196
Tewksbury	261	7.8	12.8	79,769
Wakefield	264	7.6	13.2	83,373
Wilmington	271	8.5	11.6	84,590
Average	**237.2**	**7.8**	**12.8**	**82,135**
Median	**237.9**	**7.7**	**13.0**	**82,263**
NMRSD +/- Avg.	**10.2**	**0.2**	**-0.3**	**(7,070)**
NRMSD Rank	**11**	**10**	**16**	**24**

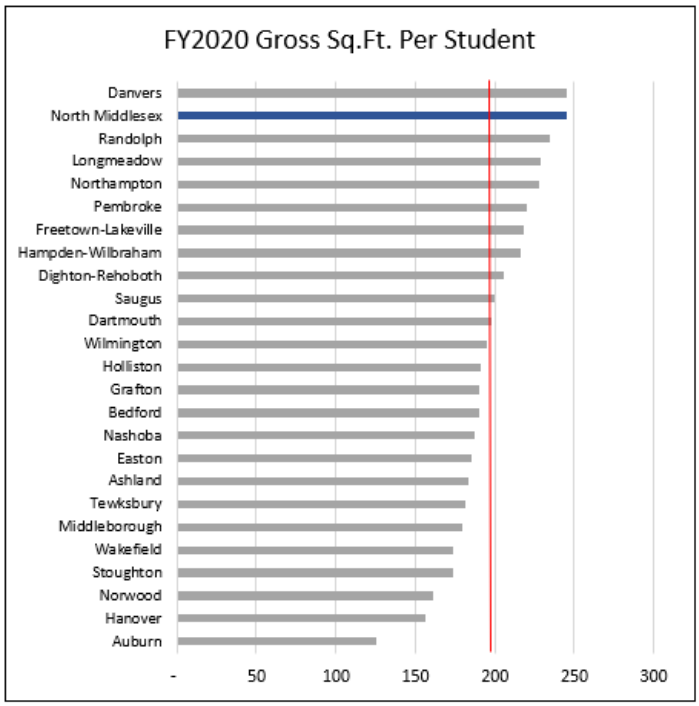
Operations & Maintenance

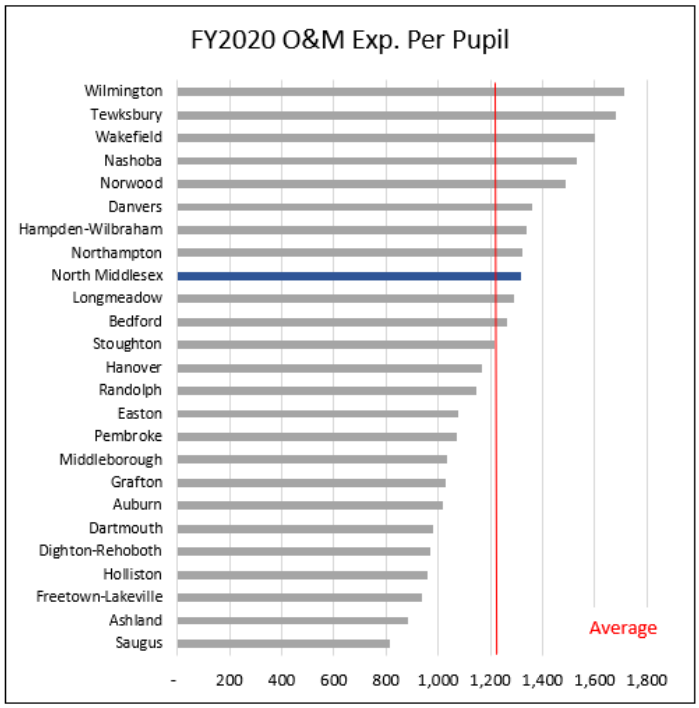
PPE for operations comparisons, coupled with a comparison of the NMRSD physical footprint, provides some insight into ways the NMRSD could begin to control cost, especially considering a declining enrollment trend. Across the cohort, the average gross square foot per student is 190.8; NMRSD ranks as the second largest district footprint at 240.3, exceeded only by Danvers at 245.8. This larger footprint helps to explain NMRSD's higher-than-average Operations & Maintenance cost.

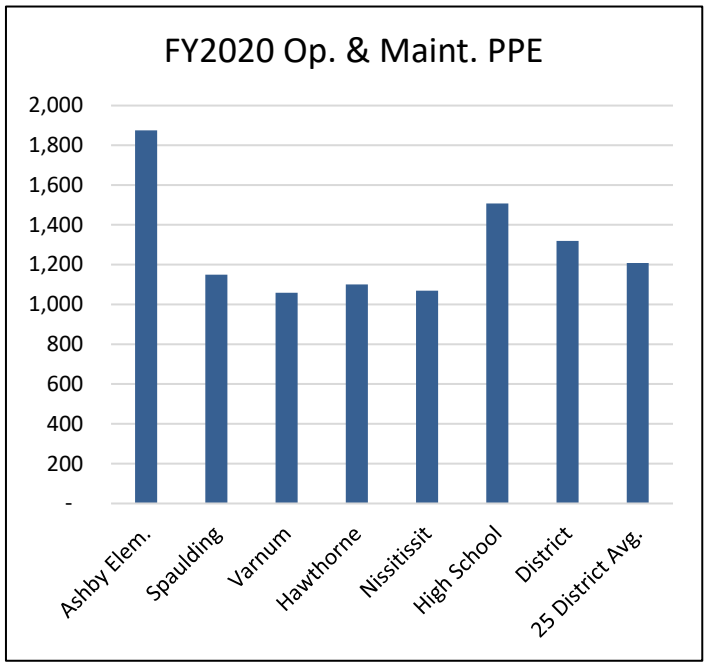
Comparison of District Size

District	Enrolled 2020	Gross Sq Ft (GSF)	Gross Sq Ft/ Student
Ashland	2,849	523,886	183.9
Auburn	2,636	331,267	125.7
Bedford	2,689	512,327	190.5
Danvers	3,417	839,789	245.8
Dartmouth	3,580	707,362	197.6
Dighton-Rehoboth	2,850	587,000	206.0
Easton	3,579	663,402	185.4
Freetown-Lakeville	2,832	618,210	218.3
Grafton	3,205	610,670	190.5
Hampden-Wilbraham	3,005	650,840	216.6
Hanover	2,649	413,510	156.1
Holliston	2,910	555,230	190.8
Longmeadow	2,847	652,082	229.0
Middleborough	2,989	535,823	179.3
Nashoba	3,180	596,084	187.4
North Middlesex	**3,090**	**742,408**	**240.3**
Northampton	2,698	616,014	228.3
Norwood	3,490	562,900	161.3
Pembroke	2,723	599,096	220.0
Randolph	2,742	644,054	234.9
Saugus	2,607	520,820	199.8
Stoughton	3,492	606,983	173.8
Tewksbury	3,348	608,587	181.8
Wakefield	3,485	607,138	174.2
Wilmington	3,166	618,530	195.4
Mean			**196.5**
Median			**190.8**
NMRSD			**240.3**
NMRSD Rank			**2**

The charts below show the comparative impact of the large NMRSD footprint on Operations & Maintenance cost when considered on a per pupil basis. Without a more detailed study to examine facility efficiencies, it is reasonable to assign the major contributor to the high operations and maintenance costs as the overall size of the NMRSD facilities.



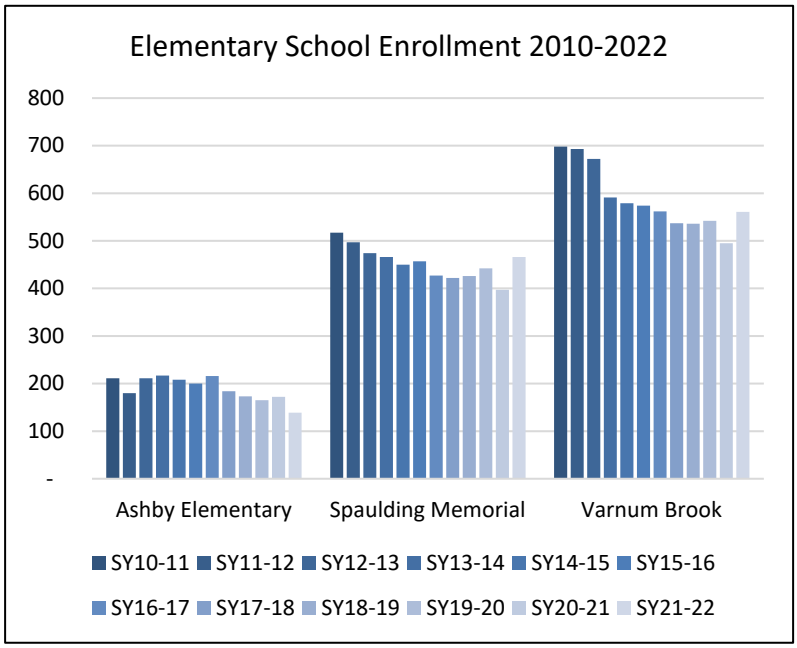




3.3 Elementary School Trends

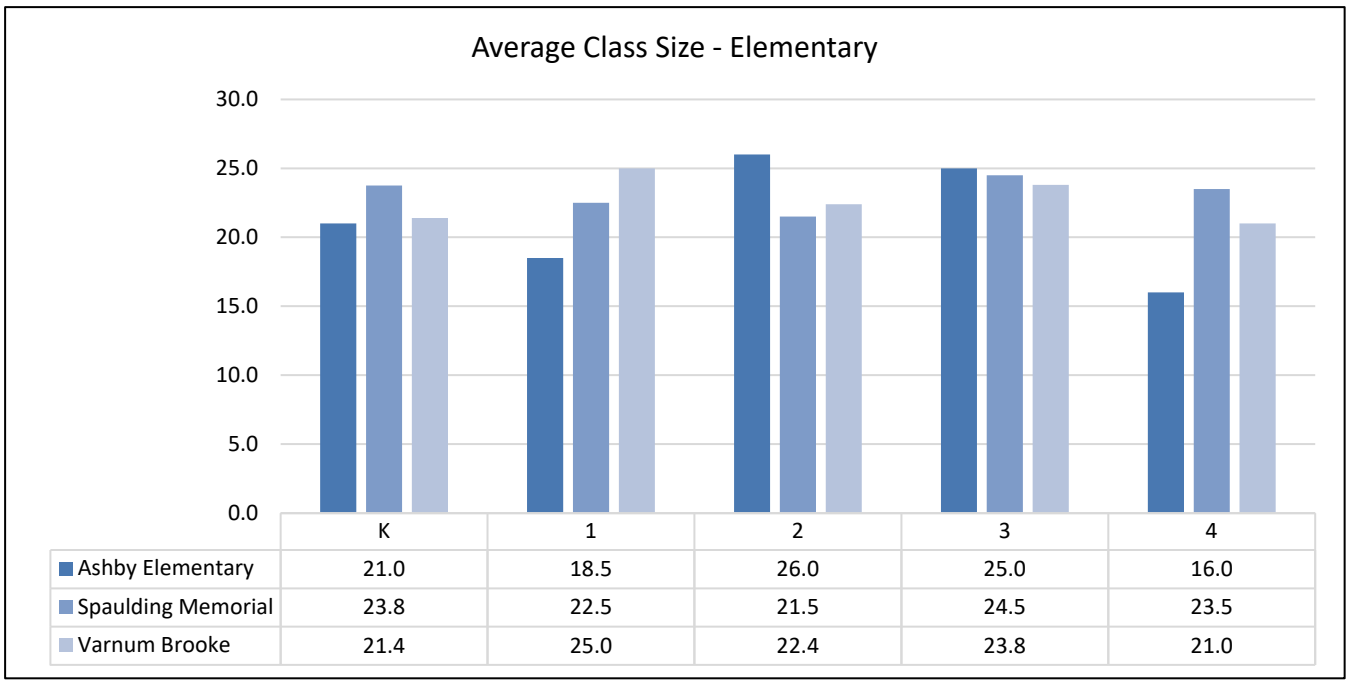
3.3.1 Elementary Enrollment Trends

Trends in elementary school enrollment mirror the larger NMRSD trajectory. There is significant concern about student enrollment at Ashby Elementary School and how low enrollment impacts the opportunities for classes and programs at the school. The three elementary schools experience enrollment that follows the general population and aging trends discussed in Section 2.5. This is pronounced in the town of Ashby. From 2010-2020, Ashby's population under the age of 55 declined by 18%, mirrored by an enrollment decrease of approximately 22% during the same period. Overall enrollment in the elementary schools decreased 14% over a 10-year period.



The overall decline in Ashby, which has dipped sharply in the current school year to a new low of 139 students, has had significant impacts on the number and size of its classes. While enrollment declines are not unique to Ashby, the issues created by the low overall numbers are.

The table below shows the average class size at each of the NMRSD elementary schools. Each school averages between 21.3 and 23.15 students per classroom, with an average of 22.39 students across all schools. The larger student bodies at both Spaulding Memorial and Varnum Brook have two grades that fall outside this range in the current year.



	K	1	2	3	4
Ashby Elementary	21.0	18.5	26.0	25.0	16.0
Spaulding Memorial	23.8	22.5	21.5	24.5	23.5
Varnum Brooke	21.4	25.0	22.4	23.8	21.0

The table below further illustrates the issues created by an extremely small student body that continues to decline over time. The 2022-2023 school year (FY2023) enrollment is the NMRSD projection for planning purposes and it

has dropped by a third since the 2019-2020 school year. While enrollment has declined, the overall larger number of students has allowed the number of total classrooms to remain stable at Spaulding Memorial Elementary School and Varnum Brook Elementary School over the same period.

Elementary Classroom Use by Grade

	Grade	K	1	2	3	4	TOTAL	ENROLLMENT**
ASHBY	FY20	2	1	2	2	2	9	165
ELEMENTARY	FY21	2	2	1	2	2	9	172
	FY22	1	2	1	1	2	7	139
	FY23	1	1	2	1	1	6	133
SPAULDING	FY20	4	4	4	4	4	20	442
ELEMENTARY	FY21	4	4	4	4	4	20	397
	FY22	4	4	4	4	4	20	466
	FY23	4	4	4	4	4	20	463
VARNUM BROOK	FY20	4	4	4	4	4	20	542
ELEMENTARY	FY21	4	4	4	4	4	20	495
	FY22	4	4	4	4	4	20	561
	FY23	4	4	4	4	4	20	578

*** FY20, FY21 AND FY22 FROM DESE DATA, FY23 FROM DISTRICT DATA*

3.3.2 Elementary School Comparisons

Within the 25-district cohort, there were 43 elementary schools serving grades K-4. Many within this grouping serve some combination of PK-5, with a few serving grades 6-8 in the same facility. To develop a valid comparison, enrollment of pre-K and grades 5 and up were removed from the total, providing a K-4 enrollment to compare against NMRSD's K-4 elementary schools. Of the 43 schools, the average enrollment was 306, with the median enrollment of 292, which indicates a healthy distribution across the range of enrollments (161-593). NMRSD schools averaged 383; and Ashby was, in FY2020, the second smallest school.

When looking only at the K-4 schools in the cohort, the square footage data can also be used for comparison. The table below shows this comparison and updates enrollment to include the current year.

K-4 Elementary Size Comparison

District	School	2020 Enrollment	2022 Enrollment	Gross Sq Ft (GSF)	2020 GSF/ Student	2022 GSF/ Student
Dighton-Rehoboth	Dighton Elementary	452	444	108,000	239	243
Dighton-Rehoboth	Palmer River	593	568	96,000	162	169
Wakefield	Dolbeare	465	447	69,883	150	156
Wakefield	Greenwood	224	223	36,330	162	163
Wakefield	Woodville	397	423	65,765	166	155
North Middlesex	**Ashby***	**165**	**139**	**42,400**	**257**	**305**
North Middlesex	**Spaulding Memorial**	**442**	**466**	**79,820**	**181**	**171**
North Middlesex	**Varnum Brook**	**542**	**561**	**128,500**	**237**	**229**
	Average	**410**	**409**	**78,337**	**194**	**199**

**Ashby's square footage is adjusted to exclude the closed wing.*

Comparison of K-4 Elementary Schools in Cohort Districts - FY2020 DESE Data

District	School	Grade Start	Grade End	Total Enroll	K-4 Enroll.
Danvers	Great Oak	K	05	357	297
Danvers	Highlands	K	05	383	314
Danvers	Riverside	PK	05	363	204
Danvers	Smith	K	05	299	202
Danvers	Thorpe	K	05	310	249
Dartmouth	Potter	PK	05	398	310
Dartmouth	Quinn	K	05	679	562
Dighton-Rehoboth	Dighton Elementary	K	04	492	452
Dighton-Rehoboth	Palmer River	K	04	636	593
Hampden-Wilbraham	Green Meadows	PK	05	322	212
Longmeadow	Blueberry Hill	K	05	398	335
Longmeadow	Center	K	05	423	357
Longmeadow	Wolf Swamp Road	PK	05	401	277
Nashoba	Center	PK	05	532	397
Nashoba	Rowlandson	PK	05	470	346
Nashoba	Sawyer	PK	08	711	376
North Middlesex	**Ashby**	**K**	**04**	**165**	**165**
North Middlesex	**Spaulding Memorial**	**K**	**04**	**442**	**442**
North Middlesex	**Varnum Brook**	**K**	**04**	**542**	**542**
Northampton	Bridge Street	PK	05	282	205
Northampton	Finn Ryan Road	K	05	237	196
Northampton	Jackson Street	K	05	354	291
Northampton	Leeds	PK	05	325	233
Norwood	Prescott	K	05	261	218
Pembroke	Bryantville	K	06	487	342
Pembroke	Hobomock	K	06	404	292
Pembroke	North Pembroke	PK	06	562	327
Randolph	Donovan	K	05	442	361
Randolph	Kennedy	PK	05	420	275
Randolph	Lyons	K	05	304	255
Randolph	Young	K	05	264	214
Saugus	Lynnhurst	K	05	290	241
Saugus	Oaklandvale	K	05	256	205
Saugus	Veterans Memorial	PK	05	541	380
Saugus	Waybright	PK	05	189	161
Stoughton	Dawe	K	05	343	299
Stoughton	Gibbons	K	05	370	306
Stoughton	Hansen	K	05	249	208
Stoughton	South	K	05	234	186
Stoughton	West	PK	05	329	245
Wakefield	Dolbeare	K	04	465	465
Wakefield	Greenwood	K	04	224	224
Wakefield	Woodville	K	04	397	397

3.3.3 The Uniqueness of Ashby Elementary School

In reviewing the different schools that comprise the region, the study team noted that Ashby Elementary School, stands out by far as the smallest school in the NMRSD. Small schools have some unique characteristics that give them certain advantages, as well as disadvantages, when compared to larger schools. It is important to address this difference between Ashby and the other schools in the NMRSD.

Ashby Elementary School most closely fits the profile of a classic rural small school which primarily offers one classroom per grade. Rural schools do extend certain benefits, including the attentiveness to students given the modest student body, and the adult to student ratios. There are, however, also serious concerns to address. Many of these issues revolve around a potential lack of teacher support. In very small schools, teachers often have total and sole responsibility for the entire grade; and very limited, if any, support for serving their students' needs, especially those with academic deficits, specific disabilities, or language challenges. Additional concerns include a lack of opportunity for effective peer collaboration and/or team spirit with similar grade level teachers where teachers can share strategies or approaches to support their students and one another.

Research on the topic of small rural schools is plentiful and relevant. One major study appeared in the Journal of Rural Studies, which is a peer reviewed social science journal published by Pergamon Press. It focuses on present-day rural societies as well as their economies, cultures, and lifestyles. For this project, the study team specifically identified research on Exploring the Challenge of Working in a Small School Community: Uncovering Hidden Tensions (December 2019)

> *"Research indicates teachers and principals need initial training and support, as well as possibilities for continual professional development in small schools, but the implementation of such programs has been sparse."*

When a school has a small number of staff overall, there may be a lack of a required range of subject knowledge or teaching methods among the few teachers in such a school. The small-scale environment, which entails both freedom and responsibility, is initially very stimulating for the teacher, as it makes educational development possible.

In the long-term, however, teachers may become isolated and discouraged if the school does not have necessary support for students in need such as part-time teachers/paraprofessionals who can assist struggling students within their regular classroom, special education teachers to work with students with special needs, and colleagues/stand-ins that permit the teacher to attend in-service or professional development opportunities.

The declining enrollment at Ashby Elementary School brings into question its viability educationally and financially.

> *"When a small school is threatened by closure because of a low enrollment, financial and educational aspects of what school quality is are mixed up in the debates. This creates vulnerability in the community and for the teachers at the small school. Arguments that focus on educational quality in small schools inevitably become connected with the teaching quality of individual teachers."*

This is particularly difficult for the individual teachers in single-grade classroom schools who already carry the burden of total educational responsibility for all students.

The study team recommends that NMRSD consider the fact that Ashby Elementary School is unlike any other school in the regional District given its size and current grade configuration. It is important to consider the above research and factors when contemplating the school's long-term viability. The study team clearly heard, during

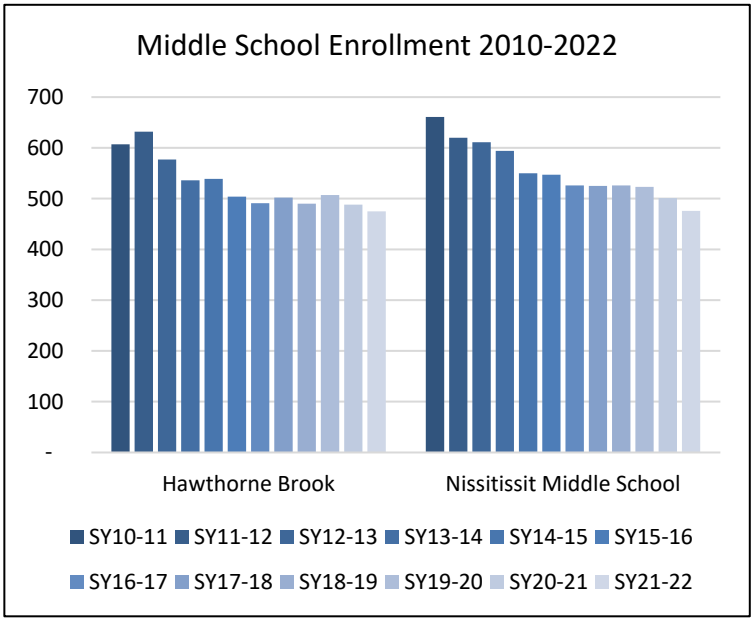
community engagement, that the parents of children who attend Ashby Elementary School, and the Ashby community-at-large, have an affinity for their school. Community engagement participants stated that, in their opinion, the school is currently serving the community and its students very well.

The Massachusetts Department of Education's 2021 Accountability Classification rates the school as "Not requiring assistance or intervention" and as making "Moderate progress towards targets". As such, it is important to recognize that while the Ashby Elementary School is struggling with its enrollment and facility, it is currently providing quality education for students. Finally, teachers are continuing to meet the needs of students despite the challenges of being the only "small school" in NMRSD.

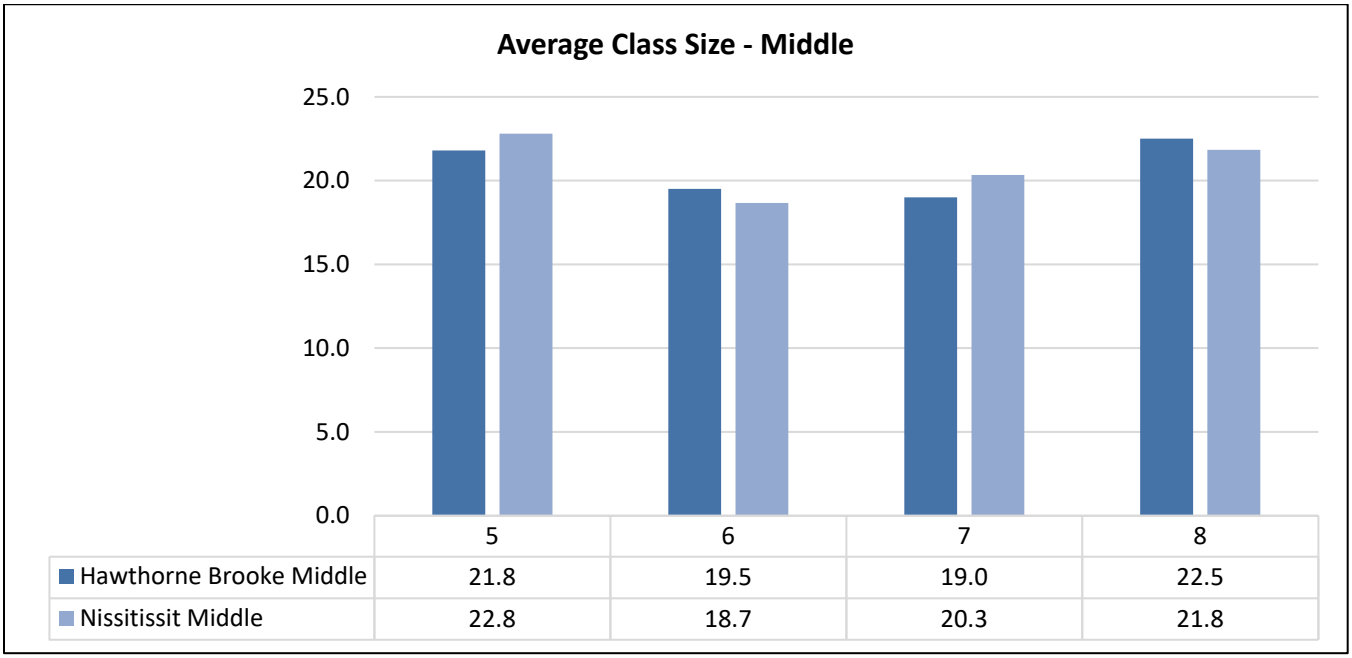
3.4 Middle & High School Trends

3.4.1 Middle School Enrollment Trends

Middle school enrollment has followed similar trends. Overall enrollment at Hawthorne Brook and Nissitissit Middle Schools have declined 17.7% and 22.1%, respectively, in the past 10 years, for a total enrollment decrease of 19.9%. The current school year saw an almost identical enrollment (per DESE figures), with 475 at Hawthorne Brook and 476 in Nissitissit. The chart below shows enrollment trends at the middle schools from 2010 to 2022.



With the larger student bodies and sufficient capacity in the physical buildings, both middle schools have been able to keep class sizes consistent and (as discussed in Section 3.2.3) under the averages found Statewide and in comparable districts, ranging from 19 to 22.8, and averaging just under 21 students per class across all grades at both schools. The chart and table below shows the current average class sizes in each grade and school.



	5	6	7	8
Hawthorne Brooke Middle	21.8	19.5	19.0	22.5
Nissitissit Middle	22.8	18.7	20.3	21.8

As enrollment has decreased, the middle schools have each reduced the number of classrooms in use, allowing NMRSD leadership to repurpose vacant rooms for other educational and programmatic uses.

Middle School Classroom Use by Grade

	Grade	5	6	7	8	TOTAL	ENROLLMENT**
HAWTHORNE BROOK MIDDLE	FY20	6	6	6	6	24	507
	FY21	6	6	6	6	24	488
	FY22	5	6	6	6	23	475
	FY23	5	5	6	6	22	470
NISSITISSIT MIDDLE	FY20	7	7	7	7	28*	523
	FY21	7	7	7	7	28*	501
	FY22	6	7	7	7	27*	476
	FY23	6	6	7	7	26*	471
**INCLUDES ONE INCLUSION CLASSROOM PER GRADE*							
*** FY20, FY21 AND FY22 FROM DESE DATA, FY23 FROM DISTRICT DATA*							

3.4.2 North Middlesex Regional High School Enrollment Trends

In the past 10 years, the high school has seen an enrollment decline of 21.4%, or 619 students. However, since the new high school opened for operation in FY2018, enrollment has been relatively stable at around 800 students, utilizing approximately 95% of the 850-student design capacity. Given the enrollment trends at the elementary and middle schools, and overall population trends, the high school should operate well within its capacity for the foreseeable future. The 10-year enrollment history is shown below.

North Middlesex Regional High School

Enrollment as of Oct. 1 per DESE										
	FY2013	**FY2014**	**FY2015**	**FY2016**	**FY2017**	**FY2018**	**FY2019**	**FY2020**	**FY2021**	**FY2022**
Grade 9	251	236	204	186	208	217	205	170	187	212
Grade 10	246	234	226	204	185	206	206	206	178	184
Grade 11	239	242	237	212	196	184	218	206	210	175
Grade 12	263	240	229	233	206	189	181	217	211	208
Grade SP	-	4	5	-	-	-	20	18	7	6
Total	**999**	**956**	**901**	**835**	**795**	**796**	**830**	**817**	**793**	**785**

3.5 Special Education and Space Utilization in District Schools

Upon initial review of NMRSD data on classroom usage by school and grade, it appeared that classrooms are underutilized in many buildings. The study team examined the number of classrooms available in a school and the

NMRSD report on classroom usage by grade and by school and drew this initial conclusion. During the first tour of the NMRSD schools, it was noted that the number of classrooms in each school that did not appear to be regular, fully occupied classrooms even though many had furniture and evidence of use. This initial tour was more focused on building conditions than classroom utilization; therefore, the study team decided that a second tour of all the schools would be essential to understanding space and classroom utilization since that also impacts research and recommendations.

When the study team approached NMRSD asking to tour schools a second time, staff reported that many of the spaces initially identified as "excess classrooms" were actually being used to house special education programs. These spaces were reportedly functioning as sub-separate classrooms and/or break out spaces for special education students. During this second tour, every school was looked at through this new lens, and because school was now in session (the first tour was during the February school break and thus no students were present), it was noted the NMRSD had in fact created several programs for special needs students. These programs serve a significant number of students in every classroom. While the number of students was well below what an average classroom would likely have, the staff make excellent use of the space to serve special education students in a regular school environment.

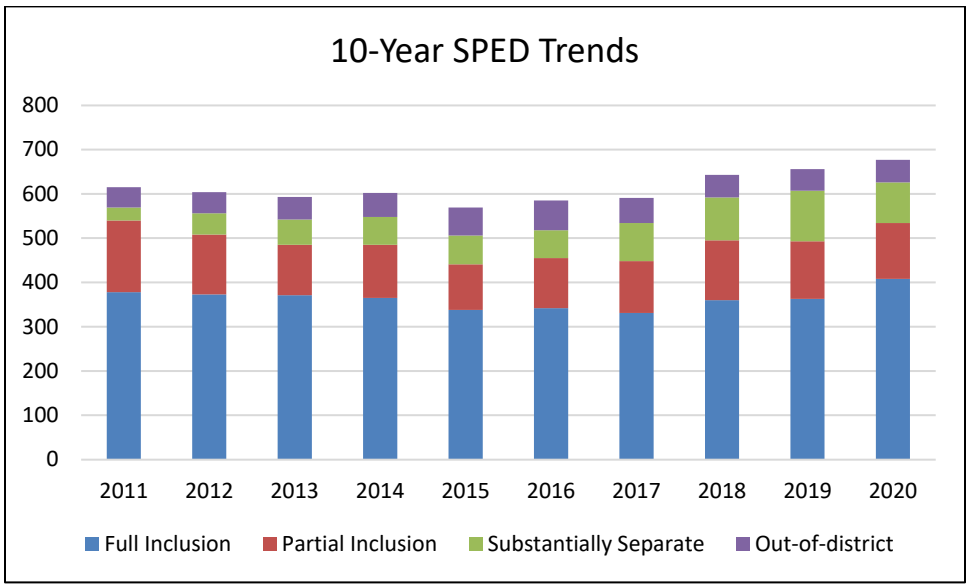
This is wholly consistent with the goals and expectations of the State and Federal government's guidelines for serving special needs students in "the least restrictive environment". All special education students in Massachusetts are entitled to "access the full curriculum" of a school just as are all non-special education students. Housing such programs in a district school achieves that goal very well. Additionally, the development of these in-district special education programs is, by far, the most cost-effective way to meet the needs of these students. A typical out-of-district placement can charge multiple times what it costs to educate a student in-district. Transportation to out-of-district placements is also cost prohibitive.

Upon review of special education data for NMRSD over the past 10 years (2011-2020), this use of excess classrooms in the NMRSD has been affirmed:

- The number of students with IEP's has increased by 62 (10%)
- The number of students in full inclusion classrooms has increased by 30 (8%)
- The number of students in substantially separate classroom has increased by 63 (113%)
- Out of District placements has increased by 5 (10%)

The NMRSD commitment to serving students in-District, despite the inefficiency of using a full-sized classroom for some of these programs, should be applauded. This use of "excess" classrooms results in significant educational and financial benefits.

The following chart is a visual representation of the data provided above relative to the growth of full inclusion classrooms for students as well as the growth of substantially separate programs that help NMRSD avoid costly out-of-District placements for special needs students.



The following is a listing of the substantially separate programs that NMRSD has developed and maintains:

- **ACHIEVE** Program (for students with intellectual impairment) located at Varnum Brook Elementary School, Nissitissit Middle School, and NMRHS
- **STEP's** Program (for students with autism) located at Squannacook ECC, Varnum Brook Elementary School, Nissitissit Middle School, and NMRHS
- **Therapeutic Learning Center** (for students with emotional disabilities) located at Varnum Brook Elementary School, Nissitissit Middle School, and NMRHS
- **Language Based Classroom** (for students with Language based learning disabilities) located at Varnum Brook Elementary School, Nissitissit Middle School, and NMRHS

The above programs were moved from Ashby Elementary School and Spaulding Memorial Elementary School to Varnum Brook Elementary School for the 2019-2020 school year to centralize them for two primary reasons:

1. Transportation cost savings as most of the participating students were from Pepperell. Transporting these students to Ashby did not make sense in terms of the distance to be traveled and associated transportation costs.
2. NMRSD hired a K-8 Evaluation Team Chair (ETC); and since all the middle school programs are at Nissitissit Middle School, it made sense to replicate this model for the elementary schools at Varnum Brook Elementary School. The ETC would then not have to travel excessively across NMRSD, which affords more time to chair important meetings.

4 Community Engagement & the Educational Values of the Community

4.1 Overview

In recognition that community engagement is central to the success of any project intended to ensure long-term financial health, facility optimization, and effectiveness of a school district, the study team facilitated varied community engagement platforms to assist in the development of the study. These public activities were intended to enable residents to share their perspectives in four areas: 1) the current state of NMRSD, its facilities, and communities; 2) an envisioned future for NMRSD, its facilities, and communities; 3) values and ideas that could contribute to desired outcomes; and 4) possibilities and concerns that might influence future changes. Data from community conversations was used to identify a wide range of values and ideas important to residents. The data collection and subsequent analyses are rooted in the principles of decision modeling, or the process of using data to inform decisions regarding short-term activities and long-term strategies that optimize objectives important to various stakeholders

Results from two Community Engagement Sessions, a Community Values Online Survey, and School Committee Meeting were used to identify values, priorities, and ideas that could guide the development of recommendations for NMRSD. These conversations were based on the "World Café" model of community engagement (http://www.theworldcafe.com/) in which participants are encouraged to share their ideas, concerns, and priorities in multiple small-group settings to maximize the level of comfort and willingness to connect with neighbors and friends in a non-judgmental and flexible environment.

The study team employed varied and strategic community engagement strategies to understand and include the priorities and educational values of NMRSD community members including two Community Engagement Sessions, a Community Values Online Survey, and a meeting with school committee members to gather members' feedback.

The Community Engagement Sessions goal was to understand the priorities and educational values of the NMRD community; and sessions included data sharing, large and small group break-out sessions and pop-up polls.

Sessions were held on October 13 and 14, 2021. Participation was relatively low with approximately 28 participants providing 48 responses. All towns were equally represented; however, Ashby Elementary School was over-represented compared to those representing other school communities.

4.2 Community Engagement Sessions

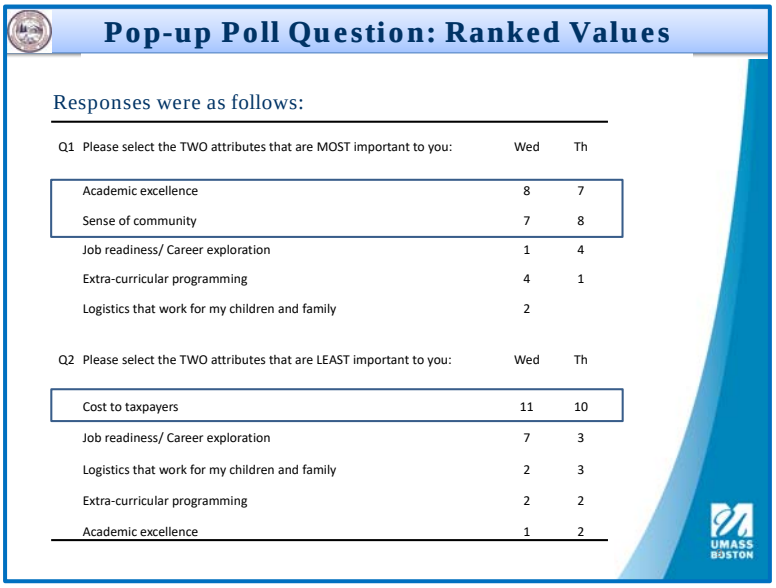
These sessions included opportunities for data sharing as well as large and small group break-out discussions, and Pop-Up Polls. These interactive activities were intended to provide participants with an opportunity to provide important community feedback.

Three sessions were offered for registration, although only two were held due to a low level of interest.

Pop-Up Polls were conducted during the Community Engagement Sessions and asked two questions with the intention to rank respondents' values according to demographics, degrees/levels of satisfaction, and school attribute rankings.

Respondents ranked academic excellence and sense of community as the two most important attributes to them.

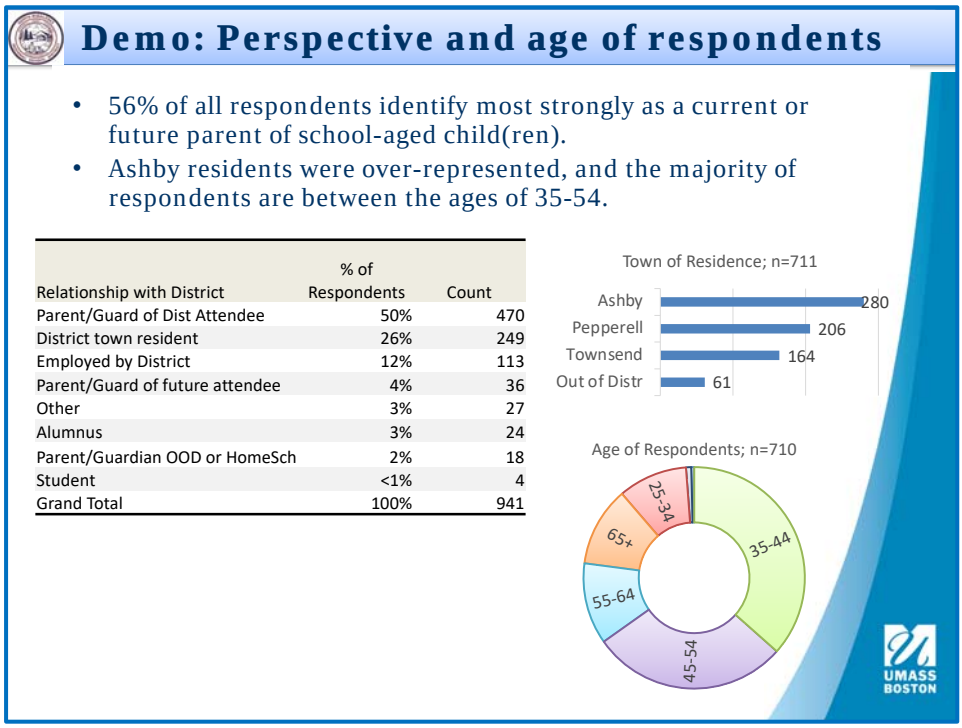
They ranked cost to taxpayers and job readiness/career exploration as least important to them.



4.3 Community Values Online Survey

The survey included opportunities to respond over a period of approximately one month in October 2021. It was available and publicized through NMRSD emails and mailings, as well as posted to the website and in mailings from each member town. The survey, which took approximately nine minutes for respondents to complete, was conducted via Survey Monkey. There were 967 participants, 56% of whom represented school-age families. Ashby residents were over-represented, and most respondents were between the ages of 35 – 54. See Appendix 9.4 for full survey results.

The survey results yielded valuable data and trends amongst respondents including demographic information, satisfaction with current levels of program quality and offerings, attitudes toward condition of facilities and capital spending, and importance of NMRSD attributes. Among Ashby residents, survey results illustrated attitude towards raising taxes to fix Ashby Elementary School and their perceived anticipated impact on children and families if Ashby Elementary School should close.



Overall, survey respondents noted that school product is more important to them than the package; in-town schools are most important for younger students; and they were most opposed to increasing travel time for young students.

They also responded in support of generating revenue by opening schools to alternate programming that would benefit NMRSD residents (adult or students); were supportive of funding NMRSD-wide capital projects; and Ashby town respondents strongly opposed closing Ashby Elementary School.

Survey Content	Survey Findings
Level of Satisfaction with Facilities	Level of satisfaction for school facility is lowest for Hawthorne Brook and Ashby Elementary; highest for the preschool, high school, and Nissitissit
Importance of District Attributes	Factors associated with quality of academic education were ranked as important or very important by the greatest % of respondents Minimizing Importance of travel time is more important for younger students Extended day programming is imp/very imp for almost 50% of elementary school families
Importance of Modern Facilities	Among respondents with children enrolled, high school families are most concerned with up-to-date facilities

	A greater % of teachers cite modern facilities as important, vs. the aggregate of parents/guardians of district students
Willingness to Travel for better facility, extracurricular/clubs, social opportunities	Respondents with elementary students are less willing for children to travel for additional opportunities Ashby respondents are least willing to travel farther, whereas Pepperell residents claim to be most willing
Importance of Hometown School by Grade	Over 80% of respondents feel it is important to have an elementary school in one's hometown, and 77% of those responding with school-aged kids feel a hometown preschool is important
Importance of Facilities in Town	Respondents voiced that having local schools, playgrounds, and athletic fields all carry roughly the same level of importance
Alternate Use of Facilities	Most respondents are in favor of sharing school facilities with alternate programming, assuming no decrease in safety/security
Support for Capital Spending	Support for all capital projects within NMRSD is similar among total respondents and group with children who will benefit; 60% overall vs. 62% for parents Those who support capital spending tend to support it for NMRSD rather than limiting support for projects only within their own schools
Support for Capital Spending vs. Time in District	Almost half of all respondents have lived in the NMRSD for over 20 years. Level of support for capital spending varies little regardless of length of time in NMRSD
Feelings on the prospect of closing Ashby Elementary	Ashby respondents are strongly opposed to closing Ashby Elementary Opposition is strong among all age groups and all respondents, regardless of parental status
Reasons for Keeping or Closing Ashby	Travel time/ (safety to lesser extent), social/ emotional impact Community character, pride and closeness for kids and households Town desirability, sense of community, local economy Fairness: We pay & want a physical presence
Impact of Closing Ashby Elementary	Parents/guardians perceive that closing Ashby Elementary would most negatively affect their students socially and emotionally and would be logistically difficult
Support for Raising Taxes to Revitalize Ashby Elementary	58% of Ashby respondents express support for raising taxes to revitalize Ashby Elementary.

4.4 School Committee Presentation & Discussion

As a final component of community engagement, the study team met with NMRSD School Committee members on November 15, 2021, to gain School Committee member input to share demographic data and community engagement results and to gather the members opinions in the following four areas: 1) General Reaction, 2) Programming and Facilities, 3) Revenue and Enrollment Opportunities, and 4) Summarize Discussion/Final Takeaways. School Committee Members and the study team discussed the questions below in each of these areas.

General Reactions	Programming and Facilities	Revenue and Enrollment Opportunities	Summarize Discussion Final Takeaways
What are your immediate reactions to the demographic data that was presented? Do you see any areas where further data analysis would be useful in future discussions?	While each school certainly has its own unique character and community, do you feel as though all elementary students receive the same or similar educational experience readying them equally for the eventual transition to the middle school? Is there specific programming or offerings that may be offered in one school and not others that you would like to see as a part of all elementary schools? Are there any options or alternatives for facilities that are 100% off the table?	What are the opportunities for drawing students into NMRSD? *For example, presently, some singular special education programming is being offered within specific buildings. Would you consider expanding and formalizing these programs, perhaps answering a need for services from other towns, and creating a tuition model for out of district students?* What are the opportunities for generating other non-tuition revenues for the NMRSD and increasing utilization of existing facilities?	Summary of General Reactions Summary of Programming & Facilities Summary of Revenue & Enrollment Opportunities Final Takeaways

Trends emerged with School Committee members' questions, ideas, and concerns falling into the areas of 1) enrollment decline and potential reasons; 2) potential to better utilize existing facilities and school spaces; 3) potential negative school closure impact to the Ashby community; 4) consideration of outstanding MSBA loans; 5) NMRSD review and Squannacook/Keystone Collaborative lease reviews; and 6) other potential ways for NMRSD to effectively move forward.

School Committee members shared numerous responses, questions, and concerns, which are summarized in each category below.

General Reactions	Programming and Facilities	Revenue and Enrollment Opportunities	Summarize Discussion Final Takeaways
Questioned enrollment projections being flat with observation of growth in Ashby based on permits painting a different picture. Noted NMRSD said no to School Choice because of COVID this year, which affected enrollment. Sought opportunities to know more about the reimagining/better utilizing space Concerned about impact of MSBA rules surrounding the closure of a school. Addressed why the enrollment has steadily dropped at Ashby, including the movement of Special Education programming to a centralized model that allowed for direct supervision and financial savings.	Provided reflections on historical NMRSD happenings, including when each elementary housed a PK program. Understood that by combining PK to a centralized model, related services and other items were economized. Noted Administration is working towards a true "regional school district." Stated strong feeling that closing Ashby is not an option. Expressed curiosity if increased enrollment would offset the issues at Ashby. Believes redistricting Townsend pupils to Ashby and School Choice are good options. Stated belief each town must maintain a school of its own and would like options surrounding possibly combining other Ashby municipal buildings into the school and pairing other improvements with Ashby ES. Concerned the NMRSD will be forced to repay MSBA loans immediately if a building is closed.	Noted existing tuition model for the Special Education programs, which is somewhat successful and that ½ of Squannacook is leased to the Keystone Collaborative. Stated any major renovations to Hawthorne Brook Middle School would require overflow space, likely to be housed at Squannacook. Shared belief renovations to Ashby could be completed without disrupting the present school configuration Interested in creating a Horace Mann School as a revenue generator. Noted curiosity about the lease versus own options. Interested in having alternatives to host in-person foreign language instruction for other towns, creating revenue. Stated that two middle schools offer opportunities for looking at new opportunities for programming	Retain and sustain Ashby as well as have a plan to actively maintain all buildings. Will not commit to closing Ashby. Interested in restructuring operating agreement. Change the regional agreement to completely sharing of all costs/all buildings. Each town would come up for reconstruction over time. Open regional agreement to new communities? Explore lease versus own swaps? What if Ashby utilization goes up? Redistrict West Townsend to Ashby? Consider multi-use/duplex concept for a combined school/town facility in Ashby? Shared concern that MSBA will look negatively if we close a school and then apply for funding. Bring middle schools into the mix of schools being looked at. Consider Preschool in each town? Open School Choice post-Covid? Horace Mann idea or a foreign language school to attract additional students?

5 School Facilities

As a key research component, the study team conducted a series of onsite visits to all NMRSD schools. The first was made at the height of the COVID-19 pandemic and was conducted while classes were being held fully remote. As such, the study team was unable to observe the facilities in normal conditions; however, was able to conduct a thorough review of building conditions and needs. The next three visits, which were conducted in 2022 during normal operations and after enrollment had returned to normal levels, allowed the team to observe how facilities were regularly used. The study team also confirmed that many of the spaces previously identified as "excess" classrooms were in fact being well-utilized, as noted in section 3.5, as special learning spaces, sub-separate classrooms, breakout spaces, and other uses that complement traditional classrooms. Each building, except for Ashby Elementary, was used relatively close to capacity (in terms of rooms in use), but as the previous section discussed, additional students can be accommodated by increasing class sizes without needing additional space if enrollment trends reverse over a sustained time.

