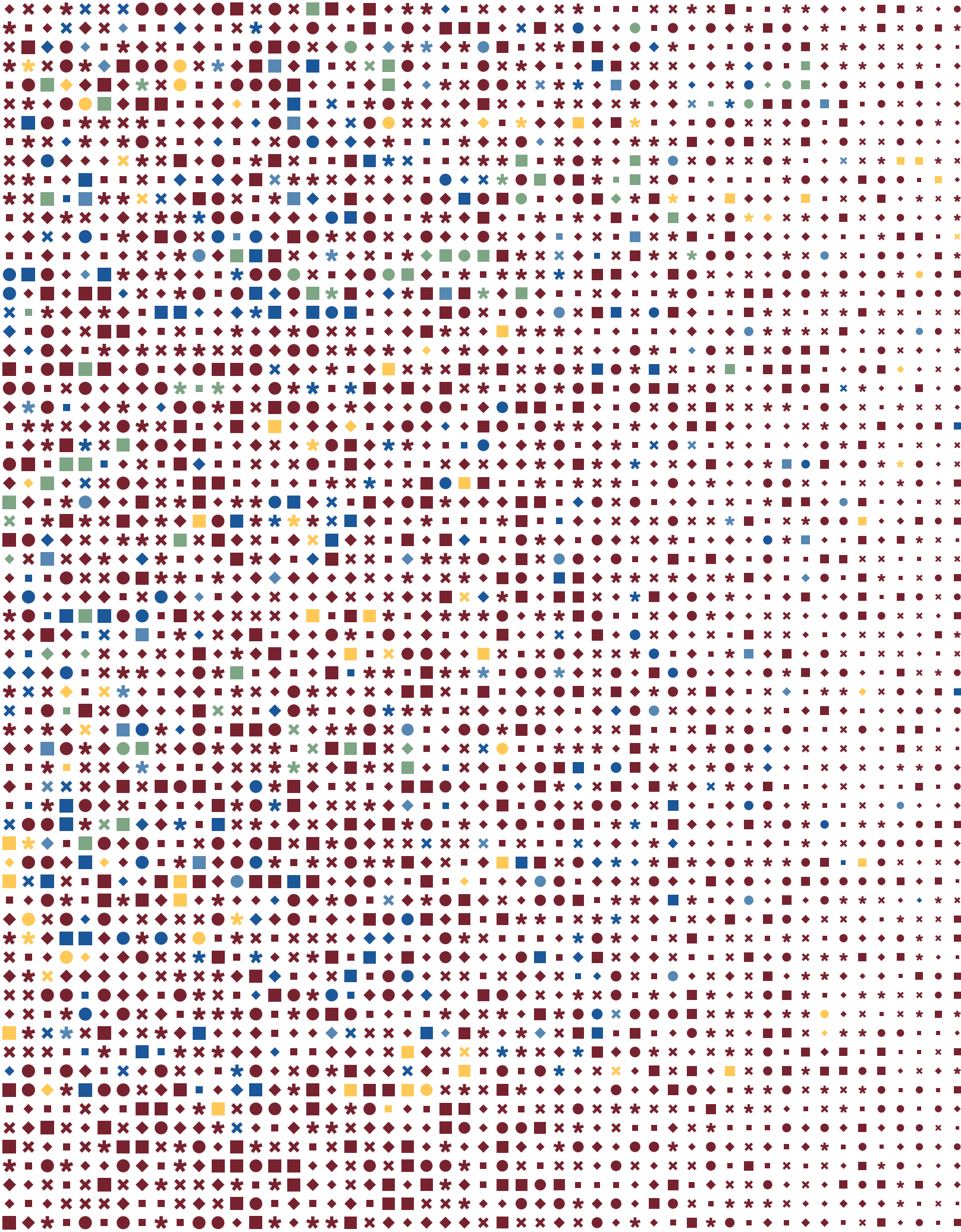
Manchester School District

Long-Term Facilities Planning Study Report



Manchester School District

Long-Term Facilities Planning Study Report




Karen Bachelder

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01

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AKUNA

In August 2022, Manchester School District's (MSD) Board of School Committee (BOSC) was presented a Long-Term Facilities Planning Report by the District's Superintendent and adopted a 3-4-12 model (comprised of three high schools, four middle schools, and 12 elementary schools) that could include:

- The construction of a new high school
- Realignment of existing high schools and closure of one high school
- Modifications to the existing middle schools to fully accommodates a grade 5–8 model
- Consolidation of elementary schools to 12 schools, including the closure of one elementary school, design of a new Beech Street Elementary School, and necessary replacement, additions, and renovations to existing elementary schools as needed.

In early 2023, the District hired SMMA to conduct a Long-Term Facilities Planning Study (herein also referred to as the "Master Plan") to implement the plan outlined above. The scope of the study was to conduct site selection and analysis, conceptual design, develop conceptual budgets, project phasing, and development of a districtwide master plan.

This plan focuses on reviewing all school buildings to ensure they provide appropriate educational spaces that meet program and enrollment needs while supporting quality learning experiences. This includes both physical and educational assessments.

How to Read this Report

The Why:

To understand the proposed recommendations throughout this report, it is equally important to understand the fundamental questions, or “The Why”, that were asked at the start of the planning process. Indicated by a red box and a question mark icon, these questions reflect broader goals of the District regarding furthering education for Manchester’s students.

Recommendations:

In each component of the Master Plan, recommendations have been made. These recommendations, illustrated by the blue box and the check mark icon, are derived from the District’s goals and the data of the Master Plan.

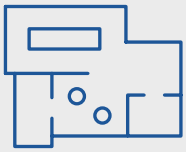
Components of the Master Plan



Evaluations of All School Buildings



Site Selection for the new High School



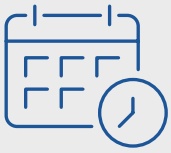
Educational Programming for Select Schools