5.1 Squannacook Early Childhood Center (SECC)

5.1.1 Overview

Squannacook ECC was originally Squannacook Elementary, serving primarily children from Townsend. It currently houses the NMRSD administrative offices as well as its pre-K programming. Roughly half of the building is leased to Keystone Collaborative, a provider of specialized educational programs and services for students with disabilities. Currently, only four students from NMRSD attend Keystone and the remainder are from outside of NMRSD, given the excellent special education programming currently provided in-District. The building shares a 40.75-acre site with Hawthorne Brook Middle School. The school's cafeteria has been decommissioned. Meals are being prepared at and transported from Hawthorne Brook

Squannacook Early Childhood Center

66 Brookline Street, Townsend, MA 01469	
Date Built/Renovations/Additions	1989/ Renovation 2018
Total Interior Square Footage	58,400
Number of Stories	2
Number of Classrooms	17 classrooms (7 used for pre-K, 10 rented to Keystone and 7 used as offices
Total Number of Rooms	24
Site Acres of Land	40.75 shared
Playgrounds	2
Number of Parking Stalls	81 6 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1
Age of Roof - In Years	2
Fire Suppression System Y/N	Yes
Solar Y/N	No
Design Capacity	505
Current Enrollment (Oct. 1, 2021)	87

5.1.2 Condition Assessment

The building is generally in good condition; although the spaces occupied by NMRSD Administration are former classrooms that have not yet been renovated to suit their needs. The resulting space utilization is very poor, resulting in a significant overuse of square footage for those seven rooms. Renovations in 2018 included a new roof, adding A/C to all classrooms, and 70% of classrooms were refurbished due to water damage.

The project team noted the following items during the facility assessment:

- HVAC-Heating/Cooling System - Highly recommend upgrade from pneumatic controlled fixtures to electric and addition of Energy Management System. Although boilers and hot water tank appear to be in excellent condition, they are original to the building (1988/9).
- No generator or backup power source
- Kitchen has not been used since 2013. To make the kitchen operational, a complete equipment evaluation is necessary. Walk-in refrigerator and freezer also need to be upgraded as compressors have been removed.
- Gymnasium flooring needs to be replaced.
- Doors and windows evaluation is recommended.
- Exterior building and parking lot lighting needs to be upgraded.
- Additional parking; the current parking is not sufficient.
- Pavement and walkways need to be evaluated.
- Preschool area playground equipment was installed in 2018 and in good condition.
- Back area playgrounds equipment was upgraded in 2016. All areas are inspected annually with any necessary repairs being addressed at that point. Last inspection was conducted on August 13, 2020 and found to be in excellent condition.
- Recommend adding fencing to separate entrances to Town hiking trails through play areas.

5.2 Ashby Elementary School

5.2.1 Overview

Constructed in 1951, Ashby Elementary School received additions in 1966 and 1989. Currently, an approximately 8,000 square foot wing has been shut down due to poor general condition and the presence of asbestos, and utilities have been disconnected. In 2020, a Facility Condition Assessment was conducted, identifying significant issues requiring remediation; and in some cases, immediate attention, including abatement of asbestos. The assessment is appended to this report. The building is located adjacent to Ashby Town Hall, as well as other municipal buildings including storage and lay-down space for municipal equipment.

Ashby Elementary School

911 Main Street, Ashby, MA 01431	
Date Built/Renovations/Additions	1951; (1966 Addition) (1989 Addition)
Total Interior Square Footage	52,800
Number of Stories	2
Number of Classrooms	10
Total Number of Rooms	19
Site Acres of Land	14.608
Playgrounds	1
Multiuse Fields Lacrosse/Field Hockey Fields	1
Number of Parking Stalls	48 4 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1 elev 1 chair
Age of Roof - In Years	8
Fire Suppression System Y/N	No
Solar Y/N	Yes
Solar - Year Installed	2018
Design Capacity	300
Current Enrollment (Oct. 1, 2021)	139

5.2.2 Condition Assessment

There are currently 10 usable classrooms for grades K-4, with eight rooms closed due to asbestos and general conditions. A new roof, doors, and windows were installed via an MSBA project in 2012; and a rooftop solar array was installed in 2018. One of the two Weil-McLain boilers has been out of service for several years, which means the school has been operating with no dedicated back-up system if a boiler issue occurs.

The architect's 2020 facilities assessment called for more than $4 million in capital improvements under varying scopes of work. Cost figures were based on an estimated 4% annual compounded price increase. Scope 1 work would have been completed this year. Scope 2 and Scope 3 work would be completed by 2025.

Critical work identified includes asbestos abatement and demolition of the closed wing; site and parking improvements for accessibility; a new boiler; replacing pneumatic heating controls; gymnasium and cafeteria upgrades; replacement of doors, flooring and ceiling tile that contain asbestos; installation of a handicap stair lift for access to the lower-level cafeteria; and electrical system and security upgrades.

Asbestos abatement and demolition of the cordoned off section of the building would need to also include abatement of existing heating lines that run through "tunnels" under the first-floor section of the building that is currently in use. An environmental consulting firm would need to develop a design for this work, which could call for abatement or encapsulation of the asbestos material. Key issues here concern handling of material, potential contaminated soil under the floor, and potential level of remediation required.

Removal of a 3,000-gallon underground oil storage tank, which is located near the pond on the west side of the building, is another important concern. It's unclear at this point if the tank has leaked over time and what the required removal and abatement scope would entail.

Additionally, many of the usable portions of the building, including exterior site elements, are not compliant with 521 CMR, the Massachusetts Accessibility Building Code. Given the extensive nature of any repairs on this facility, it is very likely that any remedial work would trigger the need to bring the entire facility into compliance. As an example, the poured-in-place concrete stairs leading to the cafeteria do not comply with the ADA or 521 CMR (excessive tread height) and restrooms recommended for renovation may not have sufficient dimensions to achieve compliance under ADA or 521 CMR.

The 2020 Facility Condition Assessment (Appendix 9.1) contains a more complete review of accessibility compliance issues. Additional items noted during the study team's assessment, which may not be noted in the Facility Condition Assessment include a recommendation to replace the gymnasium floor, bleachers, and stage.

5.3 Spaulding Memorial Elementary School

5.3.1 Overview

Originally constructed in 1932, the historic building has been well-maintained and received an addition in 1994, bringing the available space to 71,730 square feet. While some exterior repairs are needed to the site, (parking, accessibility issues), the building is in very good overall condition and is centrally located with good ingress/egress. While the design capacity of 650 is well above the current enrollment, this does not contemplate the actual use of the space due to the need for specialized rooms.

Spaulding Memorial School

1 Whitcomb Street, Townsend, MA 01469	
Date Built Renovations/Additions	1932; 1994- Addition
Total Interior Square Footage	71,730
Number of Stories	3
Number of Classrooms	26
Total Number of Rooms	40
Site Acres of Land	8.8
Playgrounds	1
Multiuse Fields Lacrosse/Field Hockey Fields	1
Number of Parking Stalls	68 4 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1
Age of Roof - In Years	8 (Gym Roof: 26)
Fire Suppression System Y/N	Yes
Solar Y/N	No
Design Capacity	650
Current Enrollment (Oct. 1, 2021)	466

5.3.2 Condition Assessment

The building and site are in generally good condition. The roof and windows have been replaced; and no mechanical or electrical issues were noted. There are several accessibility and safety issues that should be addressed. The estimates for projects required to address these issues are discussed in greater detail in Section 7.1. Estimates include improvements to the parking lot and entrances at the front and rear of building and minor accessibility issues. None of the items are an emergency and can all be addressed over a multi-year capital improvement plan. These items should also be included on the NMRSD Americans with Disabilities Act (ADA) Transition Plan.

There is likely insufficient space on the site for any significant additions without limiting or discontinuing Town use of the rear portion of the site, which is currently used for little league ball fields. If those uses were relocated, future additions could be considered, although the cafeteria size and other existing support spaces would potentially be a limiting factor. Additional items noted during the assessment include:

- HVAC was upgraded in 1994 with addition/renovation. Still has pneumatic controls, so recommend an upgrade to electronic controls and an energy management system.
- Intercom system needs to be upgraded.
- Majority of roof was replaced in 2012 and is warrantied through 2032; 1994 addition over gym area has not been replaced and should be evaluated by a building envelope specialist.
- Recommend assessment of all kitchen equipment, which is 37 years old.
- Audio/visual and lighting in gymnasium/stage area needs to have controls upgraded.
- Need to upgrade exterior lighting to include all parking areas on site.

5.4 Varnum Brook Elementary School

5.4.1 Overview

Built in 1977, expanded in 1996, and renovated in 2018, Varnum Brook Elementary School comprises 136,047 square feet and is in overall very good condition. Design capacity is estimated around 1,000 students; and there is ample capacity to handle additional enrollment. Varnum Brook Elementary School houses the NMRSD elementary special education programming, so the space utilization is relatively high in comparison to the other schools due to the need for additional specialized spaces and separate classrooms.

Varnum Brooke Elementary School

10 Hollis Street, Pepperell, MA 01463	
Date Built **Renovations/Additions**	1977; 1996- Addition
Total Interior Square Footage	136,047
Number of Stories	2
Number of Classrooms	43
Total Number of Rooms	53
Site Acres of Land	29.9
Playgrounds	1
Football/Soccer Fields	1
Number of Parking Stalls	120 6 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1
Age of Roof - In Years	1
Fire Suppression System Y/N	Partial- In Addition Only
Solar Y/N	Yes
Solar - Year Installed	2020
Design Capacity	1000?
Current Enrollment (Oct. 1, 2021)	561

5.4.2 Condition Assessment

The nearly 30-acre site has sufficient space for future additions, although this is likely not necessary in the foreseeable future due to declining enrollment projections. It should be noted that, due to the design style of the late 1970's, the square footage of this building is misleading. There are numerous odd-shaped spaces and a large amount of unusable space. Items noted during the condition assessment and from NMRSD's existing documentation include:

- Mechanical systems, including HVAC systems and high efficiency boilers, were fully upgraded in 2018. This upgrade included a building management system and pneumatic controls conversion to electronic.
- A complete evaluation of the kitchen equipment is recommended, except for the dishwashing machine, which was installed in 2020.
- Gymnasium floor and bleachers should be replaced and bleachers upgrade is needed. These are original to the building.
- Auditorium audio/visual and lighting systems are recommended for upgrade.
- Generator and switch gear are original to the building, although it is regularly maintained and in good condition. A thorough evaluation and load testing is recommended.
- The 30,000 square foot addition constructed in 1996 included sprinklers. There are no sprinklers in the original building.
- Demountable wall system – in the original section of the building classroom area has limited soundproofing characteristics. Soundproofing and sound absorbing panels could be installed.
- Intercom system is recommended for upgrade.

- Roof, windows, and exterior doors were replaced in 2018.
- Concrete walkway sections, main entrance driveway, front circle and back parking lot need asphalt and concrete replacements.
- Recommend survey of main and accessible entrances for ADA/521 CMR compliance.
- Solar panels were installed in 2020.

5.5 Hawthorne Brook Middle School

5.5.1 Overview

Constructed in 1977, Hawthorne Brook Middle School was built in the same design as Varnum Brook Elementary School but is the original 99,688 square footprint. A substantial renovation has yet to be undertaken. The 2020 Facility Assessment Report identified several building component and systems issues that should be updated. Even with that work, the building is in overall serviceable condition with many major components upgraded over time. Like Varnum Brook Elementary School, the late 1970's design includes a large amount of unusable space. The building needs to be renovated to optimize available space for modern educational needs. The site is adjacent to Squannacook ECC; and there is substantial space for future expansion, if needed.

Hawthorne Brook Middle School

64 Brookline Street, Townsend, MA 01469	
Date Built/Renovations/Additions	1977
Total Interior Square Footage	99,688
Number of Stories	2
Number of Classrooms	34
Total Number of Rooms	38
Site Acres of Land	40.75 shared
Playgrounds	N/A
Football/Soccer Fields	2 (Shared)
Baseball Fields	1
Basketball Courts	1
Tennis Courts	6
Multiuse Fields Lacrosse/Field Hockey Fields	2 (Shared)
Number of Parking Stalls	137 4 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1
Age of Roof - In Years	15
Fire Suppression System Y/N	No
Solar Y/N	No
Design Capacity	600
Current Enrollment (Oct. 1, 2021)	475

5.5.2 Condition Assessment

For a complete condition assessment, see the 2020 Facility Condition Assessment included in the Appendix 9.1. Issues noted in the condition assessment by staff and the study team, which may not be included in the 2020 report include:

- Intercom system is recommended for an upgrade.
- The building does not currently have solar; however, would be an ideal candidate for installation.
- The roof was replaced in 2005 and is approaching end of life for a PVC roof. The 2020 report includes recommendation to replace the roof; so solar should be considered in the roof specifications.
- While also included in the 2020 report, it is worth highlighting again that Recommendation 3.35 noted stress cracks throughout the building on interior masonry walls. This requires further investigation.

5.6 Nissitissit Middle School

5.6.1 Overview

Nissitissit Middle School was constructed in 2000 and comprises 127,577 square feet. The building is in very good condition overall and sits on 77.9 acres, which includes 14 athletic fields shared with the Town of Pepperell.

Nissitissit Middle School

33 Chace Avenue, Pepperell, MA 01463	
Date Built/Renovations/Additions	2000
Total Interior Square Footage	127,577
Number of Stories	3
Number of Classrooms	45
Total Number of Rooms	62
Site Acres of Land	77.9; 18-20 used
Playgrounds	N/A
Football/Soccer Fields	7 (Shared)
Baseball Fields	2
Multiuse Fields Lacrosse/Field Hockey Fields	7 (Shared)
Number of Parking Stalls	362 8 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1 elev 1 chair
Age of Roof - In Years	18
Fire Suppression System Y/N	Yes
Solar Y/N	No
Design Capacity	825
Current Enrollment (Oct. 1, 2021)	476

5.6.2 Condition Assessment

As the building is over 20 years old, several systems have either been upgraded or need upgrading. At this age, many systems are approaching end of life. Issues noted during the facility assessment include:

- Camera system is recommended for an upgrade.
- Roof is 20 years old and should be evaluated by a building envelope specialist. As the building does not have solar, any roof replacement specifications should include solar readiness.
- A building envelope specialist should also evaluate exterior windows as many are beginning to lose their seal.
- Building has issues with excessive heat in warm weather. Most classrooms use uninvents and do not have adequate cooling. The energy management system was upgraded in 2017 and per facilities staff is still of limited capabilities. Only a portion of the rooftop units have been replaced. Roof restoration should be coordinated with the HVAC improvements to ensure penetrations are properly considered in the design specifications for each system.
- Gas hot water tank replacement is recommended.
- Auditorium lighting and audio/visual equipment is original and/or outdated. Recommend replacement.
- Kitchen dishwashing machine should be replaced before failure due to frequency of repairs. All other kitchen equipment in excellent condition with nearly all pieces replaced in 2019.

5.7 North Middlesex Regional High School

5.7.1 Overview

North Middlesex Regional High School opened for students in 2018. The facility was built for projected enrollment at the time, so is "right-sized". It is in excellent overall condition, and the only needs are likely those that were value engineered out during the original construction. These items are noted in the next section.

North Middlesex Regional High School

19 Main Street, Townsend, MA 01469	
Date Built/Renovations/Additions	2017
Total Interior Square Footage	185,000
Number of Stories	2
Number of Classrooms	41+8 science
Total Number of Rooms	65
Site Acres of Land	49.42
Playgrounds	N/A
Football/Soccer Fields	3
Baseball Fields	2
Multiuse Fields Lacrosse/Field Hockey Fields	2
Number of Parking Stalls	411 10 HC
Elevators/Handicap Chair Lifts (Y/N and How Many)	Yes- 1
Age of Roof - In Years	3
Fire Suppression System Y/N	Yes
Solar Y/N	Yes
Solar - Year Installed	2019
Design Capacity	850

Current Enrollment (Oct. 1, 2021)	785

5.7.2 Condition Assessment

Other than routine maintenance including painting and minor repairs, which is currently done as needed and on schedule, the facility is in excellent condition, and nothing is required. The assessment notes the following amenities that should be included in a long-term capital plan to maintain the NMRSD extracurricular standards:

- Field gear and athletic equipment storage is needed. Currently renting storage containers.
- New baseball dugouts with storage are needed.
- Cross country and walking course should be upgraded.
- Second gymnasium is needed to complement teaching space for athletics, physical education, band, color guard, etc.

5.8 Notes on Assessment & General Construction Cost Environment

As part of the document review, the two facility assessment reports that were completed in 2020 for the Ashby Elementary School and the Hawthorne Brook Middle School were re-evaluated following the study team's site visits and inspections. Those reports, which were prepared by Habeeb & Associates Architects at the request of NMRSD, examined the Ashby Elementary School and Hawthorne Brook Middle School and presented recommendations and estimated costs for renovations and upgrades under the following categories:

- Scope 1- Necessary/Not Yet Critical
- Scope 2- Recommended
- Scope 3- Does Not Meet Current Codes or Accessibility Regulations for New Construction

Based on the details contained in the two reports as well as the study team's two site visits to assess conditions and review upgrade options, the following points should be kept in mind concerning construction and costs:

- For estimated costs, the architectural firm utilized unit cost data for materials and labor from the estimating service R.S. Means, along with in-house cost data and professional experience. It could not be determined, from reviewing R.S. Means data, if geographic/regional specific data was utilized.
- For estimated costs beyond 2020, Habeeb and Associates Architects assumed a 4% per year increase in costs.
- Massachusetts construction costs increased 7.4% between 2020 -2021. Estimates expect material costs to increase 5-11% and labor costs to increase 3-6% from 2021 through 2022.
- Habeeb and Associates Architects used a 30% add-on for soft costs (administration, contingency, and A/E), which is reasonable.
- For both their reports Habeeb & Associates Architects assumed that work under Scope 1 would be completed within two years after the reports were released in 2020. It was assumed that Scope 2 and Scope 3 work would be completed within five years, or by 2025, after the reports were completed.
- The Massachusetts School Building Authority (MSBA) calculated the average per square foot cost for school remodeling to be $458/per square foot as of August 2021.
- The estimated per square foot costs for new school construction as of March 2022 per MSBA was $676.

- From the architect's reports, it could not be determined if unit costs, which include labor costs, considered that all work would need to be performed at the prevailing wage rate.
- Worksheets were not included with the final reports, so it was difficult in cases to determine what constituted lump sum or square foot data and costs that were presented.
- It could not be determined if work including the replacement of asbestos fire doors, flooring, and ceiling tiles would be done on a phased basis.
- Lump sum figures were used for some work including demolition of the old section of the Ashby Elementary School and rebuilding the nurse's office to ADA standards. Specific costs would be based on the final scope of work, specifications, and bidding.
- In relation to climate change and reducing greenhouse gas emissions, NMRSD should conduct a comprehensive assessment of phased changes they can implement via capital planning at all schools. These initiatives may include installing energy recovery ventilation, air source electric heat pumps (mini splits), and energy management systems.

5.9 Facilities – Summary of Findings

Overall, the existing facilities have been well-maintained given the resources available, and where major facilities deficiencies were observed (Ashby and Hawthorne Brook), the District is actively working towards defining scopes, cost estimates and funding sources for improvements. Varnum Brook, Nissitissit, and the High School are in excellent overall condition, with capacity to handle projected enrollment. Hawthorne Brook will require significant investments to modernize and upgrade but is overall very serviceable and is an ideal candidate for renovations given its general condition, size, site, and location. Spaulding Memorial and Squannacook are in good condition, with the necessary improvements dependent upon what the District determines is the most appropriate path forward with Ashby Elementary School. Ashby, as noted above, is in poor condition and, given the enrollment trends and outlook, presents a significant challenge and decision point for the District as well as the member towns that will determine the capital investment strategy moving forward.

6 Enrollment Projections & District Outlook

6.1 Enrollment Projections Overview

NMRSD enrollment projections by school use the DESE October 1 Enrollment Reports as these reports utilize publicly available data that is uniformly collected each year by every district in the Commonwealth. Thus, it is possible for school districts to compare enrollment trends across the State as they plan for future enrollment. These reports, however, do have some limitations, especially when districts are planning for increasing or decreasing enrollment because these reports capture enrollment data on just one day during the school year. It is difficult to capture enrollment directional trending, up or down, from one given day of data. It is important that districts also maintain a more accurate calculation of enrollment, which likely will differ from the October 1st Enrollment Reports. This is very important when districts are assessing their facility needs and capacities and use these internal enrollment reports to help make critical space planning decisions.

While the study team does utilize the October 1 Enrollment Reports to create district enrollment projections, the team also uses locally developed enrollment reports to inform facility-related work. The October 1 Enrollment Report does provide grade-by- grade enrollments by school. The report does not, however, provide actual class sizes in each school, which is also critically important information for facility planning. Furthermore, these internal enrollment reports provide information about substantially separate classrooms designed to address the academic needs of special education students who may require additional support or intensive services. In many instances, these substantially separate classrooms are viable alternatives to enrolling students in outside placements that are not only costly, but also not the best environment for students given the overarching goal of providing students with an inclusive (‘mainstreamed”) experience with their peers in the “least restrictive environment” as mandated by both state and federal laws on educating students with special needs. These classrooms are educationally and financially preferable to outside placements. They do, however, require adequate space and must ensure access for these students to the full curriculum of the school in which they are located. As such, many substantially separate classrooms currently occupy typical classrooms even though student enrollment may be well under the student capacity of that classroom. While this may not be the most efficient use of classroom space, it is highly effective at serving special education students and providing them with a comparable educational experience to their peers while also saving NMRSD on outside placement and related transportation costs.

6.1.1 Addressing the Impact of COVID-19 Pandemic

As the study team developed its enrollment projections for NMRSD, concerns arose regarding the impact of the COVID-19 pandemic on enrollments in 2020-2021; and more so in 2021-2022. As evidenced by the enrollment figures during these years, a significant decline occurred in 2020-2021 (a loss of 197 students from 3,090 to 2,893), but a modest rebound in 2021-2022 (an increase of 96 students from 2,893 to 2,989). To ameliorate this 2020-2021 enrollment dip, the timeframe investigated was backed up for projections to include 2020-2021 rather than beginning with 2021-2022 since it is clear the COVID-related dip adversely impacted overall NMRSD enrollment beyond the expected pattern of decline.

A closer inspection of the COVID-related enrollments during this period from 2020 to 2022 indicates that “rebound” has not been consistent among the five elementary schools:

- Ashby Elementary School decline, from 2020-2021, when enrollment was 172 students, continued into 2021-2022, to 139 students

- Spaulding Memorial Elementary School had a decline in 2020-2021 (to 397), but their enrollment in 2021-2022 (466) has increased well beyond what it was in 2019-2020 (442)
- Varnum Brook Elementary School had a similar profile to that of Spaulding. Their decline in 2020-2021 (to 495) has been restored in 2021-2022 (561), which is well beyond what it was in 2019-2020 (536)
- Hawthorne Brook Middle School, like Ashby, has not fully recovered from their decline in 2020-2021 (488) as their enrollment continues to decline in 2021-2022 (475), which is well below their 2019-2020 enrollment (507)
- Nissitissit Middle School, like Hawthorne Brook, has not fully recovered from its 2020-21 enrollment decline (to 501) as their enrollment continues to decline in 2021-2022 (476), which is well below their 2019-2020 enrollment (523)

The robust recovery of enrollment at Spaulding Memorial Elementary School and Varnum Brook Elementary School has partially offset the continuing decline at Ashby Elementary School, Hawthorne Brook Middle School, and Nissitissit Middle School. It has resulted in a net decrease in 2021-2022 of 101 students. These vast enrollment recovery differences across NMRSD schools need to be reviewed and potentially researched to explain why the recovery from COVID "dip" has been inconsistent. There are implications for schools who are continuing to decline in enrollment (Ashby and Nissitissit) as well as for schools who are seeing a steady or modest increase in enrollment (Spaulding, Varnum Brook, and Hawthorne Brook) to ensure all school facilities are adequate to meet students' needs.

6.1.2 Enrollment Projections

The following table shows enrollment projections for the next five years using the industry standard cohort survival methodology. Adjustments made are noted in the footnotes to the table. Additional and more detailed information on the projections can be found in Appendix 9.2.

North Middlesex Regional School District Enrollment Projection - All Schools

	Actual as of Oct. 1		Projected					
	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028
Squannacook ECC*	47	87	87	87	87	87	87	87
Ashby Elementary**	172	139	134	130	123	106	106	107
Spaulding Memorial	397	466	463	457	458	463	460	457
Varnum Brook	495	561	578	569	568	552	554	554
Hawthorne Brook	488	475	470	483	493	511	511	511
Nissitissit Middle School	501	476	471	464	463	462	462	462
North Middlesex Regional High	793	785	785	807	818	808	808	808
Total	**2,893**	**2,989**	**2,988**	**2,996**	**3,010**	**2,989**	**2,987**	**2,986**
Change over prior year	(197)	96	(1)	8	14	(22)	(1)	(2)
as a %	-6.4%	3.3%	0.0%	0.3%	0.5%	-0.7%	0.0%	-0.1%

**Squannacook ECC is held static based on current enrollment, capacity, and ongoing waitlist.*

*** Ashby population projections from Donahue Institute include a 0.25% annual increase. Ashby new birth rate average over 5-years (2015-2019) increased an average of 4.3%, dropping 16% in 2019. The District is projecting 21 students in K at Ashby, with 1 student TBD. NESDEC typically uses prior year enrollment for year 1 to establish base year. For this analysis, 22 students are used for FY23 (2022 above), and considering anecdotal information on recent growth, Ashby is cohort survival ratio base is increased over the standard methodology by 2% in FY24 (2023 above) and 1% thereafter.*

6.2 Community Outlook

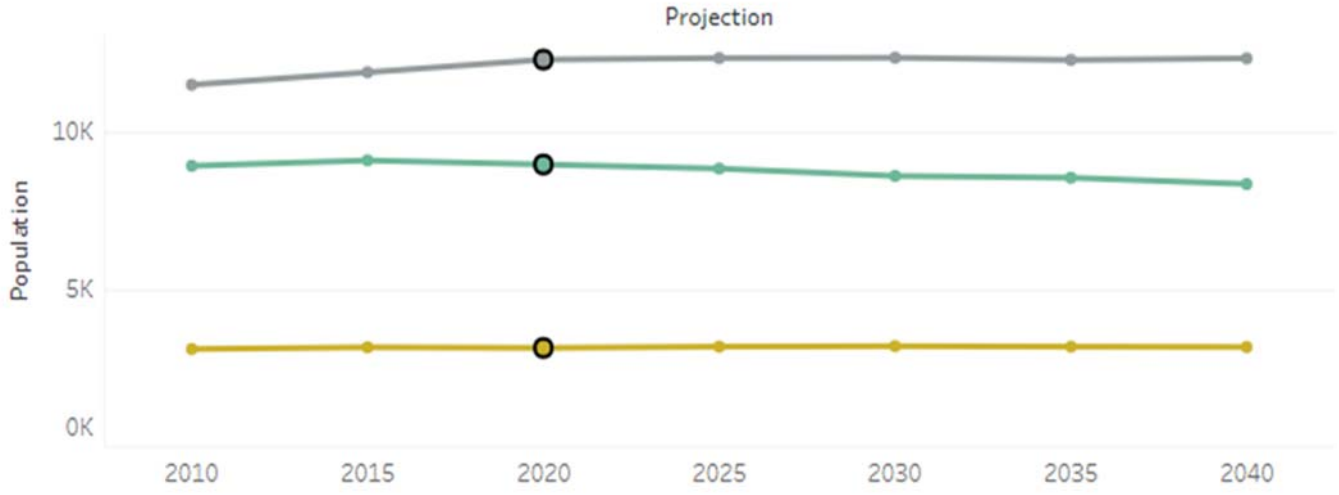
Economic, population and demographic trends in the three member towns do not support an environment of growth capable of reversing the declining enrollment projected for the District.

6.2.1 Population Projections

Population projections indicate continued decline in the overall NMRSD population. The table below shows projections for the three member towns based on 2018 data produced by the Donahue Institute at UMass, illustrated further in chart that follows.

Donahue Institute at UMass Population Projections

	Census	5-Year Increment Projection								
	2020	**2020**	**2025**	**2030**	**2035**	**2040**	**5-year**	**10-year**	**15-year**	**20-year**
Ashby ---	3,193	3,111	3,150	3,166	3,150	3,138	1.3%	1.8%	1.3%	0.9%
Pepperell ---	11,604	12,295	12,343	12,354	12,284	12,235	0.4%	0.5%	-0.1%	-0.5%
Townsend ---	9,127	8,970	8,840	8,606	8,550	8,350	-1.4%	-4.1%	-4.7%	-6.9%
Total - District	**23,924**	**24,376**	**24,333**	**24,126**	**23,984**	**23,723**	**-0.2%**	**-1.0%**	**-1.6%**	**-2.7%**



NMRSD population is projected to continue its decline, although it should be noted that these projections will likely be updated in the coming months using 2020 Census data. Still, given the overall trends detailed in this section, the projections largely continue existing trends; and there is little evidence to support significant growth.

6.2.2 Economic Development and Growth

As with the population projections, the District member towns have lagged the State and County in economic growth rates. While this should not be surprising for a largely rural area, it is important when considering the

potential for population demographics and enrollment to trend in the reverse for a long-enough period and potentially restore pupil population. While there is anecdotal evidence that the COVID-19 pandemic and rising housing costs in the greater Boston and MetroWest municipalities have caused some migration to the tri-town region, there is little evidence of any sustained growth, nor do the conditions for development encourage such growth. Of the three member towns, only Pepperell provided an economic development plan, which focused on revitalizing the downtown core, targeting placemaking and town center vibrancy rather than outright population growth.

The table below illustrates New Growth (tax growth attributable to increases in the tax base, as opposed to increases in valuation) as a percent of prior year. This metric, using MDOR data, is a good indicator of both economic growth (as it captures residential, industrial, and commercial) and relative growth compared to the County and State overall. Historically, both Ashby and Townsend have averaged 41%, respectively of the rate of growth in the County and 43% of the State rate, and Pepperell averaged 54% and 56% respectively, over the past decade.

New Growth as a % of Prior Fiscal Year Levy

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	10-Yr. Avg.
Ashby	0.65%	0.74%	0.62%	0.59%	0.60%	0.83%	1.06%	1.24%	0.69%	1.49%	**0.85%**
Townsend	0.53%	0.74%	0.77%	0.96%	1.07%	0.84%	1.15%	0.90%	0.87%	0.69%	**0.85%**
Pepperell	0.61%	0.57%	0.75%	0.79%	0.99%	1.92%	1.33%	1.50%	1.09%	1.66%	**1.12%**
Middlesex Co.	1.55%	1.83%	2.11%	2.25%	2.22%	2.19%	2.55%	2.06%	1.98%	2.01%	**2.08%**
Massachusetts	1.52%	1.78%	1.84%	1.92%	2.08%	2.11%	2.17%	2.17%	2.09%	1.94%	**1.96%**

Data obtained from the Building Departments of each town provides a more local perspective. Note this data does not account for demolitions of existing homes so the net effect is unknown.

New Single Family Home Permits

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ashby	2	4	4	3	1	3	8	8	5	5	15	9
Pepperell	27	13	15	15	13	12	36	20	15	11	25	31
Townsend	4	9	7	10	21	20	16	20	12	13	3	8
Total	**33**	**26**	**26**	**28**	**35**	**35**	**60**	**48**	**32**	**29**	**43**	**48**

Multifamily												
Ashby	-	-	-	-	-	-	-	-	-	-	-	-
Pepperell	-	-	-	-	-	6	2	2	-	4	6	6
Townsend	36	-	-	24	24	-	-	-	-	-	-	-
Total	**36**	**-**	**-**	**24**	**24**	**6**	**2**	**2**	**-**	**4**	**6**	**6**

As noted earlier, anecdotal evidence of increased migration to Ashby raised some question of how much growth is occurring in the Town. While there has been an increase in overall new homes, those homes are getting slightly smaller and the average from 2010 to 2021 was just over five new homes per year. Given that Ashby's zoning ordinance requires a minimum lot size of 40,000 square feet (just under an acre) and does not allow multi-family

by right, nor has had a multi-family development permitted during this period, the growth trends remain unfavorable.

Ashby, Massachusetts

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Totals
Building Permits	66	81	77	68	105	177	157	122	101	101	136	61	1252
New Single Family Homes	2	4	4	3	1	3	8	8	5	5	15	3	61
New Bedrooms Added	9	15	8	10	4	8	30	24	15	11	53	10	197
New Commercial	0	0	1	0	0	0	0	0	0	0	1	0	2
Bedrooms per Home	4.5	3.8	2.0	3.3	4.0	2.7	3.8	3.0	3.0	2.2	3.5	3.3	3.2

Still, given the ramifications of potentially closing a school, it is recommended that the Town of Ashby consider a growth potential study to further understand this impacting factor, as this study did not deeply review available property, real estate trends, or maximum buildout potential.

7 Facilities Alternatives

Based on the data presented in the preceding sections of this report, the following assumptions have been used to develop four facilities alternatives for the District to consider.

- There is little to no sustained evidence to suggest that the trend of enrollment will reverse. The best-case scenario suggested by the data is a stabilization, which would not produce the quantity of students required to fully utilize the capacity in the current district facilities.
- New births, new home construction, and economic indicators all suggest the aging and population trends will continue, or, as a best case, stabilize. There are no indications that these trends will reverse and a significant shift in population or economic growth is on the horizon.
- District facilities are significantly larger and allocate more space per student than most peer districts included in the analysis, and the District spends significantly more per student on costs associated with the physical plants. The District needs to be "right-sized" for its current and projected enrollment.
- Based on the comparative analysis and a review of District expenditure trends, the District is unlikely to find significant cost savings outside of operations and maintenance. Any significant cost saving opportunities are rooted in the capital investment decisions and the resulting capital or debt service assessment to the member towns.
- Major renovations must be performed at Ashby Elementary and Hawthorne Brook. Given the current conditions, Ashby Elementary needs to be addressed as soon as possible if the school is to continue operating. Minor work is required at Spaulding Memorial to address accessibility issues.
- Given the scope of work at Ashby and Hawthorne Brook, the Keystone Collaborative lease at Squannacook needs to be terminated to house District students either permanently or temporarily during construction.
- The decision of whether to renovate or close Ashby Elementary School is the pivotal decision for the District and determines the path forward for both Spaulding and Squannacook.

This section outlines the four alternatives and includes a discussion of the alternative, any applicable facilities utilization data that results, cost and implementation considerations, and a summary of challenges and opportunities. Preceding the alternatives is a discussion of the base facilities renovations recommended under any of the alternatives to allow for a comprehensive picture of the investment required with each.

7.1 Base Facilities Renovations

Given the facility needs identified at Hawthorne Brook Middle School, and the inclusion of Spaulding Memorial Elementary School in some of the options below, project scopes and costs are included for each school as base projects in each of the alternatives presented below.

Hawthorne Brook Elementary School - This 1978 facility has approximately 106,600 square feet of space and had new windows, doors, and HVAC equipment installed in 2017. A facility assessment was conducted by Habeeb and Associates Architects in 2020, which presented multiple recommendation for upgrades. Key findings of the assessment, which should be incorporated into a multi-year capital planning process included:

- Site - Parking lot related.
- Building Envelope - Replace the 20-year-old PVC roof including upgrading insulation levels.

- Building Interior - Upgrade kitchen equipment; upgrade the administration, computer lab, science lab, home economics spaces (like the configuration and details at Varnum Brook Elementary School); replace carpeting; renovate bathrooms; reconfigure gymnasium-related spaces.
- Mechanical - Replace pneumatic controls for HVAC.
- Electrical - Upgrade the following: data cabling, security cameras, security access and alarm systems, clock/bell/communication system, and fire detection system; and replace the generator.

Like the report that was done for the Ashby Elementary School, recommendations for upgrades at Hawthorne Brook Middle School were divided into three scopes based on need and timeframes for getting the work done.

Using the annual compounded price increase of 4.0% utilized by Habeeb and Associates Architects, the 2022 cost for work under Scopes 1, 2 and 3 would be approximately $14.56 million. Using the actual percentage cost increase of 7.4% for 2020-2021 and a slightly lower estimated figure of 5% for 2021-2022, the estimated cost for work through 2022 under Scopes 1, 2 and 3 would be approximately $15.13 million.

Spaulding Memorial Elementary School – Spaulding has about 71,700 square feet of space and is in very good condition. The roof and windows have been replaced. No mechanical or electrical issues were noted. There are several accessibility and safety issues that should be addressed. The following items should be incorporated into a multi-year capital improvement planning process. Budget estimates are presented for each item:

- Parking Lot - Replace the aged and mostly intact parking areas via reclaiming. Install new bituminous parking along with striping, curbs, and signage. Raise any settled catch basins and investigate the installation of green infrastructure for stormwater runoff collection and disbursement ($285,000).
- Stage - The stairs leading to the stage are not accessible so installing a lift should be considered ($45,000).
- Front Entrance Stairs/Accessibility - Due to ongoing cracking, the front concrete entrance stairs are kept patched and were in good condition when observed. If the stairs deteriorate so that replacement is needed, stairs and an accessible ramp will be required. Based on the elevation of the front doors, the ramp would be long with multiple landings and rails. Work would include engineering design ($250,000).
- Rear Accessible Walk - The concrete curbing along the rear accessible ramp and sidewalk is deteriorated and should be replaced ($45,000).

The 2022 total estimated cost for improvements to Spaulding Memorial School is $625,000.

7.2 Alternative #1 - Continue Current Facilities Program

The first alternative would be to make no changes to current grade/school student assignments or facilities outside of performing the renovations recommended in the assessments, our inspections, and the current capital improvement plan. The current facilities, assuming the recommended remedial work and upgrades are made, are of adequate size to accommodate the projected enrollment for the foreseeable future.

Ashby Elementary School - Section 5.2.2 discusses the scope of work needed at Ashby Elementary School per the 2020 Facility Condition Assessment (also appended), but some additional considerations should be noted here. With the need to reduce greenhouse gas emissions to address increasing climate impacts, lighting upgrades, alternate heating systems such as ground source heat pumps, which can provide both heating and cooling, the installation of energy management systems, and air sealing and upgrading insulation should be included in proposed capital work.

With some materials increasing in cost by 31% between 2020-2022, average labor rate increases of about 7.0% for the same period and overall construction costs increasing in the state 7.4% between 2020 and 2021, the prices for all the identified work in the three scopes would be higher at this point. Actual costs for work, especially the lump sum work, would need to be designed and bid to generate more exact figures.

Using the annual compounded price increase of 4.0% used by Habeeb and Associates Architects, the 2022 cost for work under Scopes 1, 2 and 3 would be approximately $4.5 million. Using the actual percentage cost increase of 7.4% for 2020-2021 and a slightly lower estimated figure of 5% for 2021-2022, the estimated cost for work through 2022 under Scopes 1, 2 and 3 would be approximately $4.7 million.

Under the current NMRSD Operating Agreement and based on current and projected enrollment, residents of the town of Ashby would be almost fully responsible for the cost of servicing the debt for this project.

This alternative also includes the renovations to Spaulding Memorial Elementary School and Hawthorne Brook Middle School discussed in Section 7.1.

7.2.1 Facility Utilization under Alternative #1

Alternative #1 includes completing the base renovations noted in the 2020 Habeeb & Associates Facility Condition Assessment scope. This option provides for the necessary demolition and remediation work to meet the minimum code and safety requirements. As the table below shows, it results in more than sufficient capacity at Ashby Elementary School should enrollment trends reverse. This alternative assumes that Ashby remains a school for Ashby families only and does not contemplate an influx of non-Ashby residents. Further, it maintains a consistent class size but is projected to drop to a single class per grade in FY2026.

Class Size Analysis of Alternative #1 - Renovate Ashby

	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Ashby								
K	22	22	23	23	23	23	24	24
1	21	21	22	22	22	22	22	23
2	21	20	20	20	21	21	21	21
3	38	22	21	21	21	21	22	22
4	28	38	21	20	20	21	21	21
Total - Ashby	**130**	**123**	**106**	**106**	**107**	**109**	**110**	**111**
Rooms req'd at current avg class size	5.8	5.5	4.7	4.7	4.8	4.8	4.9	4.9
Total Classrooms Avail.	10							
Number of Classes								
K	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1
3	2	1	1	1	1	1	1	1
4	1	2	1	1	1	1	1	1
Total Classes	**6**	**6**	**5**	**5**	**5**	**5**	**5**	**5**
Available Classrooms	**4**	**4**	**5**	**5**	**5**	**5**	**5**	**5**
Average Class Size								
K	22	22	23	23	23	23	24	24
1	21	21	22	22	22	22	22	23
2	21	20	20	20	21	21	21	21
3	19	22	21	21	21	21	22	22
4	28	19	21	20	20	21	21	21
Average Class Size	**22.2**	**20.8**	**21.2**	**21.2**	**21.5**	**21.7**	**21.9**	**22.2**

7.2.2 Benefits, Challenges & Observations

- Keeping Ashby Elementary School open keeps a District presence in Ashby and meets the social and community goals that parents and residents strongly expressed during the public engagement sessions.
- Administrative spaces are left as currently configured, which are less than optimal.
- Provides sufficient space for any potential increase in students from Ashby based on available classrooms due to declining enrollment.
- Renovation logistics would be very challenging and likely require portables or relocation to SECC during renovations.
- By 2026, Ashby Elementary School is projected to drop to one class per grade, which limits placement options for students and teachers.
- Per the current operating agreement, the Town of Ashby would assume almost 100% responsibility for this cost.

- There is a possibility that the Massachusetts School Building Authority (MSBA) will not provide funding for this project based on enrollment levels, enrollment trends, and population trends that indicate continued decline, as well as the availability of other options to serve District students.
- Does not require Townsend or Pepperell to assume any additional debt service for Ashby Elementary School.
- Limited opportunities for teacher professional development given the size of the school and the potential inability to cover classrooms due to minimal staffing.
- Cafeteria and lower-level access would continue to be by chair lift, limiting usability for students and staff with mobility impairments and disabilities. Existing staircase is not code compliant, and it is likely insufficient room exists to rework it to code.
- Fixes to issues noted in the 2020 Facility Condition Assessment and in Section 5.2.2 will likely require variances from the Massachusetts Architectural Access Board, which is not guaranteed, and may result in design changes as the scope of work increases.

7.2.3 Cost & Implementation

This alternative assumes no change to present school operations or configurations outside of adopting the suggested maintenance projects noted in section 5.2.2, which total $20.455M between three buildings. The projections presume MSBA will acknowledge 80% of each location's total estimated cost to be reimbursable, specifically, $3.76M for AES, $12.104M for HBMS, and $500K for SMS. Based upon historical awards for NMRSD schools, a 60% reimbursement rate was then applied to the totals noted generating the projected town responsibility figures documented in the chart below under "Estimated District Responsibility". The computations dictate the final anticipated town responsibilities to total $2.444M relating to AES, $7.867M for HBMS, and $325K for SMS.

School	Alternative #1 Estimated Cost	*MSBA Estimated Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	4,700,000.00	60.00%	2,256,000.00	2,444,000.00
Squannacook Early Childhood Center	0.00	0.00%	0.00	0.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***20,455,000.00***	***60.00%***	***9,818,400.00***	***10,636,600.00***

Separately, there is always uncertainty surrounding MSBA awards, projects could be approved, denied, or funded at a level less than desired. Districts must be prepared for these realities when considering major school facilities plans. Based upon the information available, the project team felt notable risk was involved with the potential for MSBA funding specific to Ashby Elementary School. A likelihood exists that MSBA may deny any reimbursement to projects at AES due to several considerations. MSBA weighs criteria including consistent building maintenance, enrollment, and other more cost-effective options when considering awards. AES has a history of deferred maintenance, and in fact has closed a wing in the building rather than address the facilities issues. Further, the latest enrollment projections depict a continued decline in the elementary population as well as there being other more cost-effective options to provide an educational environment for students potentially surfacing. Each of these factors may impact MSBA funding for AES, thus, the community must be prepared to shoulder the entire $4.7M cost if these renovations are pursued.

An estimated debt service projection has been included in the Appendix, calculating assumed borrowing periods, totals, and interest rates for each project and Town responsibility. Allocations have been determined leveraging the FY2023 enrollment figures to maintain consistency with current practice. The projected debt service for AES has been presented both with and without MSBA funding. Additionally, the renovation debt service for SMS has been estimated over a 5-year borrowing period, rather than a 25 year, given the total amount being $325K. It should also be noted, as a result of the turbulent borrowing climate now present in the market, 25-year borrowing rates have been estimated at 4%, beginning in FY2024, though reality may bring a very different actuality.

7.3 Alternative #2 – Renovations to Ashby and Redistricting to include West Townsend

A second alternative is to invest further in Ashby Elementary School and grow, or at least attempt to bolster, enrollment by redistricting in Townsend/West Townsend to pull in an additional 100 students (20 per grade). This alternative requires a substantial investment but would come with additional benefits including expanded program offerings, more flexibility in classroom assignments, stabilization of class sizes, and a greater ability to recruit and retain teachers for specialized curriculum (art, music, technology, etc.), as well as provide some additional capacity at Spaulding Memorial School. The major challenge with this option would be in developing district boundaries to balance the number and grade distribution of students from the redistricted area with the available space.

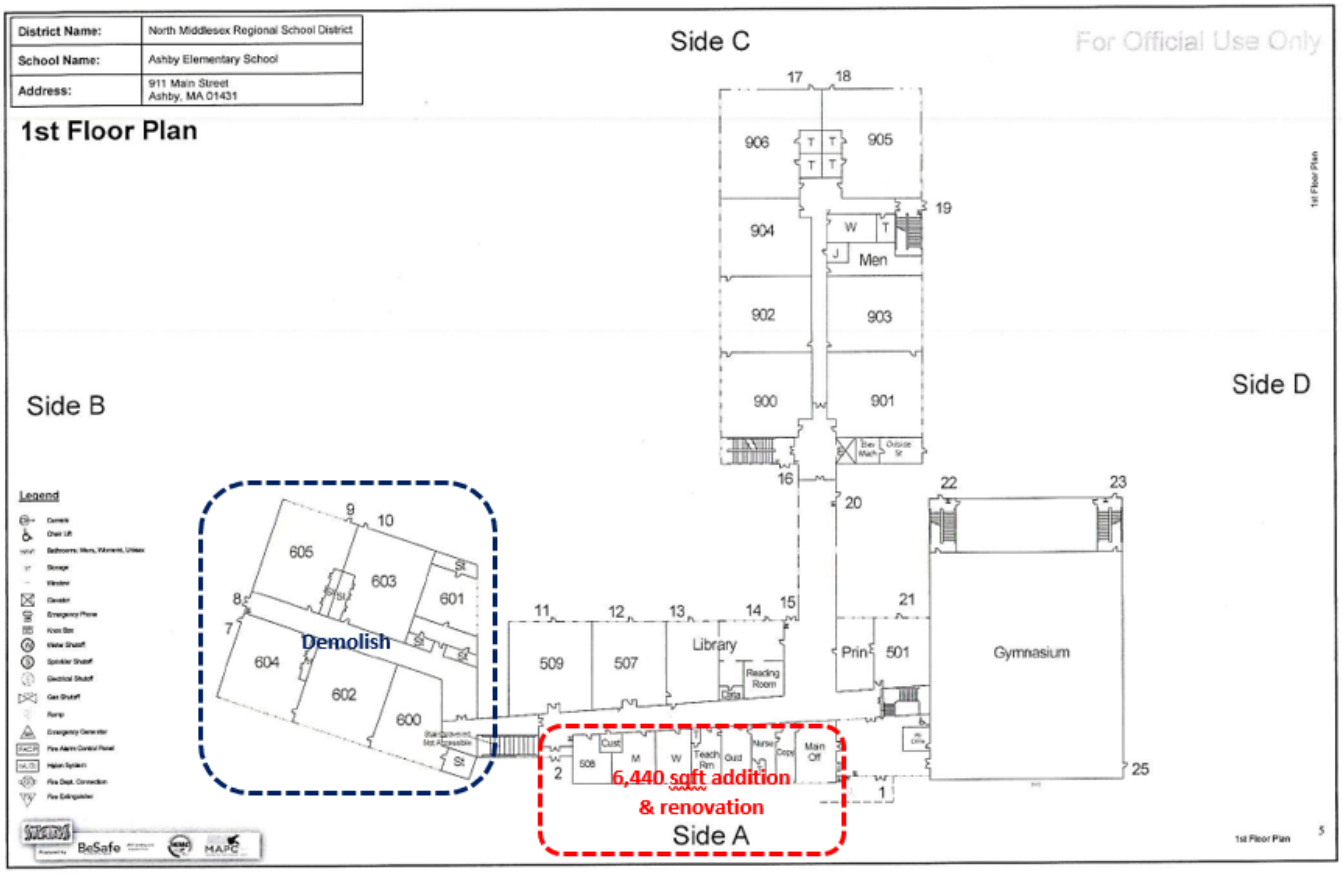
To garner support from Townsend, this alternative likely needs to include additional improvements, which would allow the cafeteria to relocate to the main level to address significant accessibility issues that exist in its current location. It is highly likely that NMRSD would face significant resistance to redistricting, especially given the contrast between the minimally renovated Ashby Elementary School envisioned in Alternative #1 and Spaulding Memorial Elementary School; therefore, this alternative includes making the necessary improvements to fully update the facility including accessibility creating a more attractive opportunity for Townsend.

This alternative relies, to some degree, on speculation over the sustainability of modified district lines in Townsend providing sufficient students to bolster Ashby enrollment. Further, the current Operating Agreement assesses debt service for capital investment based on prior year enrollments, not projections, thus updated terms would be necessary to distribute the debt as soon as borrowing occurred.

Other than demolition of the closed wing of the school, the report from Habeeb & Associates Architects also studied the viability of using the existing school footprint and undertaking renovations. The closed wing of the school would be demolished and the wing that runs from the lobby to where the cordoned off section is located would be expanded and renovated.

Based on the study team's assessment of the first-floor building plans, it might be feasible to expand the south side of the existing wing toward the parking lot. This may create larger rooms on the front side of the building for functions, including the principal's offices and the cafeteria services. Expanding south could also help with addressing handicap accessibility with upgraded parking facilities at the front of the building. Removal and potential remediation of the 3,000-gallon oil tank also needs to be completed.

Per the existing architectural plans, the 1951 original school wing measures approximately 14,000 square feet. Incorporating specific tasks from the facility assessment from Habeeb and Associates Architects (2020) and expansion and remodeling of the first-floor wing potentially gains approximately 6,440 square feet including, depending on design and layout, three-to-five new 896 square foot classrooms. This varies depending on the scope of work of the administrative spaces, cafeteria configuration, and circulation space.



The configuration described above also allows for additional options that may be considered in the future. A new addition on that site could be constructed if there is a need to bring online additional square footage and classrooms.

Separately, and given the cost estimates of this alternative, it is also advisable to investigate whether an alternative location with better access to target communities would be more beneficial and cost effective in the long term.

7.3.1 Facility Utilization under Alternative #2

By bringing in an additional 100 students from Townsend/West Townsend, it would allow two classes per grade at Ashby and optimize the space available. Depending on how a renovation/expansion was approached, there may be additional capacity available at Ashby to help offset variations in grade distribution, but the risk is always present of not being able to maintain a balanced, two-class per grade alignment. Such a redistricting, however, introduces challenges at Spaulding. While it does free up capacity and space, it would either increase class sizes to keep operating costs level or result in the need for an additional class per grade across both schools if the existing number of classrooms were maintained which would result in a significant increase in instructional costs.

Analysis of Alternative #2 - Renovate Ashby & Redistrict Townsend

	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Ashby								
K	42	42	43	43	43	43	44	44
1	41	41	42	42	42	42	42	43
2	41	40	40	40	41	41	41	41
3	58	42	41	41	41	41	42	42
4	48	58	41	40	40	41	41	41
Total - Ashby	**230**	**223**	**206**	**206**	**207**	**209**	**210**	**211**
Average Class Size (2 Classes per Grade)								
K	21	21	21	21	22	22	22	22
1	21	21	21	21	21	21	21	21
2	20	20	20	20	20	20	21	21
3	29	21	20	20	21	21	21	21
4	24	29	21	20	20	20	21	21
Average Class Size	**23.0**	**22.3**	**20.6**	**20.6**	**20.7**	**20.9**	**21.0**	**21.1**
	FY2024	**FY2025**	**FY2026**	**FY2027**	**FY2028**	**FY2029**	**FY2030**	**FY2031**
Spaulding Memorial								
K	76	76	76	76	76	76	76	76
1	72	68	72	72	72	72	72	72
2	77	76	69	73	73	73	73	73
3	64	74	73	66	70	70	70	70
4	67	64	73	72	65	69	69	69
Total - Spaulding	**357**	**358**	**363**	**360**	**357**	**361**	**361**	**361**
Class size at 3 classes per grade								
K	25	25	25	25	25	25	25	25
1	24	23	24	24	24	24	24	24
2	26	25	23	24	24	24	24	24
3	21	25	24	22	23	23	23	23
4	22	21	24	24	22	23	23	23
Average Class Size	**23.8**	**23.8**	**24.2**	**24.0**	**23.8**	**24.1**	**24.1**	**24.1**
Class Size at 4 Classes per Grade (existing)								
K	19	19	19	19	19	19	19	19
1	18	17	18	18	18	18	18	18
2	19	19	17	18	18	18	18	18
3	16	19	18	17	18	18	18	18
4	17	16	18	18	16	17	17	17
Average Class Size	**17.8**	**17.9**	**18.2**	**18.0**	**17.8**	**18.0**	**18.0**	**18.0**

7.3.2 Benefits, Challenges & Observations

- Creates a moving target for redistricting; presumes that West Townsend school-aged population continues to remain as it is to maintain class sizes.
- Redistricting is likely to be strongly opposed by Townsend families.
- Based on the current operating agreement, this option requires Townsend taxpayers to fund roughly half of the debt service for the project.
- Would require redistricting West Townsend to Ashby to increase enrollment; however, would introduce capacity at Spaulding Memorial.
- Risk is associated with "speculative" building and maintaining optimal number of classes per grade of at least 2.
- Requires market assessment of region to determine if need exists for specialized programming that may help to attract students from outside the district.
- Operating cost increases to transport West Townsend students to Ashby.
- Additional time on the bus for Townsend children, which is a cost and route that doesn't exist now.
- Even with additional children from Townsend, there is a potential that MSBA will not provide funding for this project given enrollment trends.
- The resulting enrollment at Spaulding would either increase class sizes (to remove a class per grade) or increase instructional costs across both schools to maintain the number of classes at Spaulding while increasing the number of classes at Ashby.

7.3.3 Cost & Implementation

Alternative #2 is the costliest of the four totaling $28.719M between three locations. It involves a substantial investment of $12.964M by the towns of Ashby and Townsend to renovate and expand AES. Again, the projections presume MSBA will acknowledge 80% of each location's total estimated cost to be reimbursable, the calculations being, $10.371M for AES, $12.104M for HBMS, and $500K for SMS. Following historical MSBA awards for NMRSD schools, a 60% reimbursement rate was applied to the totals noted generating the projected town responsibility figures documented in the chart below under "Estimated District Responsibility". The final anticipated town responsibilities have the following funding obligations, $6.741M relating to AES, $7.867M for HBMS, and $325K for SMS.

School	Alternative #2 Estimated Cost	*MSBA Estimated Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	12,964,563.00	60.00%	6,222,990.24	6,741,572.76
Squannacook Early Childhood Center	0.00	0.00%	0.00	0.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***28,719,563.00***	***60.00%***	***13,785,390.24***	***14,934,172.76***

The same uncertainty surrounding MSBA awards exists for this alternative as discussed during Alternative #1. The project team again believes there is significant risk surrounding potential funding from MSBA for work conducted at AES. While this alternative may be more attractive to MSBA due to further regionalization efforts, including the expansion of programming, there remains other more cost-effective options. If this alternative is pursued the participating communities need to be prepared to fully self fund the total cost of the project.

The estimated debt service projections are documented in the Appendix, identifying the term assumptions. The model utilizes the FY2023 enrollment figures to distribute estimated allocations and again provides debt associated with AES in two manners, with and without MSBA funding. A 25-year borrowing period has been used for the AES and HBMS projects combined with a shorter 5-year period for SMS. As mentioned previously, the borrowing climate is still unstable for a FY2024 outlook, though the estimations have chosen a 4.0% interest rate for modeling 25-year debt with a 3.5% rate on a 5-year term.

Further, and in terms of the general fund operating budget, this alternative will likely have little impact on current spending. If a redistricting scenario occurs, transportation will be the primary operation affected, though, it is anticipated the fees relating to this service will be unchanged or increase slightly given the general concept of rerouting existing bus runs.

The following is a general scope, with budget numbers, specific to AES renovations:

Ashby Renovations & Expansion

Task	Description	Budget Estimate
Demolition		
	Remove-3,000-gallon underground oil tank	20,000
	Asbestos abatement, tunnel work, demolition of closed wing	
Site Work		
	Site work for improved parking & accessibility	75,000
	Paving, stripping, HC access, signage	270,000
Building Interior		
	Replace gym floor	110,000
	Move cafeteria upstairs to new addition and close off the downstairs space	290,000
	Lift for stage access	45,000
Mechanical		
	Air handling unit for gym	225,000
	New boiler	220,000
Electrical		
	For what would be the remaining existing 1989 addition, determine electrical needs covering data/cabling, security access and intercom/chimes/clock systems	TBD
New Construction & Remodeling of the Original Front Section-		
	Remove contents/components throughout	107,250
	Abatement of flooring, ceiling, etc.	120,000
	Demolish front half of wing	195,000
	New construction along front half of wing outward	4,833,400
	Remodeling of rear half of front wing & demo old wing	3,861,000
	Construction Total	**10,371,650**
	Contingency, A&E, FFE @ 25%	2,592,913
	Project Total (2022)	**12,964,563**

7.4 Alternative #3 – Renovations to Squannacook ECC for Ashby K-4 Students

Terminating the lease for Keystone Collaborative and moving Ashby Elementary School students and staff to Squannacook ECC is the third alternative identified. It is the most cost effective from a capital investment standpoint. Squannacook ECC has sufficient classrooms to absorb Ashby Elementary School students; and Ashby Elementary School would be taken offline and returned to the town. Under this alternative, Spaulding Memorial Elementary School and Hawthorne Brook Middle Schools would be upgraded as under the Base Facilities Renovations Projects, detailed in Section 7.1 above. This alternative also leaves several classrooms open at Squannacook ECC that could be made available to fee-paying pre-K students.

The area currently used for NMRSD administrative offices is not required to be renovated under this scenario; however, it should be considered prior to moving NMRSD children into the building. Only the minimum required scope is included in this alternative to offer a low-cost and economically feasible alternative.

7.4.1 Facility Utilization under Alternative #3

This alternative includes moving current Ashby staff and students to Squannacook and completing minimal renovations. The option would include any rehabilitation required after Keystone vacates, plus any minor work required to recommission the kitchen to provide cafeteria services. There would be no impact to Spaulding student assignments. It is assumed that some modest staff reductions could occur, as there may be duplication in SECC and Ashby instructional leadership and facilities personnel. This option also has the potential to allow for increased pre-K enrollment, which could raise additional revenues or allow for expanded pre-K programming.

Analysis of Alternative #3 - Ashby Students Attend Squannacook

	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Squannacook								
K	22	22	23	23	23	23	24	24
1	21	21	22	22	22	22	22	23
2	21	20	20	20	21	21	21	21
3	38	22	21	21	21	21	22	22
4	28	38	21	20	20	21	21	21
Total - Squannacook	**130**	**123**	**106**	**106**	**107**	**109**	**110**	**111**
Rooms req'd at current avg class size	5.8	5.5	4.7	4.7	4.8	4.8	4.9	4.9
Total Classrooms Available	10							
Number of Classes								
K	1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1
3	2	1	1	1	1	1	1	1
4	1	2	1	1	1	1	1	1
Total Classes	**6**	**6**	**5**	**5**	**5**	**5**	**5**	**5**
Available Classrooms	4	4	5	5	5	5	5	5
Average Class Size								
K	22	22	23	23	23	23	24	24
1	21	21	22	22	22	22	22	23
2	21	20	20	20	21	21	21	21
3	19	22	21	21	21	21	22	22
4	28	19	21	20	20	21	21	21
Average Class Size	**22.2**	**20.8**	**21.2**	**21.2**	**21.5**	**21.7**	**21.9**	**22.2**

7.4.2 Benefits, Challenges & Observations

- Ashby would no longer bear the full cost of capital improvements to an elementary school because students would be placed in a regional building with enrollment across NMRSD towns.
- Lowest capital investment cost of all the alternatives.
- If option is pursued, additional improvements at SECC are recommended, but not required.
- Allows capital costs to be shared by the member towns per operating agreement.
- Provides expansion space for pre-K program, which could increase revenues and improve programming opportunities.
- Eliminates the “small school” issues facing Ashby as enrollment continues to decline; students assigned to Spaulding Elementary could be used to fill out the classrooms.

- Transportation cost and time on bus increases for Ashby residents.
- Ashby loses an important part of their community identity.
- A decommissioned school is no longer eligible for MSBA funding.
- Ashby students already attend pre-K, SPED programs, middle school, and high school in Townsend; this may mitigate any impact of increased transportation but requires further analysis.
- Debt service costs would increase only slightly with assuming SECC debt and assessment for SECC improvements for Ashby vs maintaining their own school.
- The District would need to evaluate the impact of the existing solar project at Ashby; these panels are owned by a private vendor and under a 20-year agreement.
- There may be a payback associated with the 2012 Roof/Window project at Ashby, which was funded through an MSBA grant.
- Loss of revenue from Keystone Collaborative.

7.4.3 Cost & Implementation

Alterative #3 is the most economical totaling an estimated $15.805M in capital investment. The same investments of $15.130M for updates to HBMS and $625K for SMS are carried through this option, however, only a modest $50K expenditure is included for SECC to provide for minor updating of vacated building spaces. Assumptions surrounding MSBA funding are applied to this alternative mirroring the prior two options. The projections document an 80% MSBA acknowledgement of the HBMS and SMS total estimated costs to be reimbursable, or $12.104M for HBMS and $500K for SMS. Maintaining the District's 60% historical MSBA awards, the projected town responsibility figures are documented in the chart below under "Estimated District Responsibility". The model assumes remaining town funding obligations to be $7.867M for HBMS and $325K for SMS. Separately, the $50K investment to complete primarily surface work at SECC would be a one-time payment allocated primarily to Ashby but based upon enrollment.

School	Alternative #3 Estimated Cost	*MSBA Estimatd Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	0.00	0.00%	0.00	0.00
**Squannacook Early Childhood Center	50,000.00	0.00%	0.00	50,000.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***15,805,000.00***	***60.00%***	***7,562,400.00***	***8,242,600.00***

Following the uniform logic applied to these debt projections, the model utilizes FY2023 enrollment figures to distribute estimated allocations. Reflecting prior models, a 25-year borrowing period, with a 4.0% interest rate has been used for the HBMS project with a reduced 5-year, 3.5% interest rate for SMS as documented in the appendix.

Finally, because this alternative assumes the closure of AES, some general fund operating impacts are anticipated. Using the FY2023 budget information, an estimated $330K consisting of custodial, utility, maintenance, and security line items would no longer be applicable. Transferring the AES student population to SECC does assume expenditures based upon the previously mentioned expenditure criteria are presumed to maintain their current levels or increase. However, the more impactful financial adjustment under this scenario would be eliminating the income generated by the Keystone Collaborative through the current lease agreement estimated to total $400K annually.

7.5 Alternative #4 Ashby & Townsend K-1 to Squannacook and 2-4 to Spaulding Memorial

In this option, the Keystone Collaborative would vacate the space they currently utilize at Squannacook ECC and modifications would be made to the second-floor space currently used for NMRSD administration offices. One unknown at this point concerns the school kitchen, which is currently not used. Meals for the building are being delivered from Hawthorne Brook Middle School. If the decision was made to bring the kitchen at Squannacook ECC back online, modifications might be required. The compressors for the refrigerator and freezer were removed at some point; and these appliances would need to be replaced. The boilers are over 30 years old and should be evaluated. Exterior lighting, additional parking, and parking areas upgrade has been noted as additional issues to address.

Utilizing data from an initial administrative space needs assessment provided by the Superintendent, NMRSD business functions could require approximately 5,000 square feet of space. Currently, NMRSD operations are located on the second floor and occupy approximately 8,000 square feet of Squannacook's space. The estimated 5,000 square feet of needed space might be high (+400 square feet) since a range of square feet was calculated for the business office and IT functions. A specific space utilization study will be required to pinpoint the exact square footage required for administrative activities.

Using the latest MSBA per square foot cost for remodeling of $458 per square foot and assuming, without designs and a space utilization assessment, that one-quarter of the of the second-floor space (2,000 square feet) needs to be renovated provides a rough cost of $916,000. Renovations would include demolition, wall framing/drywall, electrical (lighting, fire detection, security access, IT), HVAC, and finishes (doors, flooring, paint). The cost to complete this work is estimated currently at $916,000.

7.5.1 Facility Utilization under Alternative #4

This alternative provides a very balanced approach, benefiting the district through the creation of a regional early childhood education center serving pre-K through 1st grade. The model below assumes that the spaces used by Keystone would transition to K-1 classrooms, but there is flexibility to utilize the existing pre-K spaces as program needs dictate and blend students across the entire facility. Class sizes are kept at 20 students per classroom or less, with excess capacity exceeding 15% in all grades. Spaulding Memorial would benefit from a significant reduction in students, opening sufficient capacity to absorb additional students in grades 2-4.

It should be noted, the model of an early childhood center (PK/K/1) has become very popular in many districts across the state. Even the Massachusetts School Building Authority (MSBA) has adopted a paradigm for such schools and is encouraging districts to consider similar options to service early grades. Further, most districts presently maintain a pre-K program for students who have been identified as having special needs and for whom the district must provide services. Many districts will combine their special education-based pre-K program with a fee-based pre-K program for non-special needs students. There is significant unmet need in many communities for such pre-K services and having early childhood preschool programming under the guidance of a school district makes great sense to parents who are considering such options for their preschoolers. Because the district already has the infrastructure and the facility as well as the staffing, there is a potential that these additional, fee-paying students will provide a source of revenue for the district while also supporting an entry point for new students.

Analysis of Alternative #4 - Ashby & Spaulding PK-1 Attend Squannacook; Grades 2-4 to SMS

	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Squannacook								
K	118	118	119	119	119	119	120	120
1	113	109	114	114	114	114	115	115
Total	**231**	**228**	**232**	**233**	**233**	**234**	**234**	**235**
Rooms req'd at current avg class size	*10.3*	*10.2*	*10.4*	*10.4*	*10.4*	*10.4*	*10.5*	*10.5*
Class size based on availability	*19.3*	*19.0*	*19.4*	*19.4*	*19.4*	*19.5*	*19.5*	*19.6*
Grade K avg class size at 6 classrooms	*19.7*	*19.7*	*19.8*	*19.8*	*19.9*	*19.9*	*19.9*	*20.0*
Grade 1 avg class size at 6 classrooms	*18.9*	*18.2*	*19.0*	*19.0*	*19.0*	*19.1*	*19.1*	*19.1*
Available capacity based on avg class size (22.4) & rooms (12)	*37*	*41*	*36*	*36*	*35*	*35*	*35*	*34*
Available capacity as % of projected	*16%*	*18%*	*16%*	*15%*	*15%*	*15%*	*15%*	*15%*
Spaulding Memorial School								
2	118	116	109	114	114	114	114	114
3	123	116	114	107	111	112	112	112
4	115	121	114	113	106	110	110	111
Total	**355**	**353**	**337**	**333**	**331**	**336**	**336**	**337**
Available Capacity based on 650 Design	295	297	313	317	319	314	314	313
Capacity based on 5 year avg. enr.(431)	76	78	94	98	100	95	95	94
Available capacity as % of projected	21.3%	22.1%	27.8%	29.4%	30.2%	28.4%	28.1%	27.9%

7.5.2 Benefits, Challenges & Observations

- Benefits of shared spaces with Hawthorne Brook Elementary School, athletic fields, and other amenities.
- Affords opportunity for development of a regional early childhood model (Pre-K, K, 1) and Center with room for growth.
- Creates a regional early education center with room to grow.
- Both SMS and SECC would have expansion capacity without adding on to building.
- SECC has sufficient land upon which to expand to accommodate program and enrollment growth in the future, which could also offset future space needs at Varnum Brook K-1.
- Class sizes on average are lower than average across all schools (based on FY22).
    - *Class sizes are lower than currently at Ashby for all single class grades*
    - *Spaulding class sizes would be lower for all grades*
- Would be a District-wide investment as Squannacook ECC students are from all towns; cost split per operating agreement.
- Transportation costs and time on bus would be highest with this option.
- Concentration of early childhood students would enhance the District's ability to identify and address the needs of its youngest students and efficiently utilize available resources.
- Ashby loses an important part of their community identity.
- A decommissioned school (Ashby) is no longer eligible for MSBA funding.
- Ashby students already attend pre-K, SPED programs, middle school, and high school in Townsend; this may mitigate any impact of increased transportation but requires further analysis.
- Debt service costs would increase only slightly with assuming SECC debt and assessment for SECC improvements for Ashby vs maintaining their own school.
- The District would need to evaluate the impact of the existing solar project at Ashby; these panels are owned by a private vendor and under a 20-year agreement.
- There may be a payback associated with the 2012 Roof/Window project at Ashby, which was funded through an MSBA grant.
- Establishing and early childhood facility may be more attractive to MSBA increasing the likelihood of funding.
- Loss of revenue from Keystone Collaborative.
- Potential for tuition-based pre-K revenue based on available capacity.

7.5.3 Cost & Implementation

Alterative #4 poses a unique opportunity for the District by adopting an early childhood center model. While financially the option may be slightly more expensive than Alternative #3, it does have more revenue generating potential than its predecessors. While there is no change in the noted investments for HBMS and SMS totaling $15.755M, this prospect dictates a $956K expenditure to update and further define an early childhood center at SECC. The 80% MSBA acknowledgement for estimated reimbursable costs, or $765K for SECC, $12.104M for HBMS, and $500K for SMS has been applied as well as the District's historical 60% MSBA award, noted below. The model assumes remaining town funding obligations to be $497K for SECC, $7.867M for HBMS and $325K for SMS.

School	Alternative #4 Estimated Cost	*MSBA Estimatd Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	0.00	60.00%	0.00	0.00
Squannacook Early Childhood Center	956,000.00	60.00%	458,880.00	497,120.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***16,711,000.00***	***60.00%***	***8,021,280.00***	***8,689,720.00***

As presented in the prior alternatives, a consistent reasoning has been utilized for the associated debt projections, specifically, the FY2023 enrollment figures determining allocation share, a 25-year borrowing period, with a 4.0% interest rate for the HBMS project and a 5-year borrowing period with a 3.5% interest rate for renovations at SMS. The terms surrounding updates to SECC were modeled over a 10-year period leveraging a 3.5% interest rate maintaining level principal throughout. Each of these scenarios is detailed in the appendix.

Again, because this alternative assumes the closure of AES, it is anticipated the general fund will feel a shift in expenditures. As discussed in Alternative #3, an estimated $330K consisting of custodial, utility, maintenance, and security line items would no longer be applicable for AES, however, it is likely present operating expenses in the SECC building would increase given the growth in student population and expanded building use. Still, the more impactful financial change would be eliminating the income generated by the Keystone Collaborative through the current lease agreement estimated to total $400K annually. Be that as it may, this alternative does offer room for tuition-based program expansion that could be further studied to determine feasibility and financial advantages.

7.6 Capital Investment Cost Summary of Facilities Alternatives

Cost Summary of Facilities Alternatives

Facility	Alt. #1 – Renovate Ashby - Minimum	Alt. #2 - Ashby as Regional Elem.	Alt. #3 Ashby Moves to SECC	Alt. #4 - SECC to Regional Early Ed
Squannacook ECC	-	-	50,000	956,000
Ashby Elementary	4,700,000	12,964,563	-	-
Spaulding Memorial	625,000	625,000	625,000	625,000
Hawthorne Brook	15,130,000	15,130,000	15,130,000	15,130,000
Total Estimated Costs (2022)	**20,455,000**	**28,719,563**	**15,805,000**	**16,711,000**

8 District Operating Agreement

One of the critical elements of an NMRSD plan to address enrollment and facility-related issues is the ability of the leadership of the region, including its School Committee, to make decisions that are in the best interest of the regional District. The study team has reviewed the current NMRSD Regional Agreement to ensure that it is both current as well as empowering of the regional leadership and School Committee to make decisions in the best interest of NMRSD. While there are elements of the Agreement that need to be updated, which we will enumerate later in this section, our review of the enabling legislation (Ch. 71, Section 14B) as well as the Regional Agreement Checklist, as issued by DESE, leads the team to conclude that the current Agreement is comprehensive (i.e., includes the necessary components of a sound Agreement) as well as complete in that it contains the necessary powers of the Regional School Committee to make decisions on facilities that fall within the purview of the Regional Agreement.

The current Agreement, which has not been reviewed and edited by NMRSD since 2007, should be updated to reflect that several buildings are listed in the Agreement that are either no longer in use by NMRSD or are associated with a town that has separated from NMRSD. The Agreement does provide that, with the decision to discontinue using a building, it then returns to the town who owned the property initially (i.e., before NMRSD leased the building from the town for use by NMRSD). There are also provisions for the continued debt financing of such buildings if NMRSD had incurred costs for renovating such buildings. (Section VIII - WITHDRAWAL, paragraph D)

In the case of a town that withdraws from the Regional Agreement, which is permitted in Section VIII of the Agreement, any building that was built or renovated by the NMRSD that continues to have debt would be assessed to the withdrawing town at a rate established by the Agreement.

This allocation of debt repayment is only attributable to a town that withdraws from a Regional District school not located in that town. If the school being closed exists in a town and has all its students in whatever the grade configuration it has attending that school, then there would be no debt repayment due by that town since the school serves only students from that town.

Should NMRSD wish to repair/renovate/replace a school that is being leased by the NMRSD, then those costs would be allocated out to the towns that send their students to that particular school in that particular town.

The current regional agreement apportions cost for capital and operating in Section IV - APPORTIONMENT AND PAYMENT OF COSTS INCURRED BY THE DISTRICT. Within paragraph E. Apportionment of Operating Costs, the calculation of assessing cost to members towns is based on enrollment:

> *Each member town's share shall be determined by computing the ratio which that town's pupil enrollment in the regional school District on October 1 of the preceding year for which the apportionment is made bears to the total pupil enrollment from all the member towns on the same date.*

The study team reviewed several other regional agreement assessment models for this study and concluded that it may be advantageous for NMRSD to consider either a refinement of the use of the enrollment methodology or to consider an alternative approach to apportioning costs to member towns.

One district that has a more detailed formula for allocating costs using enrollments is Acton-Boxborough Regional School District:

Section 5, paragraph A - Providing such is not contrary to applicable law, each member town's share of capital, operating and transportation costs for each fiscal year shall be determined by computing, to the nearest 1/100 of 1%, the ratio which the sum of its pupil enrollments in the Regional School District on October 1 of the three years next preceding the start of such fiscal years bears to the sum of the pupil enrollments in the Regional School District of all member towns on October 1 of the same three years. These ratios shall be known as the base percentages.

The use of a three-year rolling average of enrollment to compute a "base percentage" could help any member town that experiences a "dip" or a "spike" in enrollment in any given year, which in the era of COVID may be advisable to consider. There are, however, other assessment models that use a more refined financial modeling to apportion costs to its member towns. One such regional school district is Pentucket Regional that has the following assessment model in its agreement:

The district assessment will be calculated and reported to member towns by using the two-step method. The district shall list all general fund revenues, including but not limited to Chapter 70 and Transportation Aid, and reduce the member assessment as it relates to the approved operating budget by said amount. The remaining member assessments shall be calculated by charging each member town its net minimum spending amount as approved by the Department of Elementary and Secondary Education for the Fiscal Year being assessed. Should the requested member assessments exceed the net minimum spending required then the remaining amount shall be charged to each member town based upon its percentage of the entire District enrollment calculated to 4 decimal places as of October 1 of the prior fiscal year for grades K-12, including out of district placements, as reported to the Massachusetts Department of Elementary and Secondary Education on the statewide pupil census. All Debt Service and Capital Costs not associated directly to one member community's Elementary School(s) shall be allocated and assessed annually using the calculation stated above for any amount over the net minimum spending requirement.

NMRSD should consider whether to retain its current assessment model based on current enrollment, refine it to be more advantageous for its members by expanding the timeframe to address one-year variations in enrollment, or completely revise its approach by employing something like the two-step model detailed above, which takes into consideration the finances of each member town as well as its student NMRSD enrollment. The study team makes no representation as to which model NMRSD should employ, but rather suggests that in reviewing the current agreement, it may be an opportune moment to reconsider the current assessment model used by the region to make it more advantageous NMRSD and its member towns.

9 Appendices

9.1 2020 Facility Assessment Reports (Habeeb & Associates)

9.2 Enrollment Projection Tables

9.3 Debt Service Calculations for Alternatives

9.4 Public Input Survey

FACILITY CONDITION ASSESSMENT

NORTH MIDDLESEX REGIONAL SCHOOL DISTRICT

Ashby Elementary School

911 Main Street, Ashby, MA 01431

July 7, 2020
H&A JN 1919.01

100 GROVE ST
SUITE 303
WORCESTER MA
01605-2630
774-206-3360

150 LONGWATER DR
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Description of scope:

Habeeb & Associates Architects conducted a Facility Condition Assessment for North Middlesex Regional School District at the Ashby Elementary School.

Purpose of report:

The Facility Condition Assessment was developed to address the physical structure and mechanical, electrical, plumbing, and water service system of the Ashby Elementary School in Ashby, MA. The school includes the 1950 original building, the abandoned 1960 addition, the 1989 classroom wing addition, and the associated parking areas. This Assessment shall describe current conditions and provide priority recommendations and budget estimates for repair or replacement of deficient building components and systems that shall be used for short and long term capital planning. It is recommended that this Assessment be used in context with the facilities goals as defined by the North Middlesex Regional School District for the development of a long range Capital Plan.

Methodology:

The Assessment is based upon visual inspection, review of available documents, and interviews with Facilities personnel. Habeeb & Associates Architects conducted an interview with Nancy Haines, Business Manager, Oscar Hills, Director of Buildings/Grounds, Ann Cromwell-Gapp, Ashby Elementary School Principal, and Daniel Johnson, Custodial Day Lead Buildings/Grounds on January 22, 2020, followed by a tour of the facility. Existing deficiencies and concerns were observed, noted, and photographed by the design team.

The team was provided with drawings prepared by Earl R. Flansburgh + Associates, Inc. in 1989 describing renovations and additions to the original building. Drawings of the original 1950 and the abandoned wing of the1960 addition were not available.

The deficiencies observed were related to age of building systems and components, usage, newer code requirements and improvements recommended to provide an environment suitable for 21st Century learning practices.

The spreadsheets and photographs included in the Facility Condition Assessment detail the recommendations and associated costs for addressing the deficiencies identified. Estimated costs for projects to be completed in future years contain escalation factors to account for inflation.

BUILDING DATA

GENERAL INFORMATION:	
Building:	Ashby Elementary School
Address:	911 Main Street, Ashby, MA 01431
Title of Main Contact:	Nancy Haines, Business Manager
Title of Facilities Contact:	Oscar Hills
CODE CLASSIFICATION:	
Occupancy:	Group E Education
Construction Type:	IIB Unprotected
BUILDING HISTORY:	
Original Building:	1951 22,500 SF
Addition:	1960 10,400 SF
Addition:	1989 19,900 SF

SITE / BUILDING AREA:		SITE COMPONENTS:	
Site Area:	465,221 SF (10.68 Acres)	Lighting:	No lighting at parking lot. Wall mounted around the building and at the exterior doors.
Total Building Area:	52,800 SF	Storm Drainage:	Area drains with catch basins at paved playground and parking lot. Discharge to a nearby drainage pond.
Lower Level Area:	5,900 SF - 1951 4,000 SF - 1960	Sanitary System:	Onsite septic system with two sets of pumps in below grade chambers by the gym. Pumps discharge to leaching fields behind the baseball field.
First Floor Area:	33,200 SF – 1951, 1960, 1989	Irrigation:	No irrigation system on site.
Second Floor Area:	9,700 SF - 1989	Play Areas:	2 playground areas; 1 paved and 1 dirt with equipment. Ball fields are not part of this study.
SITE COMPONENTS:		MECHANICAL / ELECTRICAL COMPONENTS:	
Parking/Driveways:	Bituminous paving.	Water Service:	Well in water protected zone 1 – 250’ radius with 3" line connection to the building.
Walkways:	Bituminous walkways at main entrance and bus drop-off.	Domestic Hot Water:	Natural gas.
Stairs:	Cast-in-place concrete stair at main entrance and at exterior door by the 1960 addition.	Fire Suppression:	None.
Ramp:	Cast-in-place concrete ramp at main entrance.	Heating Systems:	Steam heat with unit ventilators – 1950; hot water with unit Ventilators – 1989.
Handrails/Guardrails:	Painted steel at exterior stairs and ramp.	Cooling Systems:	Three window units in the office area.
Canopy:	Painted steel at the main entrance.	Electric Service:	1200 amp main service.

BUILDING DATA (CONTINUED)

ARCHITECTURAL COMPONENTS:	
Foundation:	Reinforced concrete.
Super Structure:	Structural steel.
Floor Structure:	Structural concrete slab on-grade; and elevated slab at the 1989 addition.
Roof Structure:	Mostly flat roofs; Sloped roof over the computer lab and library at the admin wing.
Exterior Walls:	Mostly 8” CMU w/ 4” brick veneer – 1951; metal panel – 1960; Metal stud framing w/ CMU block veneer – 1989 addition.
Roofing:	PVC membrane w/ metal roof edge. EPDM at the 1960 addition.
Window Systems:	Replaced in 2012; aluminum frame w/ double pane glazing and translucent panels on top in some areas.
Exterior Doors	Replaced in 2012; mostly painted aluminum doors and frames.
Interior Doors	Mostly wood door w/ hollow metal frames.
Stairs:	Concrete filled steel pan.
Floor Finishes:	9x9 Asbestos Floor Tile, Carpet, 12x12 VCT, Ceramic Tile, Painted Concrete, Quarry Tile, Sheet Rubber, Wood.
Interior Walls:	Plaster and CMU shaft walls – 1951; Metal stud and drywall – 1989.
Wall Finishes:	Paint over plaster; CMU; and drywall.
Ceiling Finishes:	1x1 ACT – 1951 & 1960; and 2x4 ACT at the 1989 addition.
Conveying Systems:	Chair lift at stair connecting admin wing to cafeteria (lower level below gymnasium), and an elevator in the 1989 addition.

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This Summary categorizes the recommended capital improvements for the Ashby Elementary School and site elements based on staff interviews, observations, and review of available drawings. The original steel framed building consists of 22,500 square feet on two levels and was completed in 1950. Steel framed additions were added to the west side of the building in 1960, and a classroom wing was added in 1989, increasing the total area to 52,800 square feet. The ball fields are not included in this Assessment.

Work items identified by this Assessment are assigned a Scope category based on urgency, ongoing maintenance, life-cycle costs, and other concerns that compromise the teaching environment. In summary, scopes are categorized by the following descriptions:

Scope 1 – Necessary/Not Yet Critical

Scope 2 – Recommended

Scope 3 – Does Not Meet Current Codes or Accessibility Regulations for New Construction

Refer to Section 4, How to Read This Assessment, for detailed Scope descriptions and calculation methodology.

Scope 1 priority has been assigned to Work Items that present an immediate safety risk, such as asbestos abatement, deteriorated exterior walkways, and egress stairs. Building envelope items such as foundation wall leakage and leakage through the chimney that present ongoing maintenance and repair issues have also been assigned highest priority.

In addition, the recommendations include replacement of the pneumatic controls for the classroom wing, which currently does not allow temperature adjustment at various spaces in the building. The recommended building envelope and mechanical system improvements also have the added benefit of reducing operational costs by increasing efficiency and making the space more comfortable for students and faculty.

Scopes 2 and 3 priorities address other, less critical Work Items that are not immediately necessary, but will continue to deteriorate without maintenance, repair or replacement, such as painting of the canopy at the main entrance, and replacing the cafeteria floor. Other high priority items are recommended for the complete renovation of the toilets and the demolition of the abandoned wing.

Longer term consideration is recommended for replacement of the obsolete kitchen equipment and install new multipurpose gymnasium floor. Finally, new bituminous pavement and site lighting at the parking lot is recommended.

Category	Scope 1	Scope 2	Scope 3	Total
Building Summary				**Ashby Elementary School**
1. SITE	47,931	112,710	271,635	432,276
2. BUILDING ENVELOPE	307,775	3,250	0	311,025
3. BUILDING INTERIORS	513,110	624,234	290,524	1,427,868
4. MECHANICAL	129,350	1,083,420	234,000	1,446,770
5. ELECTRICAL	146,250	374,693	0	520,943
[1]Total:	1,144,416	2,198,307	796,159	4,138,882
[1]Total Inflated @ 4% Compounded Annually	1,237,800	2,674,577	968,649	4,881,026

[1]Totals include Soft Costs (30%): Contingency, Administration and A/E Fees.

EXECUTIVE SUMMARY

The *Executive Summary* recaps the *Total Inflated* row from the bottom of the Building Summary sheets. These costs are then totaled at the bottom to indicate a combined proposed capital expenditure per scope. This is intended to make it easier for the reader to review and compare the overall costs for each of the scopes.

SUMMARY

The *Summary* recaps the *Total* row from the bottom of each category for the subject building, separated into scopes. This is intended to make it easier for the reader to review and compare the overall costs for each of the categories together with the scopes for the subject building.

FACILTIY CONDITION ASSESSMENT

The following is a list and brief description of the column and row headings of the Capital Asset Assessment sheets.

Description

The *Descriptions* are the work items identified during our inspection. They usually consist of the building component and its deficiencies; and a recommendation for correcting the deficiency.

Quantity

The number of items: (For example, if the work item is for ”unit ventilators replacement” the building in question may have a *Quantity* of 60 unit ventilators to be replaced).

Unit

The *Units* are identified by a two-letter code. The unit codes are as follows:

SF – Square Foot
SY – Square Yard
LF – Linear Foot
LS – Lump Sum
EA – Each.

Unit Cost
The *Unit Cost* is the cost of one *Quantity* of a work item. Unit costs are preliminary construction cost estimates only and are generally based on the following references: *Means Square Foot Cost Data; Means Construction Costs Data*; in house cost data; professional experience; and information provided by various contractors and suppliers.

Total
The *Total* column is determined by the following equation: QUANTITY x UNIT = TOTAL.

Total with Soft Costs
This assessment provides preliminary construction costs associated with *Soft Costs*. *Soft Costs* generally include a contingency, (typically 10% to 15%) for unforeseen conditions; indirect administrative expenses such as legal costs, printing and advertising (typically 5% to 10%); and architectural and engineering costs (typically 10% to 15%) for a total soft cost estimate. We used a *Soft Cost* of 30% of the *total* cost in this assessment. The *Total with Soft Costs* is determined by the following equation: TOTAL x 1.30 = TOTAL W/ SOFT COST.

Some projects may require higher or lower *Soft Costs* depending on the type and extent of project selected. Work items listed are provided as a guide to develop repair and renovation projects with preliminary construction cost estimates. The actual scope of a project could include a combination of work items, i.e. new ceilings and new lighting. Some other projects may require finishes, e.g. painting, which may not necessarily be broken out for that project.

Scope 1 – Necessary/Not Yet Critical
- Predictable deterioration
- Potential downtime
- Associated damage or higher costs if deferred further

Scope 2 – Recommended
- Sensible improvements to existing conditions that are not required for the basic function of the facility
- Overall usability improvement
- Long term maintenance cost reduction

Scope 3 – Does Not Meet Current Codes for new construction but “Grandfathered”
- No action required at this time. However, if a substantial renovation or a substantial building addition is performed in the future, building codes may require this corrective work in addition to the work planned.

Totals Column (work items)
The *Totals* column is the sum of the Scopes columns *1, 2,* and *3,* for each work item. The *Totals* column also shares the sum of the *Total* row and *Total Inflated* rows at the lower right corner.

Total Row (scopes)
The *Total* row is the sum of the Scopes columns *1, 2, 3,* and *Totals* column, for each category. The *Total* row and *Total Inflated* rows are totaled at the lower right corner.

Total Inflated Row
The *Total Inflated* row is the sum of the Scopes columns *1, 2, 3,* and *Totals* column for each category multiplied by a coefficient to determine the inflated cost at a rate of 4% and compounded annually.

Scope 1 is shown with an inflation factor for work to be performed within a 2 yr period.
Scope 2 is shown with an inflation factor for work to be performed within a 5 yr period.
Scope 3 is shown with an inflation factor for work to be performed within a 5 yr period.

The *Total* row and *Total Inflated* rows are totaled at the lower right corner.

The Assessment is broken into five categories with specific evaluation concerns in each:

1. Site
- Storm Drainage
- Drives and Walks
- Landscaping
- Site Improvements
- Play Areas
- Sanitary System
- Accessible Parking and Entrance Approach

2. Building Envelope
- Roofs
- Exterior Walls
- Windows
- Exterior Entrances and Doors
- Thermal Insulation
- Accessible Egress and Ingress
- Building Structural System

3. Building Interiors
- Floor Finishes
- Wall Finishes
- Ceiling Finishes
- Interior Doors and Exitways
- Code Compliance Issues
- Accessibility for the Disabled
- Hazardous Material Remediation

4. Mechanical
- Domestic Hot Water Generation
- Cold Water Services
- Gas Services
- Piping for Plumbing Systems
- Plumbing Fixtures
- Heat Generation
- Cooling System
- Piping for Heating Systems
- Temperature Controls
- Ventilation
- Accessible Plumbing Fixtures

5. Electrical
- Main Services and Distribution
- Convenience Power
- Fire Alarm Systems
- Lighting Systems
- Emergency Lighting Systems
- Communications Systems
- Computer Network & Technology Systems
- Site Lighting
- Electrical Features for the Disabled
- Security System

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Category	Scope 1	Scope 2	Scope 3	Total
Building Summary				**Ashby Elementary School**
1. SITE	47,931	112,710	271,635	432,276
2. BUILDING ENVELOPE	307,775	3,250	0	311,025
3. BUILDING INTERIORS	513,110	624,234	290,524	1,427,868
4. MECHANICAL	129,350	1,083,420	234,000	1,446,770
5. ELECTRICAL	146,250	374,693	0	520,943
[1]Total:	1,144,416	2,198,307	796,159	4,138,882
[1]Total Inflated @ 4% Compounded Annually	1,237,800	2,674,577	968,649	4,881,026

[1]Totals include Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
1. SITE								**ASHBY ELEMENTARY SCHOOL**	
1.1 Bituminous Paving at Existing Parking Area: New bituminous paving at the existing gravel parking lot. Cost includes painted striping and directional markings/crosswalks.	4,500	SY	30.00	135,000	175,500			175,500	175,500
1.2 Bituminous Paving at New Accessible Parking: Bituminous paving for three new accessible parking spaces including one accessible van near the existing ramp by the main entrance. Cost includes painted striping and directional markings/crosswalks. Regrade to create flat area for new parking.	350	SY	50.00	17,500	22,750			22,750	22,750
1.3 Provide Exterior Signage: Provide post mounted signage to identify accessible parking, and building mounted signage to locate accessible entrance at the front entrance.	5	EA	290.00	1,450	1,885			1,885	1,885
1.4 Site Lighting: Install site lighting at the new paved parking lot.	10	EA	5,000.00	50,000	65,000			65,000	65,000
1.5 Non-compliant Galvanized Painted Steel Handrails: Exterior galvanized painted steel handrails are missing extensions or not continuous. Modify/Replace/Add new galvanized painted steel handrails and guardrails.	1	LS	5,000.00	5,000	6,500			6,500	6,500
1.6 Paint Canopy at the Main Entrance: Existing steel canopy structures are flaking. Prepare, prime and paint existing steel canopy and supporting structures.	300	SF	15.00	4,500	5,850		5,850		5,850
1.7 Water Infiltration at Foundation Walls: It is reported that water is penetrating building below grade foundation at the cafeteria, the main electrical room, and the boiler room. Excavate and install water proofing.	150	LF	235.00	35,250	45,825	45,825			45,825

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
1. SITE									**ASHBY ELEMENTARY SCHOOL**
1.8 Replace Bituminous Concrete Pads: Existing bituminous concrete pads at end wall of the 1989 addition are heaving and preventing door from opening. Remove and replace.	14	SY	30.00	420	546	546			546
1.9 Ponding and Leaks at the 1989 Addition Connecting Corridor: Regrade the bituminous paving area along the connecting corridor to slope away from the building.	40	SY	30.00	1,200	1,560	1,560			1,560
1.10 Replace Existing 3" PVC Water Line: Replace existing 3" water line from the domestic water well to the building with 6" line.	400	LF	78.00	31,200	40,560		40,560		40,560
1.11 Install Water Filtration System: It is reported that well water contains high levels of magnesium, causing issues with kitchen equipment. Install filtration to remove magnesium.	1	EA	51,000.00	51,000	66,300		66,300		66,300
Total						47,931	112,710	271,635	432,276
Total Inflated @ 4% Compounded Annually						51,842	137,129	330,486	519,457

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
2. BUILDING ENVELOPE								**ASHBY ELEMENTARY SCHOOL**	
2.1 Staining and efflorescence on masonry walls - 1989 addition: Power wash and clean.	500	SF	5.00	2,500	3,250		3,250		3,250
2.2 Paint Rusted Boiler Flue: Existing steel boiler flue is heavily rusted. Prepare, prime and paint existing steel boiler flue.	400	SF	15.00	6,000	7,800	7,800			7,800
2.3 Snow Guard at Canopies: Install snow guard at canopies over egress doors	1	LS	750.00	750	975	975			975
2.4 Demolish 1960 addition: The 1960 addition has not been used and has been abandoned for over 15 years.	1	LS	230,000	230,000	299,000	299,000			299,000
Total						307,775	3,250	0	311,025
Total Inflated @ 4% Compounded Annually						332,889	3,954	0	336,844

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**ASHBY ELEMENTARY SCHOOL**	
3.1 Replace Asbestos Containing Floor Tiles, and Linoleum: The AHERA report dated 7/18/17 indicates that 9"x9" floor tiles, linoleum, and mastic contain ACM. Abate ACM tile, linoleum and mastic and provide new VCT tile flooring and vinyl base. (Note, 378 SF of asbestos floor tiles were removed in July 2019).	5,838	SF	15.00	87,570	113,841	113,841			113,841
3.2 Replace Asbestos Containing Ceiling Tiles: The AHERA report dated 7/18/17 indicates that ceiling tiles contain ACM. Abate ACM tile and provide new ACT tile.	9,238	SF	15.00	138,570	180,141	180,141			180,141
3.3 Replace Asbestos Containing Pipe Insulation: Per AHERA report dated 7/18/17. Abate and provide new pipe insulation.	1,050	LF	9.00	9,450	12,285	12,285			12,285
3.4 Replace Asbestos Containing Fire Doors: Per AHERA report dated 7/18/17. Remove and replace.	22	EA	1,000.00	22,000	28,600	28,600			28,600
3.5 Replace Asbestos Containing Duct Flex Joints: Per AHERA report dated 7/18/17. Remove and replace.	6	EA	150.00	900	1,170	1,170			1,170
3.6 Replace 1x1 Ceiling Tiles: Existing 1x1 acoustical ceiling tiles are sagging at the front lobby. Remove and replace with 2x4 ACT tile with new suspension grid.	560	SF	8.00	4,480	5,824		5,824		5,824
3.7 Leaking Roof Drain Leader: Remove and replace roof drain leader behind the proscenium wall at the gymnasium.	1	LS	2,500.00	2,500	3,250	3,250			3,250
3.8 Roof Leak through Chimney: Remove existing chimney flashing and install new flashing.	1	LS	1,000.00	1,000	1,300	1,300			1,300

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS									**ASHBY ELEMENTARY SCHOOL**
3.9 Renovate Toilet Rooms: Renovate toilets rooms in the 1950 building.	2	LS	36,850.00	73,700	95,810		95,810		95,810
3.10 Gymnasium Floor: Remove the existing gymnasium wood floor. Install new rubber flooring.	4,600	SF	25.00	115,000	149,500			149,500	149,500
3.11 2x4 Mineral Fiber ACT in 1989 Addition: Existing 2x4 ACT tiles in the 1989 addition are warped and sagging. Replace existing ceiling tiles with new moisture resistant mineral fiber acoustic ceiling tiles in existing suspension grid.	19,900	SF	8.00	159,200	206,960		206,960		206,960
3.12 Non-compliant Handrails/Guardrails on Stairs in 1989 Addition: Existing handrails are not continuous and not at the right height and missing the extensions. Guarding is only on one side of stair. Modify and/or add to the existing handrails/guardrails.	150	LF	45.00	6,750	8,775			8,775	8,775
3.13 Rubber Stair Treads and Risers - 1989 Addition: Existing rubber stair treads and risers are discolored. Replace in kind.	160	LF	50.00	8,000	10,400		10,400		10,400
3.14 Classroom Sinks - 1989 Addition: Classroom sinks are not wheelchair accessible. Modify cabinet, and install new ADA compliant sink.	16	EA	2,500.00	40,000	52,000			52,000	52,000
3.15 Doors Between Corridor and Rooms - 1950 Building: Doors between corridor and rooms are recessed and do not have no-pull side dimension for ADA clearance. Reconfigure door recess to compliant with ADA clearance.	4	EA	2,500.00	10,000	13,000			13,000	13,000
3.16 Nurse's Office Toilet: Toilet room in the nurse office is not ADA compliant. Demolish and rebuild to compliant.	1	LS	15,000.00	15,000	19,500			19,500	19,500