Community Engagement and Visioning



Short-term Recommendations for Elementary Schools



Long-term Recommendations for Elementary Schools



Recommendations for Middle Schools



Recommendations for High Schools

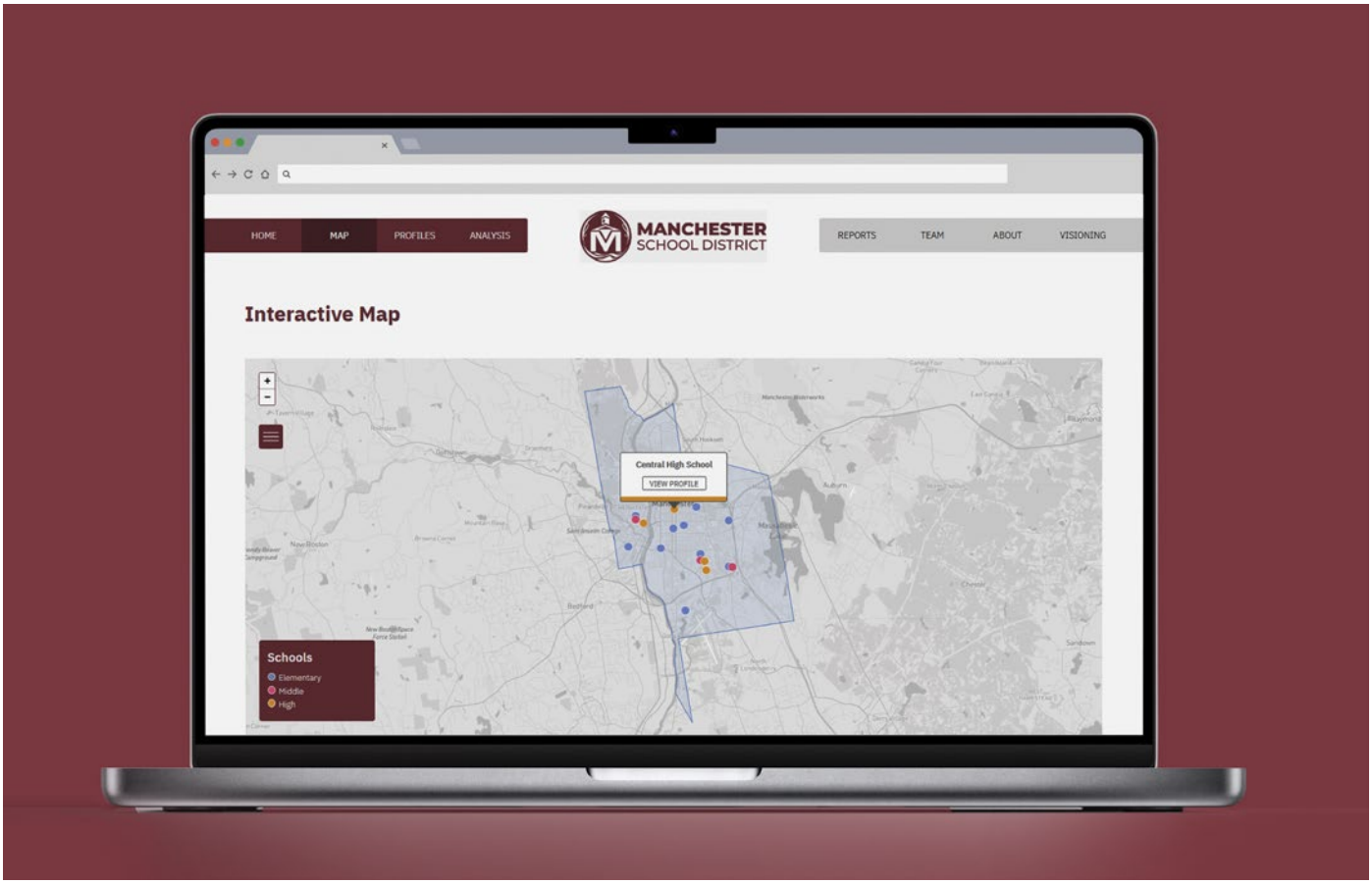


Additional Recommendations for District

Evaluation of All School Buildings

Educational and Facilities Assessment (E+FA) Approach

Led by architects, engineers, and educational planners from SMMA and its consultants, the team partnered with each school principal to conduct both a facility (building layout and condition) and educational (adequacy of educational program spaces) assessment in each building. SMMA's interactive Dashboard[1] provides the criteria and scoring for all assessments.



Overall Assessment

The selection of assessment categories and criteria was strategic, taking into account stated objectives, past experience, and the nature of the Manchester School District's building portfolio. Ultimately, the E+FA team developed a customized methodology for the District, encompassing approximately 75 criteria organized within facility and site categories that examined both physical and community components.

Note:

[1–30] Style denotes online resource.

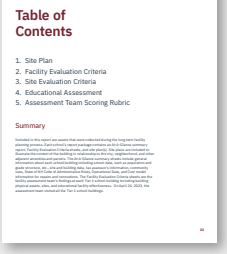
Index of Hyperlinked Resources located on pages 104–105.

MANCHESTER SCHOOL DISTRICT

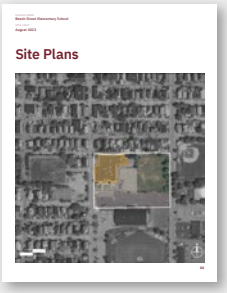
Beech Street Elementary School

Educational and Facilities Master Plan

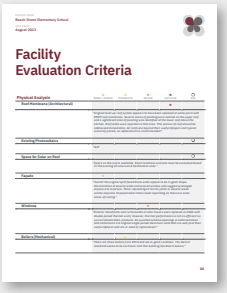
smma





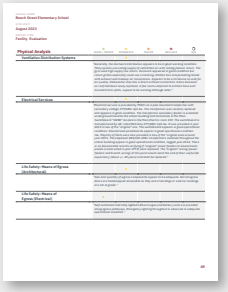




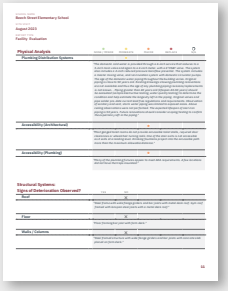


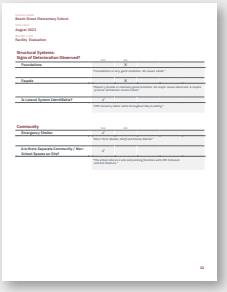


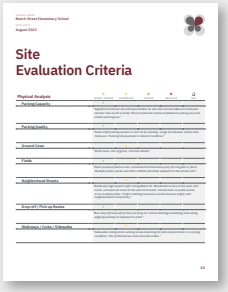


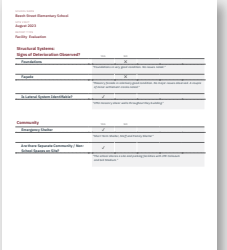


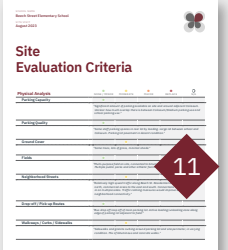












Site Selection Process for a New High School

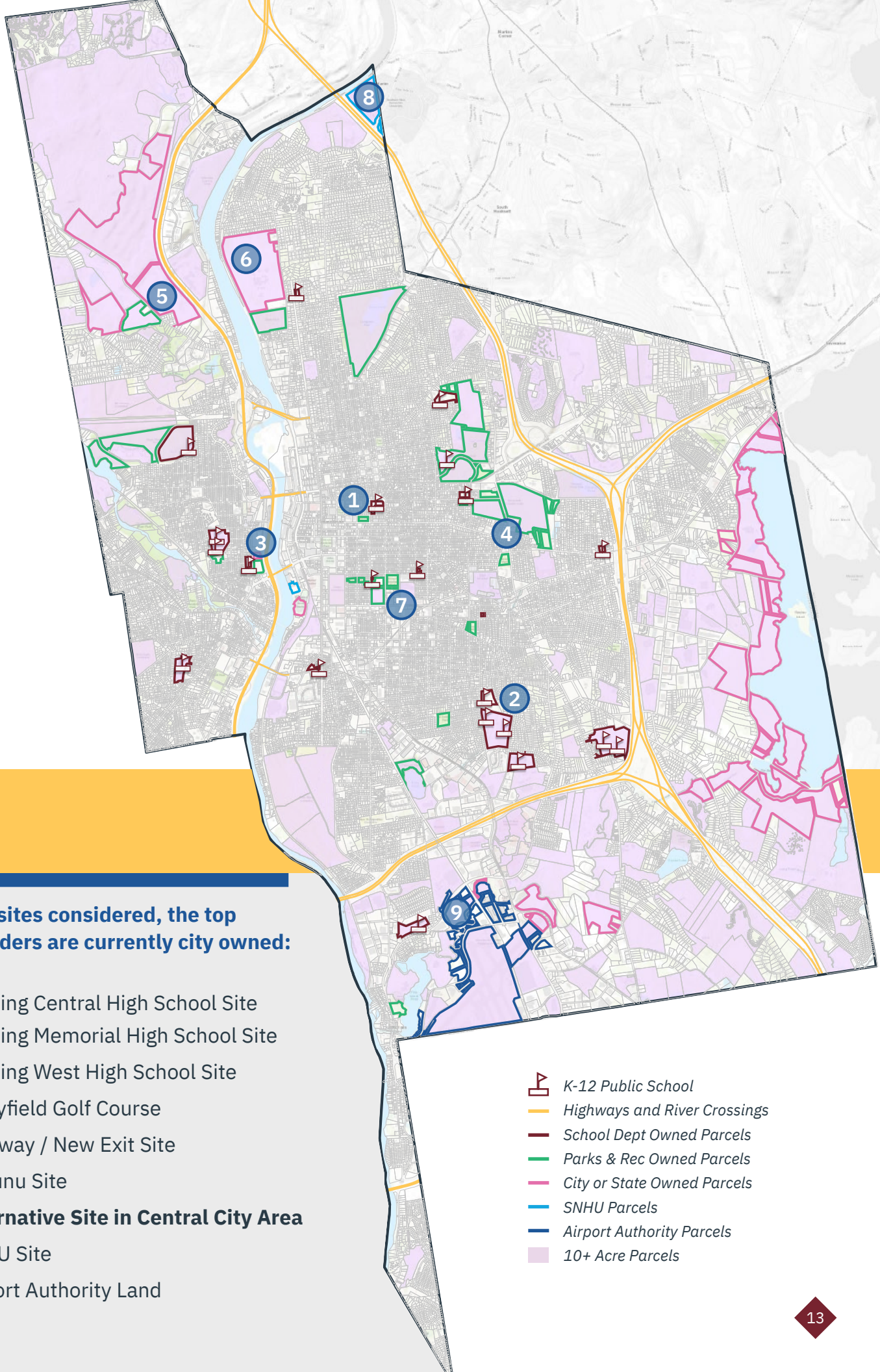
Starting with the identification of all 10-acre parcels within the City of Manchester, the site selection process yielded just over 200 potential sites. Obvious physical constraints, such as significant water coverage or the presence of cemeteries, narrowed the list of potential sites.