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**ASHBY ELEMENTARY SCHOOL**	
3.17 Handrail on Mezzanine Ramp in Cafeteria: Existing handrail on ramp is missing top extensions. Modify or add new handrail with extensions.	32	LF	45.00	1,440	1,872			1,872	1,872
3.18 Handrail on Stair to Mezzanine: Existing handrail on stair to mezzanine is missing extensions. Modify or add new handrail with extensions.	10	LF	45.00	450	585			585	585
3.19 VCT Tiles in Cafeteria: Existing 1x1 VCT tiles in cafeteria are buckling and not adhering to the floor. Remove and replace in kind.	10,600	SF	8.00	84,800	110,240		110,240		110,240
3.20 Existing Kitchen: The existing kitchen equipment is old and obsolete. Complete renovation of the kitchen with new equipment.	1	LS	150,000	150,000	195,000		195,000		195,000
3.21 Kitchen Staff Toilet: Kitchen staff toilet is not ADA compliant, modify/demolish and rebuild.	1	LS	15,000.00	15,000	19,500			19,500	19,500
3.22 Gymnasium Egress Stairs: Existing handrails and guardrails on gymnasium stairs are non-compliant with no extensions. Modify or add new compliant handrails.	32	LF	45.00	1,440	1,872			1,872	1,872
3.23 Gymnasium Stage: Existing gymnasium stage is not wheelchair accessible. Install new chair lift.	1	LS	15,000.00	15,000	19,500			19,500	19,500
3.24 Lobby Double Doors: The lobby double wood doors are not compliant, single door does meet minimum clear width. Remove and replace with new uneven leaf doors.	1	LS	2,500.00	2,500	3,250			3,250	3,250
3.25 Handrail on Lobby Stair to Cafeteria: Handrails on stair to cafeteria are missing top extensions. Modify/add new handrails.	20	LF	45.00	900	1,170			1,170	1,170

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**ASHBY ELEMENTARY SCHOOL**	
3.26 Remove Asbestos Containing Floor Tiles, and Linoleum: (Abandoned Wing) The AHERA report dated 7/18/17 indicates that 9"x9" floor tiles, linoleum, and mastic contain ACM. Abate ACM tile, linoleum and mastic.	7,114	SF	10.00	71,140	92,482	92,482			92,482
3.27 Remove Asbestos Containing Ceiling Tiles: (Abandoned Wing) The AHERA report dated 7/18/17 indicates that ceiling tiles contain ACM. Abate ACM tile.	6,145	SF	10.00	61,450	79,885	79,885			79,885
3.28 Remove Asbestos Containing Thermal System Insulation Fittings: (Abandoned Wing) Per AHERA report dated 7/18/17. Abate insulation.	6	EA	20.00	120	156	156			156
Total						513,110	624,234	290,524	1,427,868
Total Inflated @ 4% Compounded Annually						554,980	759,476	353,467	1,667,923

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
4. MECHANICAL									**ASHBY ELEMENTARY SCHOOL**
4.1 Replace Air Handling Unit: Replace steam air handler at the gymnasium with new hot water unit.	1	EA	150,000	150,000	195,000		195,000		195,000
4.2 Replace Pneumatic Control: Replace the existing pneumatic control of the 1989 unit ventilators.	19,900	SF	5.00	99,500	129,350	129,350			129,350
4.3 Remove Window Unit Air Conditioner: Remove three window unit air conditioners in the office area. Install new split system.	3	EA	12,000.00	36,000	46,800		46,800		46,800
4.4 Replace Domestic Water Piping: Existing domestic water piping in the 1950 building may contain lead.	22,500	SF	8.00	180,000	234,000			234,000	234,000
4.5 Old Septic pumps: Two sets of pumps in below grade pump chamber are old and at the end of their lifecycle. Remove and replace in kind.	2	EA	1,200.00	2,400	3,120		3,120		3,120
4.6 Replace the Heating and Ventilation System in the Original 1950 Building: Remove the entire steam heating system. Replace with high efficiency condensing boilers.	22,500	SF	22.00	495,000	643,500		643,500		643,500
4.7 Replace non-functioning boiler: Only one boiler is working which was replaced about two years ago. The other one is not functioning and used for parts salvaging.	1	LS	150,000	150,000	195,000		195,000		195,000
Total						129,350	1,083,420	234,000	1,446,770
Total Inflated @ 4% Compounded Annually						139,905	1,318,146	284,697	1,742,748

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
5. ELECTRICAL									**ASHBY ELEMENTARY SCHOOL**
5.1 Upgrade Data Cabling: Upgrade existing data cabling and add wireless routers throughout school. The construction cost does not include technology equipment or network electronics.	22,500	SF	3.81	85,725	111,443		111,443		111,443
5.2 Security Camera and Intrusion Alarm System: School needs security camera and intrusion alarm upgrades.	22,500	SF	5.00	112,500	146,250	146,250			146,250
5.3 Intercom System: Intercom system needs to be upgraded as the existing system is old and obsolete, with parts for repair hard to find.	22,500	SF	3.00	67,500	87,750		87,750		87,750
5.4 Electrical Services in the 1950 Wing: Electrical services for the 1950 wing need to be upgraded.	22,500	SF	6.00	135,000	175,500		175,500		175,500
Total						146,250	374,693	0	520,943
Total Inflated @ 4% Compounded Annually						158,184	455,871	0	614,055

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

1. SITE

1.1 Parking lot at front of school

1.5 Non-Compliant handrails

1.6 Canopy at main entrance

1.7 Exterior wall at electrical room

1.8 Bituminous concrete pad at exit door

2. BUILDING ENVELOPE

2.1 Staining and efflorescence on masonry wall

2.2 Rusted boiler flue

2.3 Canopy at exit door

2.4 The abandoned 1960 addition

3. BUILDING INTERIORS

3.1 9”x9” asbestos floor tiles

3.6 Sagging acoustical ceiling tiles

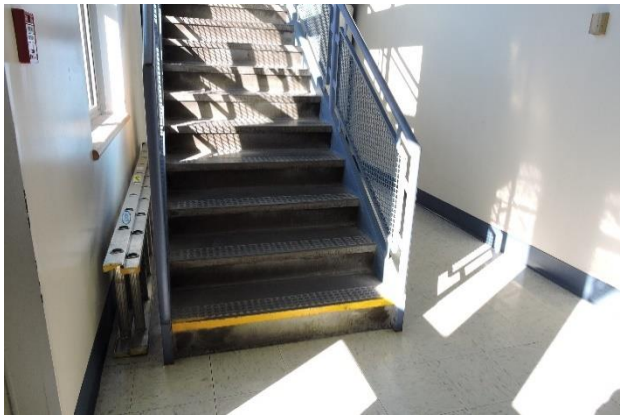
3.7 Leaking interior roof drain leader

3.8 Roof leak through chimney

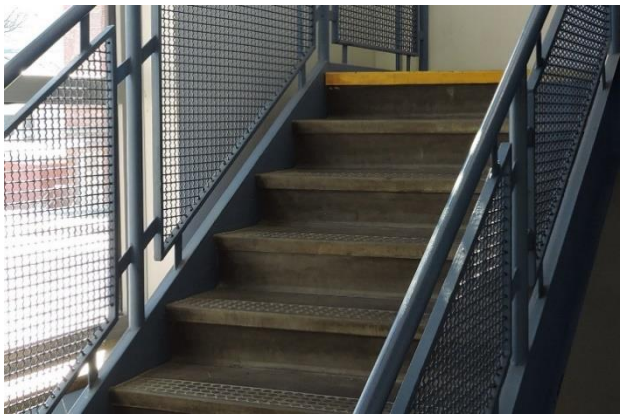
3.9 Toilet rooms in the 1950 building

3.10 Gymnasium wood floor

3.11 2x4 ACT tiles in the 1989 addition are warped and sagging



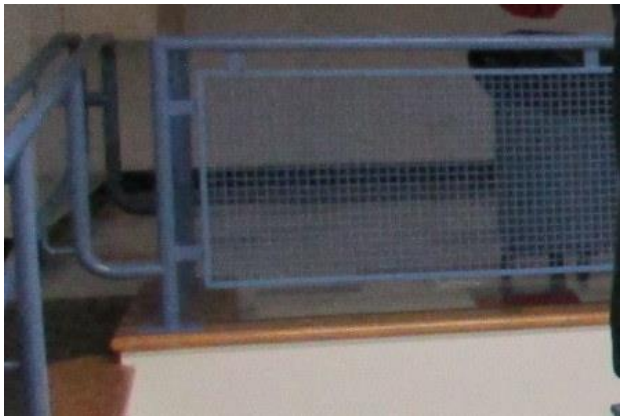
3.12 Non-compliant Handrails/Guardrails on Stairs in 1989 Addition



3.13 Rubber stair treads and risers are discolored

3.14 Classroom sinks are not wheelchair accessible

3.15 Doors between corridor and rooms – 1950 building



3.17 Handrail on ramp is missing top extension

3.19 VCT tiles at Cafeteria

3.20 Existing kitchen

3.22 Gym egress stair

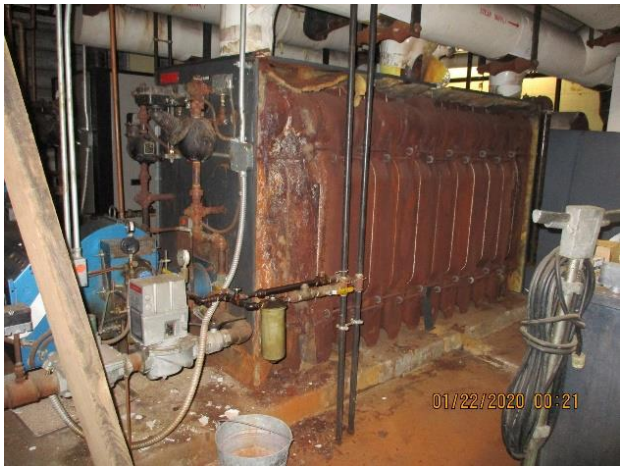
3.24 Lobby double doors

3.25 Handrail on lobby stair to cafeteria

4 MECHANICAL

4.2 Air compressor tank for pneumatic control

4.6 Unit ventilator in 1950 building



4.7 Non-functioning boiler

5 ELECTRICAL

5.2 Security camera at front entrance

5.4 Main electrical room

APPENDICES

Appendix A:

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ASBESTOS OPERATIONS AND MAINTENANCE PLAN

Ashby Elementary School
911 Main Street
Ashby, Massachusetts

Terracon Project No. J1177087
July 18, 2017

Prepared for:

North Middlesex Regional School District

Pepperell, Massachusetts

Prepared by:

Terracon
Manchester, New Hampshire

TABLE OF CONTENTS

Page No.

TABLE OF CONTENTS

Page No.

APPENDICES

ASBESTOS OPERATIONS AND MAINTENANCE PLAN
Ashby Elementary School
911 Main Street
Ashby, Massachusetts

Terracon Project No. J1177087
July 18, 2017

INTRODUCTION

Terracon Consultants, Inc. (Terracon) has prepared this Asbestos Operations and Maintenance (O&M) Plan for North Middlesex Regional School District (NMRSD) to establish guidelines for the in-place management of asbestos-containing material (ACM) identified at Ashby Elementary School, 911 Main Street, Ashby, Massachusetts (hereinafter referred to as "the site").

Based on the historical data as reviewed by Terracon, the following materials at the site have been confirmed or assumed as ACM:

Material Description	Location	Estimated Quantity	Condition	Friable
Thermal System Insulation Fittings	Old Boiler Room	56 Each	Good	Yes
Thermal System Insulation Fittings	Room 12, Lower Floor	2 Each	Good	Yes
Thermal System Insulation Fittings	Room 13, Lower Floor	2 Each	Good	Yes
Thermal System Insulation Fittings	Room 14, Lower Floor	2 Each	Good	Yes
Boiler Insulation	Old Boiler Room	124 SF	Good	Yes
Breaching	Old Boiler Room	12 LF (2' round)	Good	Yes
Pipe Insulation	Crawl Space	1,050 LF	Good	Yes
Fire Doors	Throughout the School	22 Each	Good	No
9" x 9" Floor Tile	Room 1 (501)	1,050 SF	Good	No
9" x 9" Floor Tile	Room 5 (507)	1,024 SF	Good	No
9" x 9" Floor Tile	Room 6 (509)	1,024 SF	Good	No
9" x 9" Floor Tile	Hallway and Exit	846 SF	Good	No
9" x 9" Floor Tile	Room 12, Lower Floor	702 SF	Good	No
9" x 9" Floor Tile	Room 13, Lower Floor	768 SF	Good	No
9" x 9" Floor Tile	Room 14, Lower Floor	756 SF	Good	No
9" x 9" Floor Tile	Old Reception Area	252 SF	Good	No
9" x 9" Floor Tile	Old Principal's Office	126 SF	Good	No
9" x 9" Floor Tile	Teacher's Room (speech) (504)	272 SF	Good	No
9" x 9" Floor Tile	Teacher's Work Room (Copier) (506)	272 SF	Good	No
9" x 9" Floor Tile	Old Main Hallway	1,350 SF	Good	No
9" x 9" Floor Tile	Room 7 (603)	810 SF	Good	No
9" x 9" Floor Tile	Room 8 (605)	961 SF	Good	No

Material Description	Location	Estimated Quantity	Condition	Friable
9" x 9" Floor Tile	Room 9 (604)	961 SF	Good	No
9" x 9" Floor Tile	Room 10 (602)	930 SF	Good	No
9" x 9" Floor Tile	Room 11 (600)	567 SF	Good	No
9" x 9" Floor Tile	Room 601	124 SF	Good	No
9" x 9" Floor Tile	Art Room (603)	448 SF	Good	No
Ceiling Tile	New Hall	322 SF	Good	Yes
Ceiling Tile	New Stairwell	120 SF	Good	Yes
Ceiling Tile	Old Reception Room	252 SF	Good	Yes
Ceiling Tile	Principal's Room	126 SF	Good	Yes
Ceiling Tile	Lobby	798 SF	Good	Yes
Ceiling Tile	Teacher's Room (304)	272 SF	Good	Yes
Ceiling Tile	Nurse (502)	289 SF	Good	Yes
Ceiling Tile	Old Hallway	1,350 SF	Good	Yes
Ceiling Tile	Source Room (600)	240 SF	Good	Yes
Ceiling Tile	Room 7 (603)	870 SF	Good	Yes
Ceiling Tile	Room 1 (501)	1,024 SF	Good	Yes
Ceiling Tile	Room 5 (507)	1,024 SF	Good	Yes
Ceiling Tile	Room 6 (509)	1,024 SF	Good	Yes
Ceiling Tile	Reading Room	361 SF	Good	Yes
Ceiling Tile	New Hallway	862 SF	Good	Yes
Ceiling Tile	Room 12	756 SF	Good	Yes
Ceiling Tile	Room 13	89 SF	Good	Yes
Ceiling Tile	Room 14	756 SF	Good	Yes
Ceiling Tile	Hall Storage	168 SF	Good	Yes
Ceiling Tile	Room 8 (605)	961 SF	Good	Yes
Ceiling Tile	Room 9 (604)	961 SF	Good	Yes
Ceiling Tile	Room 10 (602)	616 SF	Good	Yes
Ceiling Tile	Room 11 (600)	448 SF	Good	Yes
Ceiling Tile	Art Room (603)	448 SF	Good	Yes
Ceiling Tile	Principal's Room	1,246 SF	Good	Yes
Duct Flex Joints	Cafeteria	2 Each	Good	No
Duct Flex Joints	Stairway	4 Each	Good	No
Linoleum	Sink Room 13	10 SF	Good	No
Linoleum	Sink Room 14	15 SF	Good	No
Linoleum	Sink Room 8 (605)	25 SF	Good	No
Linoleum	Sink Room 9 (605)	25 SF	Good	No
Linoleum	Sink Room 11 (600)	12 SF	Good	No

SF = square feet LF = linear feet

An O&M Plan is designed to be a proactive program of training requirements, on-going surveillance, specialized cleaning and work practices established to maintain ACM in good condition in a building. This document provides building owners, managers, workers and other key building staff with basic information required to effectively manage ACM in place. The practices and procedures described herein apply specifically to the ACM identified at the site. An overview of asbestos, and asbestos hazards, are provided in the following sections.

ORGANIZATION OF O&M PROGRAM

NMRSD has designated the following individual to serve as the O&M Asbestos Program Manager (APM) for the Site.

O&M Program Manager (APM)	Telephone No.	Emergency Telephone No.
Oscar Hills	978-743-4986	978-743-4986

NMRSD has granted the APM the authority to oversee all asbestos-related activities on the site including inspections, surveillance and all O&M management activities. To the greatest extent possible, the APM will ensure that this O&M Plan is incorporated into the overall building maintenance program for the Site. In addition, the APM will oversee the custodial and maintenance staff, contractors and any outside service vendors with regard to all activities which may potentially disturb the confirmed and/or assumed ACM at the Site. The APM Manager will ensure that no new ACM is introduced into the site as a result of future repair or renovation work. The APM will also maintain all records required by this O&M Pan.

The APM will assure that maintenance personnel are trained to successfully complete tasks as outlined in this O&M Plan. The APM will also be responsible for determining whether asbestos-related work may be done with in-house resources or by appropriately trained contract personnel. The APM should have a background in engineering and/or industrial hygiene, and shall receive, at minimum, 16-hour O&M Worker training as defined herein.

EMERGENCY ASBESTOS INDIVIDUAL

In the event of major fiber release episodes and projects requiring ACM removal or disturbance of more than 3 square feet (3 ft^2) or 3 linear feet of confirmed or assumed ACM, the following individual will be notified. Only appropriately trained contractor personnel will conduct Class I, Class II or Class III operations at the Site.

Asbestos Abatement Contact

Contact Person	Telephone No.	Emergency Telephone No
Oscar Hills	978-743-4986	978-743-4986

1.0 BACKGROUND

1.1 What is Asbestos?

The word "asbestos" describes several naturally occurring fibrous minerals found in certain types of rock formations. Of that general group, the minerals chrysotile, amosite, and crocidolite have been most commonly used in building products. Use of asbestos can be traced back to ancient civilizations such as the Greeks and the Romans. In the United States, its commercial use began in the early 1900s and peaked in the period from World War II into the 1970s. Asbestos became a popular commercial product because it is strong, will not burn, resists corrosion, and is a good insulating material.

When mined and processed, asbestos is typically separated into fibers so small and thin they are invisible to the naked eye. The processed fibers are then mixed with binding agents and other components to create what has been estimated at over 3,000 asbestos-containing materials (ACM). Asbestos fibers released to a building atmosphere by an ACM can remain airborne for hours or even days and can potentially be inhaled by building occupants.

1.2 Exposure to Asbestos

Inhalation of asbestos fibers is a proven cause of certain respiratory diseases. Three specific diseases: asbestosis (a fibrous scarring of the lungs); lung cancer; and mesothelioma (a cancer of the lining of the chest or abdominal cavity) have been causally linked to asbestos exposure. These diseases do not occur immediately after inhalation of asbestos fibers; but may take 20 or more years or more before symptoms develop.

In general, the more asbestos fibers a person inhales the greater the risk of developing an asbestos-related disease. No safe limit for asbestos fiber exposure has yet been established. The regulatory approach has therefore been to prevent or strictly limit the potential for asbestos fiber exposure to building occupants and workers who work with asbestos-containing materials.

1.3 When Asbestos is a Problem

The fact that some ACM may be present in a building does not necessarily mean the health of building occupants is at risk. ACM that is in good condition and that is not being damaged through normal building occupancy renovation or maintenance activities is not likely to release asbestos fibers into the air. When ACM is properly managed, the risk of asbestos fiber release is significantly reduced. However, ACM that has become damaged

or which deteriorates over time can pose a potential fiber release hazard to building occupants and maintenance personnel.

1.4 Asbestos Regulations

As a consequence of the health hazard from inhalation of asbestos fibers, a body of federal and state regulations has developed. Federal regulations pertaining to asbestos are included in AHERA (Asbestos Hazard Emergency Response Act) US EPA 40 CFR 763, Subparts E, F; NESHAP (National Emissions Standards for Hazardous Air Pollutants (EPA 40 CFR 61); OSHA Asbestos Standards (29 CFR 1910.1001 and 29 CFR 1926.1101), and ASHARA (Asbestos School Hazard Abatement Reauthorization Act). Many states have additional requirements including state-specific licensing and certification.

1.5 Purpose of an O&M Plan

The principal objective of this O&M Plan is to reduce the potential for fiber release from confirmed or assumed ACM present in the building. The O&M Plan includes work practices to maintain ACM in good condition, describes work techniques to properly clean-up asbestos debris, identifies training and personal protective equipment requirements for maintenance and custodial personnel who could disturb the ACM, and specifies the periodic re-evaluation of the condition of ACM present in the building.

This O&M Plan provides guidelines for conducting the following activities in buildings with confirmed or assumed ACM:

- Activities which are unlikely to involve direct contact with or disturbance of ACM.

Such activities include routine cleaning of carpeting, desks, counter tops, floors, or other surfaces in the building (provided no ACM debris is present). Generally, such activities would not be expected to directly disturb ACM.

- Activities which may cause accidental disturbance of ACM

These activities include work such as accessing attic crawl spaces or servicing mechanical systems where asbestos-containing insulation may be present, as well as activities such as replacing fluorescent light tubes or painting walls in an area where asbestos-containing acoustical ceiling texture may be present.

- Activities which intentionally result in the disturbance of small areas of ACM.

Such activities include the intentional disturbance of less than 3 ft^2 of ACM while performing maintenance, repair or installation projects. Examples of such activities include the installation of new light fixtures on asbestos-containing acoustical ceiling surfaces or the disturbance of a section of asbestos-containing gypsum wall board to access a pipe chase.

Activities which disturb more than 3 ft^2 or projects performed for the sole purpose of removing ACM must be considered asbestos abatement projects. These projects and activities will require asbestos control and abatement procedures that are outside the scope of this O&M Plan. Before attempting ACM removal, the Owner must consult an appropriately licensed or accredited asbestos consultant for advice on asbestos removal solutions and applicable regulatory requirements. Asbestos abatement projects must be performed by an appropriately licensed or accredited asbestos contractor in accordance with applicable asbestos control regulations.

1.6 Implementation of the O&M Plan

A successful O&M Plan requires the following program elements:

- Appointment of a Program Manager responsible for compliance with O&M Plan requirements.

- Consistent and conscientious implementation of O&M Plan requirements.

1.6.1 Asbestos Program Manager Responsibilities

The APM position is frequently held by the building engineer, superintendent, facilities manager, or safety and health director. In a small organization, the property Owner or their immediate designee may assume this role. Regardless of who assumes this role, the Program Manager should be appropriately trained in and actively involved with all asbestos-related activities within the building. Attendance of an Asbestos Hazard Emergency Response Act (AHERA)-accredited Building Inspector/Management Planner course is recommended.

If not adequately qualified at the time of initial assignment, the APM must receive training necessary to implement the provisions of the O&M Plan. If the Owner chooses not to adequately train an employee to serve as APM, then the responsibility for administering the O&M Plan must be contracted to a qualified outside consultant.

In general, the APM will have the authority to oversee asbestos-related activities in the building including repairs, improvements, material evaluations, O&M activities, and abatement response actions. In addition, he or she will oversee the work staff, contractors,

and outside service vendors with regard to all asbestos-related activities. If the Owner hires an outside contractor to perform work on the property, the APM will ensure that the contractor is notified of the ACM areas and is qualified to conduct work that may involve ACM disturbance. Before hiring an outside contractor, the APM will determine whether the contractor's staff is qualified, trained and equipped to comply with asbestos O&M activities.

The APM will also monitor the work performed in the building by both in-house maintenance staff and outside contractors who might inadvertently disturb ACM. Instituting a work permit system, as discussed in Section 4.2, may prevent accidental disturbances of ACM. Under this system, the work staff and contractors must be issued a work permit from the APM before commencing work. At that time, the APM will inform the work staff and/or contractor whether the project could disturb ACM and provide special instructions to make sure the work is completed properly. OSHA regulations require the property Owner to inform outside contractors of confirmed ACMs prior to their disturbance. Communication between the APM and the work staff and/or contractors is essential to prevent activities that might compromise this O&M Plan.

In addition, the APM will routinely and frequently check the work being performed in the building by the work staff and contractors to observe if their work is disturbing ACM. By maintaining close surveillance over these activities, the APM can determine whether work that could disturb ACM is being completed safely. The work staff will be required (by legal agreement or understanding) to notify the APM before conducting even small repairs or renovations. This will help in preventing the work staff from unknowingly disturbing ACM.

The APM will periodically review this O&M Plan to determine whether it should be updated. For example, if all ACM was removed from a specific room or area in the site during a recent renovation, or if some ACM was damaged, this O&M Plan will be revised accordingly. This O&M Plan must remain in effect as long as there is ACM present in the building.

The renovation of a building area at the site or maintenance activities on mechanical equipment in which ACM may be disturbed increases the potential for asbestos exposure. Before conducting any renovation or maintenance work, the APM will review asbestos inspection and assessment records to determine where ACM may be located, visually re-inspect the area, and evaluate the likelihood of disturbing ACM. Suspect or assumed ACM that could be disturbed during the work will either be sampled and analyzed to determine whether it contains asbestos, or the work must be carried out as if the materials contain asbestos.

Confirmed or assumed ACM must be removed prior to intentional disturbance during planned renovation activities.

When ACM removal must occur, it is important that the APM use only appropriately licensed or accredited asbestos project designers and abatement contractors. An independent project designer and a project monitor should be retained to oversee the asbestos abatement work. The project monitor will conduct visual and/or air clearance before the area may be re-occupied.

1.6.2 Incorporation of O&M Plan into Overall Bldg. Management Program

A well developed O&M Plan is ineffective unless the building Owner is committed to its implementation. The Owner must convey this commitment to key personnel involved in the building's management and operations. The safe, in-place management of ACM is contingent upon key personnel understanding the O&M Plan and effectively incorporating the provisions of the Plan into the existing system for managing the building's operations.

1.7 Notification of Tenants and Workers

The Owner must inform maintenance and custodial personnel as well as outside contractors of the location and physical condition of the ACM and stress the need to avoid disturbing the material. Building maintenance staff and contractors must be notified for two reasons: 1) to notify them of the potential asbestos exposure hazard; and 2) because informed persons are less likely to unknowingly disturb the material and cause fibers to be released into the air.

The Owner may elect to inform commercial occupants about the presence of ACM by distributing written notices, posting signs or labels in a central location where they may be reviewed or by holding awareness and information sessions. The methods used may depend on the type and location of the ACM, and on the number of people affected.

Information sessions reinforce and clarify written notices and signs, and provide an opportunity to answer questions. Maintenance staff and commercial tenants likely to disturb ACM will be included in the notification program on a regular basis. The Owner will provide additional signs and information to non-English speaking workers or commercial tenants. It is important that the Owner establish clear lines of communication with employees, contractors and commercial tenants regarding asbestos issues. People who are informed of the presence, location and condition of ACM in a building where they work, who understand that the mere presence of ACM is not necessarily hazardous to them, and who accept that ACM can often be managed effectively in place, can be very helpful to the APM in eliminating or reducing unwarranted fears or "hysteria." If and when asbestos fiber release incidents occur, it is important for the APM to deal with employees, contractors and commercial tenants openly and honestly in an attempt to maintain confidence in both the Program Manager and the overall O&M Plan.

2.0 ACM SURVEILLANCE

2.1 Re-inspection and Periodic Surveillance

A visual re-inspection of the ACM present at the facility must be conducted by the Asbestos Program Manager at regular intervals as part of this O&M Plan. Combined with ongoing reports of changes in the condition of the ACM made by workers, re-inspections assist in detecting and correcting ACM damage or deterioration which may occur over time. As part of this O&M Plan, annual re-inspections of the ACM materials is recommended. Terracon recommends that re-inspection of asbestos-containing materials and a review of the O&M Plan be conducted by an independent third party (appropriately accredited/licensed Asbestos Management Planner) every three years.

EPA recommends that both a visual and physical evaluation of ACM be performed during re-inspections to note the condition and physical characteristics of the materials. The purpose of the re-inspection is to determine the relative degree of damage and assess the likelihood of future fiber release. Maintaining a set of visual records (photos or video tape) of the ACM over time can be of great value during re-inspections. A recommended form for use in documenting ACM re-inspections is included as Appendix A, Form 1.

2.2 Risk Assessment

An assessment of the risk posed by ACM should be conducted as part of the re-inspection process. The risk assessment process considers both the physical condition and the accessibility (potential for disturbance) of each ACM. The physical condition of ACM is assessed based on a combination of the quality of the installation, adhesion of the material to the underlying substrate, deterioration, vandalism and normal wear and tear of the material. Accessibility of the ACM is included in the assessment process to evaluate the potential for disturbance of the material.

The risk assessment protocols outlined in AHERA (40 CFR 763) will be utilized in conducting the risk assessment of ACM. Under these protocols, the ACM is classified as damaged or not damaged. AHERA then specifies that the ACM be classified as either: good, damaged or significantly damaged. The three AHERA condition categories are defined as follows:

- ***Good*** condition is defined as "material with no visible damage or deterioration, or showing only very limited damage or deterioration".

- ***Damaged*** asbestos is defined as "material with less than 10% of damage over the entire homogeneous area or less than 25% damage over a localized area".

- ***Significantly damaged*** asbestos is defined as "material with approximately 10% or more damage over the entire homogeneous area or 25% or more over a localized area".

Water is the most common cause of damage to asbestos-containing materials. Water can dislodge, delaminate, and deteriorate ACM that were otherwise in good condition. Water can also carry fibers in a slurry to other areas of the building. Upon evaporation, a collection of fibers is left behind that can become airborne upon future disturbance. Other examples of ACM damage include crumbling, blistering, gouge marks, surface de-lamination, puncture marks. The custodial and maintenance personnel must be familiarized with these types of damage potential in order to protect themselves and co-workers from potential exposure to asbestos. Damage to all ACM must be reported to the Asbestos Program Manager and repaired/remediated in accordance with this O&M Plan.

Accessibility, or potential for disturbance, should be ranked as high, medium or low. The likelihood that the ACM could be disturbed in the future is related to:

- Potential for contact,
- Influence of vibration, and
- Potential for water damage or air erosion.

3.0 WORKER PROTECTION PROGRAM

For those employees whose normal work activities do not include contact with ACM, a two-hour asbestos awareness course will be required. The contents of the two-hour asbestos awareness training course are outlined in Section 3.1.1. Custodial and maintenance employees, contractors or commercial tenants performing work which will intentionally disturb small areas (<3 ft^2or 3 linear feet) of ACM during their normal work activities will require:

- Two-Hour Asbestos Awareness Training, plus
- An additional 14 Hours of O&M Worker training (See Section 3.1.2)
- Enrollment in a Medical Surveillance Program
- Participation in a Respiratory Protection Program

3.1 Training

Training will be provided on two levels. The first level (General Awareness) is for the APM, employee supervisors, general work staff, and company representatives. This course is considered to be an introductory course and takes approximately two hours to complete. The second level (O&M Worker) is for those individuals directly involved with ACM removal and maintenance activities and those who oversee their work. This training is more extensive. The training may be performed by a qualified consultant or qualified safety and health professional at the site or at an appropriate training site.

3.1.1 Awareness Training

Prior to the implementation of this O&M Program, the Owner must ensure that all employees and work staff who work in a building containing ACM receive 2-hour asbestos awareness training, whether or not they are required to work with ACM. New work staff and maintenance employees will be trained within 30 days after commencement of employment. This training will consist of the following topics:

- General information on asbestos.
- Health effects of asbestos exposure.
- The location of ACM identified in the workplace.
- How to avoid disturbing ACM.
- Recognition of damage, deterioration, and delamination of ACM and how to report damage.
- The worker protection program in use.
- How to respond to a fiber release episode.
- The name and telephone number of the Program Manager designated by the Owner.
- The availability and location of this O&M Plan.

An Acknowledgment of Instruction form for use by workers attending general asbestos awareness training is provided as Form 2 in Appendix A.

3.1.2 O&M Worker Training

If applicable, the APM will require that members of the custodial or building maintenance staff who conduct activities involving the intentional disturbance of small amounts of ACM (less than 3 ft^2 or 3 linear feet) receive the awareness training outlined in Section 3.1.1 above and an additional 14-hours of O&M training. This level of training usually involves more detailed discussions of the topics included in the general asbestos awareness training as well as:

- Applicable federal, state, and local asbestos regulations.
- Proper asbestos-related work practices.
- ACM waste handling and disposal procedures.
- Proper respirator use.
- Protective clothing use.
- Worker decontamination procedures.
- Hands-on exercises to demonstrate specialized techniques for a typical maintenance project involving disturbance of small areas of ACM.

3.1.3 Abatement Worker Training

This level of training is required for individuals who conduct asbestos abatement or who will be required to intentionally disturb > 3 ft^2 or 3 linear feet of ACM. ***This work involves direct, intentional contact with ACM and requires additional training, asbestos control and abatement procedures that are outside the scope of this O&M Plan.***

3.1.4 Outside Contractor Training

The APM must familiarize outside contractors who will perform work in proximity to known ACM or who may disturb known or assumed ACM with this O&M Plan It is recommended that an appropriately trained member of the in-house staff familiar with this O&M Plan be assigned to oversee work performed by outside contractors which could disturb known or assumed ACM.

3.2 Medical Surveillance Program

If the Owner elects to have personnel trained at the Asbestos Worker level to engage in the deliberate removal or disturbance of ACM, these personnel must be enrolled in a medical surveillance program as required by the OSHA Asbestos Standard for

Construction (29 CFR §1926.1101). Additionally, any employee required to wear a respirator in the course of his/her job must also be included in a respiratory protection program. The use of respirators will dictate involvement in the medical surveillance program for most maintenance workers. Although fiber levels may not be high enough to require a respiratory protection program, establishing such a program is recommended if workers will be involved in asbestos maintenance activities.

The purpose of the medical surveillance program is to establish an employee's fitness to wear a respirator and other personal protective equipment, and to detect changes in the respiratory system which may result from working in asbestos-contaminated areas. Such changes act as an early warning in the detection of asbestos-related disease. A medical surveillance program requires a baseline examination prior to initial exposure, and annual, follow-up examinations.

3.3 Respiratory Protection Program

A written respiratory protection program is needed if the site Owner elects to have the maintenance staff trained for tight-fitting respirator use during asbestos abatement activities. Components of the Respiratory Protection Program must include written operating procedures for respirator use; training in the use and limitations of respirators, the person responsible for respirator cleaning, storage and repair; medical examinations, respirator fit testing respirator cleaning and care procedures. Regulatory standards for respirator use are detailed by OSHA in 29 CFR 1910.134 and 29 CFR 1926.1101.

Proper respiratory protection is an integral part of all custodial and maintenance activities involving potential exposure to asbestos. When in doubt about potential exposure during a certain work activity involving ACM, the Owner will provide respiratory protection to the work staff performing the work. OSHA regulations require respirators for protection against airborne asbestos fibers at or above the PEL. At a minimum, respirators will be half-face negative pressure air-purifying respirators equipped with replaceable, high-efficiency filters (NIOSH N-100 designation).

3.3.1 Respiratory Protection Program Evaluation and Record Keeping

The respiratory protection program must be evaluated at least annually and revised, as appropriate, to reflect air sampling or other evaluation results. The program will be reviewed for respirator selection, purchase of approved equipment, medical screening of employees, fit testing, issuance of equipment and associated maintenance, storage, repair and inspection. Surveillance of work area conditions will also be performed to determine if respiratory protection is appropriately worn.

Attention must be given to proper record keeping. Mandatory records which must be retained include the names of employees trained in respirator use, documentation of the care and maintenance of respirators, medical reports of each respirator user, documentation that each employee wearing a respirator is fit-tested annually, airborne asbestos monitoring data including personal samples and documentation of any problems encountered during projects with regard to respiratory equipment. A checklist for self-evaluation of a respiratory protection program is presented in Appendix A, Form 3. If applicable, the APM will review and complete this form on an annual basis. OSHA requires medical information obtained during mandatory medical surveillance examinations be maintained for 30 additional years following the last day of employment.

4.0 DOCUMENTATION AND PERMITTING SYSTEM

This section addresses the documentation required for the effective administration of an O&M Plan. Administration of a work permit system is a management tool for limiting liability associated with employee exposure to ACM at the site. The following sections describe the documentation required for managing a fiber release episode and recommendations for an effective work permit system.

4.1 Fiber Release Episodes

A fiber release episode can result from disturbance of ACM during maintenance activities or renovation projects. If an episode should occur, employees and/or maintenance workers must be instructed to report the presence of ACM debris discovered on floors, water or physical damage to areas of known or assumed ACM or any other evidence of potential fiber release to the APM. The APM must contact an abatement contractor or assign an appropriately trained, in-house team to clean up the debris and make repairs as soon as possible. If an in-house team will not be trained for rapid response to a fiber release episode, an abatement contractor to be used for such responses must be retained as a component of this O&M Plan. The telephone number of the abatement contractor to be contacted in the event of a fiber release emergency must be included in this document.

The APM will document each fiber release episode using Form 4 in Appendix A. Following all fiber release episodes, a visual examination and final clearance air sampling (Section 6.4) must be conducted after completing the clean up and prior to permitting re-occupancy of the area.

4.2 Work Permitting

Establishing a system to route work orders or maintenance requests through the APM can help prevent the inadvertent disturbance of known or assumed ACM in the building.

4.2.1 Job Request Form/Work Authorization Form

Requests for maintenance and renovation activities that may disturb or remove ACM must be directed through the APM prior to commencing the work. The requests will be documented by completing a Job Request Form, available as Form 5 of Appendix A., Upon receipt of a work permit, the APM will check the building's asbestos records (e.g. files, specifications, etc.) to determine if ACM is present in the vicinity of work to be performed. APM must then physically survey the area of potential disturbance to confirm that the asbestos records reflect actual site conditions.

If the required maintenance work can be performed by trained work staff the APM will complete and sign a Work Authorization Form (Appendix A, Form 6). The Work Authorization Form identifies the following:

- Type of work authorized.
- Presence of ACM.
- Work practices to be employed.
- Personal protection requirements.
- Submittal of notifications.
- Special practices or equipment required.
- If an area of ACM > than 3 ft^2 or 3 linear feet must be disturbed or removed, the Program Manager will assign an employee trained at the Asbestos Worker level, or will retain the services of a qualified abatement contractor.

If ACM is present, but is not expected to be disturbed during the work, the APM will sign the Work Authorization Form, identify that ACM's are present, and stress that the materials must be avoided during the scheduled maintenance or repair activities. The workers performing the work and their supervisor must sign the Work Authorization form indicating that they are aware of the presence of asbestos containing materials and the work practices required to safely complete the work.

4.2.2 Evaluation of Work Form

An Evaluation of Work form (Form 7 in Appendix A) should be completed on at least 10% of those projects on which a Work Authorization Form was prepared. This evaluation

provides the APM feedback as to how effective the work practices are in preventing disturbance of ACM and may suggest where improvements to the program may be required. The APM must retain file copies of all Job Request forms, Work Authorization forms and Evaluation of Work forms.

5.0 ACM WORK PRACTICES

5.1 Initial and Periodic Cleaning

Reducing and/or eliminating airborne asbestos dust within a site is one of the primary objectives of the O&M Plan. Dry brooms, mops, dust cloths, and standard vacuum cleaners simply re-suspend asbestos fibers into the air. Therefore, it is essential that specialized cleaning procedures be implemented when ACM debris is encountered.

5.1.1 Initial Cleaning Procedure

If asbestos contaminated areas are identified in the site, appropriately trained and properly equipped workers will conduct a thorough initial cleaning in the contaminated building area as soon as possible. These workers will wear air-purifying respirators equipped with N-100 or P- -100 cartridge filters and protective clothing. A combination of wet mopping, wiping, and HEPA vacuuming will be used to clean all surfaces within the area.
Other surfaces, such as walls, non-carpeted floors, light fixtures, equipment housings, and the exterior of air handling ducts, will be cleaned using mops and/or dust cloths and rags that are wetted. Asbestos-contaminated mops, dust cloths, and rags will be stored in appropriately labeled bags between uses, and disposed as ACM waste when discarded.

5.2 Removal Work Practices and Engineering Controls

When ACM is removed, OSHA requires the use of certain engineering and work practice controls capable of reducing employee exposures to asbestos below the permissible exposure limit (PEL) of 0.1 f/cc. Various work practice controls, used either individually or in combination, can be effectively employed to reduce asbestos exposures during maintenance or removal actions. These include:

1. An enclosure to isolate the regulated area.
2. High efficiency particulate air (HEPA) filtration equipment for ventilation.
3. Wet methods.
4. HEPA-filtered vacuum systems.
5. Prompt clean-up and disposal of wastes.

OSHA classifies ACM removal/maintenance activities into four categories and specifies the work practices that must be followed for each level of work. The four OSHA categories of ACM work are as follows: 1) Class I asbestos work which includes the removal of friable thermal system insulation (TSI) and surfacing ACM (acoustical ceiling or fireproofing material); 2) Class II asbestos work which includes the removal of other types of asbestos; 3) Class III asbestos work which includes the repair and maintenance operations where any type of ACM is likely to be disturbed; and 4) Class IV asbestos work consists of maintenance and custodial activities in which employees will contact ACM and/or will clean-up ACM waste and debris.

For the purposes of this O&M Plan, Site employee's will conduct only Class III asbestos work (provided the maintenance workers have had the 14-hour O&M Worker training) or Class IV asbestos work (provided the maintenance workers have had the 2-hour general awareness training). When large-scale removal of ACM (Class I or Class II) is performed, a qualified asbestos abatement contractor and consultant must be retained.

5.3 Emergency Response Activities

As long as ACM remains in the building, a fiber release episode could occur. Workers at the site should report a release episode to the APM. Reportable events include the presence of ACM debris on the floor, water or physical damage to the ACM, or any other evidence of a possible asbestos fiber release. Fiber release episodes can also occur during maintenance or renovation projects. The APM will either contact an abatement contractor or assign a properly trained, in-house team to clean-up debris and make repairs as soon as possible

5.3.1 Minor Release Episodes

A minor release episode consists of the falling or dislodging of less than 3 ft^2 or 3 linear feet of ACM. Examples of minor episodes would be if a small section of pipe insulation was accidentally damaged by some un-controlled maintenance activity. A minor episode can be remediated with properly trained, in-house workers using standard wet cleaning and HEPA vacuum techniques (Class IV asbestos work). In the alternative, an asbestos abatement contractor may be contacted to conduct the clean up and repair.

5.3.2 Major Release Episodes

Major fiber release episodes must be considered serious events. The disturbance of large amounts of ACM could contaminate the entire building with asbestos fibers. A major release episode could potentially occur if pipe insulation was removed without asbestos specific work control practices. A breach in a containment barrier during a repair or maintenance could also result in a major episode.

If more than 3 ft^2 or 3 linear feet of ACM is dislodged from its substrate, the episode must be considered a major fiber release episode. At a minimum, the following response procedures will be initiated whenever a major fiber release episode occurs:

- Immediately following discovery of a major fiber release episode, isolate the spill area.
- Shut down or modify the air handling system to prevent spread of asbestos fibers from the release area to other areas of the building. Seal off doors, windows, and air registers with two layers of 6-mil thick plastic sheeting and duct tape.

- OSHA requires that warning signs then be posted to prevent unauthorized personnel from entering the work area The OSHA mandated warning signs must read as follows: "DANGER - ASBESTOS; CANCER AND LUNG DISEASE

HAZARD; AUTHORIZED PERSONNEL ONLY; RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA."

- The procedures and work practices specified by OSHA for large-scale ACM removal (Class I and II asbestos work) must be used to remediate a major fiber release. These include establishment of containment barriers and negative pressure enclosures, the use of personal respiratory protection and protective clothing, air monitoring and decontamination facilities.

A licensed or accredited asbestos consultant will be hired to conduct final clearance air sampling following the completion of a major fiber release episode. The APM will prevent re-occupancy of the area until final air clearance testing is completed, and will maintain documentation of final air clearance testing results (see Section 6.4).

6.0 AIRBORNE FIBER CONCENTRATION DOCUMENTATION

As part of an O&M Program, a carefully designed air monitoring program to detect and evaluate airborne asbestos fibers may provide useful supplemental information when conducted with a comprehensive visual and physical assessment of ACM and a re-inspection program. If an Owner chooses to use air monitoring in an "early warning" context, a knowledgeable and qualified individual will be consulted to design a proper sampling strategy.

The most accurate method of air sample analysis uses Transmission Electron Microscopy (TEM). TEM sampling is recommended for clearance testing in most cases prior to reoccupation of a work area after asbestos abatement. Phase contrast microscopy (PCM), commonly used for personal air sample analysis and as a screening tool for area air monitoring, cannot distinguish between asbestos fibers and other kinds of fibers which may be present in the air. However, PCM is the accepted method of analysis by OSHA and most states for monitoring airborne asbestos fibers.

Please note that air monitoring and laboratory analysis should be performed only by qualified professionals and a NVLAP-accredited laboratory. It is beyond the scope of this O&M Plan to define air monitoring procedures or analytical methods.

6.1 Periodic Monitoring

Based on the identification of damaged materials in routine maintenance areas, the Owner may elect to have an asbestos consultant or laboratory perform periodic air monitoring to establish baseline conditions and evaluate existing airborne fiber levels. Monitoring may be performed on a periodic basis thereafter.

6.2 Personal Air Monitoring

Personal sampling (required by OSHA) is designed to measure a worker's exposure to airborne fibers. A sampling device is worn by the worker and positioned so that it samples air in the worker's breathing zone. Personal air sampling is not the same as area air monitoring.

Personnel monitoring should be conducted after implementation of the O&M Plan, during Class III and IV asbestos work, to establish proper respiratory protection requirements and obtain exposure assessment data. Personal samples will be analyzed by PCM. OSHA requires records of personal air sampling to be kept for at least 30 years after termination of employment.

6.3 Area Air Monitoring

Area air sampling is conducted to evaluate the airborne asbestos fibers present in a work area during a fiber release episode, planned removal action, or cleaning. It is used as an assessment tool in evaluating the potential hazard posed by asbestos fibers in the work area. Area samples will be taken from locations outside a Class III asbestos work area and major abatement work areas. Area monitoring gives an indication of whether or not the engineering controls and barriers are effective in reducing fiber migration to unprotected areas.

6.4 Final Clearance Air Monitoring

Following an asbestos abatement action (removal, repair, or encapsulation) or a major fiber release episode and clean-up, a visual examination and final clearance monitoring using aggressive sampling methods will be performed within the containment barriers prior to the re-occupancy of the abatement work area. Final clearance sampling must follow asbestos abatement actions, including clean up of major fiber release episodes. Final clearance samples associated with each fiber release episode will be documented on Form 4 of Appendix A. Asbestos abatement contractors retained to conduct removal activities will be notified that the abatement and clean up activity will not be considered complete until the airborne fiber concentration is equal to or less than either 0.01 fibers per cubic centimeter of air (f/cc) by PCM analysis or equal to or less than an average of 70 structures per square millimeter (s/mm^2) by TEM analysis. The clean up or removal contract will clearly state that additional cleaning required to pass final air clearance testing will be performed at the contractor's expense.

7.0 RECORD KEEPING

The APM will establish files to document the activities required by this O&M Plan. A summary of O&M Plan elements requiring documentation is provided below:

- A list of the types and locations of asbestos-containing materials identified at the site.
- Employee training records.
- Copies of the Certificates of Worker's Acknowledgment to asbestos.
- Periodic Surveillance Inspection Reports.
- Fiber Release Records.
- Copies of Job Request Forms, Work Authorization Forms, Reassessment Evaluation Forms, and Work Evaluation Forms.
- A copy of all laboratory reports and all correspondence with laboratories concerning sample analysis.
- Copies of contractor bids, project submittals, proof of contractor worker training, NESHAP notifications, waste manifests, and insurance coverage.
- Respiratory Protection Program, if applicable.
- Medical Surveillance Program, if applicable.

8.0 ASBESTOS WASTE DISPOSAL PROCEDURES

Whenever ACM is removed from the building, the following special handling and disposal procedures will be required.

8.1 Waste Packaging

All asbestos-containing wastes must be packaged in two 6-mil thick plastic bags and sealed with duct tape. Disposal bag labels must be prepared in accordance with OSHA and EPA regulations and must bear the name of the Owner and location from which the material was removed.

8.2 Disposal Documentation

EPA regulations require that asbestos waste shipments be documented by a hazardous waste manifest. Waste manifests are chain-of-custody waste tracking sheets that must be signed by the site Owner (or duly authorized agent), the waste transporter, and the landfill operator who accepted the waste for disposal. The O&M Program Manager will retain copies of all hazardous waste manifests prepared for the disposal of ACM from the facility.

9.0 SUMMARY OF KEY O&M WORK PRACTICE CONTROLS

This table summarizes the activities that should be performed if identified ACMs are likely to be impacted:

LIKELIHOOD OF ACM DISTURBANCE			
	Contact Unlikely	Accidental Disturbance Possible	Disturbance Intended or Likely
MANAGEMENT RESPONSIBILITIES			
Need Pre-Work Approval from Program Manager	Review by Program Manager [1]	Yes [1,2]	Yes [1,2]
Special Scheduling or Access Control	No	Yes	Yes
Supervision Needed	No	Initial, At Least	Yes
Heating, Ventilation and Air Conditioning (HVAC) System Modification	None	As Needed [3]	Shut Down [3]
Area Containment	None	Drop Cloths, Mini-enclosures	Yes [4]
Air Monitoring Required	No	Yes [5]	Yes [5,6]
PERSONAL PROTECTION			
Respiratory Protection	Available For Use	Yes	Yes
Protective Clothing	None	Review by Program Manager	Yes
WORK PRACTICES			
OSHA Class III	Yes	Yes	Yes
OSHA Class IV	Yes	Yes	not applicable

Notes:
1) Job Request Form and Work Authorization Form
2) Work Evaluation Form
3) In the area where work takes place
4) Type of containment may vary
5) Initial (periodic) and personal monitoring
6) Area and final clearance air sampling

HABEEB & ASSOCIATES
ARCHITECTS

FACILITY CONDITION ASSESSMENT

NORTH MIDDLESEX REGIONAL SCHOOL DISTRICT

Hawthorne Brook Middle School

64 Brookline Street, Townsend, MA 01469

DRAFT REPORT: April 30, 2020
H&A JN 1919.02

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North Middlesex Regional School District

Hawthorne Brook Middle School

Superintendent of Schools

Brad Morgan

Principal, Hawthorne Brook Middle School

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Description of scope:

Habeeb & Associates Architects conducted a Facility Condition Assessment for North Middlesex Regional School District at the Hawthorne Brook Middle School.

Purpose of report:

The Facility Condition Assessment was developed to address the physical structure and mechanical, electrical, plumbing, and water service system of the Hawthorne Brook Middle School in Townsend, MA. The school was built in 1978. It had several upgrades including windows and doors, and HVAC unit replacement in 2017. This Assessment shall describe current conditions and provide priority recommendations and budget estimates for repair or replacement of deficient building components and systems that shall be used for short and long-term capital planning. It is recommended that this Assessment be used in context with the facility's goals as defined by the North Middlesex Regional School District for the development of a long-range Capital Plan.

Methodology:

The Assessment is based upon visual inspection, review of available documents, and interviews with Facilities personnel. Habeeb & Associates Architects conducted an interview with Nancy Haines, Business Manager, Oscar Hills, Director of Buildings/Grounds, Jason Webster, Hawthorne Brook Middle School Principal, and Scott Muth, Custodial Day Lead Buildings/Grounds on March 12, 2020, followed by a tour of the facility. Existing deficiencies and concerns were observed, noted and photographed by the design team.

The team was provided with a partial set of drawings prepared by Drummey Rosane Anderson in 1977, and a full set of drawings describing renovations and additions to the identical Varnum Brook Elementary School in Pepperell, MA by Anthony Tappé and Associates, Inc., dated 1995. The full set of drawings for the 1977 original building was not available.

The deficiencies observed were related to age of building systems and components, usage, current code requirements and improvements recommended to provide an environment suitable for 21st Century learning practices.

The spreadsheets and photographs included in the Comprehensive Facilities Assessment detail the recommendations and associated costs for addressing the deficiencies identified. Estimated costs for projects to be completed in future years contain escalation factors to account for inflation.

BUILDING DATA

GENERAL INFORMATION:	
Building:	Hawthorne Brook Middle School
Address:	64 Brookline Street, Townsend, MA 01469
Business Manager	Nancy Haines
Facilities Director:	Oscar Hills
CODE CLASSIFICATION:	
Occupancy:	Group E Education
Construction Type:	IIB Unprotected
BUILDING HISTORY:	
Original Building:	1978 106,600 SF
Addition:	None
SITE / BUILDING AREA:	
Site Area:	1,775,070 SF (40.75 Acres)
Total Building Area:	106,600 SF
First Floor Area:	64,500 SF
Second Floor Area:	42,100 SF

SITE COMPONENTS:	
Parking/Driveways:	Bituminous paving. Granite curbs.
Walkways:	Bituminous walkways at main entrance and bus drop-off.
Stairs:	Cast-in-place concrete stair at the loading dock and at the play area.
Ramp:	Cast-in-place concrete ramp at the play area.
Handrails/Guardrails:	Painted steel at exterior stairs and ramp.
Lighting:	LED Lighting at parking lot. LED Wall mounted around the building and at the exterior doors.
Storm Drainage:	Catch basins at bus drop off and parking lot. Discharge to a nearby drainage pond.
Sanitary System:	Onsite septic system shared with Squannacook Early Childhood Center. The wastewater treatment building and the leaching field are located behind the ball field.
Irrigation:	Irrigation system on site at the playing fields.
Play Areas:	Concrete paved play area, tennis courts.

MECHANICAL / ELECTRICAL COMPONENTS:	
Water Service:	Town domestic water service.
Domestic Hot Water:	Gas-fired water heaters.
Fire Suppression:	None.
Heating Systems:	Steam heat with unit ventilators. Pneumatic and DDC controls.
Cooling Systems:	Rooftop HVAC units.
Electric Service:	1600-amp main service with standby generator.
Fire Alarm:	Four Zone, non-addressable. Smoke and heat detection with manual pull stations.
Data System:	Cat 5 wiring.
Security System:	Intercom with cameras and monitoring. Remote door release.

BUILDING DATA (CONTINUED)

ARCHITECTURAL COMPONENTS:	
Foundation:	Reinforced concrete.
Super Structure:	Structural steel.
Floor Structure:	Structural concrete slab on-grade; and elevated slab on second floor.
Roof Structure:	Mostly flat roofs; Sloped skylights over the library.
Exterior Walls:	Mostly 8” CMU w/ 4” split face block veneer.
Roofing:	PVC membrane with applied ribs at the sloped roof and metal roof edge at perimeter.
Window Systems:	Replaced in 2018; aluminum frame w/ double pane glazing.
Exterior Doors	Replaced in 2018; mostly FRP door with aluminum frames.
Interior Doors	Mostly wood door w/ hollow metal frames.
Stairs:	Concrete filled steel pan.
Interior Walls:	Metal stud and drywall; CMU shaft walls; and moveable metal wall panel partitions.
Wall Finishes:	Paint over CMU; and drywall.
Ceiling Finishes:	2x4 ACT; and exposed structure at the gym.
Conveying Systems:	Elevator by the main office.

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This Summary categorizes the recommended capital improvements for the Hawthorne Brook Middle School and site elements based on staff interviews, observations, and review of available drawings. The original steel-framed building consists of 106,600 square feet on two levels and was completed in 1978. There were multiple upgrades to the building systems. Windows, doors and rooftop HVAC units were replaced in 2018. The ball fields are not included in this Assessment.

Work items identified by this Assessment are assigned a Scope category based on urgency, ongoing maintenance, life-cycle costs and other concerns that compromise the teaching environment. In summary, scopes are categorized by the following descriptions:

Scope 1 – Necessary/Not Yet Critical

Scope 2 – Recommended

Scope 3 – Does Not Meet Current Codes or Accessibility Regulations for New Construction

Refer to Section 4, How to Read This Assessment, for detailed Scope descriptions and calculation methodology.

Scope 1 priority has been assigned to Work Items that present an immediate safety risk, such as guardrails at the second floor and library, the deteriorated exterior bituminous walkway around the building, bituminous paving at bus drop-off area and parking lot, and the cracks and spalling concrete at the play area. The 20-year-old roofing system, and the poor acoustic quality at the band room and music room that creates teaching challenges also have been assigned the highest priority.

In addition, the recommendations include replacement of the remaining pneumatic controls, which currently does not allow temperature adjustment at various spaces in the building. The recommended mechanical system improvements also have the added benefit of reducing operational costs by increasing efficiency and making the space more comfortable for students and faculty.

Scopes 2 and 3 priorities address other, less critical Work Items that are not immediately necessary but will continue to deteriorate without maintenance, repair or replacement, such as the masonry wall by the loading dock. Other high priority items are recommended for the replacement of the demountable metal wall panel partition between the classrooms.

Longer-term consideration is recommended for replacement of the obsolete kitchen equipment and to refinish the existing rubber gymnasium floor. Finally, the reconfiguration of the gymnasium storage area has been considered, in order to make the space more useful.

Category	Scope 1	Scope 2	Scope 3	Total
Building Summary			**HAWTHORNE BROOK MIDDLE SCHOOL**	
1. SITE	665,460	61,360	432,250	1,159,070
2. BUILDING ENVELOPE	3,331,198	10,790	0	3,341,988
3. BUILDING INTERIORS	847,803	3,717,579	825,045	5,390,427
4. MECHANICAL	0	551,200	0	551,200
5. ELECTRICAL	1,247,220	1,825,460	0	3,072,680
[1]Total:	6,091,681	6,166,389	1,257,295	13,515,365
[1]Total Inflated @ 4% Compounded Annually	6,588,762	7,502,355	1,529,692	15,620,809

[1]Totals include Soft Costs (30%): Contingency, Administration and A/E Fees.

EXECUTIVE SUMMARY

The *Executive Summary* recaps the *Total Inflated* row from the bottom of the Building Summary sheets. These costs are then totaled at the bottom to indicate a combined proposed capital expenditure per scope. This is intended to make it easier for the reader to review and compare the overall costs for each of the scopes.

SUMMARY

The *Summary* recaps the *Total* row from the bottom of each category for the subject building, separated into scopes. This is intended to make it easier for the reader to review and compare the overall costs for each of the categories together with the scopes for the subject building.

FACILTIY CONDITION ASSESSMENT

The following is a list and brief description of the column and row headings of the Capital Asset Assessment sheets.

Description

The *Descriptions* are the work items identified during our inspection. They usually consist of the building component and its deficiencies; and a recommendation for correcting the deficiency.

Quantity

The number of items: (For example, if the work item is for ”unit ventilators replacement” the building in question may have a *Quantity* of 60 unit ventilators to be replaced).

Unit

The *Units* are identified by a two-letter code. The unit codes are as follows:

SF – Square Foot
SY – Square Yard
LF – Linear Foot
LS – Lump Sum
EA – Each.

Unit Cost

The *Unit Cost* is the cost of one *Quantity* of a work item. Unit costs are preliminary construction cost estimates only and are generally based on the following references: *Means Square Foot Cost Data; Means Construction Costs Data*; in house cost data; professional experience; and information provided by various contractors and suppliers.

Total

The *Total* column is determined by the following equation: QUANTITY x UNIT = TOTAL.

Total with Soft Costs

This assessment provides preliminary construction costs associated with *Soft Costs*. *Soft Costs* generally include a contingency, (typically 10% to 15%) for unforeseen conditions; indirect administrative expenses such as legal costs, printing and advertising (typically 5% to 10%); and architectural and engineering costs (typically 10% to 15%) for a total soft cost estimate. We used a *Soft Cost* of 30% of the *total* cost in this assessment. The *Total with Soft Costs* is determined by the following equation: TOTAL x 1.30 = TOTAL W/ SOFT COST.

Some projects may require higher or lower *Soft Costs* depending on the type and extent of project selected. Work items listed are provided as a guide to develop repair and renovation projects with preliminary construction cost estimates. The actual scope of a project could include a combination of work items, i.e. new ceilings and new lighting. Some other projects may require finishes, e.g. painting, which may not necessarily be broken out for that project.

Scope 1 – Necessary/Not Yet Critical

- Predictable deterioration
- Potential downtime
- Associated damage or higher costs if deferred further

Scope 2 – Recommended

- Sensible improvements to existing conditions that are not required for the basic function of the facility
- Overall usability improvement
- Long term maintenance cost reduction

Scope 3 – Does Not Meet Current Codes for new construction but “Grandfathered”

- No action required at this time. However, if a substantial renovation or a substantial building addition is performed in the future, building codes may require this corrective work in addition to the work planned.

Totals Column (work items)
The *Totals* column is the sum of the Scopes columns *1, 2,* and *3,* for each work item. The *Totals* column also shares the sum of the *Total* row and *Total Inflated* rows at the lower right corner.

Total Row (scopes)
The *Total* row is the sum of the Scopes columns *1, 2, 3,* and *Totals* column, for each category. The *Total* row and *Total Inflated* rows are totaled at the lower right corner.

Total Inflated Row
The *Total Inflated* row is the sum of the Scopes columns *1, 2, 3,* and *Totals* column for each category multiplied by a coefficient to determine the inflated cost at a rate of 4% and compounded annually.

Scope 1 is shown with an inflation factor for work to be performed within a 2 yr period.
Scope 2 is shown with an inflation factor for work to be performed within a 5 yr period.
Scope 3 is shown with an inflation factor for work to be performed within a 5 yr period.

The *Total* row and *Total Inflated* rows are totaled at the lower right corner.

The Assessment is broken into five categories with specific evaluation concerns in each:

1. Site
- Storm Drainage
- Drives and Walks
- Landscaping
- Site Improvements
- Play Areas
- Sanitary System
- Accessible Parking and Entrance Approach

2. Building Envelope
- Roofs
- Exterior Walls
- Windows
- Exterior Entrances and Doors
- Thermal Insulation
- Accessible Egress and Ingress
- Building Structural System

3. Building Interiors
- Floor Finishes
- Wall Finishes
- Ceiling Finishes
- Interior Doors and Exitways
- Code Compliance Issues
- Accessibility for the Disabled
- Hazardous Material Remediation

4. Mechanical
- Domestic Hot Water Generation
- Cold Water Services
- Gas Services
- Piping for Plumbing Systems
- Plumbing Fixtures
- Heat Generation
- Cooling System
- Piping for Heating Systems
- Temperature Controls
- Ventilation
- Accessible Plumbing Fixtures

5. Electrical
- Main Services and Distribution
- Convenience Power
- Fire Alarm Systems
- Lighting Systems
- Emergency Lighting Systems
- Communications Systems
- Computer Network & Technology Systems
- Site Lighting
- Electrical Features for the Disabled
- Security System

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Category	Scope 1	Scope 2	Scope 3	Total
Building Summary			**HAWTHORNE BROOK MIDDLE SCHOOL**	
1. SITE	665,460	61,360	432,250	1,159,070
2. BUILDING ENVELOPE	3,331,198	10,790	0	3,341,988
3. BUILDING INTERIORS	847,803	3,717,579	825,045	5,390,427
4. MECHANICAL	0	551,200	0	551,200
5. ELECTRICAL	1,247,220	1,825,460	0	3,072,680
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[1]Total Inflated @ 4% Compounded Annually	6,588,762	7,502,355	1,529,692	15,620,809

[1]Totals include Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
1. SITE								**HAWTHORNE BROOK MIDDLE SCHOOL**	
1.1 Replace Bituminous Paving at Parking Lot: Paving is cracked and deteriorated.	5,830	SY	30.00	174,900	227,370	227,370			227,370
1.2 Replace Bituminous Paving at Bus Drop-Off and Around School Building: Paving is cracked and deteriorated. Several areas of the walkway have settled and filled with sand.	7,000	SY	30.00	210,000	273,000	273,000			273,000
1.3 Install Playing Field for Field Hockey: Currently there is no home field for the field hockey teams.	1	LS	332,500.00	332,500	432,250			432,250	432,250
1.4 Paint Overhang Ceiling at the Main Entrance: Paint / stain overhand ceiling at the main entrance.	1,800	SF	15.00	27,000	35,100		35,100		35,100
1.5 Replace Old Catch Basins: Some catch basins had been replaced by the school.	10	EA	10,000.00	100,000	130,000	130,000			130,000
1.6 Reset Granite Curbs: Existing granite curbs by the concrete paved areas need to be adjusted and reset.	122	LF	16.00	1,952	2,538	2,538			2,538
1.7 Patch / Repair Concrete Patio: Patch / repair spalled and cracked areas of concrete surface - approx. 10% of the surface area.	626	SF	40.00	25,040	32,552	32,552			32,552
1.8 Painted Steel Handrails: Paint steel handrails at concrete patio play area.	480	LF	15.00	7,200	9,360		9,360		9,360
1.9 Replace CMU Wall Between Patio and Loading Dock: The exposed CMU blocks on top of the concrete wall are deteriorated and spalling. Concrete caps are missing in some areas.	260	SF	50.00	13,000	16,900		16,900		16,900
Total						665,460	61,360	432,250	1,159,070
Total Inflated @ 4% Compounded Annually						719,762	74,654	525,898	1,320,314

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
2. BUILDING ENVELOPE								**HAWTHORNE BROOK MIDDLE SCHOOL**	
2.1 Replace 20 Years Old PVC Roof: The existing PVC roofing membrane is at the end of its life expectancy. Provide new PVC roof assembly and metal gravel stop roof edge fascia. Consider making provision for future PV installation.	50,000	SF	50.00	2,500,000	3,250,000	3,250,000			3,250,000
2.2 Add Gutter and Downspouts: Install gutter and downspouts to slope roof over electrical room.	205	LF	12.00	2,460	3,198	3,198			3,198
2.3 Add Snow Guard: Install snow guard to slope roof area.	3,000	LF	20.00	60,000	78,000	78,000			78,000
2.4 Staining and efflorescence on masonry walls: Power wash and clean split face block wall by the Electrical Room.	1,660	SF	5.00	8,300	10,790		10,790		10,790
Total						3,331,198	10,790	0	3,341,988
Total Inflated @ 4% Compounded Annually						3,603,024	13,128	0	3,616,151

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**HAWTHORNE BROOK MIDDLE SCHOOL**	
3.1 Demountable Wall Panels Partition Between Classrooms: Replace demountable wall panels partition between classrooms with metal stud and drywall and sound attenuation insulation full height to bottom of deck.	7,344	SF	9.00	66,096	85,925		85,925		85,925
3.2 Reconfigure Administration Area: The current configuration does not allow effective monitoring of main entrance to the building.	560	SF	200.00	112,000	145,600		145,600		145,600
3.3 Existing Computer Lab is not Sufficient: Install new computer lab. The construction cost does not include technology equipment or network electronics.	1,560	SF	200.00	312,000	405,600		405,600		405,600
3.4 Existing Science Lab is not Sufficient: Install new science lab.	2,180	SF	200.00	436,000	566,800	566,800			566,800
3.5 No Enclosure Between Kalwall Skylight and Top of Roof Framing: Install separation wall with sound attenuation insulation full height.	1,475	SF	9.00	13,275	17,258	17,258			17,258
3.6 Band Room Door: Replace with acoustical door with gasket.	1	LS	2,500.00	2,500	3,250	3,250			3,250
3.7 Existing Band Room has Poor Acoustic Quality: Install acoustical panel system on ceiling and walls.	1	LS	15,000.00	15,000	19,500	19,500			19,500
3.8 Replace Kitchen Equipment: Kitchen food service equipment is outdated. Replace with new equipment.	1	LS	200,000.00	200,000	260,000			260,000	260,000
3.9 Reconfigure the Existing Home Economics: The existing configuration does not provide effective learning environment.	2,700	SF	200.00	540,000	702,000		702,000		702,000
3.10 Install Ramp to the Existing Stage: The existing stage at the cafetorium is not wheel chair accessible.	1	LS	50,000.00	50,000	65,000		65,000		65,000

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**HAWTHORNE BROOK MIDDLE SCHOOL**	
3.11 Replace the Original Carpet: The original broadloom carpet from 1978 is worn and torn in many areas. Replace with new carpet.	16,612	SF	10.00	166,120	215,956	215,956			215,956
3.12 Replace Sagging / Stained ceiling tiles: Replace sagging / stained ceiling tiles throughout the school, assuming 25% of the ceiling tiles need to be replaced.	26,650	SF	8.00	213,200	277,160		277,160		277,160
3.13 Renovate Staff Toilet Rooms: Renovate non-compliant staff toilet rooms.	1	LS	118,900.00	118,900	154,570		154,570		154,570
3.14 Renovate Student Toilet Rooms: Renovate all non-compliant student toilet rooms.	1	LS	293,530.00	293,530	381,589		381,589		381,589
3.15 Existing Rubber Gymnasium Floor: Refinish the existing rubber gymnasium flooring. Cost includes court stripings**.**	8,140	SF	10.00	81,400	105,820			105,820	105,820
3.16 Gymnasium Bleacher Seating is Non-accessible: We recommend that the Owner applies for a variance since the existing bleacher can not be modified to accommodate ADA seatings.	1	LS	750.00	750	975			975	975
3.17 Existing Elevator Does Not Meet Accessibility Requirements: Remove and replace elevator control system.	1	LS	50,000.00	50,000	65,000			65,000	65,000
3.18 Replace Old Lockers Throughout the building: The existing lockers are too small and not functional. Preferred lockers are 12"x15"x60" on 4" high base.	625	EA	114.00	71,250	92,625		92,625		92,625
3.19 Reconfigure Gymnasium Lockers and Showers area: Currently the locker rooms and showers are not being used. Redesign to serve school other programs.	3,640	SF	200.00	728,000	946,400		946,400		946,400

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**HAWTHORNE BROOK MIDDLE SCHOOL**	
3.20 Library Guardrails are not Code Compliant: Replace non-compliant guardrails.	158	LF	45.00	7,110	9,243	9,243			9,243
3.21 HVAC in Reconfigured Area Outside Library was not Modified: Remove walls and convert back to open space.	6,800	SF	15.00	102,000	132,600		132,600		132,600
3.22 Stair between Library and Second Floor needs cane detection: Install cane detection railing underneath stair.	32	LF	45.00	1,440	1,872	1,872			1,872
3.23 Replace Non-compliant Intermediate Handrail on stair between Library and First Floor: Replace non-compliant railing.	13	LF	45.00	585	761	761			761
3.24 Original 1978 Sheet Vinyl Floor in the Cafetorium: Replace existing sheet vinyl floor with new sheet vinyl.	2,622	SF	10.00	26,220	34,086		34,086		34,086
3.25 Existing Kitchen Epoxy Floor is cracked and Stained: Replace the old kitchen floor.	1,250	LS	15.00	18,750	24,375		24,375		24,375
3.26 Paint Gymnasium Walls and Ceiling: Paint gymnasium walls and ceiling including joists and ductworks.	8,500	SF	5.00	42,500	55,250		55,250		55,250
3.27 Reconfigure Gymnasium Storage Area: Redesign this area to create exercise room. Remove and replace existing wood stair to the mezzanine level.	1,500	SF	200.00	300,000	390,000			390,000	390,000
3.28 Non-compliant Handrails / Guardrails: Open Stair Outside Gymnasium has Non-compliant Handrails / Guardrails. Replace the non-compliant railings. Includes cane detection railing underneath.	149	LF	45.00	6,705	8,717	8,717			8,717
3.29 Auditorium Theatrical Lighting and Loudspeakers: Replace the outdated theatrical lighting and loudspeakers system.	1	LS	100,000.00	100,000	130,000		130,000		130,000

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
3. BUILDING INTERIORS								**HAWTHORNE BROOK MIDDLE SCHOOL**	
3.30 Non-compliant Handrails: Wall mounted handrails in the auditorium are not code compliant. Remove and replace.	66	LF	45.00	2,970	3,861		3,861		3,861
3.31 Non-compliant Handrails to Stage: Replace the non-compliant handrails.	28	LF	45.00	1,260	1,638		1,638		1,638
3.32 Replace Auditorium Carpet: Auditorium carpet is worn and detached. Replace with new carpet.	2,500	SF	10.00	25,000	32,500		32,500		32,500
3.33 Sink in Art Room: Sink in art room is not wheelchair accessible. Redesign and install new sink.	1	EA	2,500.00	2,500	3,250			3,250	3,250
3.34 Non-compliant Handrails / Guardrails: Replace non-compliant railings on Stair B.	76	LF	45.00	3,420	4,446	4,446			4,446
3.35 Stress cracks on interior masonry walls throughout the building: Repair / rebuild masonry walls. It is unknown what is causing the stress crack, further investigation is recommended.	200	EA	180.00	36,000	46,800		46,800		46,800
Total						847,803	3,717,579	825,045	5,390,427
Total Inflated @ 4% Compounded Annually						916,984	4,523,003	1,003,793	6,443,780

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
4. MECHANICAL									**HAWTHORNE BROOK MIDDLE SCHOOL**
4.1 Replace Pneumatic Control: The building HVAC system utilizes a combination of DDC and pneumatic controls. The pneumatic system is obsolete and is not reliable. Replace the remaining pneumatic controls and upgrade to DDC system. Assuming 75% of the existing control system is pneumatic.	75,000	SF	5.00	375,000	487,500		487,500		487,500
4.2 Replace Pumps in Boiler Room: Replace old pumps in the boiler room.	2	EA	12,000.00	24,000	31,200		31,200		31,200
4.3 Replace VFD Controller in the Boiler Room: Remove old VFD in the boiler room.	1	EA	25,000.00	25,000	32,500		32,500		32,500
Total						0	551,200	0	551,200
Total Inflated @ 4% Compounded Annually						0	670,619	0	670,619

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

Work Item Description	Qty	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Scope 1	Scope 2	Scope 3	Totals
5. ELECTRICAL								**HAWTHORNE BROOK MIDDLE SCHOOL**	
5.1 Upgrade Data Cabling: Upgrade existing data cabling and add wireless routers throughout school. The construction cost does not include technology equipment or network electronics.	106,600	SF	4.00	426,400	554,320	554,320			554,320
5.2 Security Camera and Intrusion Alarm System: School needs security camera and intrusion alarm upgrades.	106,600	SF	5.00	533,000	692,900	692,900			692,900
5.3 Upgrade Communication/Clock System: The system has reached life expectancy. A new wireless clock and VOIP system should be installed to replace the existing system.	106,600	SF	3.00	319,800	415,740		415,740		415,740
5.4 Upgrade Fire Alarm System: Existing 4 zone fire alarm is non-addressable. Upgrade to addressable system.	106,600	SF	3.00	319,800	415,740		415,740		415,740
5.5 Replace the Existing Switchgear: The existing 1978 switchgear is in fair to poor condition. We recommend replacing the switchgear under a renovation.	106,600	SF	6.00	639,600	831,480		831,480		831,480
5.6 Replace Emergency Generator and Transfer Switch: The existing gas-fired generator is 44 years old. Replace the outdated generator.	1	LS	125,000.00	125,000	162,500		162,500		162,500
Total						1,247,220	1,825,460	0	3,072,680
Total Inflated @ 4% Compounded Annually						1,348,993	2,220,951	0	3,569,944

[1]Total includes Soft Costs (30%): Contingency, Administration and A/E Fees.

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1. SITE

1.1 Bituminous paving at parking lot.

1.2 Bituminous paving at bus drop off.

1.3 Play field.

1.4 Overhang ceiling at main entrance.

1.5 Newly replaced catch basin.

1.6 Granite curbs at bus drop off area.

1.7 Concrete patio play area.

1.8 Handrails at concrete patio play area.

1.9 CMU wall at concrete patio and loading dock area.

2. BUILDING ENVELOPE

2.1 Aerial photo of the roof.

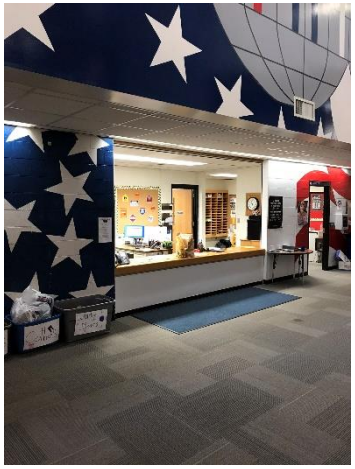
2.2 Sloped roof by the Music Room.

2.3 Sloped roof by the loading dock area.

2.4 Staining on masonry wall.

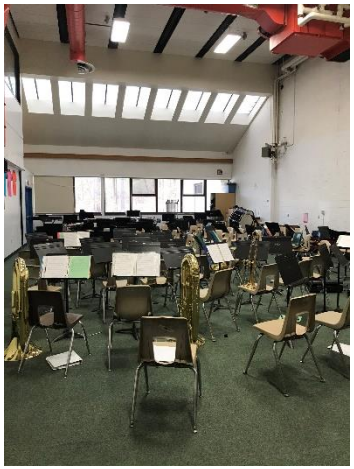
3. BUILDING INTERIORS

3.1 Demountable partition between classrooms.



3.2 Reception counter.

3.3 Computer Laboratory.



3.5 Band Room.

3.6 Band room office.

3.7 Skylight at Band Room.

3.8 Kitchen equipment.

3.9 Home economics room.

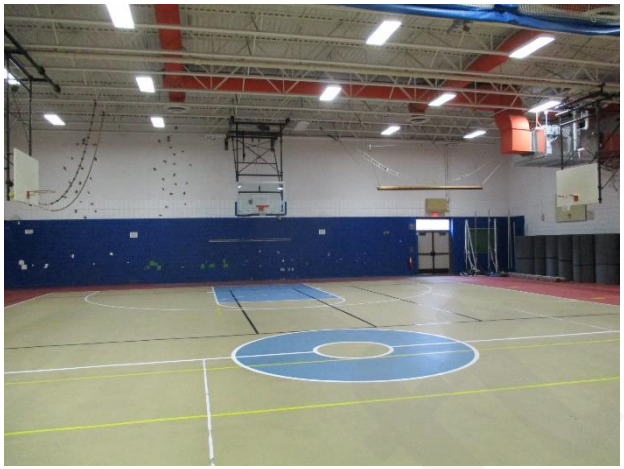
3.10 Cafetorium stage.

3.11 Original carpet in the Library.

3.12 Stained ceiling tile.

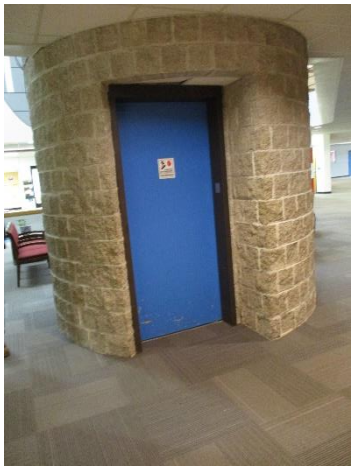
3.13 Staff toilet room.

3.14 Student toilet room.



3.15 Gymnasium rubber floor.

3.16 Bleacher seating.

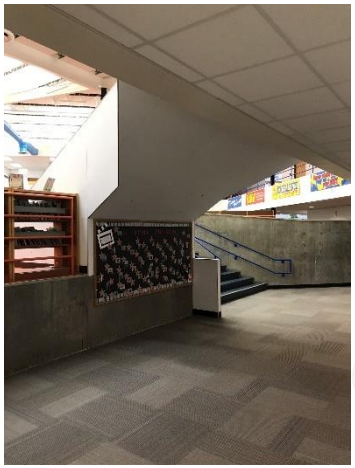


3.17 Elevator.

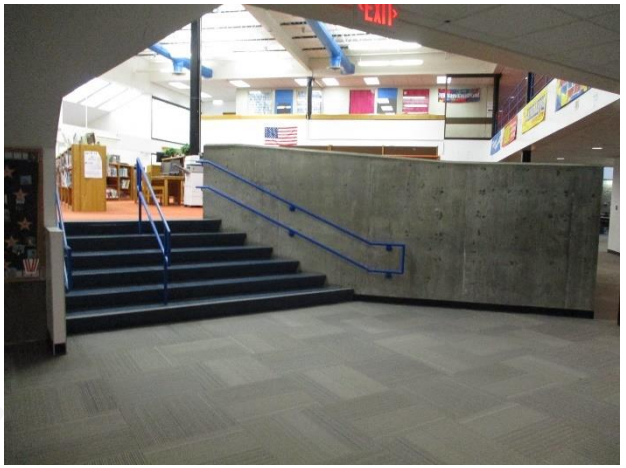
3.18 Student lockers.

3.19 Boys shower area.

3.20 Library guardrails.



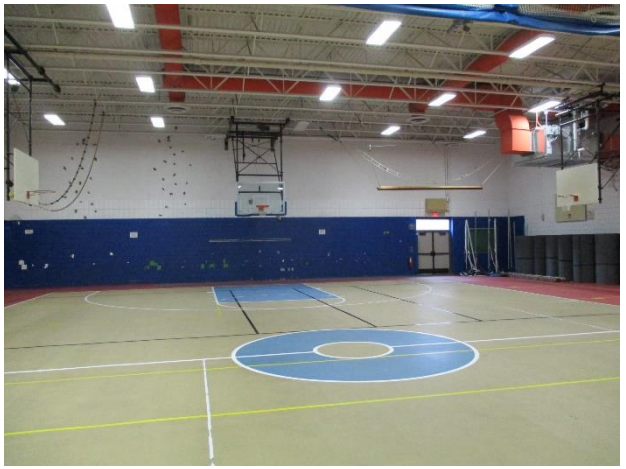
3.22 Underside of stair from library to second floor.



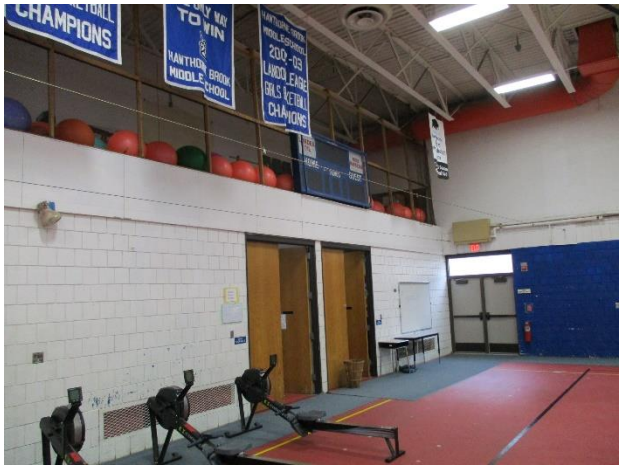
3.23 Stair from first floor to library.

3.24 Sheet vinyl floor at cafetorium.

3.25 Kitchen epoxy floor.



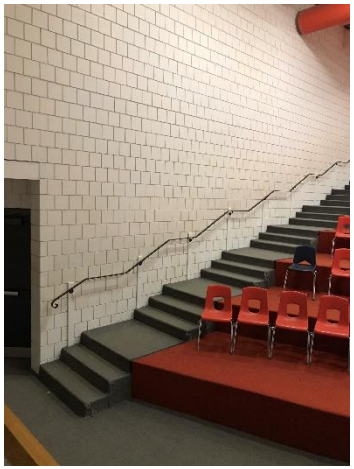
3.26 Gymnasium floor, walls and ceiling.



3.27 Gymnasium storage area.

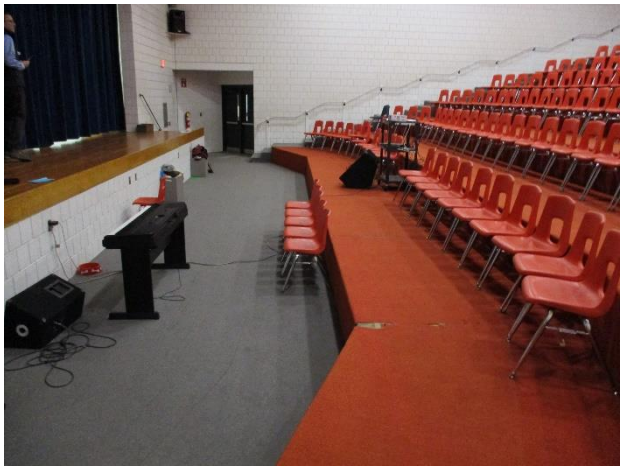
3.28 Non-compliant handrails / guardrails.

3.29 Auditorium stage lighting.



3.30 Handrail in the auditorium.

3.31 Handrail to the stage.



3.32 Auditorium carpet.

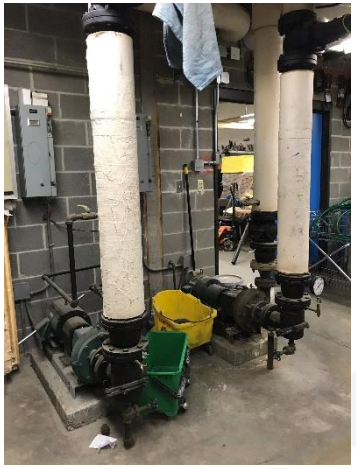
3.33 Art room sink.

3.34 Handrails at Stair B.

3.35 Stress cracks on masonry wall.

4. MECHANICAL

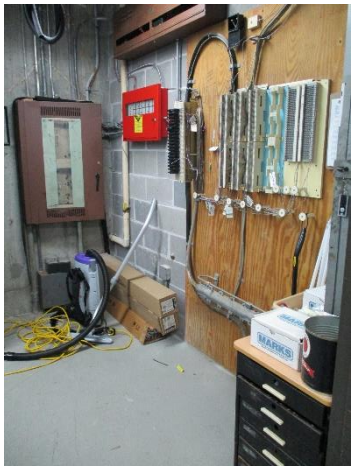
4.1 Pneumatic control panel



4.2 Boiler pumps

4.3 Boiler room

5. ELECTRICAL



5.1 Telephone network panel.

5.2 Security Camera and Intrusion Alarm System.

5.3 Intercom System.

5.4 Fire alarm panel.

5.5 Electrical room.

5.6 Emergency generator.

North Middlesex Regional School District Enrollment Projection - All Grades

	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
Grade PK	47	87	87	87	87	87	87	87	87	87	87
Grade KF	222	225	226	226	226	227	227	227	227	228	228
Grade 1	203	251	226	223	219	224	224	224	225	225	225
Grade 2	212	223	253	228	228	221	226	226	226	227	227
Grade 3	213	240	229	252	226	226	219	224	224	224	224
Grade 4	214	227	241	227	249	223	224	217	221	222	222
Grade 5	228	224	242	242	242	242	242	242	242	242	242
Grade 6	225	229	231	248	248	248	248	248	248	248	248
Grade 7	252	235	231	224	241	241	241	241	241	241	241
Grade 8	284	263	237	232	225	242	242	242	242	242	243
Grade 9	187	212	207	207	207	207	207	207	207	207	207
Grade 10	178	184	214	203	203	203	203	203	203	203	203
Grade 11	210	175	189	212	201	201	201	201	201	201	201
Grade 12	211	208	175	185	208	197	197	197	197	197	197
Grade SP	7	6	-	-	-	-	-	-	-	-	-
Total	**2,893**	**2,989**	**2,988**	**2,996**	**3,010**	**2,989**	**2,987**	**2,986**	**2,991**	**2,992**	**2,994**

**Squannacook ECC is held static based on current enrollment, capacity and ongoing waitlist.*

North Middlesex Regional School District Enrollment Projection - All Schools

	Actual as of Oct. 1			Projected				
	FY2021	**FY2022**	**FY2023**	**FY2024**	**FY2025**	**FY2026**	**FY2027**	**FY2028**
Squannacook ECC*	47	87	87	87	87	87	87	87
Ashby Elementary**	172	139	134	130	123	106	106	107
Spaulding Memorial	397	466	463	457	458	463	460	457
Varnum Brook	495	561	578	569	568	552	554	554
Hawthorne Brook	488	475	470	483	493	511	511	511
Nissitissit Middle School	501	476	471	464	463	462	462	462
North Middlesex Regional High	793	785	785	807	818	808	808	808
Total	**2,893**	**2,989**	**2,988**	**2,996**	**3,010**	**2,989**	**2,987**	**2,986**
Change over prior year	(197)	96	(1)	8	14	(22)	(1)	(2)
as a %	-6.4%	3.3%	0.0%	0.3%	0.5%	-0.7%	0.0%	-0.1%

**Squannacook ECC is held static based on current enrollment, capacity and ongoing waitlist.*

*** Ashby population projections from Donahue Institute include a 0.25% annual increase. Ashby new birth rate average over 5-years (2015-2019) increased an average of 4.3%, dropping 16% in 2019. The District is projecting 21 students in K at Ashby, with 1 student TBD. NESDEC typically uses prior year enrollment for year 1 to establish base year. For this analysis, 22 students are used for FY23 (2022 above), and considering some anecdotal information on recent growth in Ashby, is increased by 2% in FY24 (2023 above) and 1% thereafter.*

Ashby Elementary School Enrollment Projections

School Year Commencing	K	Survival Rate	1	Survival Rate	2	Survival Rate	3	Survival Rate	4	K-4 Totals	Increase or Decrease
2020	39		36		16		44		37	**172**	
		0.96		0.95		1.03		0.99			
2021	22		37.4		26		24		30	**139**	-33
		0.96		0.95		1.03		0.99			
2022	22		22		37		28		25	**134**	-5
		0.96		0.95		1.03		0.99			
2023	22		21		21		38		28	**130**	-4
		0.96		0.95		1.03		0.99			
2024	22		21		20		22		38	**123**	-7
		0.96		0.95		1.03		0.99			
2025	23		22		20		21		21	**106**	-17
		0.96		0.95		1.03		0.99			
2026	23		21.8		20.5		20.7		20.5	**106**	0
		0.96		0.95		1.03		0.99			
2027	23		22		20.7		21.1		20.5	**107**	1
		0.96		0.95		1.03		0.99			
2028	23		22.2		20.9		21.3		20.9	**109**	1
		0.96		0.95		1.03		0.99			
2029	24		22.4		21.1		21.5		21.1	**110**	1
		0.96		0.95		1.03		0.99			
2030	24		22.6		21		21.7		21.3	**111**	1
Average											
Survival		0.96		0.95		1.03		0.99			-61
10 years											-35.6%

* Ashby population projections from Donahue Institute include a 0.25% annual increase. Ashby new birth rate average over %-years (2015-2019) increased an average of 4.3%, dropping 16% in 2019. The District is projecting 21 students in K at Ashby, with 1 student TBD. NESDEC typically uses prior year enrollment for year 1 to establish base year. For this analysis, 22 students are used for FY23 (2022 above), and considering some anecdotal information on recent growth in Ashby, is increased by 2% in FY24 (2023 above) and 1% thereafter.