The remaining sites were initially evaluated based on parcel ownership. The site selection process prioritized publicly owned parcels, over which the City or District already had authority over. However, privately owned parcels were also considered. This was particularly true when a parcel's size and location were especially attractive, or when city contracts indicated a potential for acquisition.

Following an initial analysis of all available parcels in the City and meetings with the District, nine potential sites were selected for further analysis. These nine options were evaluated, and some were subsequently eliminated, based on following criteria:

- Geography / Location within the City
- Traffic / Accessibility / Walkability
- Site constructibility (topography, environmental constraints, and regulatory constraints)
- Sociopolitical concerns / Approved educational outcomes for all
- School district zoning related to elementary / middle school locations and overall District balance
- Connectivity to other schools, amenities, and athletic facilities

It is recommended that an alternative site be found or acquired in the Center City Area to best serve the large and densely populated areas.



Of the sites considered, the top contenders are currently city owned:

1. Existing Central High School Site
2. Existing Memorial High School Site
3. Existing West High School Site
4. Derryfield Golf Course
5. Highway / New Exit Site
6. Sununu Site
7. **Alternative Site in Central City Area**
8. SNHU Site
9. Airport Authority Land

Priority 1: Educational Programming for the New Beech Street Elementary and Middle Schools

To understand current teaching practices and discuss potential future changes, programming meetings were held at Beech Street Elementary School with teachers and staff from both Beech and Wilson Elementary Schools.

Teachers, administrators, and support staff at all four middle schools participated in concept phase programming meetings. With Hillside and McLaughlin being the first two schools scheduled for advancement, additional meetings were held there to facilitate their progress through the Design Development (DD) phase. The project Dashboard contains the final educational Summary of Spaces for Beech, Hillside, and McLaughlin.

Additional meetings are scheduled to be conducted with teachers and staff at the Southside and Parkside Middle Schools in early 2025 to coincide with the commencement of the design phase. A preliminary Summary of Spaces is available for review on the project Dashboard.

Community Engagement Including Visioning

Community engagement has played a significant role in this process. This engagement began with the “Community Planning Process” in 2019, which was part of the broader “Strategic Planning Process.” Multiple K–12 and High School Visioning sessions, among other initiatives, continued this engagement during the development of this master plan. A more detailed account of these sessions and the individuals involved is provided later in this report.





Short-term Recommendations for Elementary Schools

The recommendation to close Wilson Elementary School has been carried out. Former Wilson students are now attending Beech Street and McDonough Elementary Schools on a temporary basis. Modular classrooms have been added to both schools to accommodate the increased enrollment. A new Beech Street Elementary School is currently in the design phase. This report provides additional information.

Long-term Recommendations for Elementary Schools

Capital improvements, including building replacements, additions, and renovations, are recommended for all elementary schools as a result of the E+FA process and individual school educational programming. This report details the process for these projects, outlining proposed school sizes, populations, and potential timelines. Preliminary educational Summaries of Spaces for each elementary school can be found on the project Dashboard.

Although designated as middle schools, the four schools did not previously function as such in terms of educational delivery. The physical realignment of these schools will facilitate the implementation of teaching and learning practices aligned with the New England League of Middle Schools (NELMS).

Recommendations for Middle Schools

To transition all four middle schools to serve grades 5–8, renovations and additions are currently being designed and constructed. This report provides a detailed description of the project process. Additional meetings are scheduled with teachers and staff at Southside and Parkside Middle Schools to coincide with the start of the design phase in early 2025. A preliminary Summary of Spaces is available on the project Dashboard.





Recommendations for High Schools

This report recommends locations, sizes, and designs for Manchester's future high schools, including a plan for reconfiguring the system, in order to meet the Strategic Plan goal of three high schools serving the District.

Community input, gathered through High School Visioning sessions and community meetings, shaped this concept.

As an alternative, this report details a plan for two new comprehensive high schools, each with a capacity of 2,000 students.





02

Manchester Long-Term Facilities Plan Goals

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  › Next Generation (21st Century) Learning Environments 26

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  › Safety..... 29
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  › Logistical and Support 29

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» Right-sizing 30

» Building Security Discussion 30



"Our Community's Plan for Manchester's Future of Learning", a community-wide initiative spanning more than two years, was launched on February 20, 2020.

This Strategic Plan, grounded in the core principles of "Learning, Ownership, and All our Kids" (with the aim of ensuring genuine improved educational outcomes for all for every learner within the system), is accessible on the Manchester School District website[2].

The development of the Strategic Plan benefited from extensive community engagement, and its guiding tenets inform the goals presented herein.

The goals of the strategies plan are founded upon the tenets of the Community's Plan for Manchester's Future of Learning:

Our Why

Vision
Our vision captures the future we seek to create for our students.

Our What

Mission
Our mission explains our fundamental purpose as an organization. Manchester School District produces graduates who can demonstrate 21st century skills.

Our How

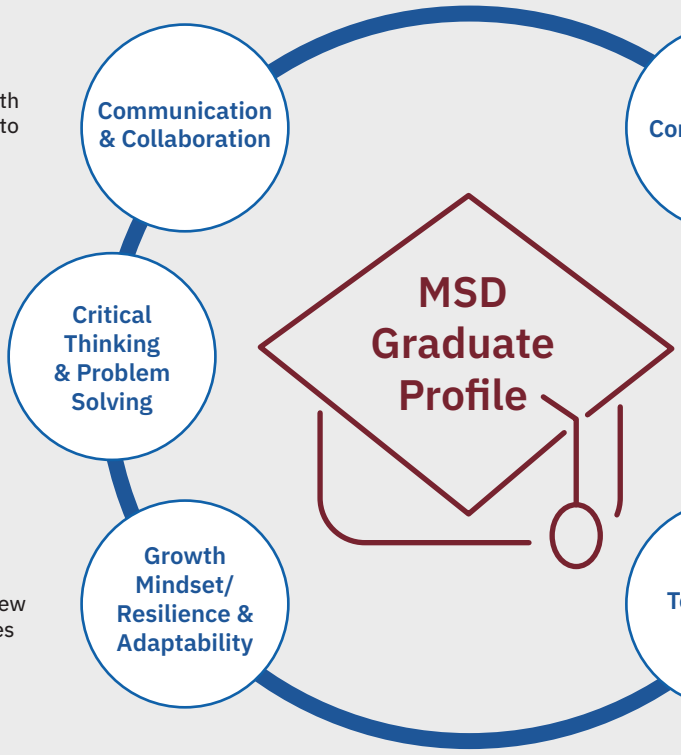
Theory of Action
Our driving aim is to realize our mission on behalf of every learner through the goals and strategies outlined in this plan.

Our Ethos

Core Values
Our core values drive our culture and answer the question, "How do we want to act in working to achieve our vision?".

These tenets are further defined in the Manchester School District Graduate Profile.

Preparing all students in...



Listening and articulating effectively for a variety of purposes; working well with others while being willing to understand and offer alternative points of view.

Recognizing and respecting one's own culture and other cultures to work well with others and more fully understand the impact of national and world events and history.

The ability to identify and solve challenges through creative thinking and innovation.

The skills and knowledge needed to succeed in any environment.

The ability to persevere despite hardship and to view challenges as opportunities to grow.

Leveraging scientific inquiry to solve problems; be technologically literate and able to use a range of tools to solve problems, communicate & collaborate effectively.

Learning at MSD is...



Our organizational values are...



Implementing these core goals will require a long-term commitment from educators and community members, who will participate in the design process for the various school projects over the next 25–30 years.

A Focus on Advancing Wellness and Approved Educational Outcomes for All

The District will focus on advancing wellness and improving educational outcomes for all in education through educational goals, student engagement, including Project-Based Learning, student collaboration, STEM/STEAM, and other methodologies.