Spaulding Memorial School Enrollment Projections

School Year Commencing	K	Survival Rate	1	Survival Rate	2	Survival Rate	3	Survival Rate	4	K-4 Totals	Increase or Decrease
2020	83		80		78		73		83	**397**	
		0.96		1.01		0.97		0.99			
2021	97		91		86		99		93	**466**	69
		0.96		1.01		0.97		0.99			
2022	96		96		87		88		96	**463**	-3
		0.96		1.01		0.97		0.99			
2023	96		92		97		84		87	**457**	-6
		0.96		1.01		0.97		0.99			
2024	96		88		96		94		84	**458**	1
		0.96		1.01		0.97		0.99			
2025	96		92		89		93		93	**463**	6
		0.96		1.01		0.97		0.99			
2026	96		92.2		93.1		86.2		92.2	**460**	-4
		0.96		1.01		0.97		0.99			
2027	96		92.2		93.1		90.3		85.4	**457**	-3
		0.96		1.01		0.97		0.99			
2028	96		92.2		93.1		90.3		89.4	**461**	4
		0.96		1.01		0.97		0.99			
2029	96		92.2		93.1		90.3		89.4	**461**	0
		0.96		1.01		0.97		0.99			
2030	96		92.2		93		90.3		89.4	**461**	0
Average											
Survival		0.96		1.01		0.97		0.99			64
10 years											16.1%

Varnum Brook Elementary School Enrollment Projections

School Year Commencing	K	Survival Rate	1	Survival Rate	2	Survival Rate	3	Survival Rate	4	K-4 Totals	Increase or Decrease
2020	100		87		118		96		94	**495**	
		1.02		1.02		1.00		0.99			
2021	106		123		111		117		104	**561**	66
		1.02		1.02		1.00		0.99			
2022	108		108		129		113		120	**578**	17
		1.02		1.02		1.00		0.99			
2023	108		110		110		129		112	**569**	-9
		1.02		1.02		1.00		0.99			
2024	108		110		112		110		128	**568**	-1
		1.02		1.02		1.00		0.99			
2025	108		110		112		112		109	**552**	-16
		1.02		1.02		1.00		0.99			
2026	108		110		112		112		111	**554**	2
		1.02		1.02		1.00		0.99			
2027	108		110		112		112		111	**554**	0
		1.02		1.02		1.00		0.99			
2028	108		110		112		112		111	**554**	0
		1.02		1.02		1.00		0.99			
2029	108		110		112		112		111	**554**	0
		1.02		1.02		1.00		0.99			
2030	108		110		112		112		111	**554**	0
Average											
Survival		1.02		1.02		1.00		0.99			59
10 years											11.9%

Hawthorne Brook Middle School Enrollment Projections

School Year Commencing	5	Survival Rate	6	Survival Rate	7	Survival Rate	8	Grades 5-8 Totals	Increase or Decrease
2020	114		107		133		134	**488**	
		1.04		0.97		1.00			
2021	110		118		113		134	**475**	-13
		1.04		0.97		1.00			
2022	126		112		117		115	**470**	-5
		1.04		0.97		1.00			
2023	126		131		109		117	**483**	13
		1.04		0.97		1.00			
2024	126		131		127		109	**493**	10
		1.04		0.97		1.00			
2025	126		131		127		127	**511**	18
		1.04		0.97		1.00			
2026	126		131		127.11		127.1	**511**	0
		1.04		0.97		1.00			
2027	126		131		127.11		127.1	**511**	0
		1.04		0.97		1.00			
2028	126		131		127.11		127.1	**511**	0
		1.04		0.97		1.00			
2029	126		131		127.11		127.1	**511**	0
		1.04		0.97		1.00			
2030	126		131		127.11		127.1	**511**	0
Average									
Survival		1.04		0.97		1.00			23
10 years									4.8%

Nissitissit Middle School Enrollment Projections

School Year Commencing	5	Survival Rate	6	Survival Rate	7	Survival Rate	8	Grades 5-8 Totals	Increase or Decrease
2020	114		118		119		150	**501**	
		1.01		0.97		1.01			
2021	114		111		122		129	**476**	-25
		1.01		0.97		1.01			
2022	116		119		114		122	**471**	-5
		1.01		0.97		1.01			
2023	116		117		115		115	**464**	-7
		1.01		0.97		1.01			
2024	116		117		114		117	**463**	0
		1.01		0.97		1.01			
2025	116		117		114		115	**462**	-2
		1.01		0.97		1.01			
2026	116		117.2		113.65		114.8	**462**	0
		1.01		0.97		1.01			
2027	116		117.2		113.65		114.8	**462**	0
		1.01		0.97		1.01			
2028	116		117.2		113.65		114.8	**462**	0
		1.01		0.97		1.01			
2029	116		117.2		113.65		114.8	**462**	0
		1.01		0.97		1.02			
2030	116		117.2		113.65		115.9	**463**	1
Average									
Survival		1.01		0.97		1.01			-38
10 years									-7.6%

North Middlesex Regional High School Enrollment Projections

School Year Commencing	9	Survival Rate	10	Survival Rate	11	Survival Rate	12	UN	Grades 9-12 Totals	Increase or Decrease
2020	187		178		210		211	7	**793**	
		0.98		0.99		0.98				
2021	212		184		175		208	6	**785**	-8
		0.98		0.99		0.98				
2022	207		214		189		175		**785**	0
		0.98		0.99		0.98				
2023	207		203		212		185		**807**	22
		0.98		0.99		0.98				
2024	207		203		201		208		**818**	11
		0.98		0.99		0.98				
2025	207		203		201		197		**808**	-11
		0.98		0.99		0.98				
2026	207		202.9		200.83		196.8		**808**	0
		0.98		0.99		0.98				
2027	207		202.9		200.83		196.8		**808**	0
		0.98		0.99		0.98				
2028	207		202.9		200.83		196.8		**808**	0
		0.98		0.99		0.98				
2029	207		202.9		200.83		196.8		**808**	0
		0.98		0.99		0.98				
2030	207		202.9		200.83		196.8		**808**	0
Average										
Survival		0.98		0.99		0.98				15
10 years										1.8%

Debt Service – Alternative #1

School	Alternative #1 Estimated Cost	*MSBA Estimated Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	4,700,000.00	60.00%	2,256,000.00	2,444,000.00
Squannacook Early Childhood Center	0.00	0.00%	0.00	0.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***20,455,000.00***	***60.00%***	***9,818,400.00***	***10,636,600.00***

Debt Allocation Methodology		
AES Debt Alternative #1	**FY 2023 Allocation (Oct 2021 Enrollment)**	**FY 2023 Percentage Debt Allocation**
Ashby	172	100.00%
Townsend	0	0.00%
Pepperell	0	0.00%
Total	***172***	***100.00%***
HBMS Debt		
Ashby	118	24.79%
Townsend	351	73.74%
Pepperell	7	1.47%
Total	***476***	***100.00%***
SMS Debt		
Ashby	0	0.00%
Townsend	397	100.00%
Pepperell	0	0.00%
Total	***397***	***100.00%***

Debt Service – Alternative #1

Debt Service Terms	Ashby Elementary School Renovations MSBA Funding		Ashby Elementary School Renovations Fully Self Funded		Hawthorne Brook Middle School Renovations				Spaulding Memorial School	
Estimated Borrowing Year	*FY24*		*FY24*		*FY24*				*FY24*	
Amt Borrowed (M)	*2,444,000.00*		*4,700,000.00*		*7,867,600.00*				*325,000.00*	
Borrow Length	*25.00*		*25.00*		*25.00*				*5.00*	
Interest Rate	*4.00%*		*4.00%*		*4.00%*				*3.50%*	
Principal	*97,760.00*		*188,000.00*		*314,704.00*				*65,000.00*	
Cost Per Year (Level Principal)	Total Debt Service	Ashby Responsibility 100%	Total Debt Service	Ashby Responsibility 100%	Total Debt Service	Ashby Responsibility 24.79%	Townsend Responsibility 73.74%	Pepperell Responsibility 1.47%	Total Debt Service	Townsend Responsibility 100%
1	195,520.00	195,520.00	376,000.00	376,000.00	629,408.00	156,029.71	464,122.29	9,256.00	76,375.00	76,375.00
2	191,609.60	191,609.60	368,480.00	368,480.00	616,819.84	152,909.12	454,839.84	9,070.88	74,100.00	74,100.00
3	187,699.20	187,699.20	360,960.00	360,960.00	604,231.68	149,788.53	445,557.39	8,885.76	71,825.00	71,825.00
4	183,788.80	183,788.80	353,440.00	353,440.00	591,643.52	146,667.93	436,274.95	8,700.64	69,550.00	69,550.00
5	179,878.40	179,878.40	345,920.00	345,920.00	579,055.36	143,547.34	426,992.50	8,515.52	67,275.00	67,275.00
6	175,968.00	175,968.00	338,400.00	338,400.00	566,467.20	140,426.74	417,710.06	8,330.40		
7	172,057.60	172,057.60	330,880.00	330,880.00	553,879.04	137,306.15	408,427.61	8,145.28		
8	168,147.20	168,147.20	323,360.00	323,360.00	541,290.88	134,185.55	399,145.17	7,960.16		
9	164,236.80	164,236.80	315,840.00	315,840.00	528,702.72	131,064.96	389,862.72	7,775.04		
10	160,326.40	160,326.40	308,320.00	308,320.00	516,114.56	127,944.37	380,580.27	7,589.92		
11	156,416.00	156,416.00	300,800.00	300,800.00	503,526.40	124,823.77	371,297.83	7,404.80		
12	152,505.60	152,505.60	293,280.00	293,280.00	490,938.24	121,703.18	362,015.38	7,219.68		
13	148,595.20	148,595.20	285,760.00	285,760.00	478,350.08	118,582.58	352,732.94	7,034.56		
14	144,684.80	144,684.80	278,240.00	278,240.00	465,761.92	115,461.99	343,450.49	6,849.44		
15	140,774.40	140,774.40	270,720.00	270,720.00	453,173.76	112,341.39	334,168.05	6,664.32		
16	136,864.00	136,864.00	263,200.00	263,200.00	440,585.60	109,220.80	324,885.60	6,479.20		
17	132,953.60	132,953.60	255,680.00	255,680.00	427,997.44	106,100.21	315,603.15	6,294.08		
18	129,043.20	129,043.20	248,160.00	248,160.00	415,409.28	102,979.61	306,320.71	6,108.96		
19	125,132.80	125,132.80	240,640.00	240,640.00	402,821.12	99,859.02	297,038.26	5,923.84		
20	121,222.40	121,222.40	233,120.00	233,120.00	390,232.96	96,738.42	287,755.82	5,738.72		
21	117,312.00	117,312.00	225,600.00	225,600.00	377,644.80	93,617.83	278,473.37	5,553.60		
22	113,401.60	113,401.60	218,080.00	218,080.00	365,056.64	90,497.23	269,190.93	5,368.48		
23	109,491.20	109,491.20	210,560.00	210,560.00	352,468.48	87,376.64	259,908.48	5,183.36		
24	105,580.80	105,580.80	203,040.00	203,040.00	339,880.32	84,256.05	250,626.03	4,998.24		
25	101,670.40	101,670.40	195,520.00	195,520.00	327,292.16	81,135.45	241,343.59	4,813.12		
TOTAL	*3,714,880.00*	*3,714,880.00*	*7,144,000.00*	*7,144,000.00*	*11,958,752.00*	*2,964,564.57*	*8,818,323.43*	*175,864.00*	*359,125.00*	*359,125.00*

Debt Service – Alternative #2

School	Alternative #2 Estimated Cost	*MSBA Estimated Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	12,964,563.00	60.00%	6,222,990.24	6,741,572.76
Squannacook Early Childhood Center	0.00	0.00%	0.00	0.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***28,719,563.00***	***60.00%***	***13,785,390.24***	***14,934,172.76***

Debt Allocation Methodology		
AES Debt Alternative #2	**FY 2023 Allocation (Oct 2021 Enrollment)**	**FY 2023 Percentage Debt Allocation**
Ashby	172	63.24%
Townsend	100	36.76%
Pepperell	0	0.00%
Total	***272***	***100.00%***
HBMS Debt		
Ashby	118	24.79%
Townsend	351	73.74%
Pepperell	7	1.47%
Total	***476***	***100.00%***
SMS Debt		
Ashby	0	0.00%
Townsend	397	100.00%
Pepperell	0	0.00%
Total	***397***	***100.00%***

Debt Service – Alternative #2

Debt Service Terms	Ashby Elementary School Renovations MSBA Funding			Ashby Elementary School Renovations Fully Self-Funded			Hawthorne Brook Middle School Renovations				Spaulding Memorial School	
Estimated Borrowing Year	*FY24*			*FY24*			*FY24*				*FY24*	
Amt Borrowed (M)	*6,741,572.76*			*12,964,563.00*			*7,867,600.00*				*325,000.00*	
Borrow Length	*25.00*			*25.00*			*25.00*				*5.00*	
Interest Rate	*4.00%*			*4.00%*			*4.00%*				*3.50%*	
Principal	*269,662.91*			*518,582.52*			*314,704.00*				*65,000.00*	
Cost Per Year (Level Principal)		Ashby Responsibility 63.24%	Townsend Responsibility 36.76%		Ashby Responsibility 63.24%	Townsend Responsibility 36.76%		Ashby Responsibility 24.79%	Townsend Responsibility 73.74%	Pepperell Responsibility 1.47%		Townsend Responsibility 100%
1	539,325.82	341,044.27	198,281.55	1,037,165.04	655,854.36	381,310.68	629,408.00	156,029.71	464,122.29	9,256.00	76,375.00	76,375.00
2	528,539.30	334,223.38	194,315.92	1,016,421.74	642,737.28	373,684.46	616,819.84	152,909.12	454,839.84	9,070.88	74,100.00	74,100.00
3	517,752.79	327,402.50	190,350.29	995,678.44	629,620.19	366,058.25	604,231.68	149,788.53	445,557.39	8,885.76	71,825.00	71,825.00
4	506,966.27	320,581.61	186,384.66	974,935.14	616,503.10	358,432.04	591,643.52	146,667.93	436,274.95	8,700.64	69,550.00	69,550.00
5	496,179.76	313,760.73	182,419.03	954,191.84	603,386.01	350,805.82	579,055.36	143,547.34	426,992.50	8,515.52	67,275.00	67,275.00
6	485,393.24	306,939.84	178,453.40	933,448.54	590,268.93	343,179.61	566,467.20	140,426.74	417,710.06	8,330.40		
7	474,606.72	300,118.96	174,487.77	912,705.24	577,151.84	335,553.40	553,879.04	137,306.15	408,427.61	8,145.28		
8	463,820.21	293,298.07	170,522.13	891,961.93	564,034.75	327,927.18	541,290.88	134,185.55	399,145.17	7,960.16		
9	453,033.69	286,477.19	166,556.50	871,218.63	550,917.67	320,300.97	528,702.72	131,064.96	389,862.72	7,775.04		
10	442,247.17	279,656.30	162,590.87	850,475.33	537,800.58	312,674.75	516,114.56	127,944.37	380,580.27	7,589.92		
11	431,460.66	272,835.42	158,625.24	829,732.03	524,683.49	305,048.54	503,526.40	124,823.77	371,297.83	7,404.80		
12	420,674.14	266,014.53	154,659.61	808,988.73	511,566.40	297,422.33	490,938.24	121,703.18	362,015.38	7,219.68		
13	409,887.62	259,193.64	150,693.98	788,245.43	498,449.32	289,796.11	478,350.08	118,582.58	352,732.94	7,034.56		
14	399,101.11	252,372.76	146,728.35	767,502.13	485,332.23	282,169.90	465,761.92	115,461.99	343,450.49	6,849.44		
15	388,314.59	245,551.87	142,762.72	746,758.83	472,215.14	274,543.69	453,173.76	112,341.39	334,168.05	6,664.32		
16	377,528.07	238,730.99	138,797.09	726,015.53	459,098.05	266,917.47	440,585.60	109,220.80	324,885.60	6,479.20		
17	366,741.56	231,910.10	134,831.46	705,272.23	445,980.97	259,291.26	427,997.44	106,100.21	315,603.15	6,294.08		
18	355,955.04	225,089.22	130,865.82	684,528.93	432,863.88	251,665.05	415,409.28	102,979.61	306,320.71	6,108.96		
19	345,168.53	218,268.33	126,900.19	663,785.63	419,746.79	244,038.83	402,821.12	99,859.02	297,038.26	5,923.84		
20	334,382.01	211,447.45	122,934.56	643,042.32	406,629.71	236,412.62	390,232.96	96,738.42	287,755.82	5,738.72		
21	323,595.49	204,626.56	118,968.93	622,299.02	393,512.62	228,786.41	377,644.80	93,617.83	278,473.37	5,553.60		
22	312,808.98	197,805.68	115,003.30	601,555.72	380,395.53	221,160.19	365,056.64	90,497.23	269,190.93	5,368.48		
23	302,022.46	190,984.79	111,037.67	580,812.42	367,278.44	213,533.98	352,468.48	87,376.64	259,908.48	5,183.36		
24	291,235.94	184,163.91	107,072.04	560,069.12	354,161.36	205,907.77	339,880.32	84,256.05	250,626.03	4,998.24		
25	280,449.43	177,343.02	103,106.41	539,325.82	341,044.27	198,281.55	327,292.16	81,135.45	241,343.59	4,813.12		
TOTAL	*10,247,190.60*	*6,479,841.11*	*3,767,349.48*	*19,706,135.76*	*12,461,232.91*	*7,244,902.85*	*11,958,752.00*	*2,964,564.57*	*8,818,323.43*	*175,864.00*	*359,125.00*	*359,125.00*

Debt Service – Alternative #3

School	Alternative #3 Estimated Cost	*MSBA Estimatd Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	0.00	0.00%	0.00	0.00
**Squannacook Early Childhood Center	50,000.00	0.00%	0.00	50,000.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***15,805,000.00***	***60.00%***	***7,562,400.00***	***8,242,600.00***

Debt Allocation Methodology		
SECC Debt	**FY 2023 Allocation (Oct 2021 Enrollment)**	**FY 2023 Percentage Debt Allocation**
Ashby	393	12.82%
Townsend	1233	40.22%
Pepperell	1440	46.97%
Total	***3066***	***100.00%***
HBMS Debt		
Ashby	118	24.79%
Townsend	351	73.74%
Pepperell	7	1.47%
Total	***476***	***100.00%***
SMS Debt		
Ashby	0	0.00%
Townsend	397	100.00%
Pepperell	0	0.00%
Total	***397***	***100.00%***

Debt Service – Alternative #3

Debt Service Terms	Hawthorne Brook Middle School Renovations				Spaulding Memorial School	
Estimated Borrowing Year	*FY24*				*FY24*	
Amt Borrowed (M)	*7,867,600.00*				*325,000.00*	
Borrow Length	*25.00*				*5.00*	
Interest Rate	*4.00%*				*3.50%*	
Principal	*314,704.00*				*65,000.00*	
Cost Per Year (Level Principal)		Ashby Responsibility 24.79%	Townsend Responsibility 73.74%	Pepperell Responsibility 1.47%		Townsend Responsibility 100%
1	629,408.00	156,029.71	464,122.29	9,256.00	76,375.00	76,375.00
2	616,819.84	152,909.12	454,839.84	9,070.88	74,100.00	74,100.00
3	604,231.68	149,788.53	445,557.39	8,885.76	71,825.00	71,825.00
4	591,643.52	146,667.93	436,274.95	8,700.64	69,550.00	69,550.00
5	579,055.36	143,547.34	426,992.50	8,515.52	67,275.00	67,275.00
6	566,467.20	140,426.74	417,710.06	8,330.40		
7	553,879.04	137,306.15	408,427.61	8,145.28		
8	541,290.88	134,185.55	399,145.17	7,960.16		
9	528,702.72	131,064.96	389,862.72	7,775.04		
10	516,114.56	127,944.37	380,580.27	7,589.92		
11	503,526.40	124,823.77	371,297.83	7,404.80		
12	490,938.24	121,703.18	362,015.38	7,219.68		
13	478,350.08	118,582.58	352,732.94	7,034.56		
14	465,761.92	115,461.99	343,450.49	6,849.44		
15	453,173.76	112,341.39	334,168.05	6,664.32		
16	440,585.60	109,220.80	324,885.60	6,479.20		
17	427,997.44	106,100.21	315,603.15	6,294.08		
18	415,409.28	102,979.61	306,320.71	6,108.96		
19	402,821.12	99,859.02	297,038.26	5,923.84		
20	390,232.96	96,738.42	287,755.82	5,738.72		
21	377,644.80	93,617.83	278,473.37	5,553.60		
22	365,056.64	90,497.23	269,190.93	5,368.48		
23	352,468.48	87,376.64	259,908.48	5,183.36		
24	339,880.32	84,256.05	250,626.03	4,998.24		
25	327,292.16	81,135.45	241,343.59	4,813.12		
TOTAL	*11,958,752.00*	*2,964,564.57*	*8,818,323.43*	*175,864.00*	*359,125.00*	*359,125.00*

Debt Service – Alternative #4

School	Alternative #4 Estimated Cost	*MSBA Estimatd Percentage Funding	*MSBA Estimated Grant Amount	Estimated District Responsibility
Ashby Elementary School	0.00	60.00%	0.00	0.00
Squannacook Early Childhood Center	956,000.00	60.00%	458,880.00	497,120.00
Hawthorne Brooke Middle School	15,130,000.00	60.00%	7,262,400.00	7,867,600.00
Spaulding Memorial School	625,000.00	60.00%	300,000.00	325,000.00
Total	***16,711,000.00***	***60.00%***	***8,021,280.00***	***8,689,720.00***

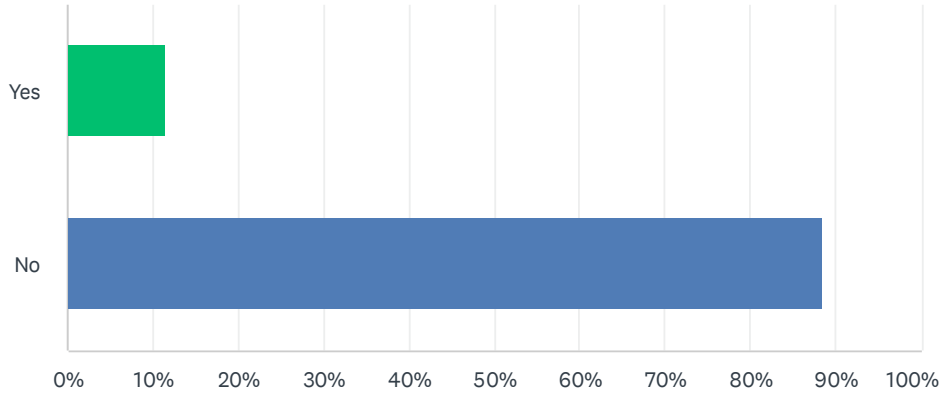
Debt Allocation Methodology		
SECC Debt	**FY 2023 Allocation (Oct 2021 Enrollment)**	**FY 2023 Percentage Debt Allocation**
Ashby	393	12.82%
Townsend	1233	40.22%
Pepperell	1440	46.97%
Total	***3066***	***100.00%***
HBMS Debt		
Ashby	118	24.79%
Townsend	351	73.74%
Pepperell	7	1.47%
Total	***476***	***100.00%***
SMS Debt		
Ashby	0	0.00%
Townsend	100	100.00%
Pepperell	0	0.00%
Total	***100***	***100.00%***

Debt Service – Alternative #4

Debt Service Terms	Squannacook Early Childhood Center Renovations				Hawthorne Brook Middle School Renovations				Spaulding Memorial School	
Estimated Borrowing Year	*FY24*				*FY24*				*FY24*	
Amt Borrowed (M)	*497,120.00*				*7,867,600.00*				*325,000.00*	
Borrow Length	*10.00*				*25.00*				*5.00*	
Interest Rate	*3.50%*				*4.00%*				*3.50%*	
Principal	*49,712.00*				*314,704.00*				*65,000.00*	
Cost Per Year (Level Principal)		Ashby Responsibility 12.82%	Townsend Responsibility 40.22%	Pepperell Responsibility 46.97%		Ashby Responsibility 24.79%	Townsend Responsibility 73.74%	Pepperell Responsibility 1.47%		Townsend Responsibility 100%
1	67,111.20	8,602.32	26,988.95	31,519.94	629,408.00	156,029.71	464,122.29	9,256.00	76,375.00	76,375.00
2	65,371.28	8,379.29	26,289.23	30,702.75	616,819.84	152,909.12	454,839.84	9,070.88	74,100.00	74,100.00
3	63,631.36	8,156.27	25,589.52	29,885.57	604,231.68	149,788.53	445,557.39	8,885.76	71,825.00	71,825.00
4	61,891.44	7,933.25	24,889.81	29,068.39	591,643.52	146,667.93	436,274.95	8,700.64	69,550.00	69,550.00
5	60,151.52	7,710.22	24,190.09	28,251.20	579,055.36	143,547.34	426,992.50	8,515.52	67,275.00	67,275.00
6	58,411.60	7,487.20	23,490.38	27,434.02	566,467.20	140,426.74	417,710.06	8,330.40		
7	56,671.68	7,264.18	22,790.67	26,616.84	553,879.04	137,306.15	408,427.61	8,145.28		
8	54,931.76	7,041.16	22,090.95	25,799.65	541,290.88	134,185.55	399,145.17	7,960.16		
9	53,191.84	6,818.13	21,391.24	24,982.47	528,702.72	131,064.96	389,862.72	7,775.04		
10	51,451.92	6,595.11	20,691.53	24,165.29	516,114.56	127,944.37	380,580.27	7,589.92		
11	0.00	0.00	0.00	0.00	503,526.40	124,823.77	371,297.83	7,404.80		
12	0.00	0.00	0.00	0.00	490,938.24	121,703.18	362,015.38	7,219.68		
13	0.00	0.00	0.00	0.00	478,350.08	118,582.58	352,732.94	7,034.56		
14	0.00	0.00	0.00	0.00	465,761.92	115,461.99	343,450.49	6,849.44		
15	0.00	0.00	0.00	0.00	453,173.76	112,341.39	334,168.05	6,664.32		
16	0.00	0.00	0.00	0.00	440,585.60	109,220.80	324,885.60	6,479.20		
17	0.00	0.00	0.00	0.00	427,997.44	106,100.21	315,603.15	6,294.08		
18	0.00	0.00	0.00	0.00	415,409.28	102,979.61	306,320.71	6,108.96		
19	0.00	0.00	0.00	0.00	402,821.12	99,859.02	297,038.26	5,923.84		
20	0.00	0.00	0.00	0.00	390,232.96	96,738.42	287,755.82	5,738.72		
21	0.00	0.00	0.00	0.00	377,644.80	93,617.83	278,473.37	5,553.60		
22	0.00	0.00	0.00	0.00	365,056.64	90,497.23	269,190.93	5,368.48		
23	0.00	0.00	0.00	0.00	352,468.48	87,376.64	259,908.48	5,183.36		
24	0.00	0.00	0.00	0.00	339,880.32	84,256.05	250,626.03	4,998.24		
25	0.00	0.00	0.00	0.00	327,292.16	81,135.45	241,343.59	4,813.12		
TOTAL	*592,815.60*	*75,987.13*	*238,402.36*	*278,426.11*	*11,958,752.00*	*2,964,564.57*	*8,818,323.43*	*175,864.00*	*359,125.00*	*359,125.00*

Q1 Are you currently a student attending a school in the North Middlesex Regional School District?

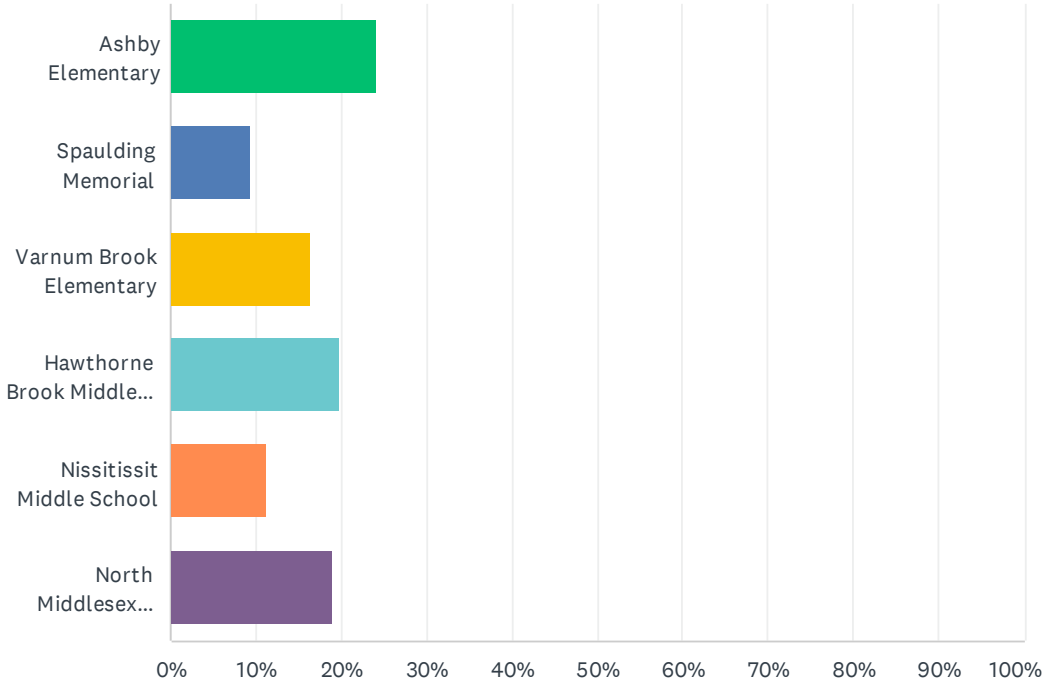
Answered: 967 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	11.58%	112
No	88.42%	855
TOTAL		967

Q2 If you are a student currently, which school do you attend:

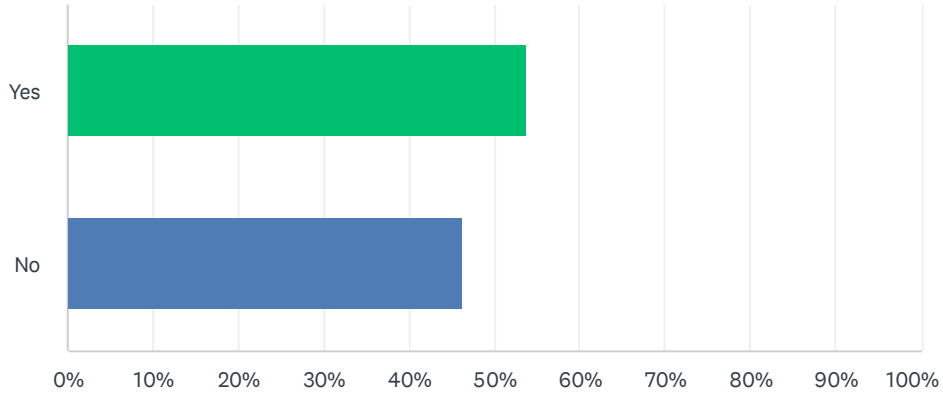
Answered: 116 Skipped: 851



ANSWER CHOICES	RESPONSES	
Ashby Elementary	24.14%	28
Spaulding Memorial	9.48%	11
Varnum Brook Elementary	16.38%	19
Hawthorne Brook Middle SChool	19.83%	23
Nissitissit Middle School	11.21%	13
North Middlesex Regional High School	18.97%	22
TOTAL		116

Q3 Does someone in your household currently attend school in the North Middlesex Regional School District?

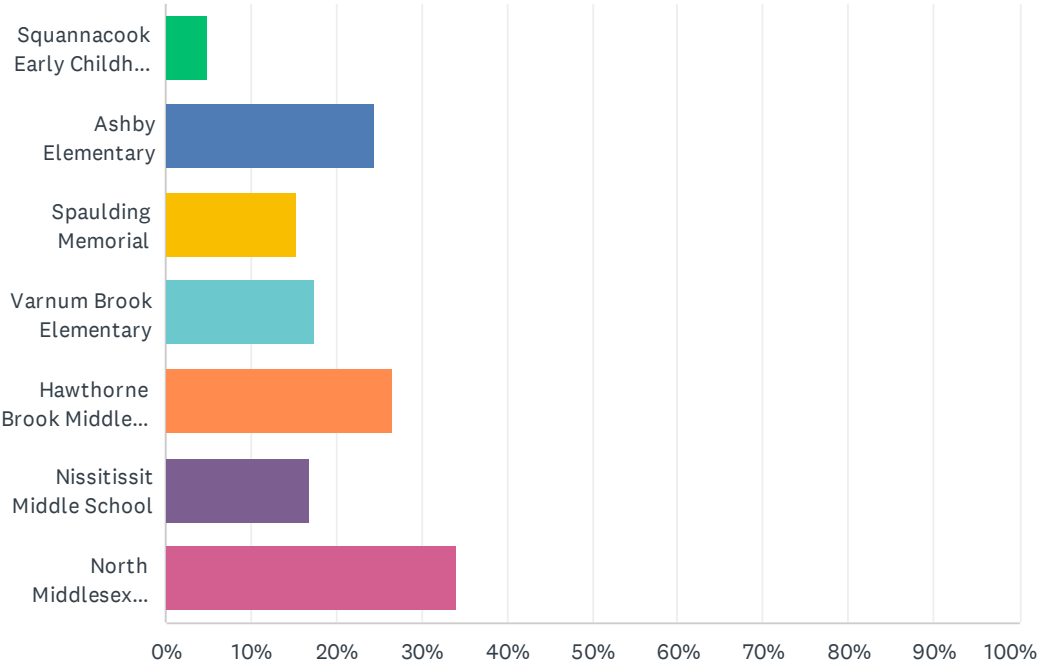
Answered: 849 Skipped: 118



ANSWER CHOICES	RESPONSES	
Yes	53.83%	457
No	46.17%	392
TOTAL		849

Q4 Which school(s) does someone in your household currently attend?

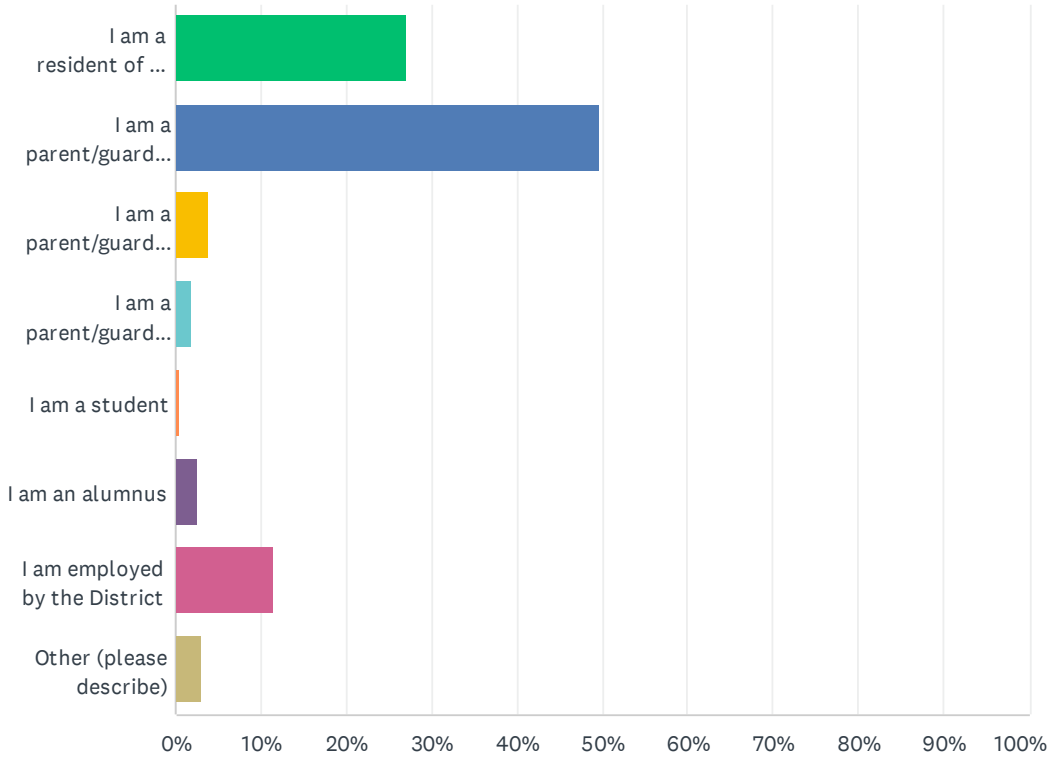
Answered: 456 Skipped: 511



ANSWER CHOICES	RESPONSES	
Squannacook Early Childhood Center	4.82%	22
Ashby Elementary	24.56%	112
Spaulding Memorial	15.35%	70
Varnum Brook Elementary	17.54%	80
Hawthorne Brook Middle School	26.75%	122
Nissitissit Middle School	16.89%	77
North Middlesex Regional High School	34.21%	156
Total Respondents: 456		

Q5 Which of the following best describes your perspective in responding to this survey?

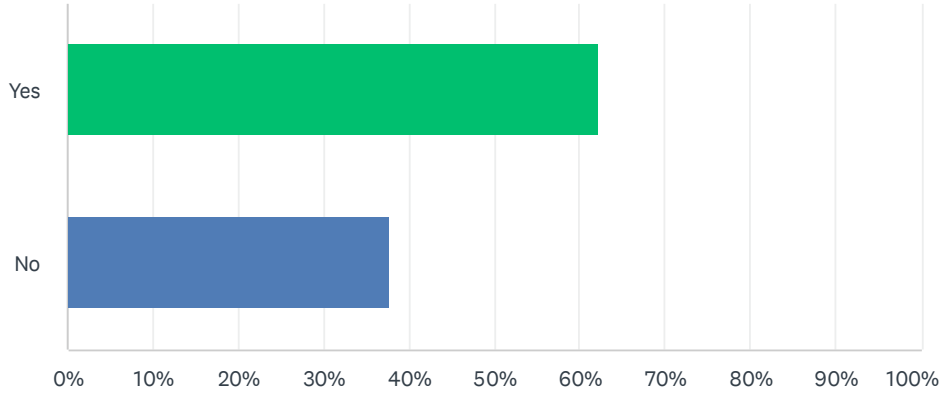
Answered: 945 Skipped: 22



ANSWER CHOICES	RESPONSES	
I am a resident of a town in the district	26.98%	255
I am a parent/guardian of a current student or students attending school in the District	49.74%	470
I am a parent/guardian of a future student or students	3.92%	37
I am a parent/guardian of a student who attends school out of the District or is home-schooled	1.90%	18
I am a student	0.42%	4
I am an alumnus	2.65%	25
I am employed by the District	11.43%	108
Other (please describe)	2.96%	28
TOTAL		945

Q6 Are you a teacher in the District?

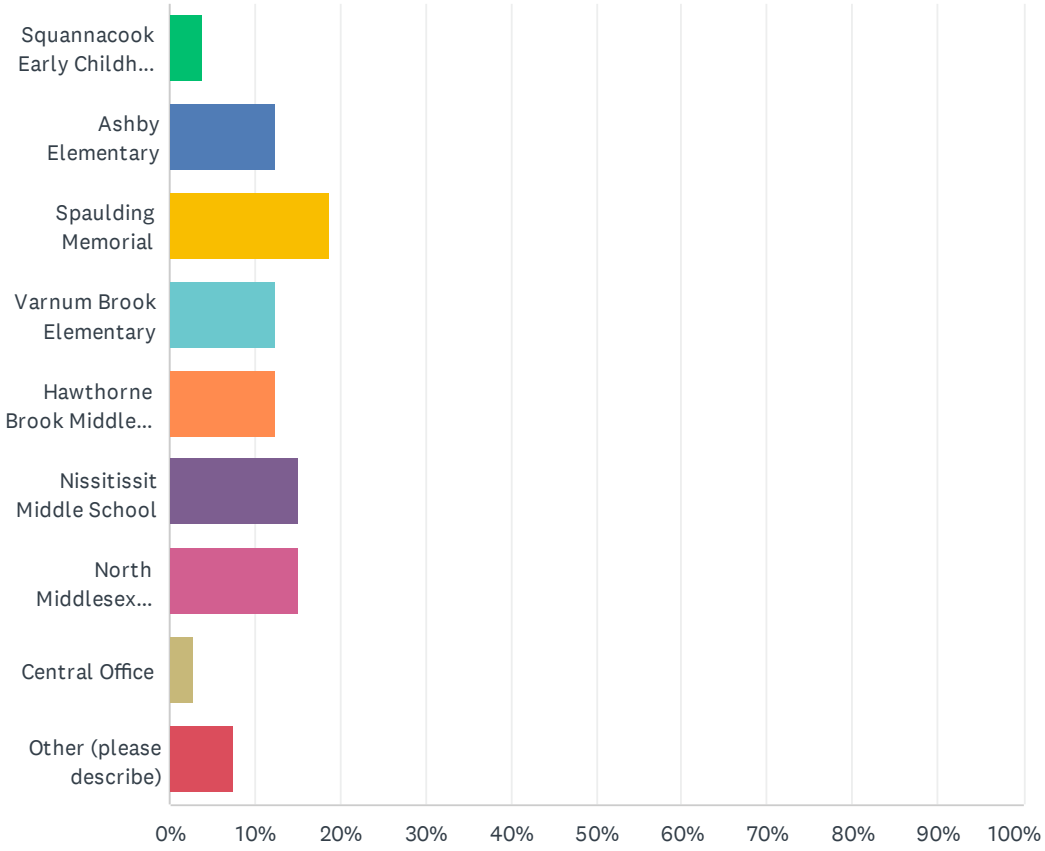
Answered: 106 Skipped: 861



ANSWER CHOICES	RESPONSES	
Yes	62.26%	66
No	37.74%	40
TOTAL		106

Q7 To which school are you primarily assigned?

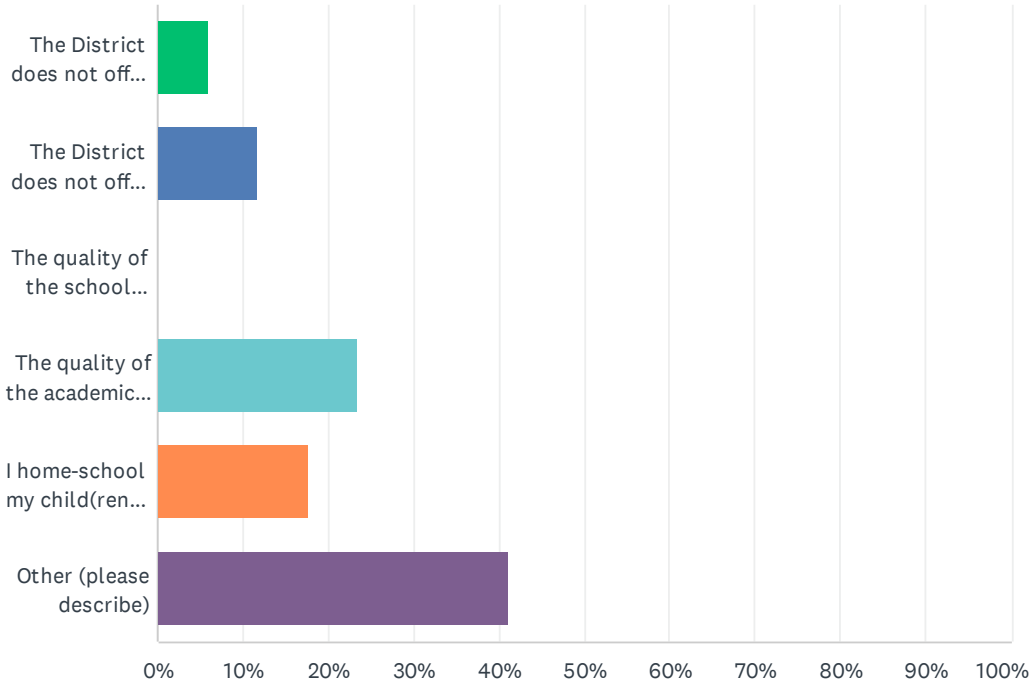
Answered: 106 Skipped: 861



ANSWER CHOICES	RESPONSES	
Squannacook Early Childhood Center	3.77%	4
Ashby Elementary	12.26%	13
Spaulding Memorial	18.87%	20
Varnum Brook Elementary	12.26%	13
Hawthorne Brook Middle School	12.26%	13
Nissitissit Middle School	15.09%	16
North Middlesex Regional High School	15.09%	16
Central Office	2.83%	3
Other (please describe)	7.55%	8
TOTAL		106

Q8 Which of the following best describes why you send your child(ren) out of district?

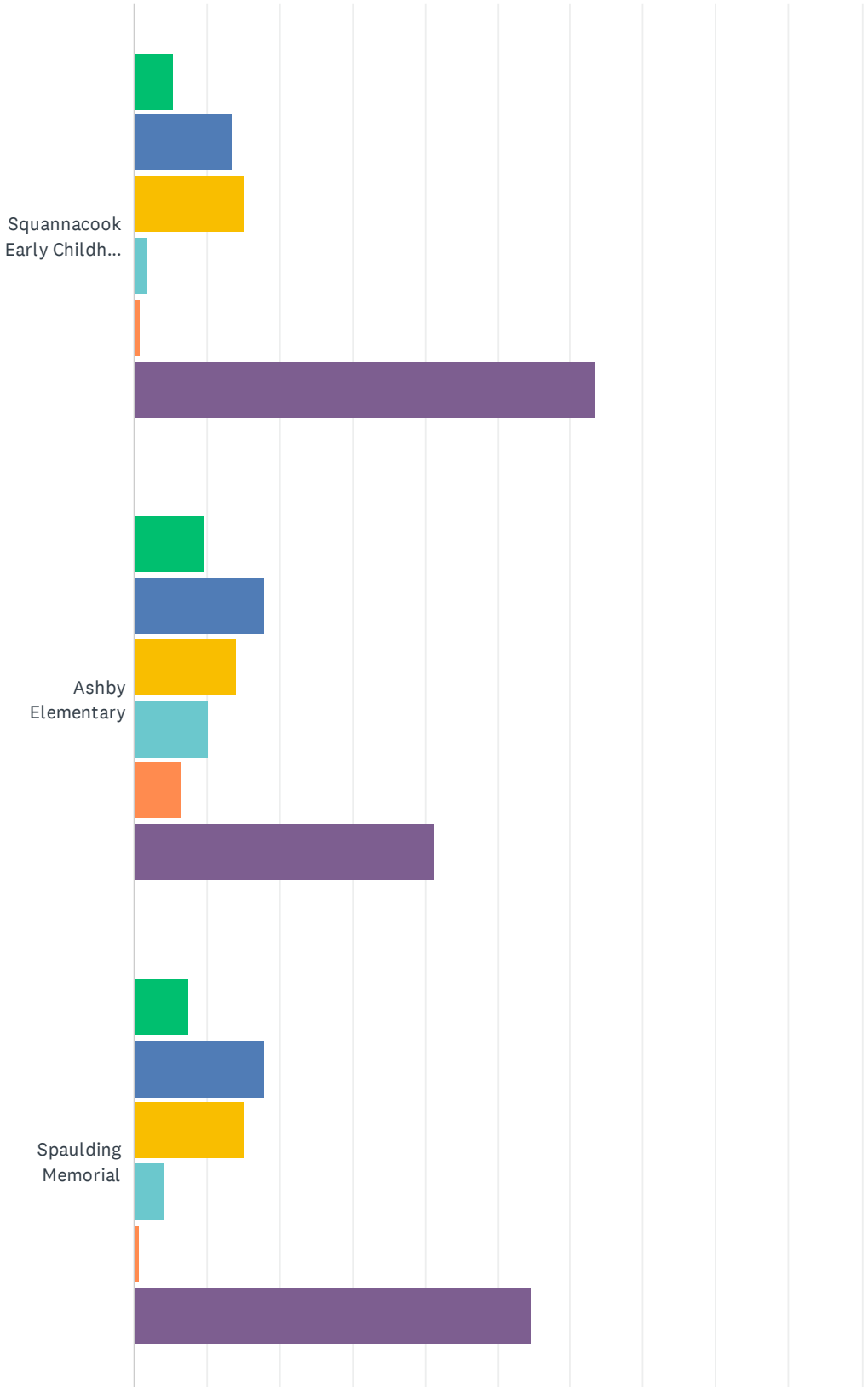
Answered: 17 Skipped: 950

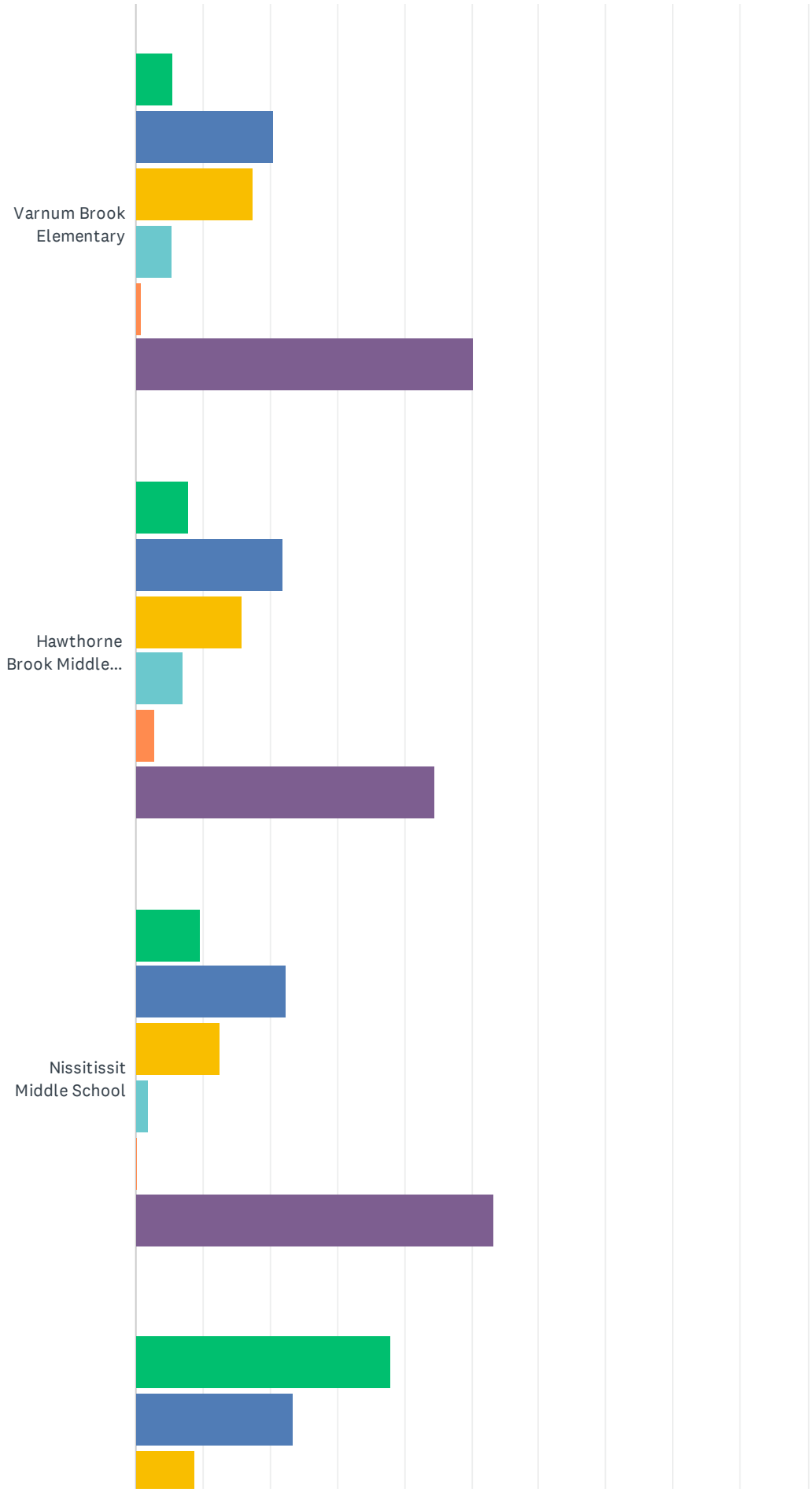


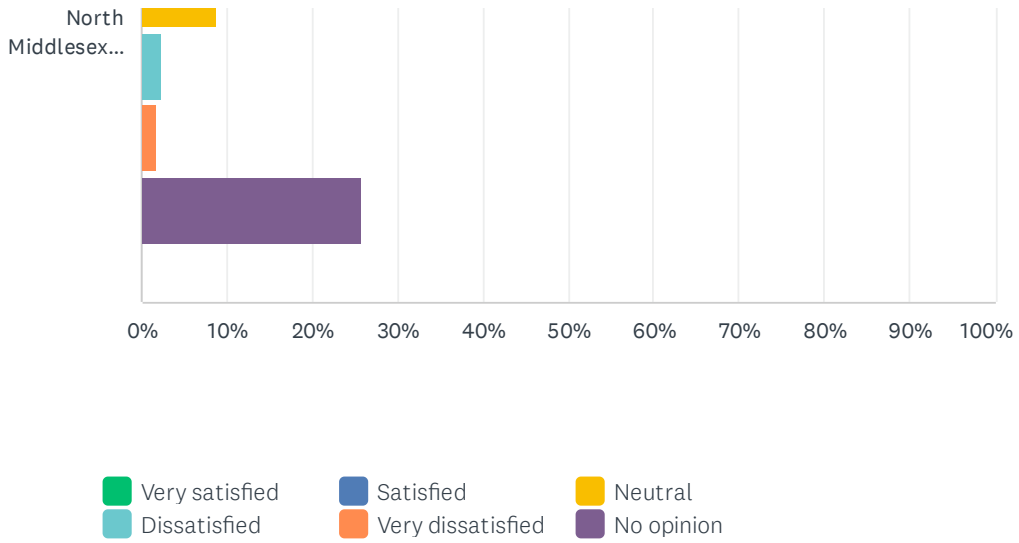
ANSWER CHOICES	RESPONSES	
The District does not offer the special education programming my child(ren) needs.	5.88%	1
The District does not offer the career or technical education my child(ren) needs.	11.76%	2
The quality of the school facilities in the District is unsatisfactory.	0.00%	0
The quality of the academic instruction in the District is unsatisfactory.	23.53%	4
I home-school my child(ren) or send to private school due to concerns about the health or safety protocol implemented by the District since the beginning of the COVID-19 pandemic.	17.65%	3
Other (please describe)	41.18%	7
TOTAL		17

Q9 How would you rate your level of satisfaction with the general condition of the following District school facilities?

Answered: 714 Skipped: 253



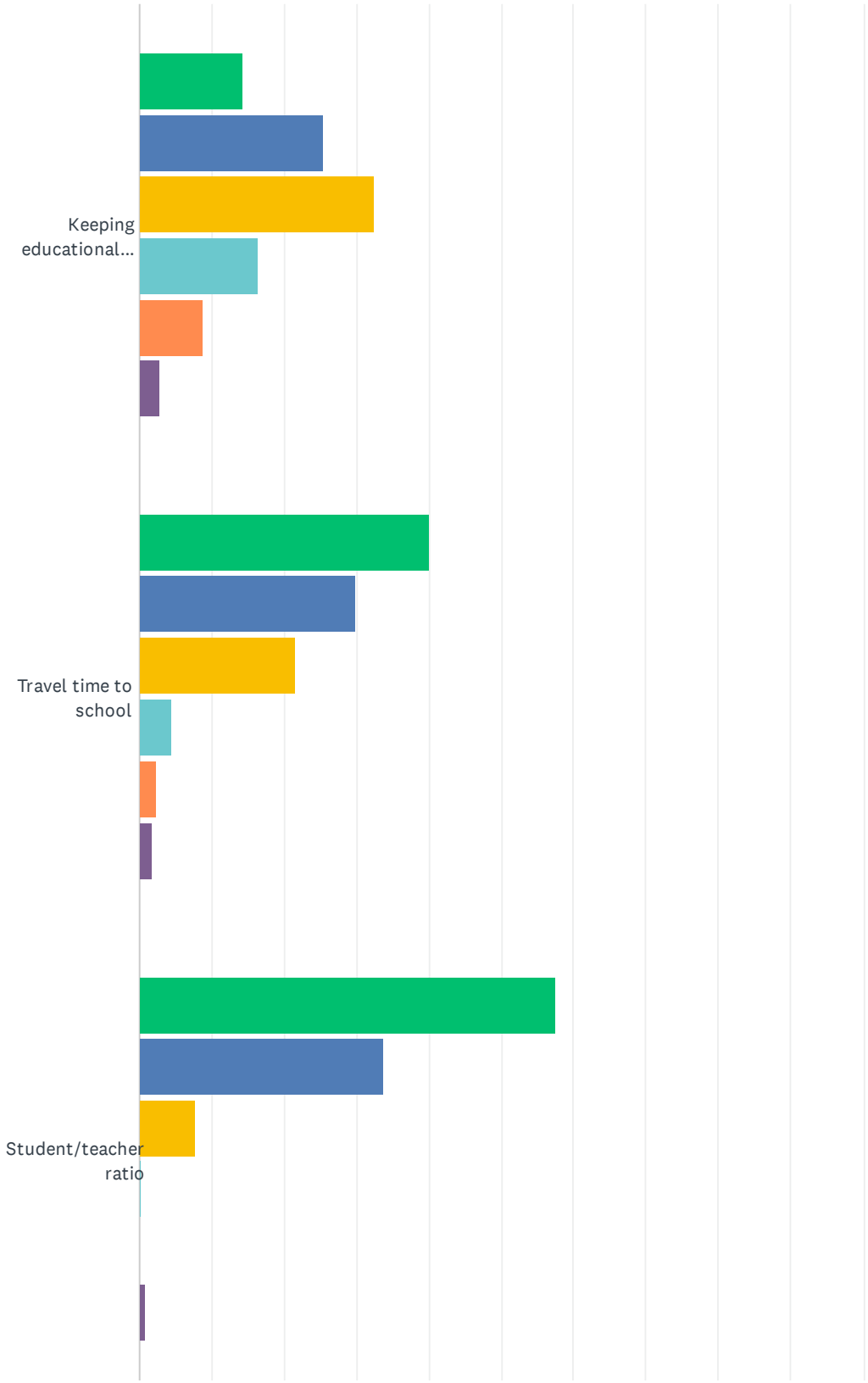

Varnum Brook Elementary
Hawthorne Brook Middle...
Nissitissit Middle School

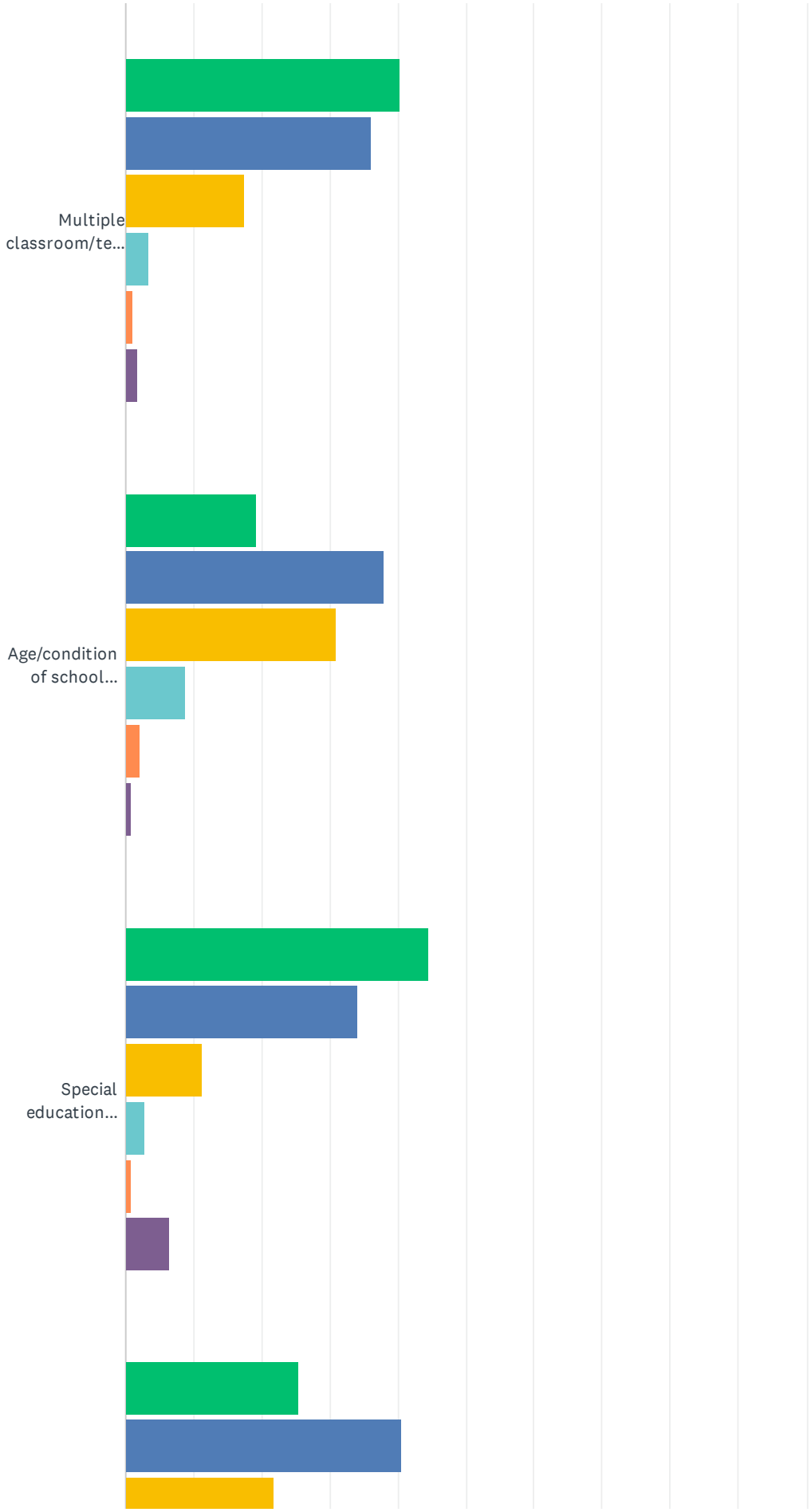


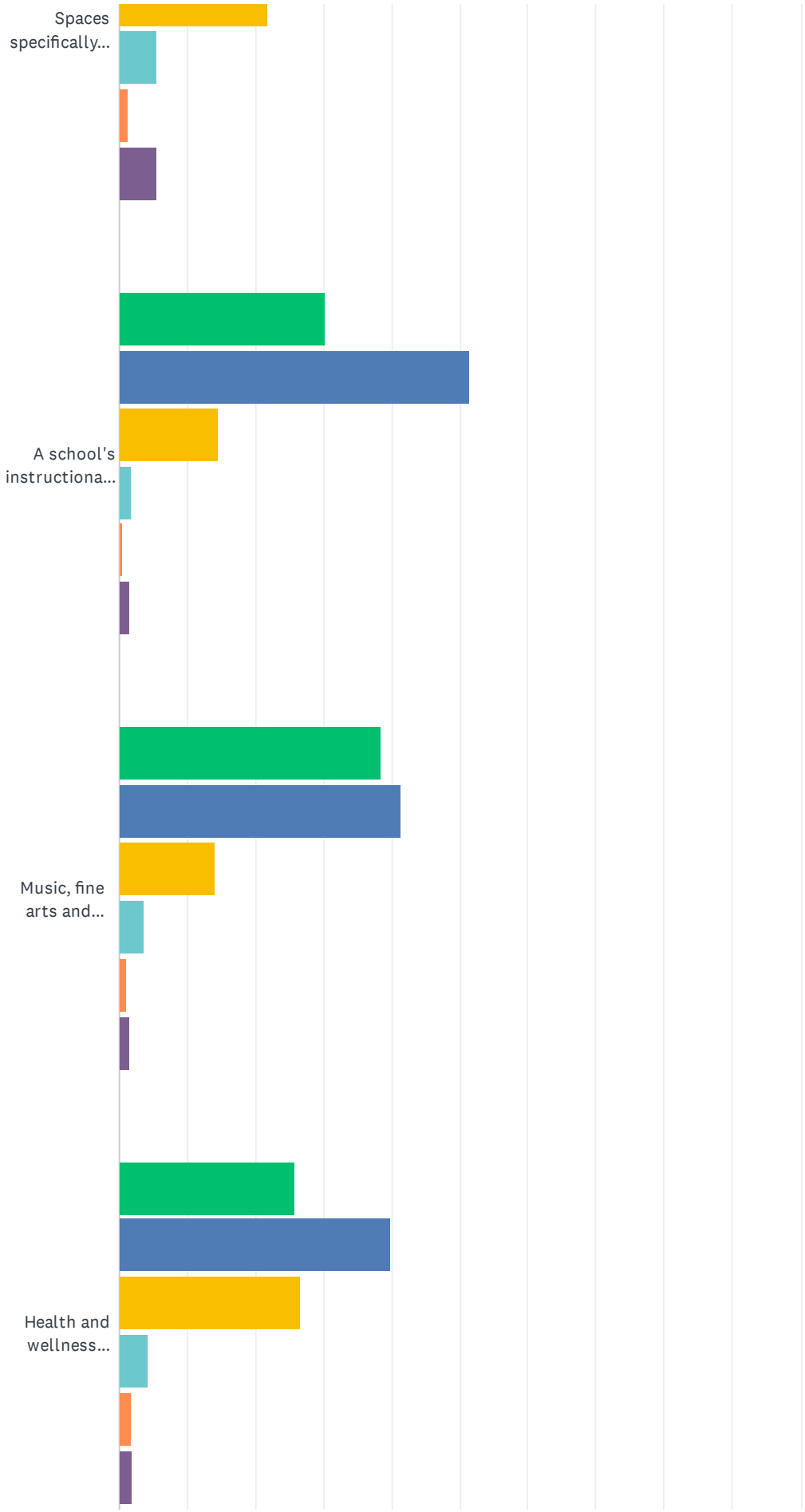
	VERY SATISFIED	SATISFIED	NEUTRAL	DISSATISFIED	VERY DISSATISFIED	NO OPINION	TOTAL
Squannacook Early Childhood Center	5.29% 34	13.37% 86	15.09% 97	1.71% 11	0.93% 6	63.61% 409	643
Ashby Elementary	9.57% 63	17.93% 118	14.13% 93	10.33% 68	6.69% 44	41.34% 272	658
Spaulding Memorial	7.47% 48	17.88% 115	15.24% 98	4.20% 27	0.62% 4	54.59% 351	643
Varnum Brook Elementary	5.51% 36	20.52% 134	17.46% 114	5.36% 35	0.77% 5	50.38% 329	653
Hawthorne Brook Middle SChool	7.97% 53	21.95% 146	15.79% 105	7.07% 47	2.71% 18	44.51% 296	665
Nissitissit Middle School	9.63% 62	22.36% 144	12.58% 81	1.86% 12	0.31% 2	53.26% 343	644
North Middlesex Regional High School	37.99% 250	23.56% 155	8.66% 57	2.28% 15	1.67% 11	25.84% 170	658

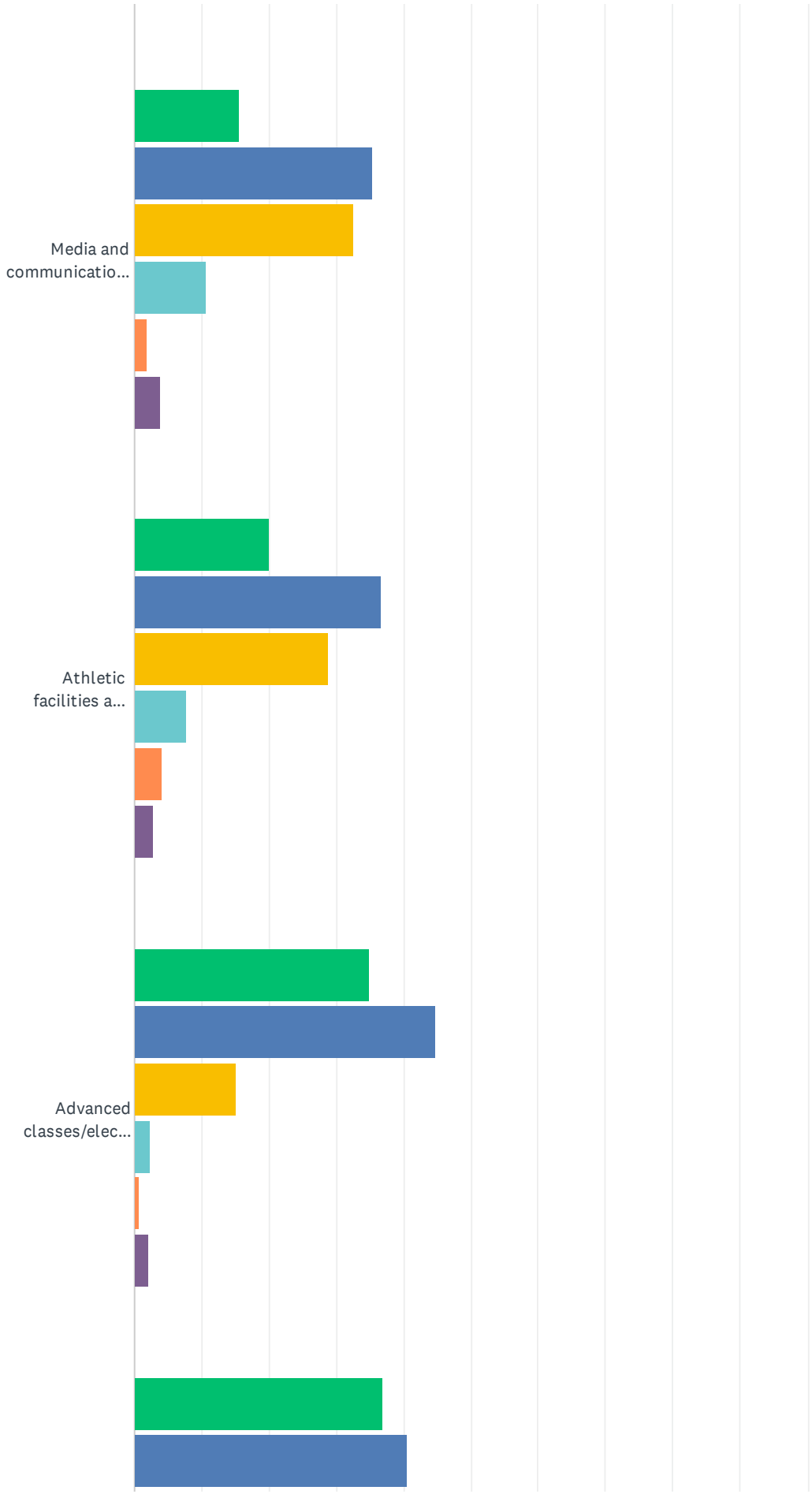
Q10 Please rate how important each of the following school considerations is to you:

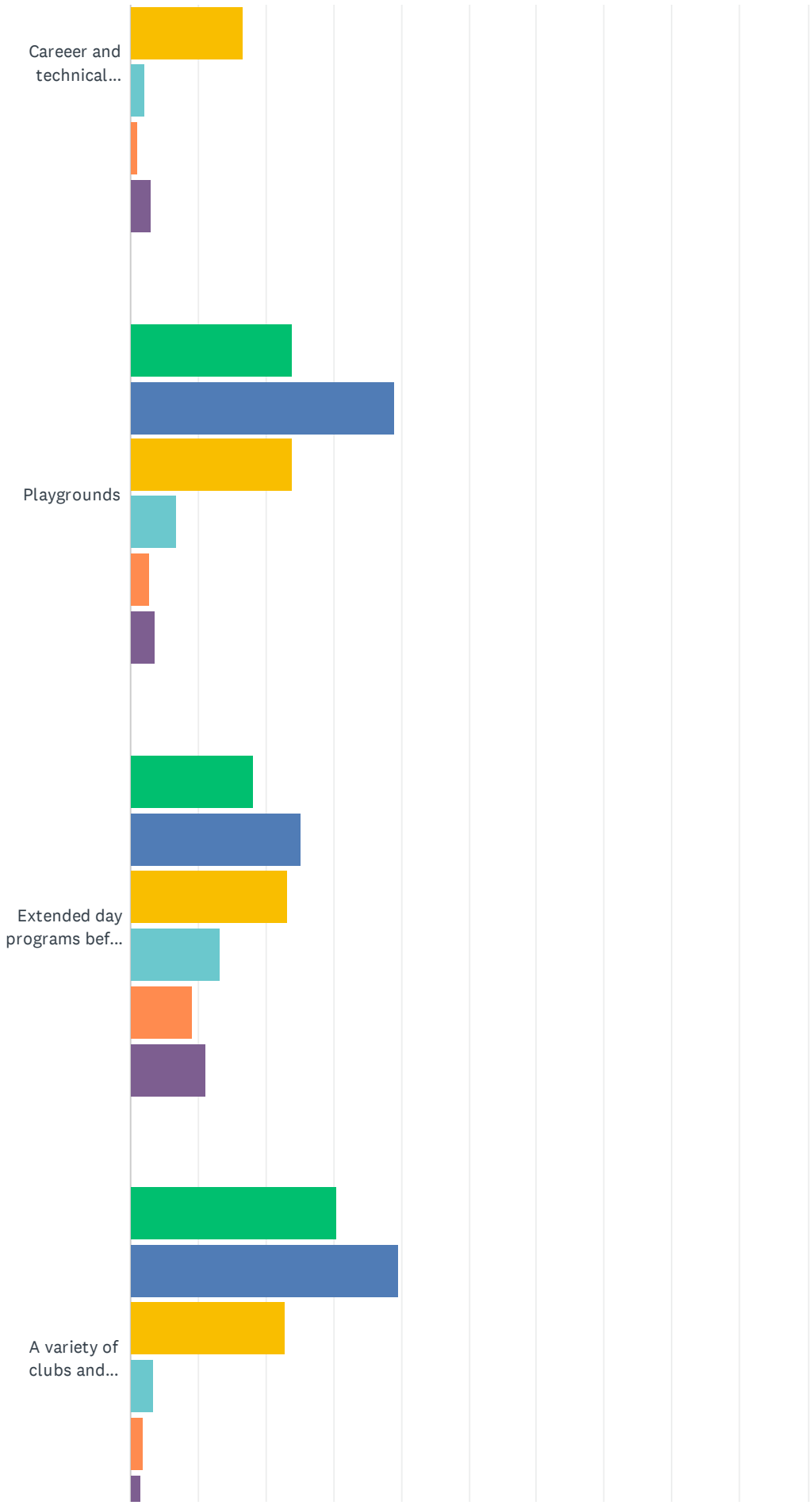
Answered: 717 Skipped: 250

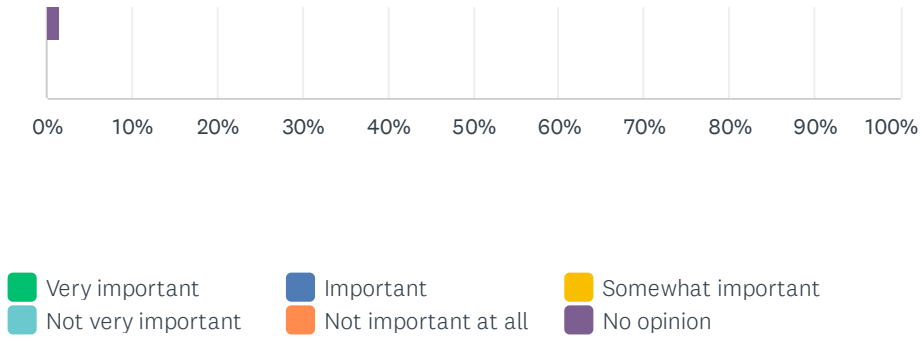



Multiple classroom/te...
Age/condition of school...
Special education...


Spaces specifically...
A school's instructiona...
Music, fine arts and...
Health and wellness...


Media and communicatio...
Athletic facilities a...
Advanced classes/elec...

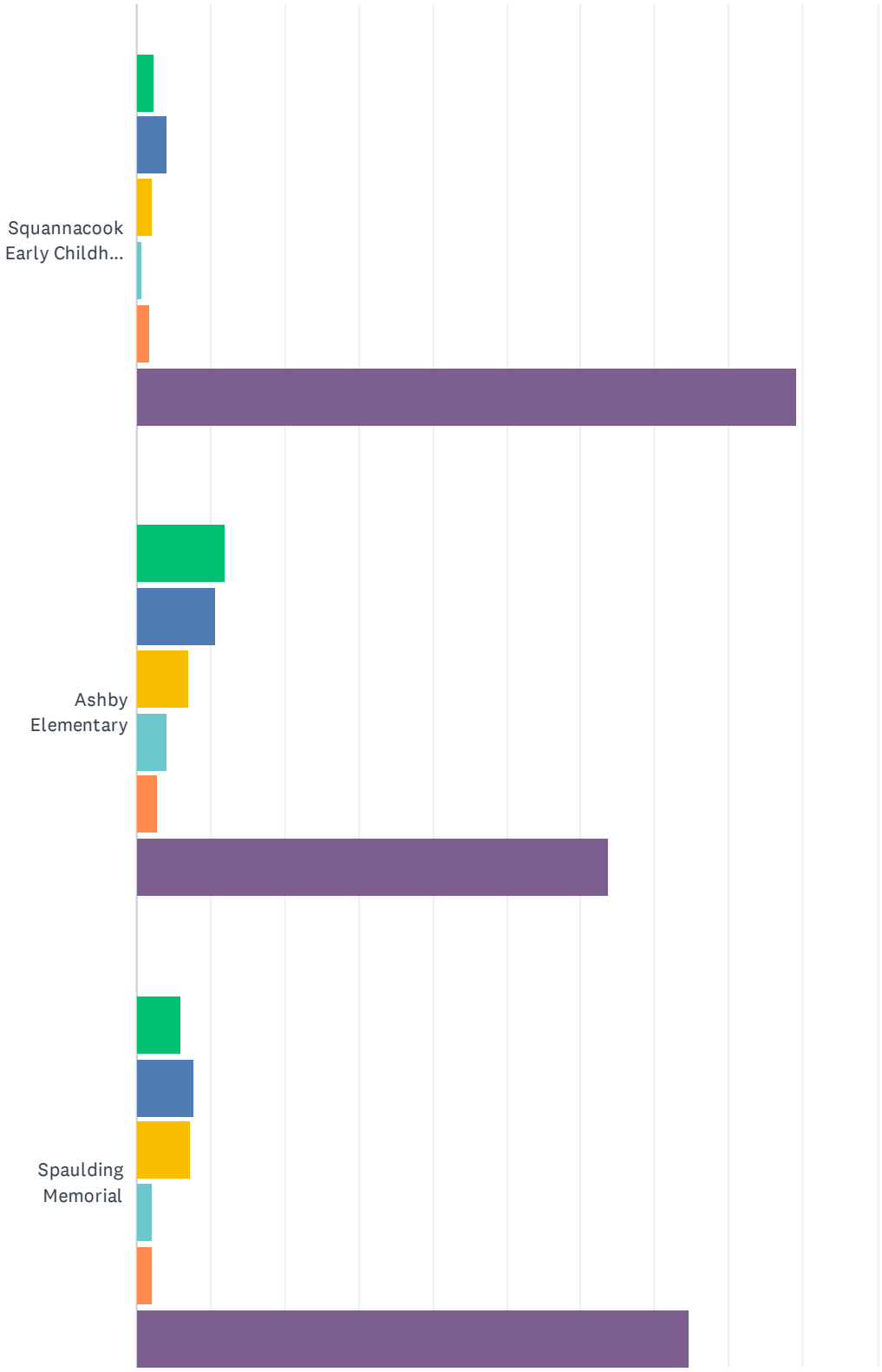

Careeer and technical...
Playgrounds
Extended day programs bef...
A variety of clubs and...

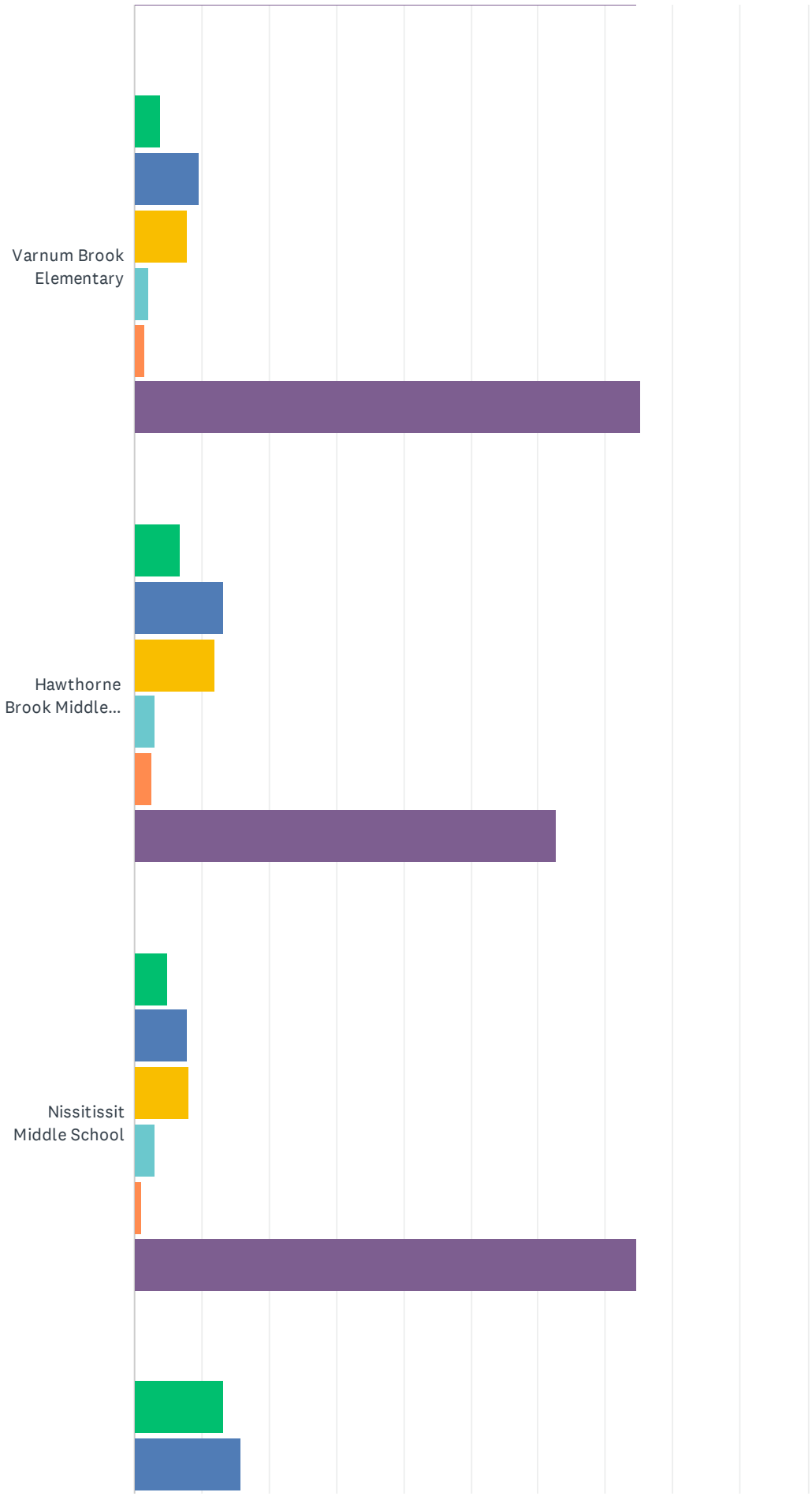

0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Very important
Important
Somewhat important
Not very important
Not important at all
No opinion

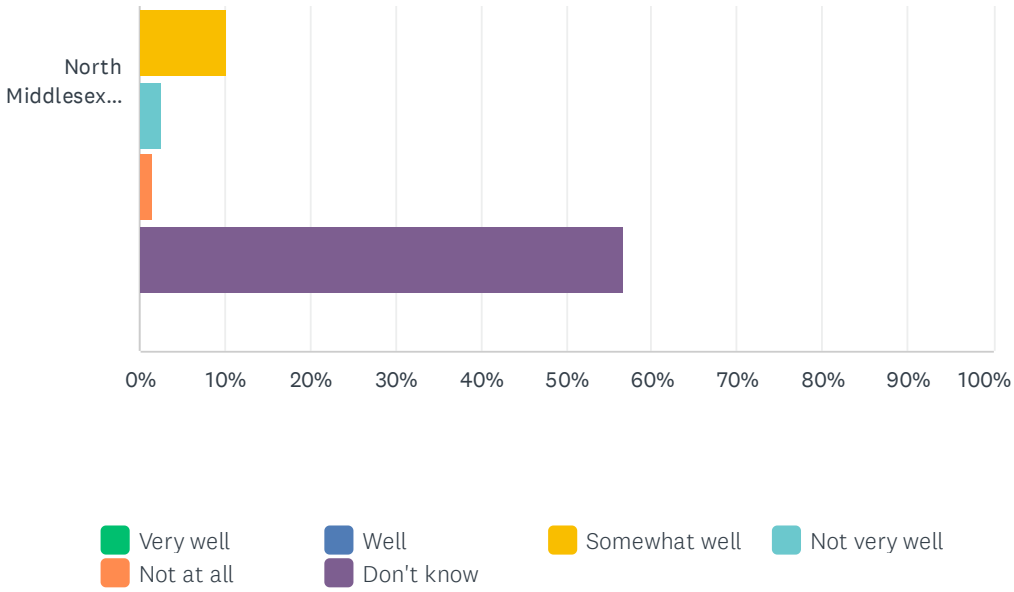
	VERY IMPORTANT	IMPORTANT	SOMEWHAT IMPORTANT	NOT VERY IMPORTANT	NOT IMPORTANT AT ALL	NO OPINION	TOTAL
Keeping educational costs to a minimum	14.35% 102	25.46% 181	32.35% 230	16.32% 116	8.72% 62	2.81% 20	711
Travel time to school	40.11% 286	29.87% 213	21.46% 153	4.49% 32	2.38% 17	1.68% 12	713
Student/teacher ratio	57.48% 411	33.71% 241	7.69% 55	0.28% 2	0.00% 0	0.84% 6	715
Multiple classroom/teacher options to better match each student needs with teacher strengths	40.39% 288	36.04% 257	17.39% 124	3.51% 25	0.98% 7	1.68% 12	713
Age/condition of school building	19.27% 138	37.99% 272	30.87% 221	8.80% 63	2.23% 16	0.84% 6	716
Special education programming	44.66% 318	34.13% 243	11.24% 80	2.67% 19	0.84% 6	6.46% 46	712
Spaces specifically designed for STEM programming	25.46% 181	40.51% 288	21.80% 155	5.49% 39	1.27% 9	5.49% 39	711
A school's instructional technology	30.29% 216	51.47% 367	14.59% 104	1.68% 12	0.42% 3	1.54% 11	713
Music, fine arts and performing arts programming	38.32% 274	41.40% 296	14.13% 101	3.64% 26	1.12% 8	1.40% 10	715
Health and wellness programming	25.74% 183	39.80% 283	26.58% 189	4.36% 31	1.69% 12	1.83% 13	711
Media and communications programming	15.47% 110	35.30% 251	32.63% 232	10.69% 76	1.97% 14	3.94% 28	711
Athletic facilities and programming	20.03% 143	36.69% 262	28.71% 205	7.70% 55	4.06% 29	2.80% 20	714
Advanced classes/electives	35.06% 250	44.88% 320	15.15% 108	2.24% 16	0.56% 4	2.10% 15	713
Careeer and technical education opportunities	36.78% 263	40.42% 289	16.64% 119	2.24% 16	0.98% 7	2.94% 21	715
Playgrounds	23.87% 169	38.98% 276	23.87% 169	6.78% 48	2.82% 20	3.67% 26	708
Extended day programs before and after school	18.09% 129	25.25% 180	23.14% 165	13.18% 94	9.26% 66	11.08% 79	713
A variety of clubs and extracurricular activities for children to choose from	30.53% 218	39.64% 283	22.83% 163	3.50% 25	1.96% 14	1.54% 11	714

Q11 How well do the activities offered at your child(ren)'s school align with their interests? Please answer for the school or schools your child(ren) currently attend.

Answered: 665 Skipped: 302



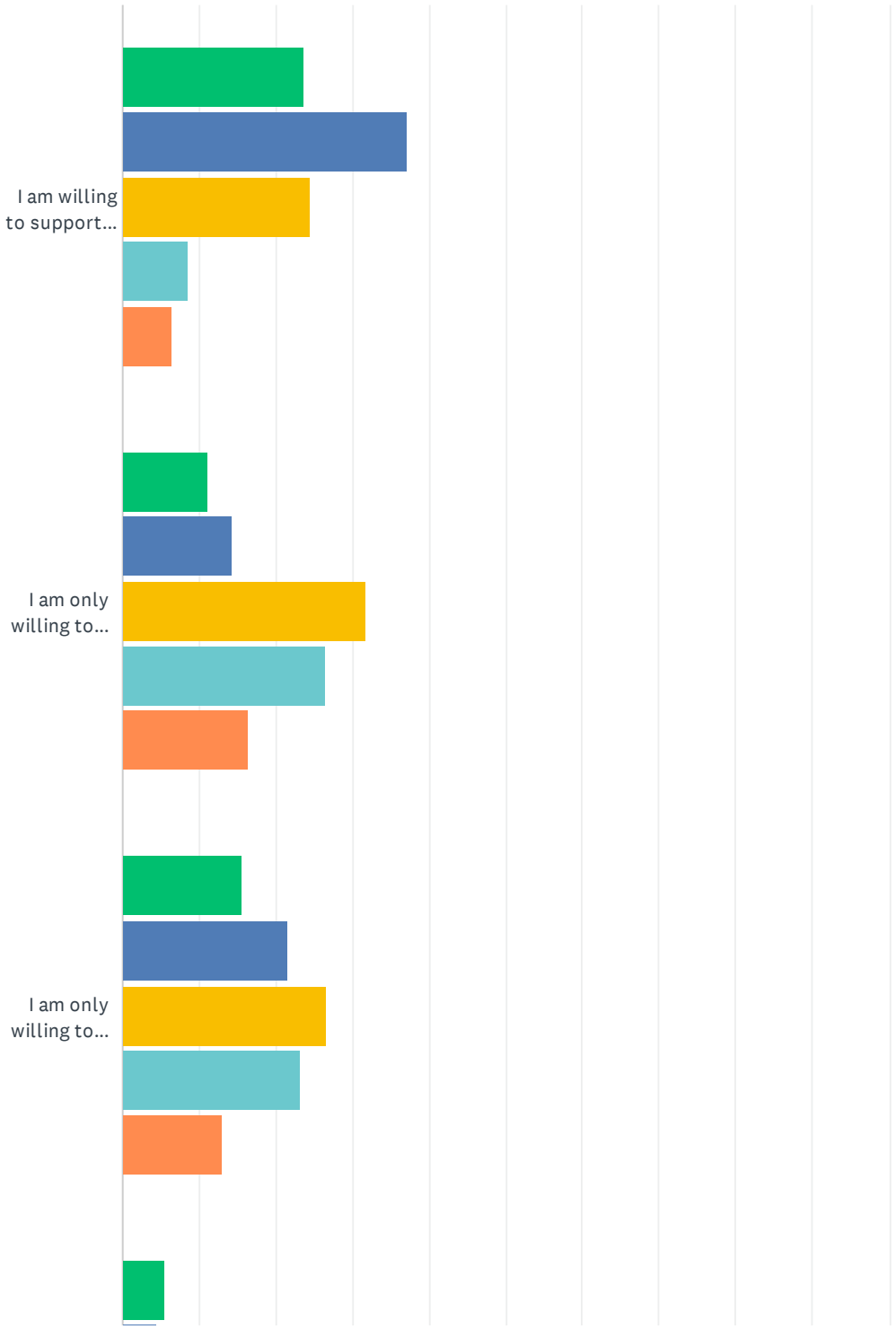

Varnum Brook Elementary
Hawthorne Brook Middle...
Nissitissit Middle School

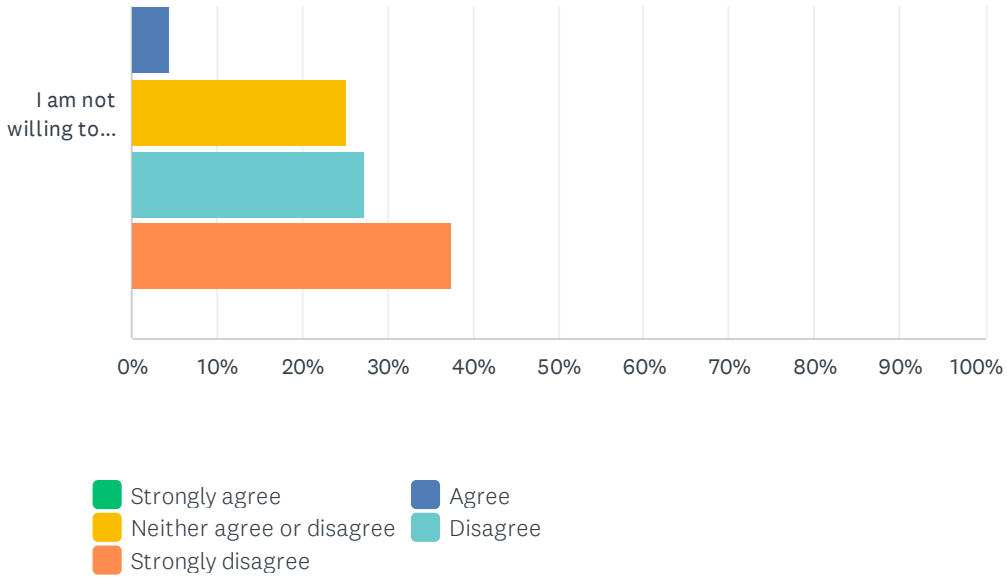


	VERY WELL	WELL	SOMEWHAT WELL	NOT VERY WELL	NOT AT ALL	DON'T KNOW	TOTAL
Squannacook Early Childhood Educational Center	2.26% 10	4.07% 18	2.04% 9	0.68% 3	1.81% 8	89.14% 394	442
Ashby Elementary	11.90% 57	10.65% 51	7.10% 34	3.97% 19	2.71% 13	63.67% 305	479
Spaulding Memorial	6.00% 28	7.71% 36	7.28% 34	2.14% 10	2.14% 10	74.73% 349	467
Varnum Brook Elementary	3.81% 18	9.53% 45	7.84% 37	2.12% 10	1.48% 7	75.21% 355	472
Hawthorne Brook Middle School	6.89% 33	13.15% 63	11.90% 57	2.92% 14	2.51% 12	62.63% 300	479
Nissitissit Middle School	4.97% 23	7.99% 37	8.21% 38	3.02% 14	1.08% 5	74.73% 346	463
North Middlesex Regional High School	13.27% 67	15.84% 80	10.30% 52	2.57% 13	1.39% 7	56.63% 286	505

Q12 Major capital projects address significant needs at a facility, such as an addition of space or major renovation. Major capital projects are typically funded by issuing debt, which is a long-term cost for residents that may or may not require additional tax revenue. Please indicate your level of agreement with the following statements:

Answered: 706 Skipped: 261

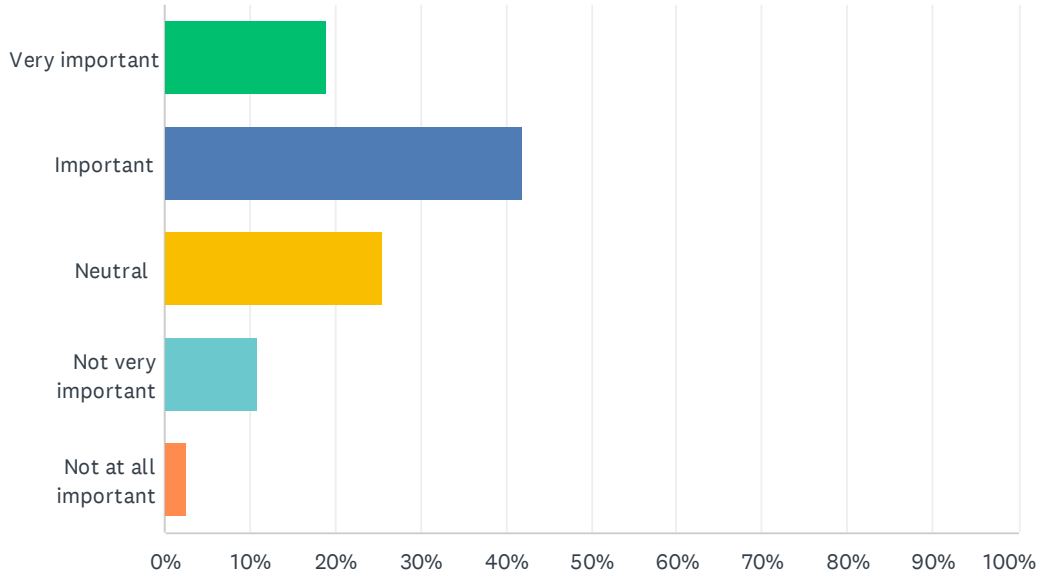




	STRONGLY AGREE	AGREE	NEITHER AGREE OR DISAGREE	DISAGREE	STRONGLY DISAGREE	TOTAL
I am willing to support major capital projects that benefit all schools in the District.	23.75% 166	37.05% 259	24.46% 171	8.44% 59	6.29% 44	699
I am only willing to support major capital projects that benefit only schools my child(ren) attend or will attend.	11.06% 75	14.31% 97	31.71% 215	26.40% 179	16.52% 112	678
I am only willing to support major capital projects on schools in my town.	15.54% 106	21.55% 147	26.69% 182	23.17% 158	13.05% 89	682
I am not willing to support any major capital projects on schools.	5.50% 37	4.46% 30	25.11% 169	27.34% 184	37.59% 253	673

Q13 How important is it to you that all facilities in the district are modern, up to date and in excellent condition?

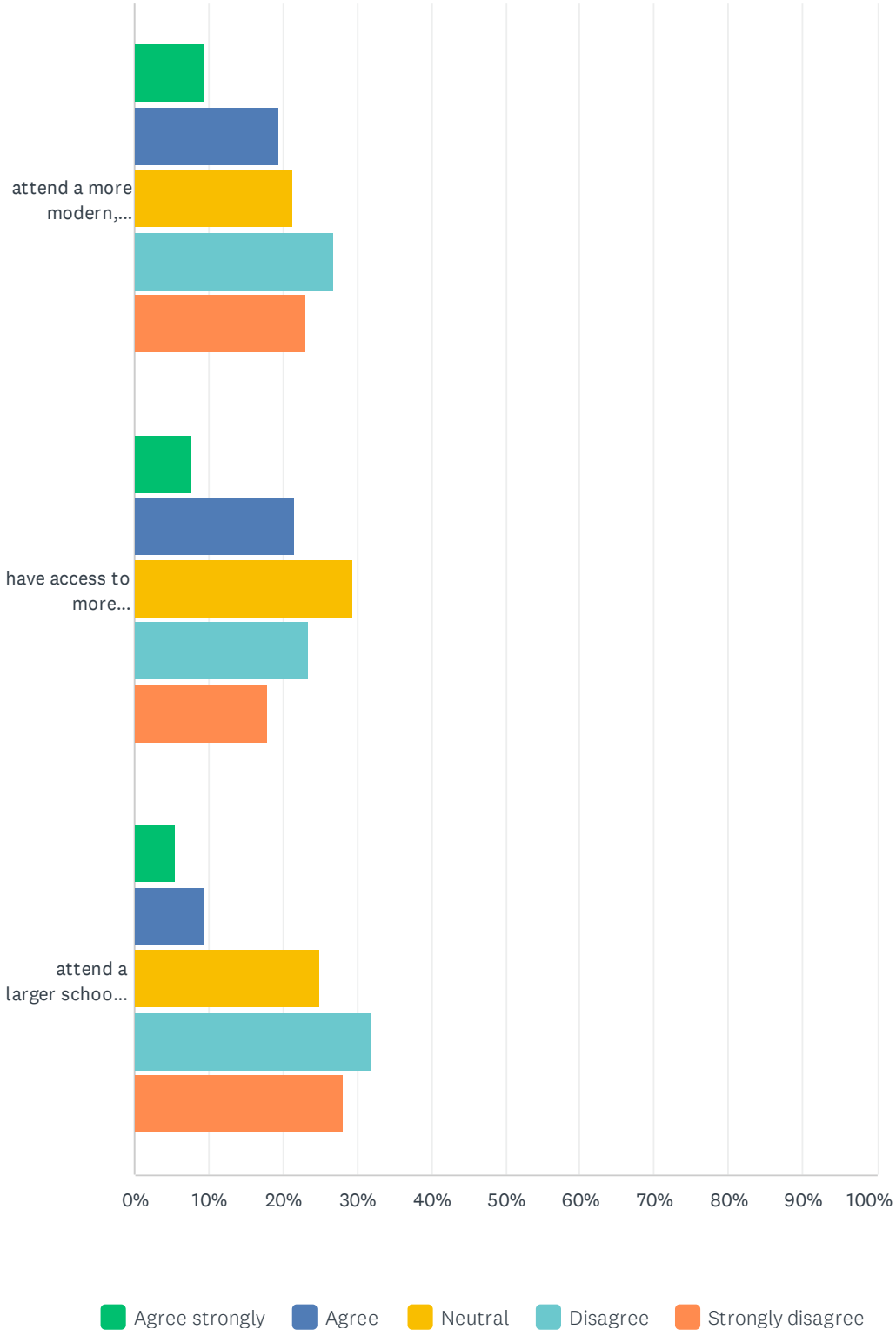
Answered: 713 Skipped: 254



ANSWER CHOICES	RESPONSES	
Very important	19.07%	136
Important	42.08%	300
Neutral	25.53%	182
Not very important	10.80%	77
Not at all important	2.52%	18
TOTAL		713

Q14 Please indicate your level of agreement with the following statements: I would be willing to have my child(ren) travel a greater distance to school to ...