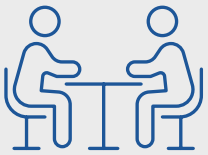
The Strategic Plan's emphasis on advancing wellness and improving educational outcomes for all in education will be reflected in school building environments designed to facilitate effective teaching and learning practices, accommodate program and enrollment requirements, and enhance the quality of learning experiences and opportunities. It is anticipated that the achievement of these goals will result in improved student outcomes:

- **Engaging students:** Through Project-based Learning (PBL), foster greater inclusion.
- **Student-centered learning:** Provide learning experiences that are student-centered and student-driven.
- **Meeting diverse needs:** Implement a strategy that better addresses the needs of every learner.
- **Collaboration:** Encourage and facilitate student collaboration.
- **Experiential learning:** Offer experiential and hands-on learning opportunities.
- **Critical thinking:** Develop creative thinking and problem-solving skills.
- **STEM/STEAM education:** Provide multiple opportunities to engage in Science, Technology, Engineering, and Mathematics (STEM)/Science, Technology, Engineering, Arts, and Mathematics (STEAM) learning.
- **Safe and welcoming environments:** Improve physical environments to enhance school safety, security, and a sense of belonging.
- **Flexible learning spaces:** Create flexible learning environments that promote Universal Design for Learning (UDL) and can adapt to new teaching and learning methodologies.

SMMA has used these goals in proposing short and long-term master plan proposals for capital improvements. The short-term, Priority 1 projects, are underway with design and construction. The long-term, Priority 2 projects, are proposed for implementation over a twenty-five to thirty-year period.

The Long-Term Facilities Plan was designed around the following class sizes:

K–4	5–12	Labs
20 Student per class	**25 Students per class**	**25 Students per class**



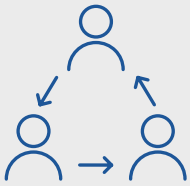
Engage

PBL for improved educational outcomes for all



Empower

Student-centered and driven learning



Adapt

Strategies meeting diverse learner needs



Collaborate

Foster student teamwork



Experience

Hands-on, experiential learning



Innovate

Creative thinking and problem-solving



Expand

STEM/STEAM learning opportunities



Enhance

Safe and welcoming school environment

Developing Teaching and Learning Methodologies Districtwide

Since most of Manchester's schools were constructed (spanning the 19th, 20th, and early 21st centuries), education has changed dramatically. Past classrooms, designed as isolated, teacher-centric spaces, are ill-suited for today's Next Generation Learning environments. Given the anticipated continued evolution of teaching and learning, flexible spaces that enhance learning experiences will be essential. The educational assessments for each school can be found on the Dashboard[1].

These goals apply to all grade levels: Elementary, Middle, and High Schools.

The chart below shows how Manchester's school buildings, originally designed for a different educational model, can be adapted (through new construction or renovation) to better serve the evolving needs of Next Generation Learning.

20th Century Learning Environments		Next Generation (21st Century) Learning Environments
Teacher Centric	→	Student Centric
Passive Learning	→	Active Learning
Classrooms	→	Flexible Learning Environments
Conventional Technology	→	1:1 Technology Environments
Individual	→	Collaborative
Subject-based	→	Project/Inquiry-based
Standardized	→	Differentiated/Personalized



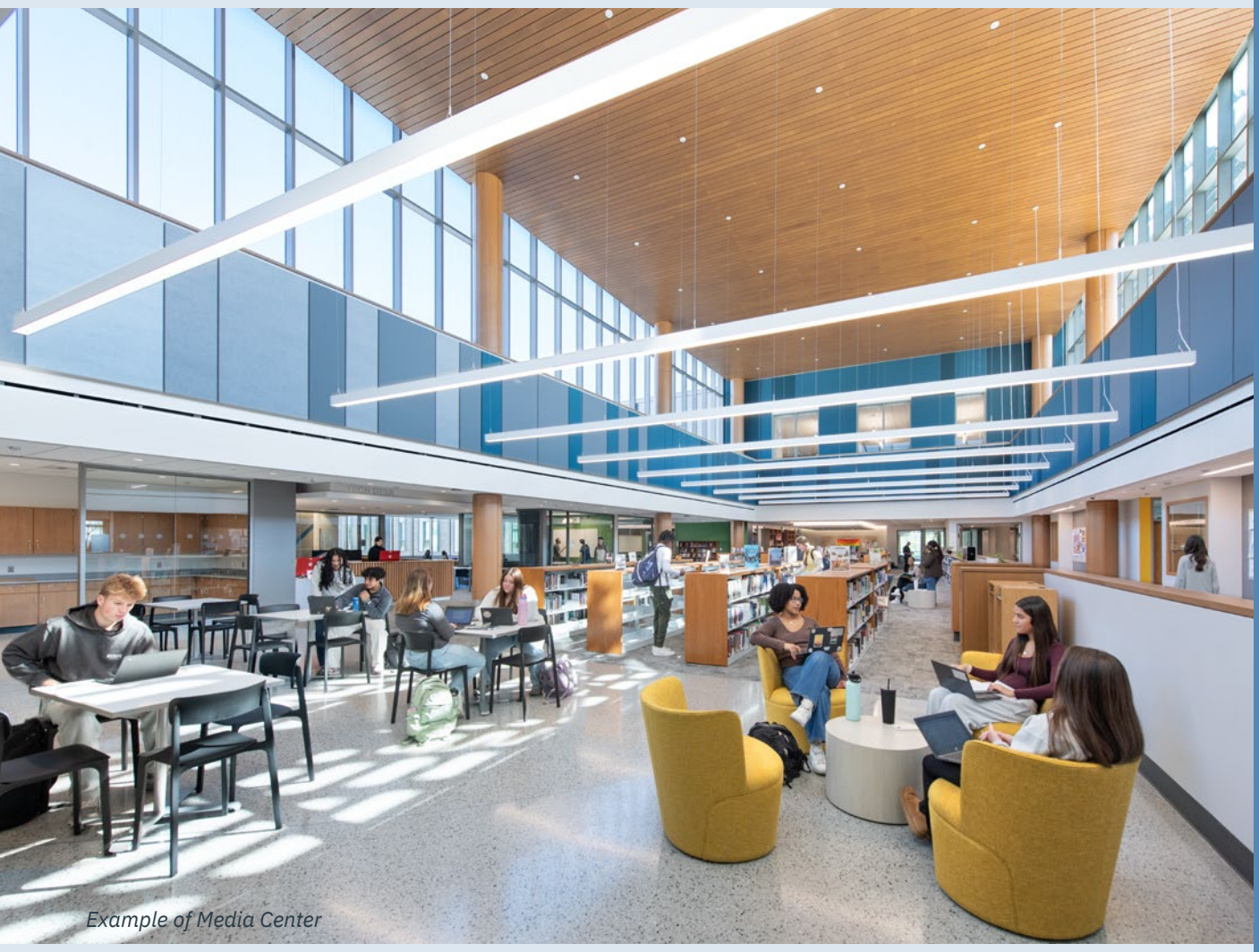
Example of Next Generation Learning Environment

Why Next Generation Learning Environments?

Manchester students deserve learning environments that are both high-quality and tailored to their individual learning styles, keeping them engaged in the learning process.

Critical Components for Districtwide Learning Environments

Many existing schools, across all grade levels, lack critical components necessary for Next Generation teaching and learning. Addressing these deficiencies, often related to "right sizing" for opportunity and improving educational outcomes for all, is essential for 21st century education. Improvements in areas such as Universal Design for Learning (UDL)[3], Social Emotional Learning (SEL)[4], and safety and security will reduce absenteeism and promote better physical and mental health, reflecting the goals of the Strategic Plan.



Example of Media Center

Strategic Components

Upgrades to physical conditions, technology, and protocols are needed in most schools.

Safety

Secure entry vestibules, under direct visual control of the main office, and security technology systems will improve school safety and security through controlled building entry.

Teaching and Learning

- **Special Subject Classrooms:** Full-size or larger classrooms for all special subjects (art, music, technology, and other offerings), eliminating the need for mobile carts.
- **Special Education Classrooms:** Appropriately sized classrooms for special education, including dedicated spaces for sub-separate programs.
- **Small Group Spaces:** Distributed "pull-over" spaces (one per four to six classrooms) located near classrooms to minimize "pull-out" time for interventions and support personalized or PBL.
- **Learning Commons (LC):** Spaces serving groups of classrooms for group meetings, team meetings, personalized learning, and PBL.
- **Calming Spaces:** Spaces accessible to all students, with specific consideration for special needs programs.
- **Elementary Classroom Sinks:** Sinks in all elementary teaching spaces to promote hygiene, cleanliness, and STEM/STEAM education.