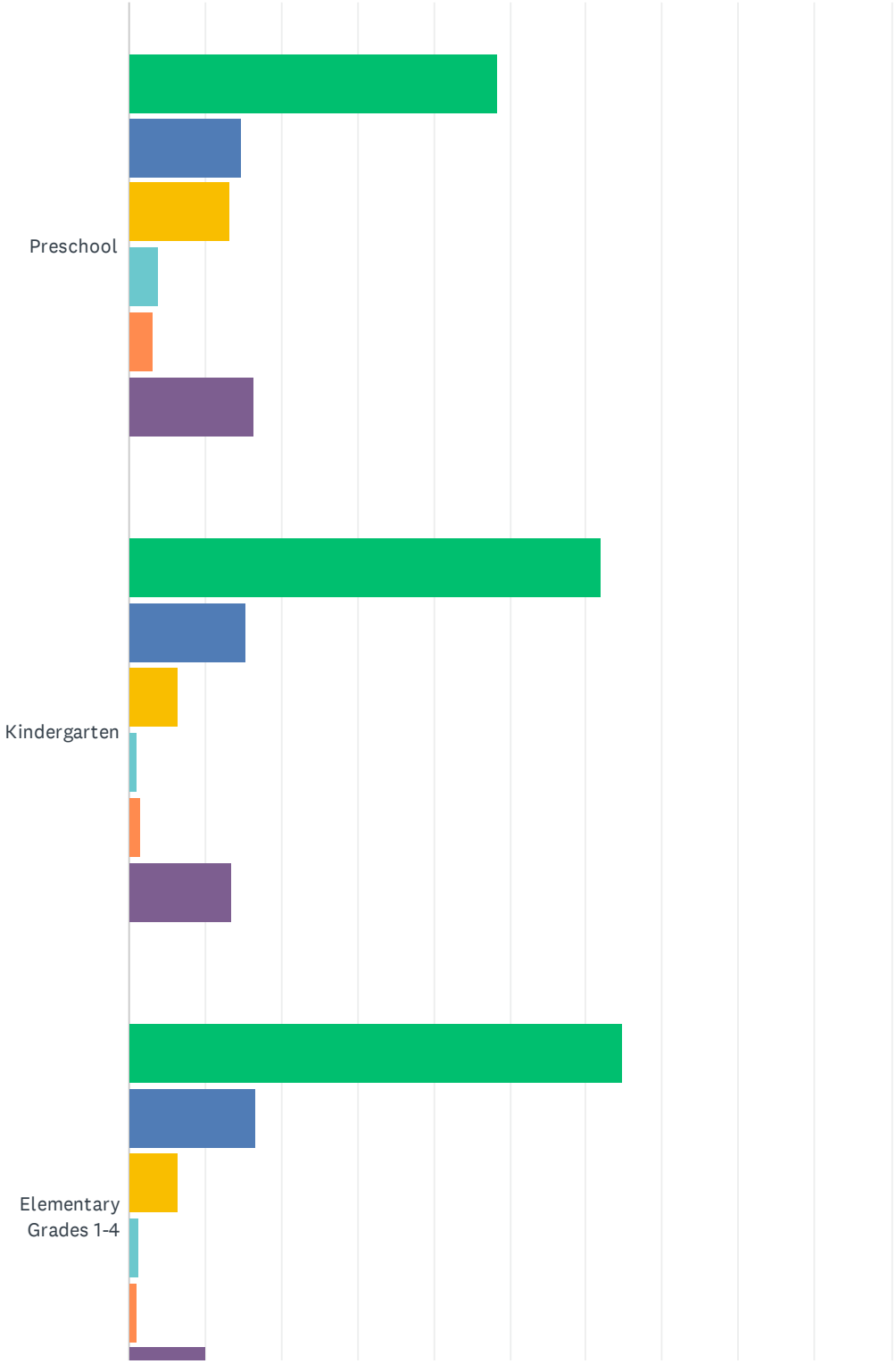
Answered: 698 Skipped: 269

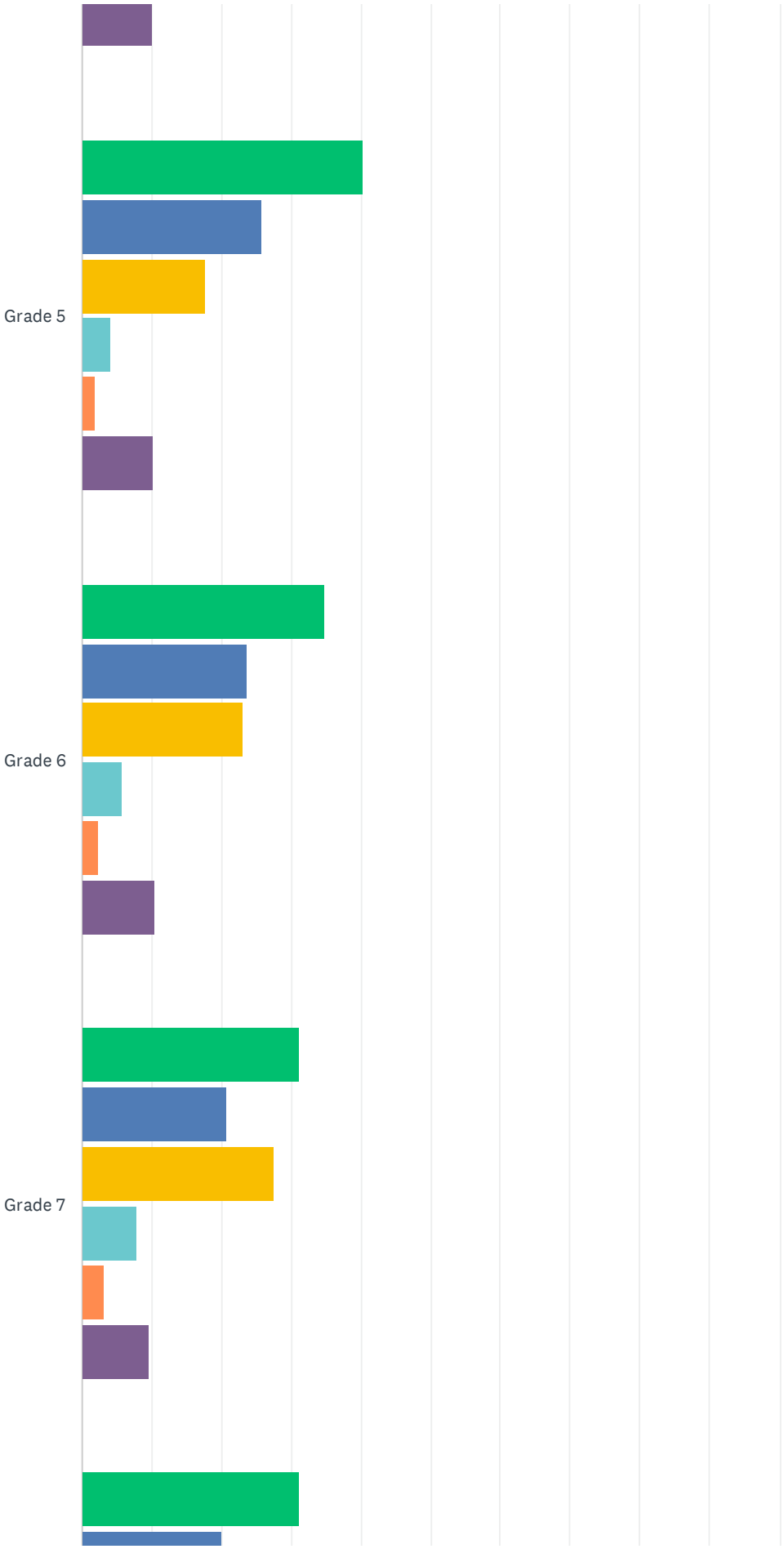

attend a more modern,...
have access to more...
attend a larger schoo...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Agree strongly
Agree
Neutral
Disagree
Strongly disagree

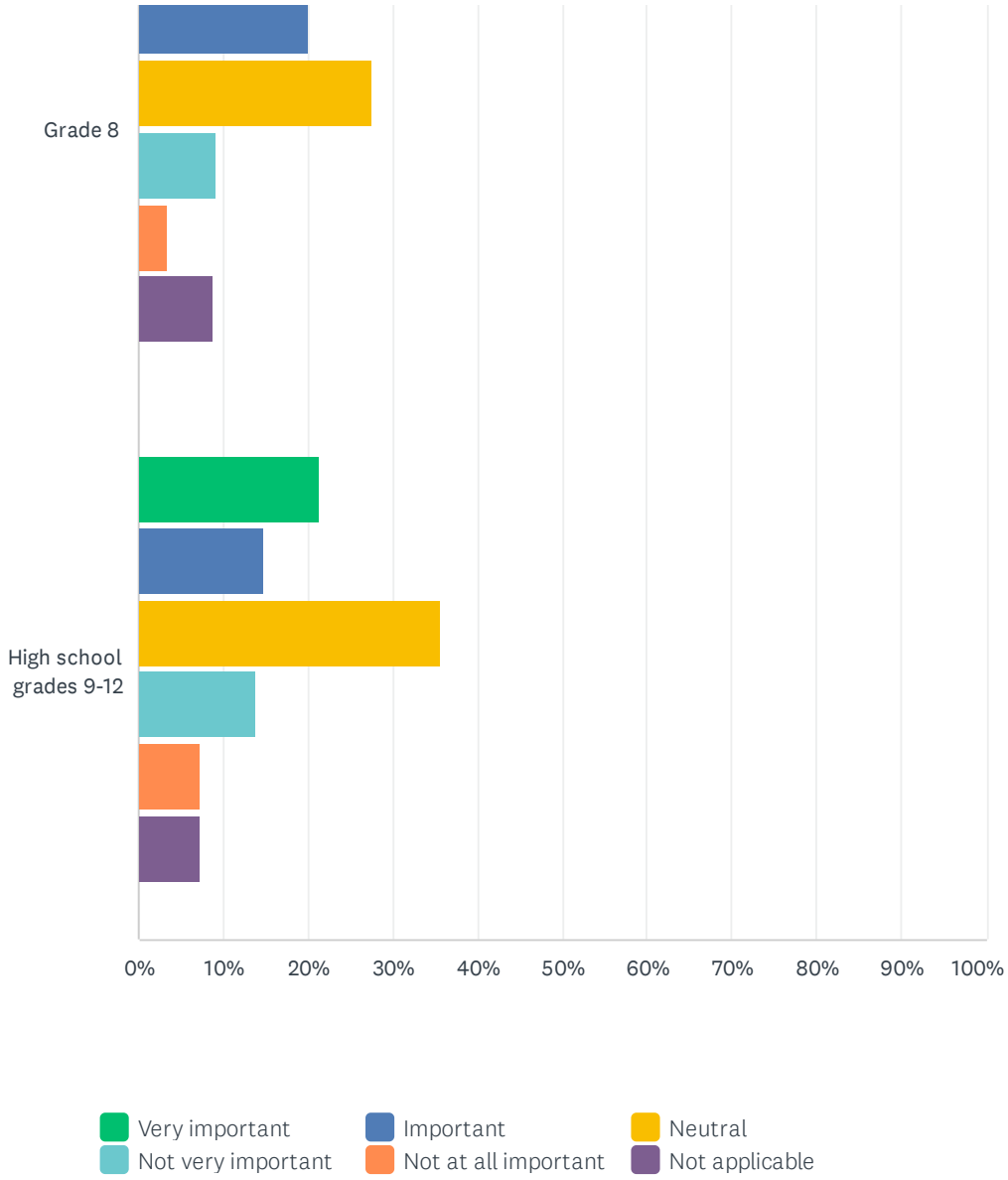
	AGREE STRONGLY	AGREE	NEUTRAL	DISAGREE	STRONGLY DISAGREE	TOTAL
attend a more modern, technologically advance and well-equipped school facility.	9.33% 65	19.37% 135	21.38% 149	26.83% 187	23.10% 161	697
have access to more extracurricular activities such as clubs and sports than they currently have.	7.66% 53	21.53% 149	29.48% 204	23.41% 162	17.92% 124	692
attend a larger school with more students with whom they could make friends and have broader and more diverse social opportunities.	5.62% 39	9.37% 65	24.93% 173	31.99% 222	28.10% 195	694

Q15 Schools are a focal point for a town, a source of local pride, and can be an important community asset for even those residents without school-aged children. How important is having the school my (child)ren attend located in my hometown for each of the following:

Answered: 705 Skipped: 262



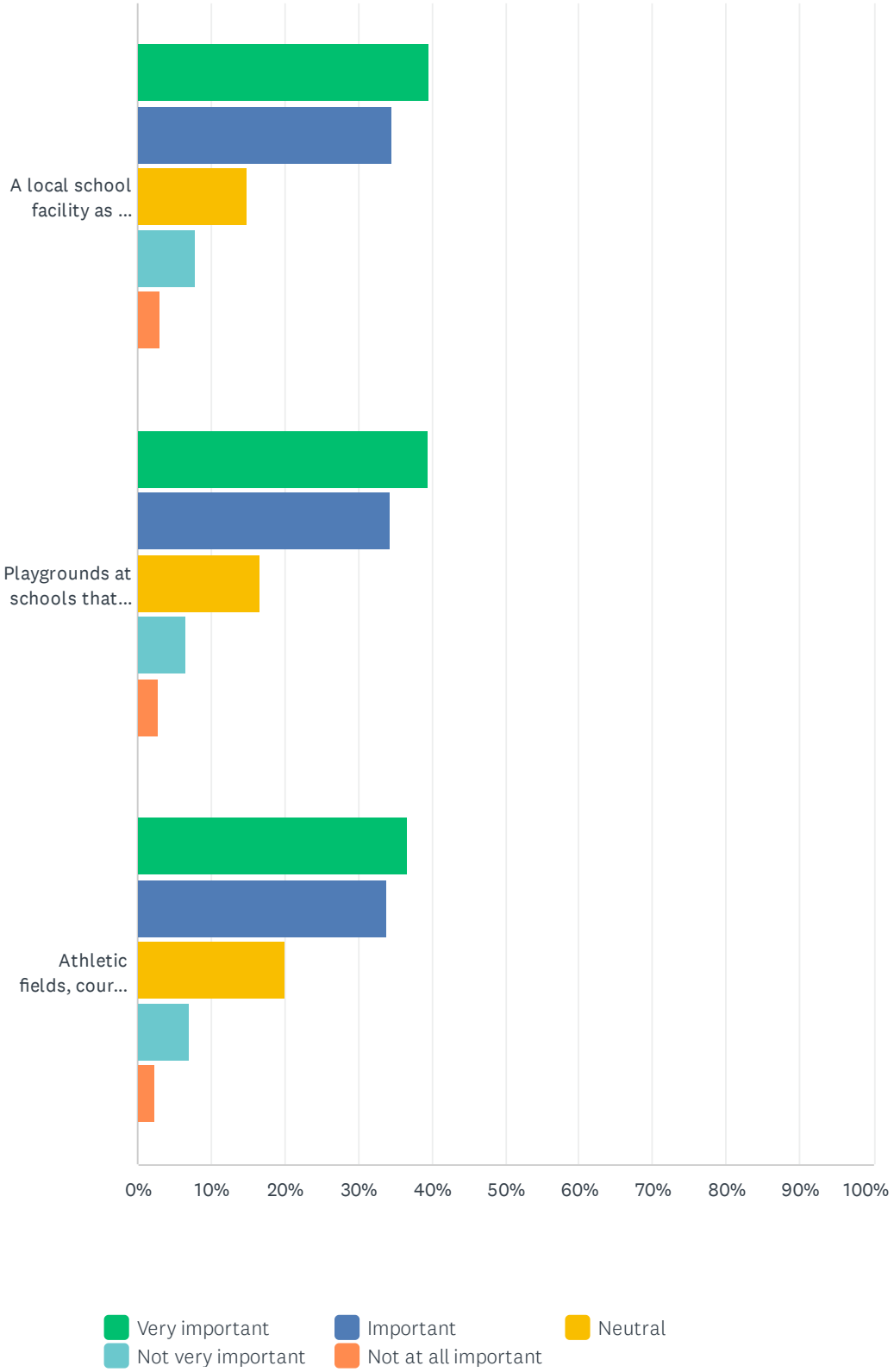

Grade 5
Grade 6
Grade 7


Grade 8
High school grades 9-12
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Very important
Important
Neutral
Not very important
Not at all important
Not applicable

	VERY IMPORTANT	IMPORTANT	NEUTRAL	NOT VERY IMPORTANT	NOT AT ALL IMPORTANT	NOT APPLICABLE	TOTAL
Preschool	48.32% 331	14.74% 101	13.28% 91	3.94% 27	3.21% 22	16.50% 113	685
Kindergarten	62.05% 430	15.44% 107	6.49% 45	1.01% 7	1.59% 11	13.42% 93	693
Elementary Grades 1-4	64.75% 450	16.69% 116	6.33% 44	1.29% 9	1.01% 7	9.93% 69	695
Grade 5	40.34% 282	25.89% 181	17.74% 124	4.01% 28	1.86% 13	10.16% 71	699
Grade 6	34.78% 241	23.67% 164	23.09% 160	5.77% 40	2.31% 16	10.39% 72	693
Grade 7	31.02% 215	20.78% 144	27.56% 191	7.79% 54	3.17% 22	9.67% 67	693
Grade 8	31.02% 215	20.06% 139	27.56% 191	9.24% 64	3.32% 23	8.80% 61	693
High school grades 9-12	21.23% 148	14.78% 103	35.58% 248	13.92% 97	7.17% 50	7.32% 51	697

Q16 How important are the following to have in your hometown:

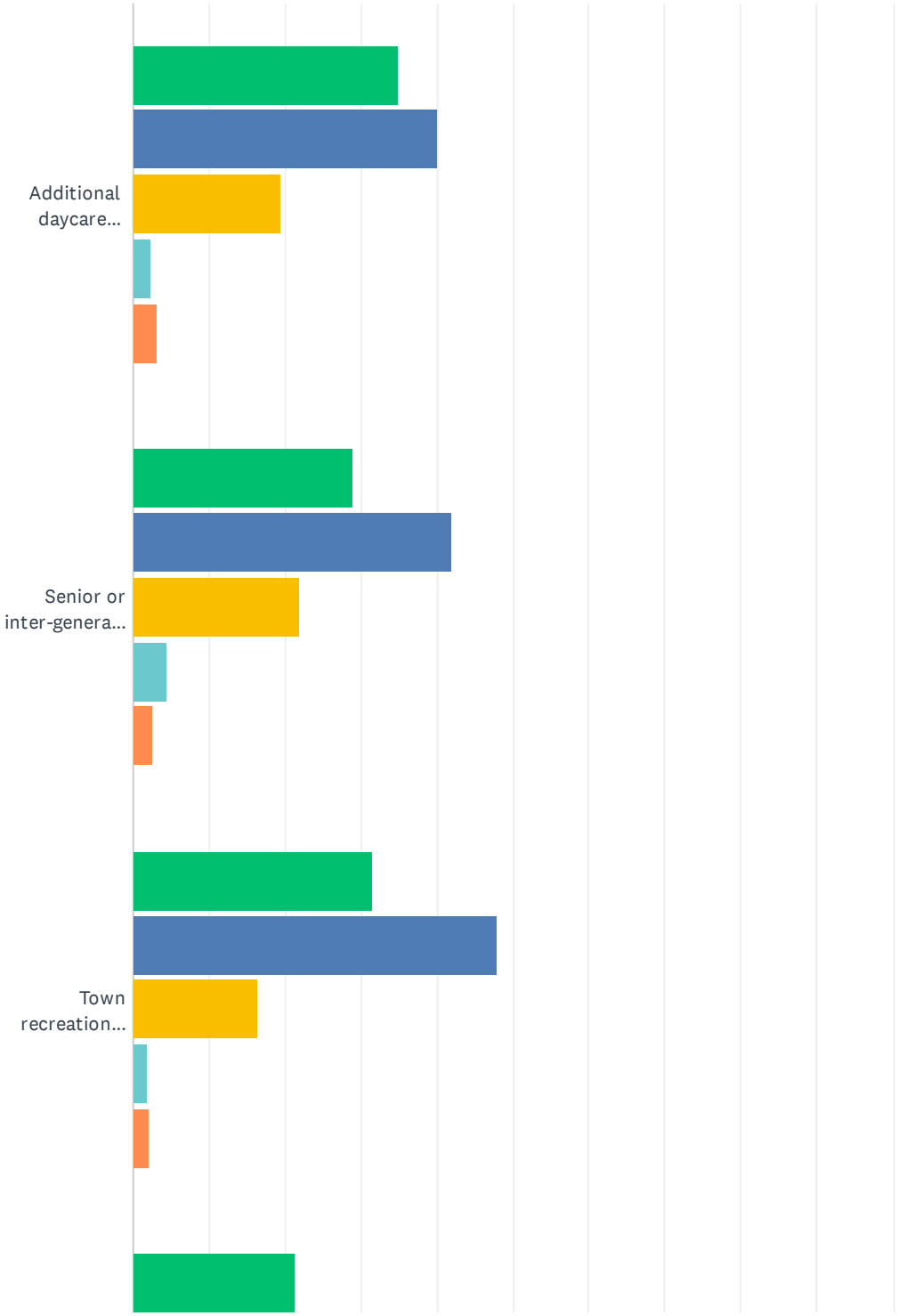
Answered: 709 Skipped: 258

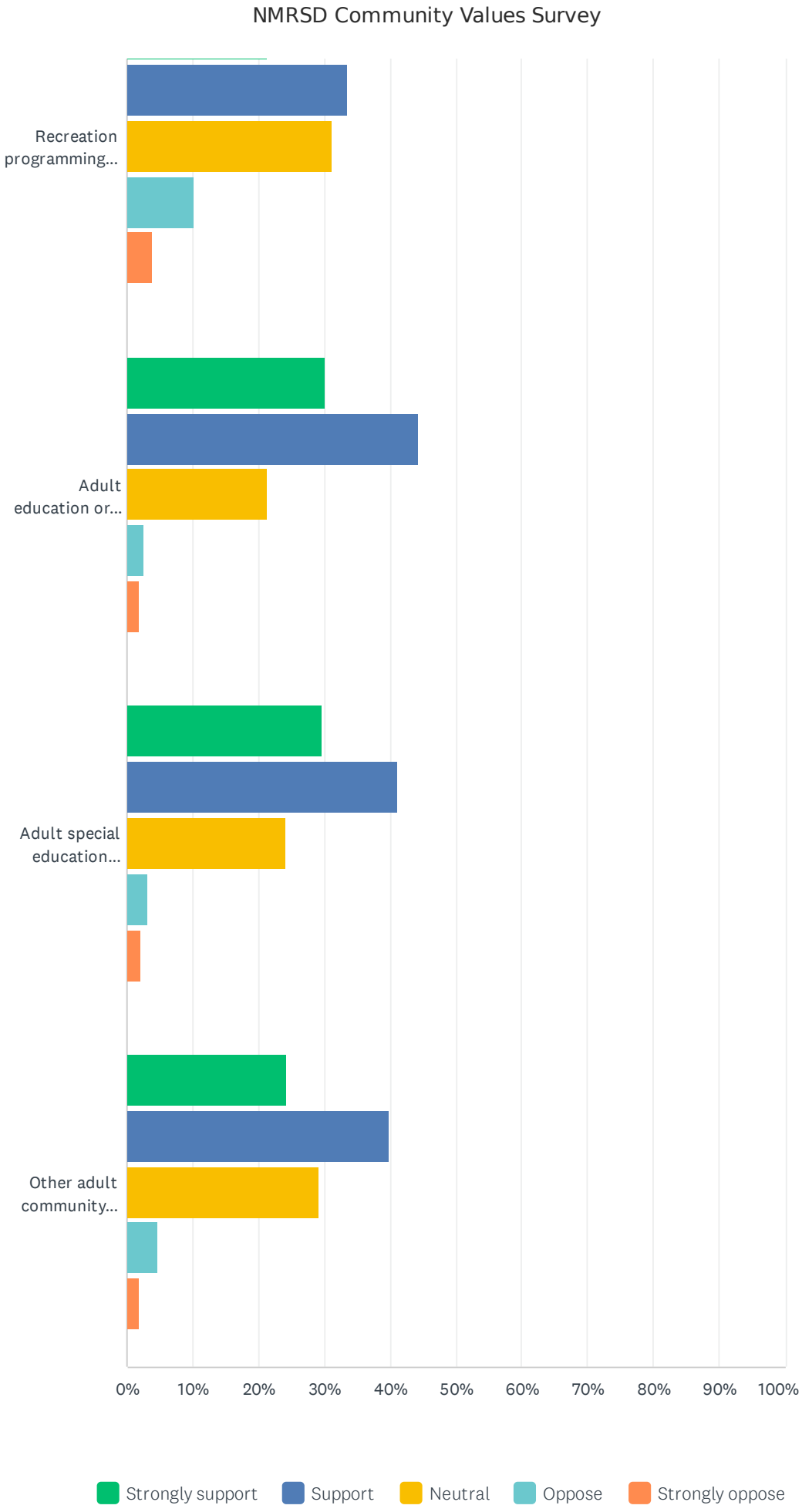


	VERY IMPORTANT	IMPORTANT	NEUTRAL	NOT VERY IMPORTANT	NOT AT ALL IMPORTANT	TOTAL
A local school facility as a community gathering or meeting space.	39.60% 280	34.51% 244	14.99% 106	7.92% 56	2.97% 21	707
Playgrounds at schools that are available to the public during non-school hours.	39.52% 279	34.28% 242	16.71% 118	6.66% 47	2.83% 20	706
Athletic fields, courts and other outdoor facilities that are available to the public during non-school hours.	36.63% 259	33.95% 240	20.08% 142	7.07% 50	2.26% 16	707

Q17 Many communities leverage their school facilities for other community services, often leasing excess physical capacity to subsidize operating costs or meet other community needs. Provided they could be accommodated without sacrificing safety and security, how supportive would you be of spaces at current school facilities being used for:

Answered: 713 Skipped: 254

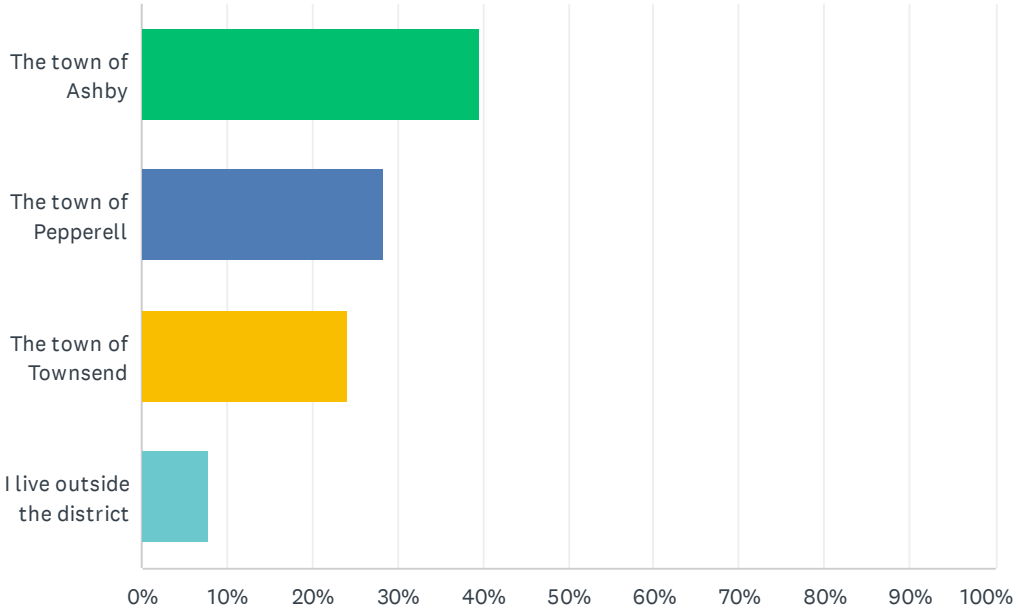



NMRSD Community Values Survey
Recreation programming...
Adult education or...
Adult special education...
Other adult community...
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Strongly support
Support
Neutral
Oppose
Strongly oppose

	STRONGLY SUPPORT	SUPPORT	NEUTRAL	OPPOSE	STRONGLY OPPOSE	TOTAL	WEIGHTED AVERAGE
Additional daycare programming	34.98% 248	40.06% 284	19.46% 138	2.40% 17	3.10% 22	709	1.99
Senior or inter-generational programming	28.97% 206	42.05% 299	21.94% 156	4.50% 32	2.53% 18	711	2.10
Town recreation programming	31.59% 224	47.95% 340	16.36% 116	1.97% 14	2.12% 15	709	1.95
Recreation programming from non-town entities (ex: private leagues)	21.27% 151	33.52% 238	31.13% 221	10.14% 72	3.94% 28	710	2.42
Adult education or community education programming	30.10% 214	44.30% 315	21.24% 151	2.53% 18	1.83% 13	711	2.02
Adult special education programming	29.54% 210	41.07% 292	24.19% 172	3.09% 22	2.11% 15	711	2.07
Other adult community programming	24.40% 173	39.92% 283	29.20% 207	4.65% 33	1.83% 13	709	2.20

Q18 Where do you currently reside?

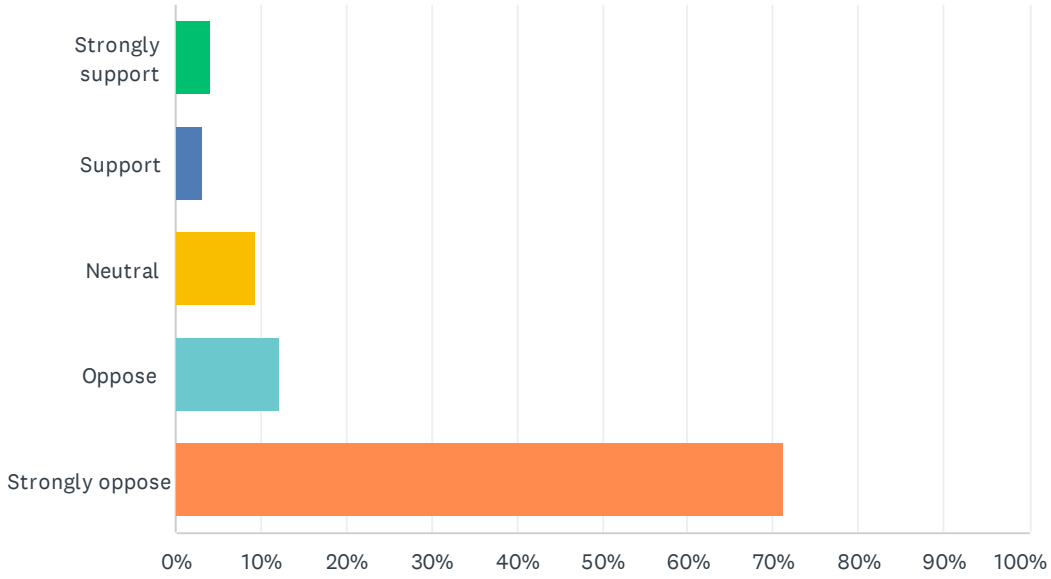
Answered: 717 Skipped: 250



ANSWER CHOICES	RESPONSES	
The town of Ashby	39.61%	284
The town of Pepperell	28.45%	204
The town of Townsend	23.99%	172
I live outside the district	7.95%	57
TOTAL		717

Q19 Please describe your feelings on the closure of Ashby Elementary and reassignment of students to an elementary school in the town of Townsend:

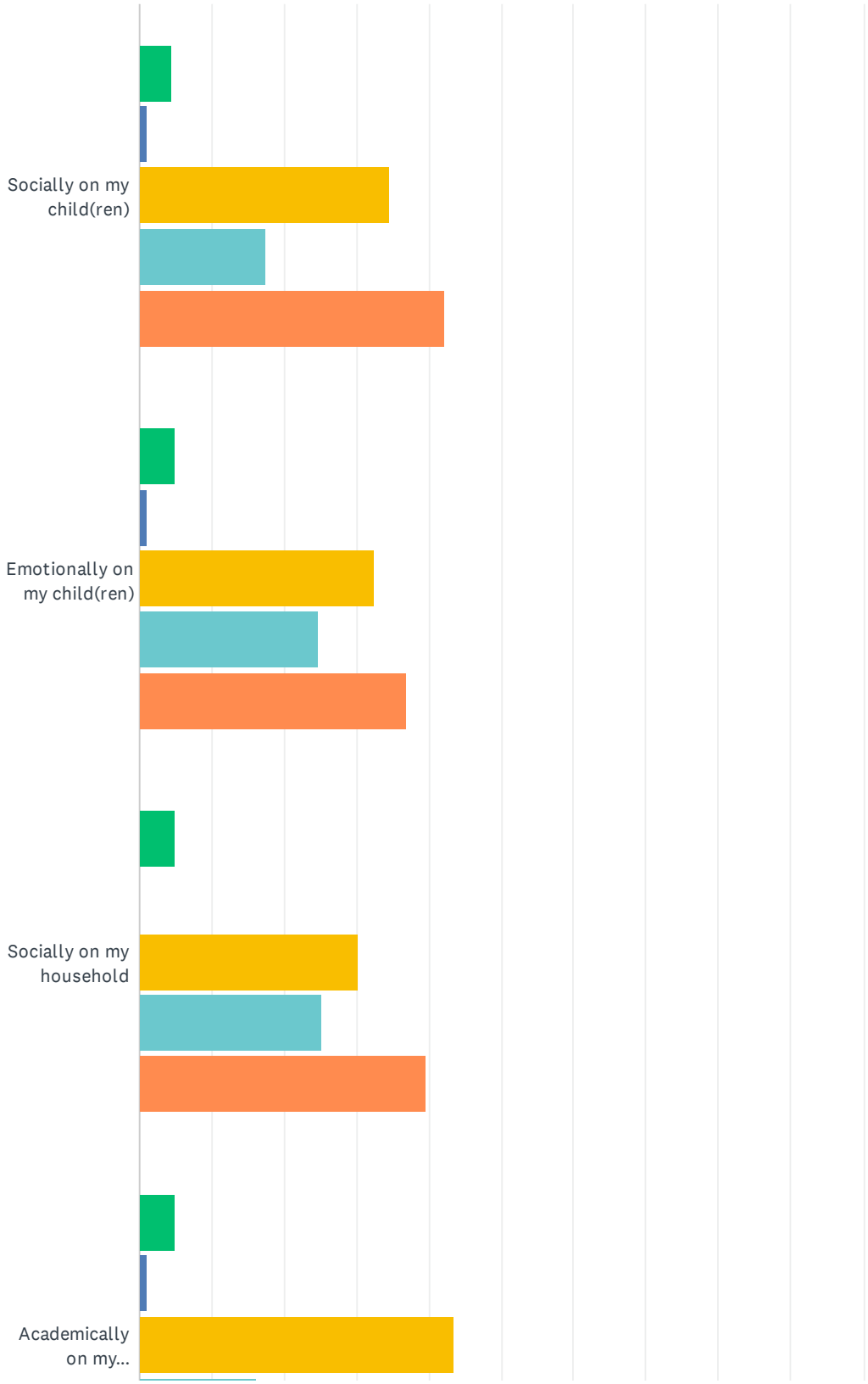
Answered: 278 Skipped: 689



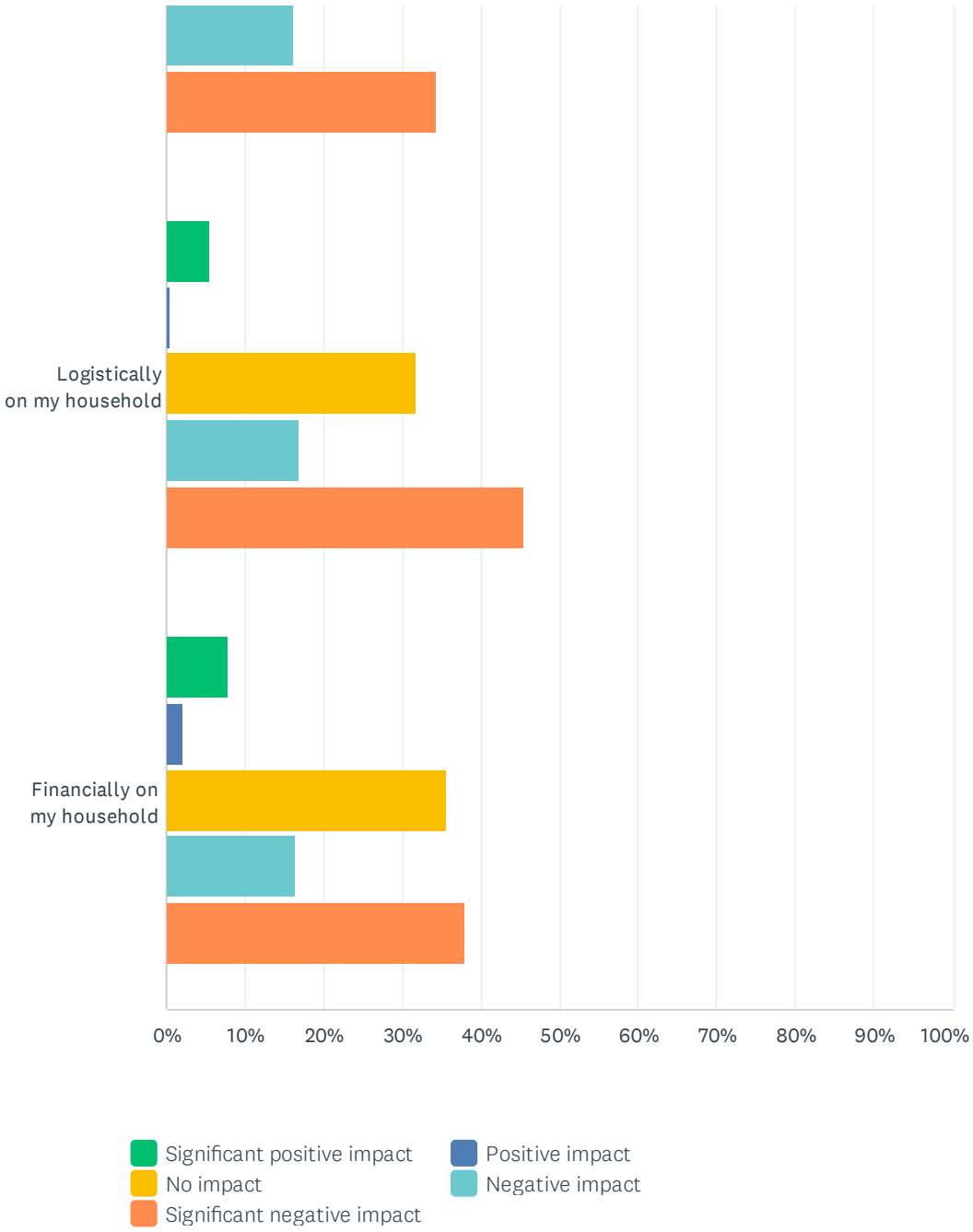
ANSWER CHOICES	RESPONSES	
Strongly support	3.96%	11
Support	3.24%	9
Neutral	9.35%	26
Oppose	12.23%	34
Strongly oppose	71.22%	198
TOTAL		278

Q21 Please describe the impact that closing Ashby Elementary would have on your household in each of the following aspects:

Answered: 270 Skipped: 697



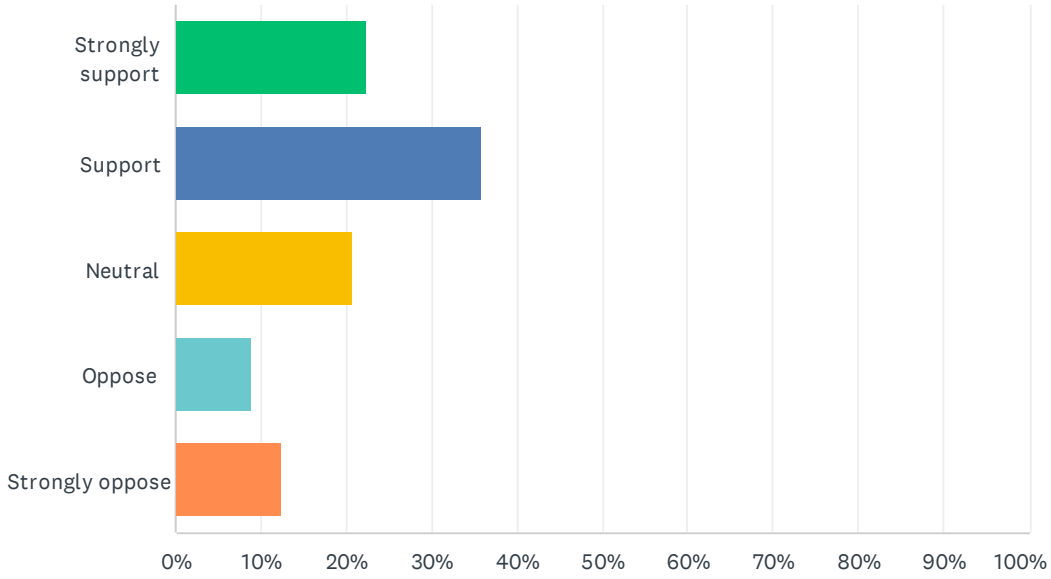
NMRSD Community Values Survey



	SIGNIFICANT POSITIVE IMPACT	POSITIVE IMPACT	NO IMPACT	NEGATIVE IMPACT	SIGNIFICANT NEGATIVE IMPACT	TOTAL
Socially on my child(ren)	4.56% 12	1.14% 3	34.60% 91	17.49% 46	42.21% 111	263
Emotionally on my child(ren)	4.94% 13	1.14% 3	32.32% 85	24.71% 65	36.88% 97	263
Socially on my household	4.87% 13	0.00% 0	30.34% 81	25.09% 67	39.70% 106	267
Academically on my child(ren)	5.00% 13	1.15% 3	43.46% 113	16.15% 42	34.23% 89	260
Logistically on my household	5.62% 15	0.37% 1	31.84% 85	16.85% 45	45.32% 121	267
Financially on my household	7.81% 21	2.23% 6	35.69% 96	16.36% 44	37.92% 102	269

Q22 Please describe your feelings on increasing property taxes to renovate or reconstruct Ashby Elementary:

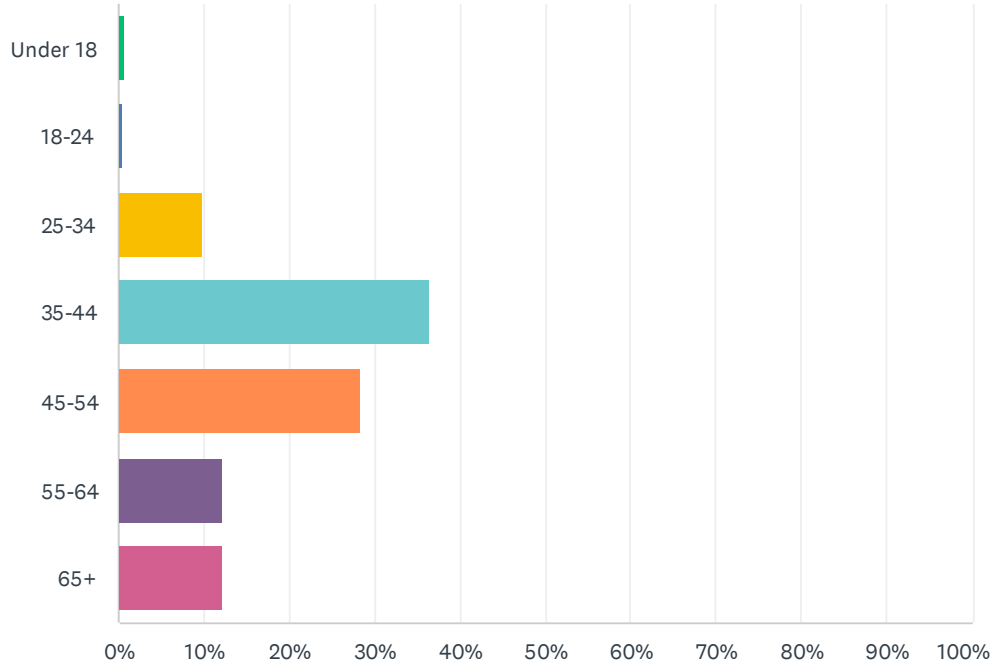
Answered: 277 Skipped: 690



ANSWER CHOICES	RESPONSES	
Strongly support	22.38%	62
Support	35.74%	99
Neutral	20.58%	57
Oppose	9.03%	25
Strongly oppose	12.27%	34
TOTAL		277

Q23 What is your age:

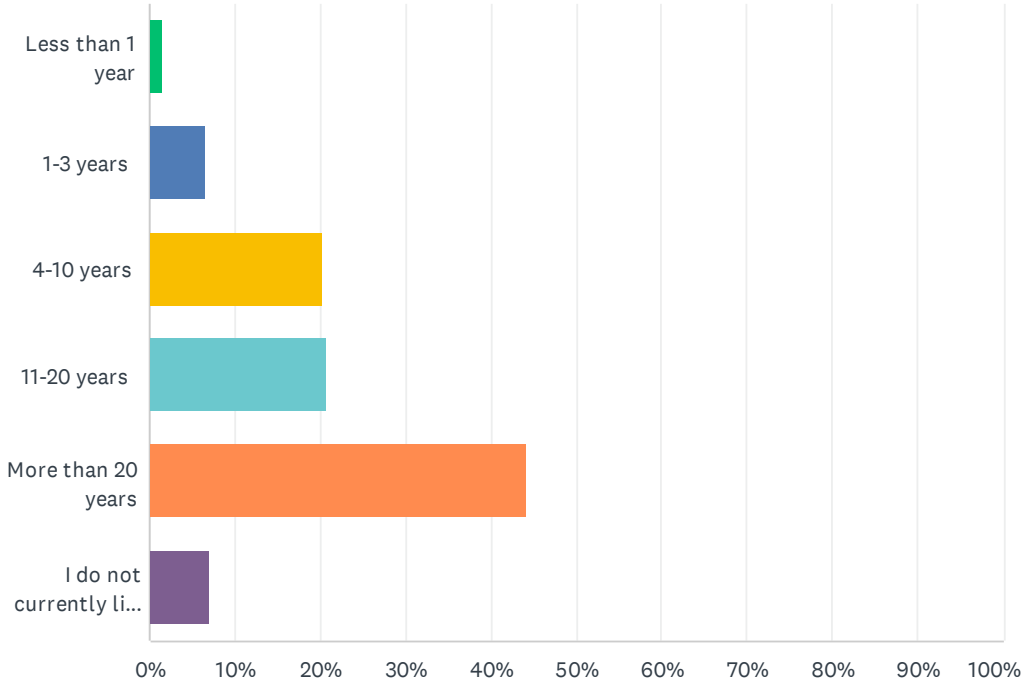
Answered: 687 Skipped: 280



ANSWER CHOICES	RESPONSES	
Under 18	0.73%	5
18-24	0.44%	3
25-34	9.75%	67
35-44	36.39%	250
45-54	28.38%	195
55-64	12.23%	84
65+	12.08%	83
TOTAL		687

Q24 How long have you lived in the district?

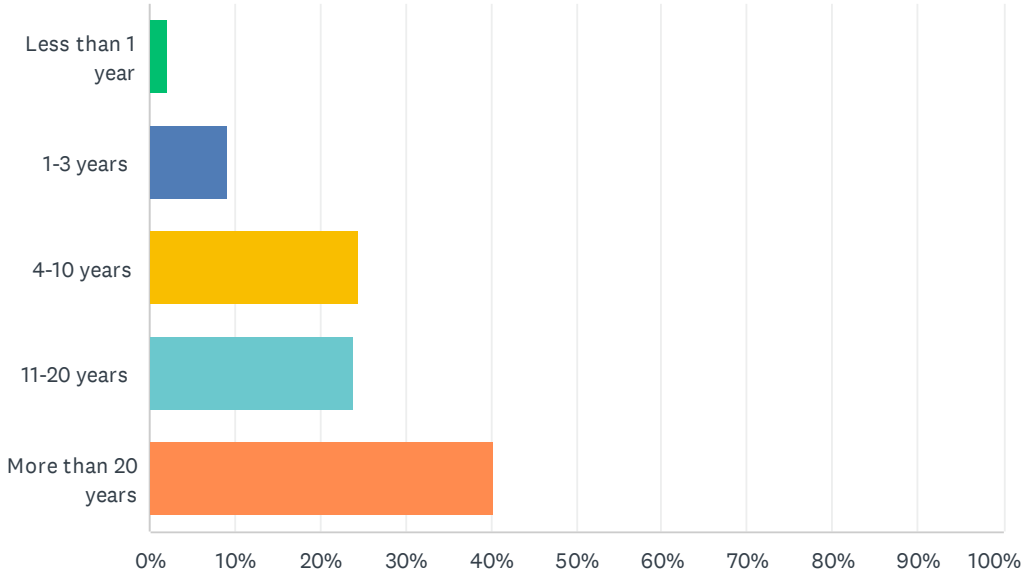
Answered: 690 Skipped: 277



ANSWER CHOICES	RESPONSES	
Less than 1 year	1.45%	10
1-3 years	6.52%	45
4-10 years	20.29%	140
11-20 years	20.72%	143
More than 20 years	44.06%	304
I do not currently live in the district	6.96%	48
TOTAL		690

Q25 How long have you lived in the town in which you currently reside?

Answered: 687 Skipped: 280



ANSWER CHOICES	RESPONSES	
Less than 1 year	2.04%	14
1-3 years	9.17%	63
4-10 years	24.60%	169
11-20 years	23.87%	164
More than 20 years	40.32%	277
TOTAL		687