Logistical and Support

- **Nurse's Suite:** A suite capable of serving multiple children, including an office with a double-locked medication cabinet, resting area, testing space, sink, eyewash, and storage, and ensuring privacy for all students.
- **Professional Staff Spaces:** Appropriately sized spaces for counselors, social workers, psychologists, interventionists, and other professional staff, including space for small group work.
- **Administrative Spaces:** Appropriately sized spaces for administration, including private offices, conference rooms, teacher mailboxes, and work areas.
- **Gym and Cafeteria:** Separate spaces for the gym/physical education program and the cafeteria, including storage, to facilitate appropriate scheduling for physical education.
- **Mother's Room:** A dedicated mother's room for teachers and staff.
- **Storage for Service Organizations:** Storage space for before- and after-school service organizations (elementary and middle schools).

Student and School Reassignments

Due to these factors, student reassignments may occur as school projects are completed. Given that all elementary schools are anticipated to receive capital improvements over the next 25–30 years, this process will be ongoing.

Several factors can influence the student capacity of new or renovated school buildings, including changes in neighborhood demographics, the desire for balanced class sizes, the addition of specialized spaces, right-sizing efforts, and other considerations. As a result, these buildings may differ in size from existing schools.

Right-sizing

To achieve the Strategic Plan's goals for educational outcomes for all, schools are being right-sized, meaning their sizes and capacities are being adjusted to meet educational needs. This can include:

- Expanding special education spaces
- Balancing the distribution of classrooms across grade levels within each school
- Creating dedicated spaces for specialized subjects like art, music, physical education, and technology
- Developing collaborative learning spaces
- Ensuring equitable access to teaching resources, professional support, and learning opportunities for all students at each grade level throughout the City

Building Security Discussion

The Manchester School District aims to provide safe and secure learning environments that are also welcoming, accessible, and easy to navigate for students, staff, and visitors.

School safety and security encompass a range of measures, many of which are not publicly disclosed. The following components are representative of those that can be discussed:

- **Site Design:** Adherence to Crime Prevention Through Environmental Design (CPTED[5]) principles, incorporating physical and environmental barriers, such as a single point of entry for all visitors through a secure entry vestibule.
- **Door Security:** Lockdown and monitoring of all exterior doors.
- **Interior Lockdown:** Interior zones that can be locked down when triggered by the administration.
- **Electronic Systems:** Integrated electronic systems, including video surveillance, electronic access control, electronic intrusion detection, security communication systems, and visitor management systems.







03

Visioning (Districtwide)

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» High Schools Visioning 36

K–12 Visioning

Visioning played a vital role in determining the Master Plan's focus.

At the commencement of the project, a community visioning process was undertaken to develop a clear, cohesive, and compelling vision for the future of the Manchester School District. This process encompassed a series of interactive visioning workshops conducted with educators, students, Manchester residents, community partners, and leaders.



In April of 2023, New Vista Design (the Visioning Facilitator) and SMMA engaged the community in the first round of three interactive visioning sessions. A separate session, dedicated to Manchester School District high school students, was conducted virtually, with participants joining from across all four high schools. Subsequent visioning workshops were held throughout June and July of 2023, providing participants with opportunities to delve deeper into discussions regarding their visions for the District's educational goals and school facilities. Comprehensive information regarding these workshops can be found on the Dashboard[1].

Workshop Schedule:

- March 21, 2023 Leadership Team Kickoff Meeting
- April 4, 2023 Community Workshops (Three 2-hour Workshops)
- June 8, 2023 Student Workshop
- June 15 and July 6, 2023 EVG Workshops One-A and Two-A
- July 6 and July 20, 2023 EVG Workshops One-B and Two-B





Topics included:

- Project Priorities: Educational, Architectural, and Community
- Guiding Principles
- 21st Century Design Patterns
- Community Priorities
- Student Priorities
- Blue Sky Ideas
- Bubble Diagramming of Conceptual Design Ideas

High Schools Visioning

Subsequent to a series of meetings with high school principals and staff, a decision was made to broaden the scope of the visioning process for the future of the high schools. Two additional meetings were conducted in the spring of 2024.

To gather input on the future of Manchester School District's high schools, two educational visioning workshops were held on May 28 and June 10, 2024. Participants, including District administrators, teachers, parents, school board members, and community partners, worked with facilitators from SMMA and New Vista Design to connect educational goals and priorities with the design of renovated and/or new facilities.

Topics included:

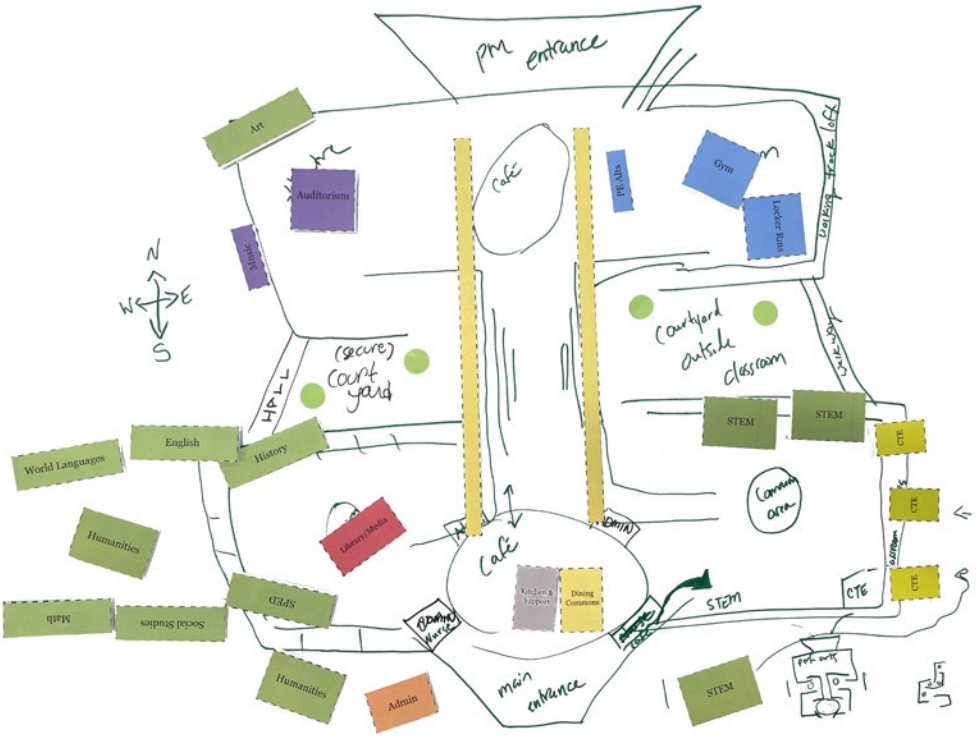
- Strengths, Challenges, Opportunities, and Goals
- Educational Focus Areas for Future Ready Manchester School District High Schools
- Manchester School District Ideal High School Visions
- Reflections on Ideal High School Visions
- Reflections on Design Patterns
- Whole School Diagramming (an interactive activity)
- CTE Offered at Multiple High Schools

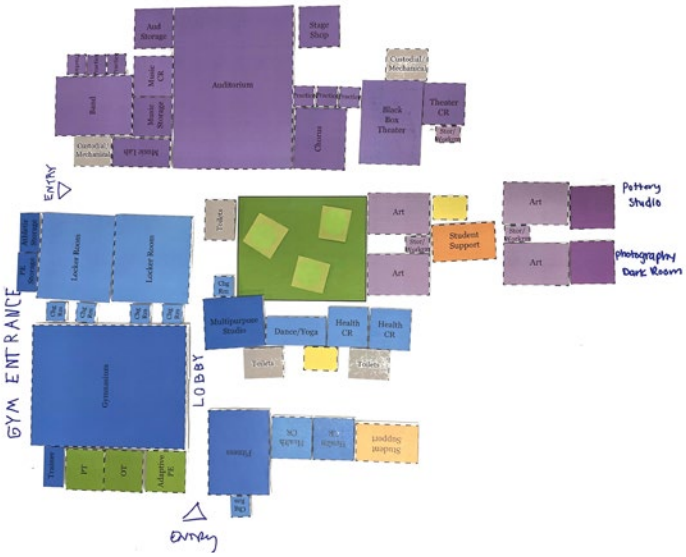
A detailed report for this meeting can be found on the Dashboard[1].

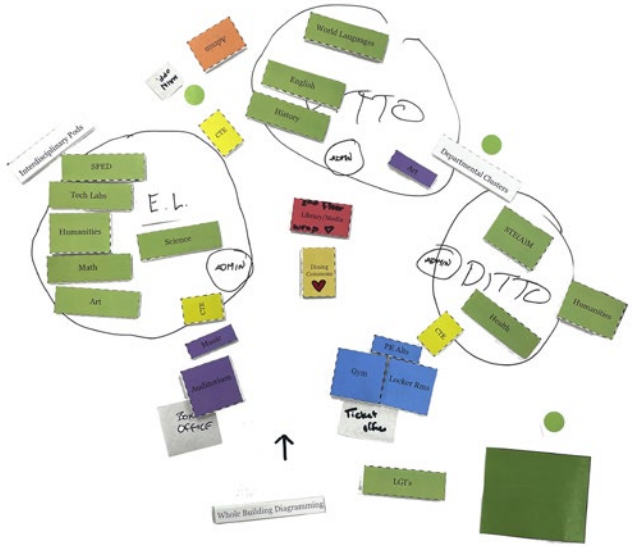
Whole School Diagrams on following page were developed by participants.

Whole School Diagram

The whole school adjacency diagram was created by a small group of workshop participants in order to communicate their ideas about optimal spatial adjacencies for the renovated and/or new Manchester High School Facility.







High School Visioning Meeting Diagrams:
(top) Whole building diagram 1
(left) Whole building diagram 2
(right) Performing Arts diagram

04

Components of the Master Plan

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Components of the Long-Term Facilities Plan

The Long-Term Facilities Plan is comprised of numerous components. A summary of the key issues and tasks undertaken is presented in this report.

School Building Evaluations

An Existing Conditions Assessment of all schools was the initial phase of this project. Architects and engineers from SMMA conducted the review, gathering data on the condition of buildings, sites, and educational facilities. Detailed information and documentation from this assessment can be found on the Dashboard[1].

Enrollment Discussion

Based on three demographic studies (including population projections) conducted for the Manchester School District since 2018, SMMA recommended a district capacity of 13,000 students. This recommendation, derived from a review of the 2021 Davis Demographics Forecast, the 2020 MGT report, and historical district data, translates to 1,000 students per grade (K-12). This capacity aligns with pre-pandemic enrollment levels and is supported by recent state enrollment data.

Moving Forward

The Manchester School District administration's two-phased study addresses school facilities in both the short- and long-term. Priority 1 focuses on Wilson Elementary School, the middle schools, and a new high school concept. Priority 2 will address the remaining district schools.

Wilson Elementary School (built in 1896) was in such a state of disrepair, both physically and educationally supportive, that it demanded immediate action.

Priority 1 Projects

Establish criteria to govern the progression of design and programming for the following projects: the construction of one new elementary school, the addition and renovation of four middle schools, and the design and implementation of modular classrooms to provide interim teaching spaces during the closure of the Wilson Elementary School and the phased addition and renovation of the middle schools.

Priority 2 Projects

Evaluate all remaining elementary and high schools, taking into account various aspects of student populations, such as Special Education and English Learners (EL), as well as the future of CTE within the District. The focus will be on each school's unique identity and educational aspirations.

Recommendation: the division of projects into Priority 1 and Priority 2 enabled the most pressing projects to advance, the closure of Wilson Elementary School (1896), the construction of the new Beech Elementary School, and the addition and renovations of the four middle schools.

Priority 2 projects will address space deficiencies at all grade levels to accommodate Next Generation teaching and learning methodologies. This includes right-sizing each school building based on anticipated or projected student populations.

The Dashboard

SMMA developed an online dashboard to communicate the current condition of the Manchester School District's buildings and guide decisions for the Long-Term Facilities Plan.

This dashboard offers a comprehensive overview of the District for the 2022–2023 school year, including individual school master plan data, building assessment reports, and informative visualizations. It serves as a key resource, complementing other valuable tools and expertise, to support the master planning team in achieving the goals outlined in the long-term facilities plan.

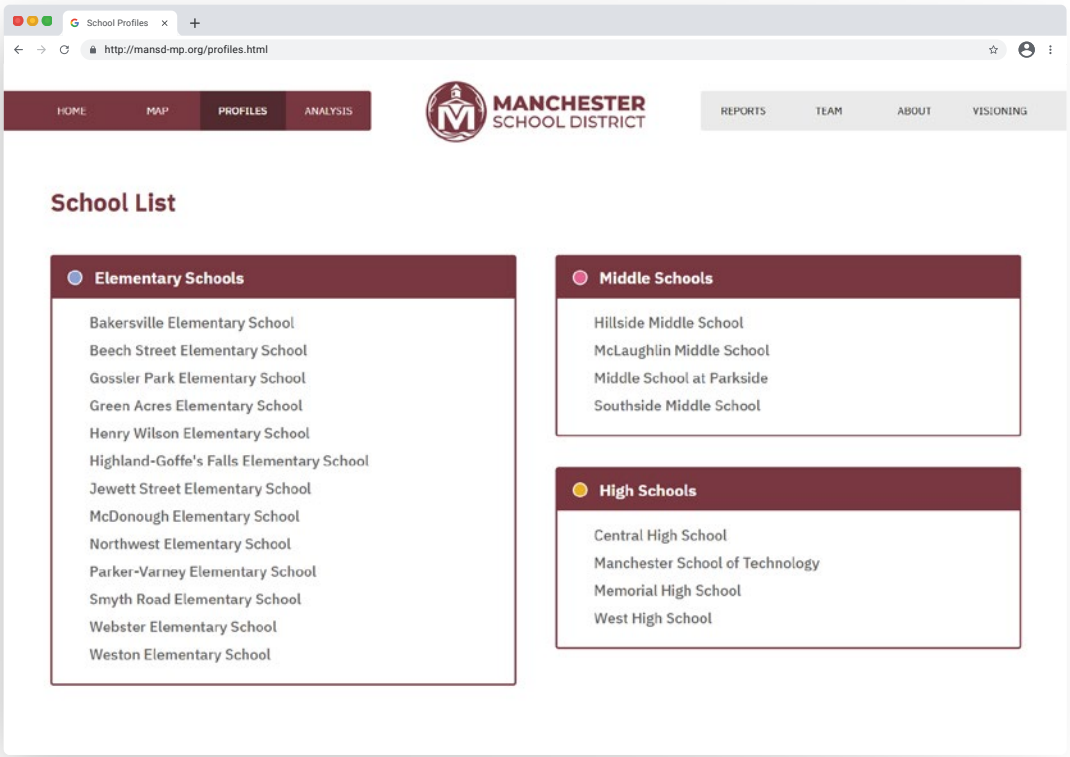
To ensure a thorough and relevant assessment, categories and criteria were strategically selected based on stated objectives, past experience, and the specific characteristics of the Manchester School District's building portfolio. The E+FA team developed a customized "Manchester School District Methodology" encompassing approximately 75 criteria areas, organized within facility and site categories. These criteria examined both physical and community components. Evaluations were conducted by SMMA architects, engineers, and educational planners with extensive experience in school planning and design.

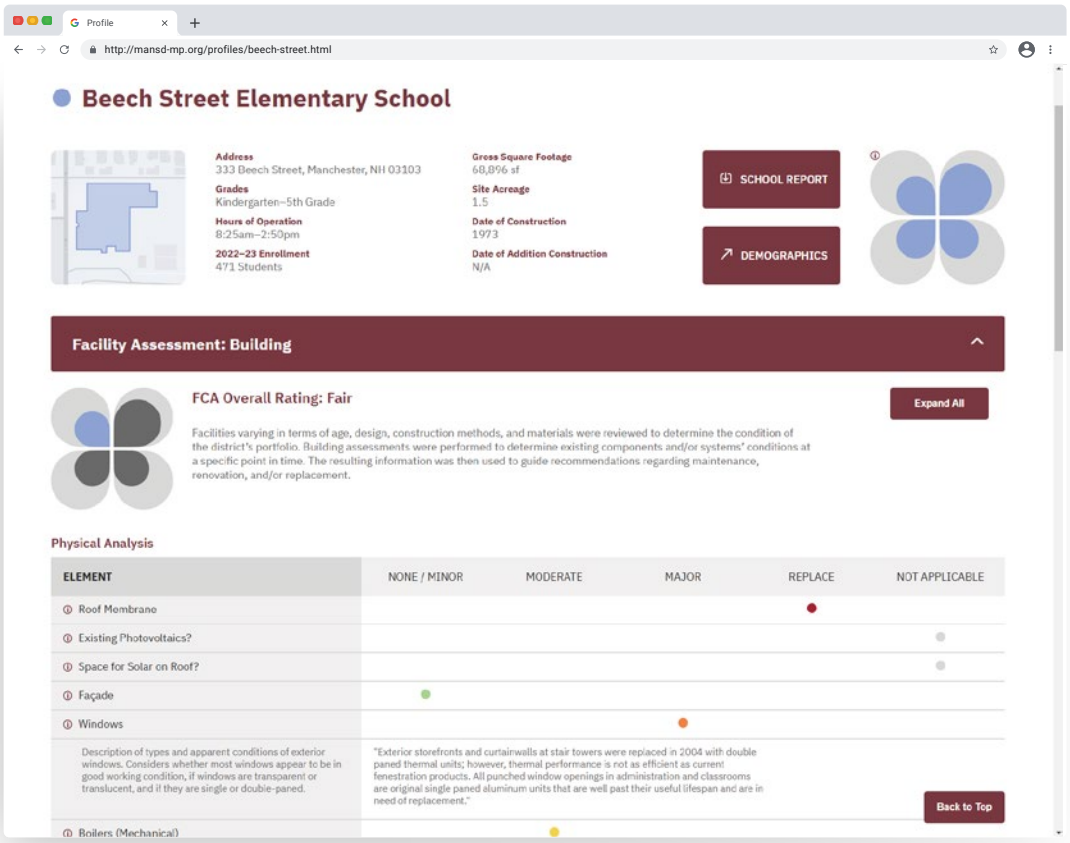
The Dashboard reports on the following for each school:

- Assessment Criteria
- Facilities Evaluation Criteria and Building Evaluation (condition of the building)
- Site Evaluation (condition of the site)
- Educational Facility Effectiveness of Learning Environments (how well the classrooms and overall building serve the needs for Next Generation teaching and learning)
- Educational Facility Spaces Effectiveness (room sizes and appointments needed for Next Generation teaching and learning)

The data gathered across all assessment criteria and effectiveness measures informed the development of recommendations tailored to each grade level. These recommendations shape the future of every school building in the District.

These recommendations fall into three categories: building renovations; building renovations and additions; and new buildings as replacements for existing facilities.





The Dashboard[1] is available to all via the District website.

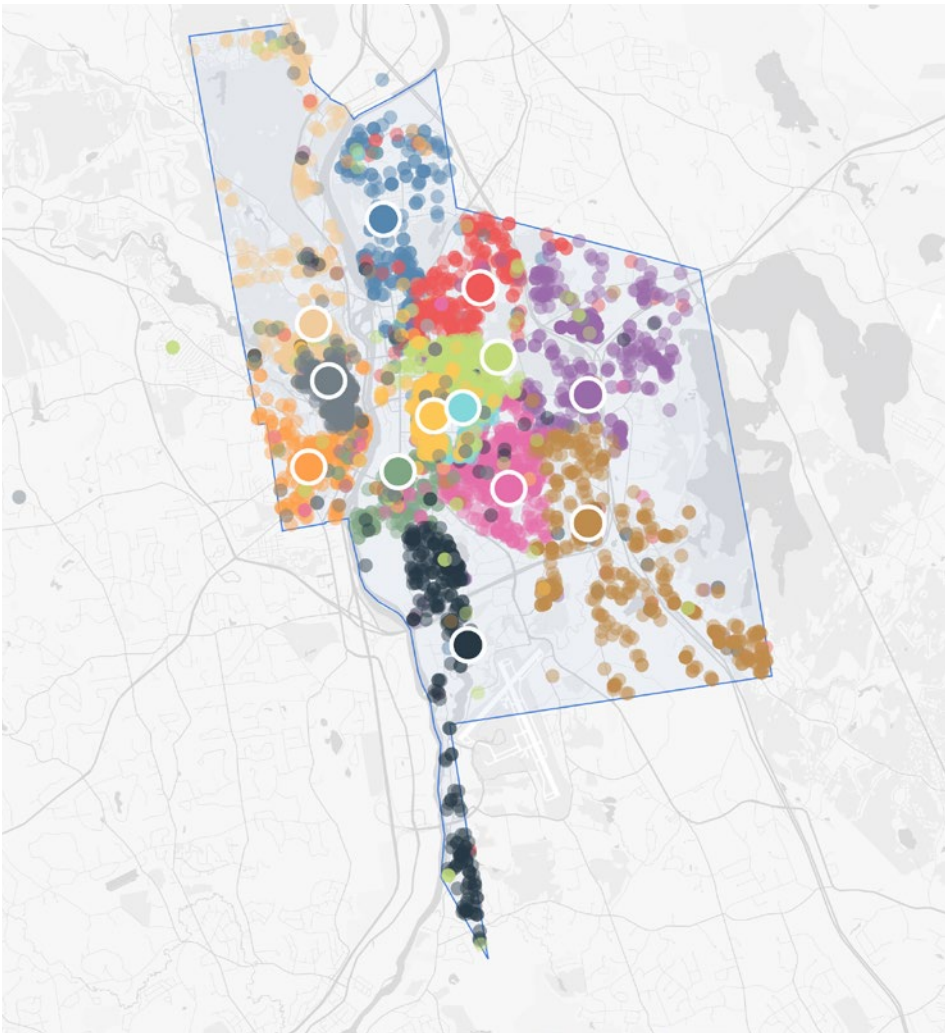
District Schools and Student Location Maps

The subsequent maps delineate the residential locations of students attending each of the identified schools. Each dot represents a household from which children attend the specified school.

While not included here, detailed catchment area maps for each school are available on the project Dashboard[1]. These individual school maps provide greater detail. Although all schools have designated catchment areas, numerous students live considerable distances from their assigned school, often due to Special Education placements or district assignments based on capacity. These particular maps reflect the 2023–2024 school year.

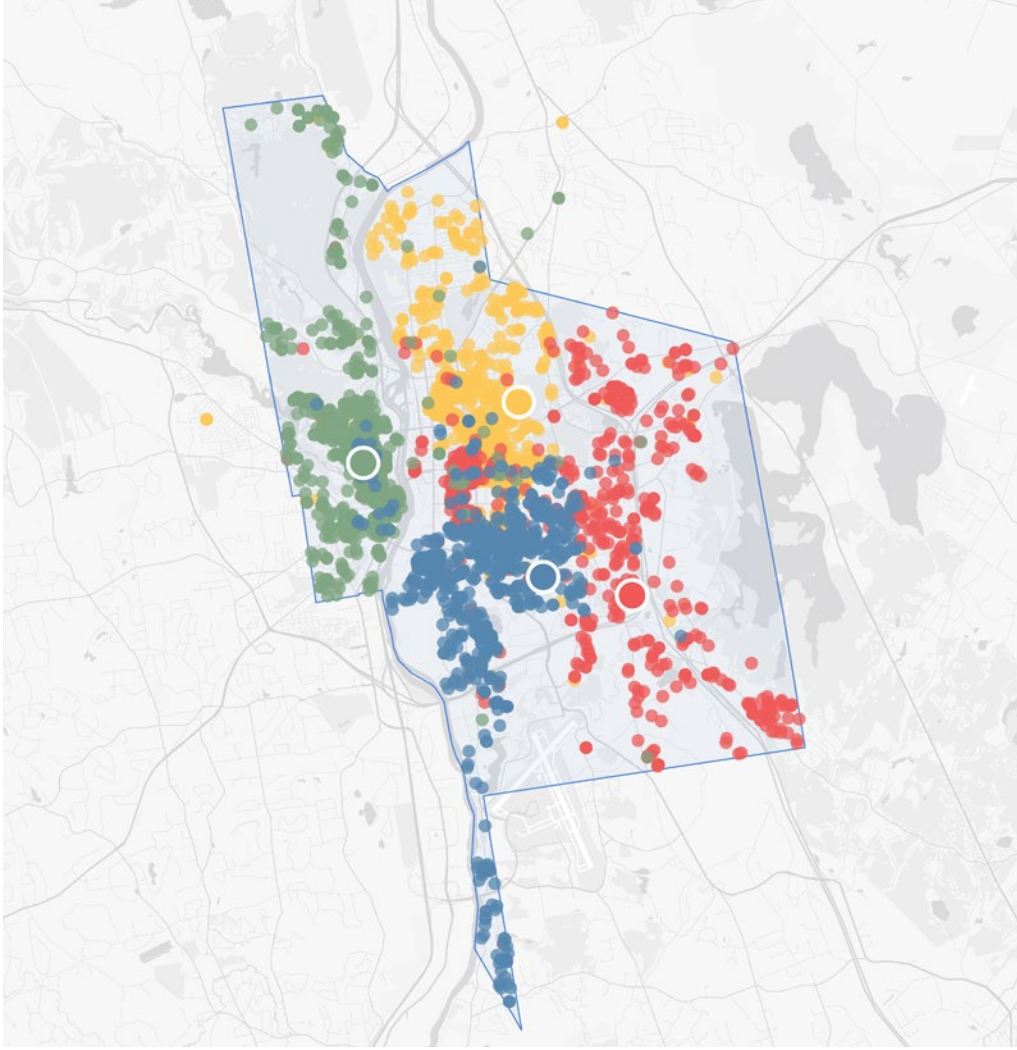
Elementary Schools Overall District Student Location Map

- Webster
- Smyth Road
- Northwest
- McDonough
- Gossler Park
- Weston
- Wilson
- Beech
- Parker-Varney
- Bakersville
- Jewett Street
- Green Acres
- Highland-Goffe's Falls



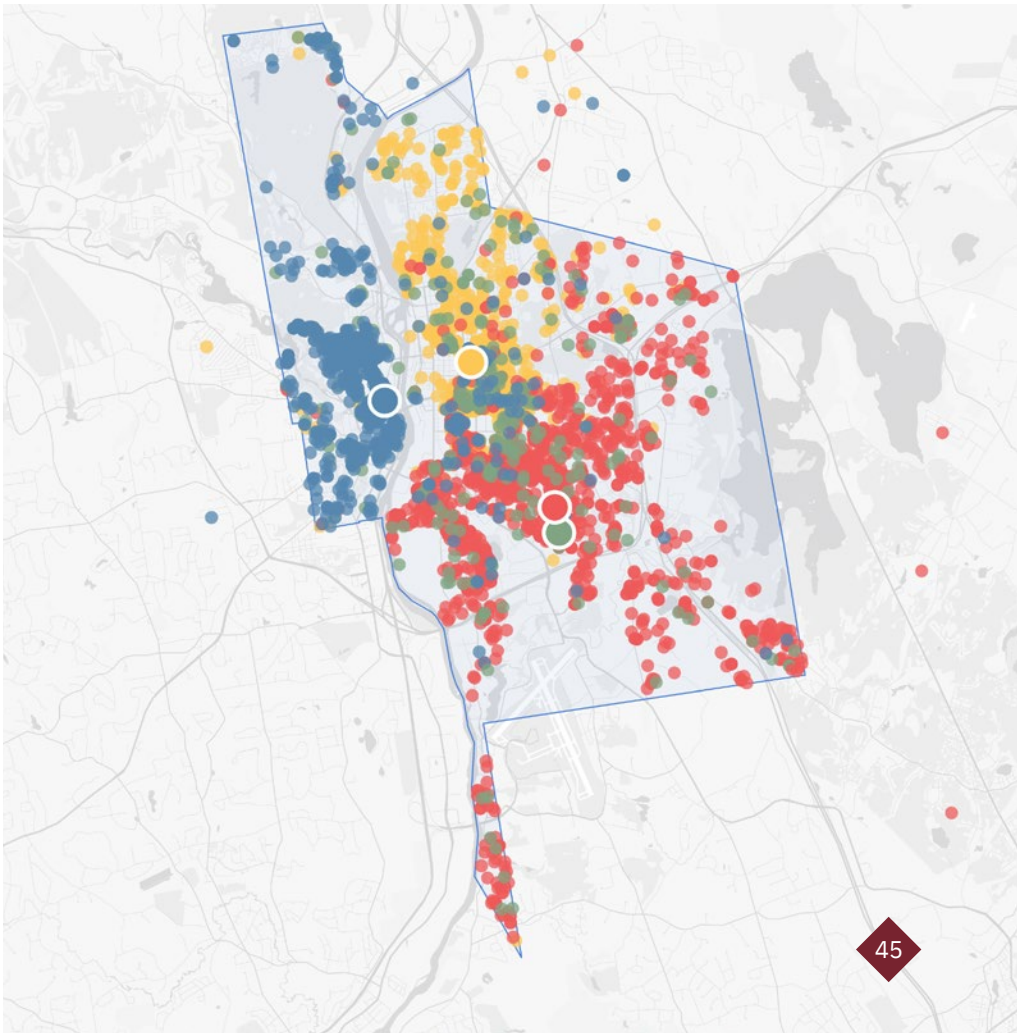
Middle Schools Overall District Student Location Map

- Hillside
- McLaughlin
- Parkside
- Southside



High Schools Overall District Student Location Map

- Central
- Memorial
- MST
- West



05

Priority 1 Projects: Currently Underway

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Modular Classrooms (Temporary Classrooms)

Additional classroom space is needed on an interim basis to support Priority 1 projects until construction of the new Beech Street Elementary School and the renovations and additions to the four middle schools are complete.

Henry Wilson Elementary School closed in summer 2024, with its students redistricted to Beech and McDonough Elementary Schools. Modular classrooms, installed at these schools during summer 2024, provide necessary interim teaching space and will remain in use until the new Beech Elementary School is completed.

At the middle school level, additional classroom space is required to accommodate the influx of 5th-grade students at Hillside and McLaughlin in September 2024, and to facilitate phased construction. Southside and Parkside Middle Schools, already overcrowded due to previous 5th-grade integration, also require this additional capacity.

All four middle schools will undergo phased construction. Building additions will be constructed and occupied first, with modular classrooms supplementing classroom capacity throughout the renovation process.

The city-purchased modular classrooms are intended for reuse as “swing space” at other capital project sites during their respective construction phases.





Exterior of Modular Classroom

Modular classrooms procured and installed at the following locations



Beech ES

8 classrooms



McDonough ES

8 classrooms



Hillside MS

8 classrooms
2 science classrooms



McLaughlin MS

8 classrooms
2 science classrooms



Southside MS

8 classrooms
2 science classrooms



Parkside MS

8 classrooms
2 science classrooms

Elementary Schools

Wilson and Beech Elementary Schools

Due to numerous physical deficiencies and inadequate educational spaces, the SMMA team and the Manchester School District Administration recommended closing the Wilson Elementary School building. They proposed consolidating Wilson with Beech Street Elementary School, primarily to keep students within their neighborhood and address Beech Street's own space limitations. This recommendation was presented to the BOSC in August 2023.

To balance student populations and avoid overcrowding, Wilson students were ultimately assigned to both Beech and McDonough Elementary Schools. As previously mentioned, temporary modular classrooms were installed at both schools to accommodate the additional students.



At the study's outset, the District was transitioning its elementary schools from K–5 to K–4, shifting fifth grade to the middle schools (grades 5-8), as outlined in the Strategic Plan's middle school model. During the 2023–24 school year, Beech Street, Wilson, and other elementary schools still included fifth grade. For the 2024–25 school year, fifth grade moved to Hillside and McLaughlin Middle Schools.

The existing Beech Street Elementary School, built in 1973 as an "open plan" school, was later modified with interior partitions, creating traditional classrooms, many of which lack windows. Specifically, all four basement classrooms are windowless, as are five of the 10 first-floor classrooms (including two kindergartens), and five of the 17 second-floor classrooms. Numerous studies, including the Daylighting in Schools Study referenced later in this report, demonstrate the importance of natural light and views for the physical and mental well-being of students and teachers.

These and other educational and physical deficiencies support the recommendation to close the existing Beech Street Elementary School building as part of the reconfiguration, which will also incorporate most of the former Wilson Elementary School student population. See the Dashboard[1] for more information.

The new Beech Street Elementary School will consolidate 734 students (grades K–4) from the existing Beech Street and Wilson Elementary Schools. McDonough Elementary School will be right-sized and expanded to accommodate 520 students.

Middle Schools

The District's middle schools are being designed and operated consistently with the tenets of the New England League of Middle schools (NELMS[6]) and the Association of Middle Level Education (AMLE[7])

The four middle schools are designed for a total capacity of 4,000 students, with classrooms grouped geographically to support team-based learning. While the initial plan was to renovate and expand each school to accommodate 1,000 students, this model would result in half-teams at every grade level in each school, which is educationally undesirable.

Team Organization

Maintaining intact middle school teams is a high priority, based on discussions with middle school administrators and numerous educational programming meetings with teachers.

As a result of the transition to grade 5–8 schools, the team structure will be:

- **Grade 5** will have two-teacher teams with 25 students per class for four core subjects, totaling 50 students per team.
- **Grades 6–8** will have four-teacher teams with 25 students per class for four core subjects, totaling 100 students per team. Each grade level will have 400 students in full teams.

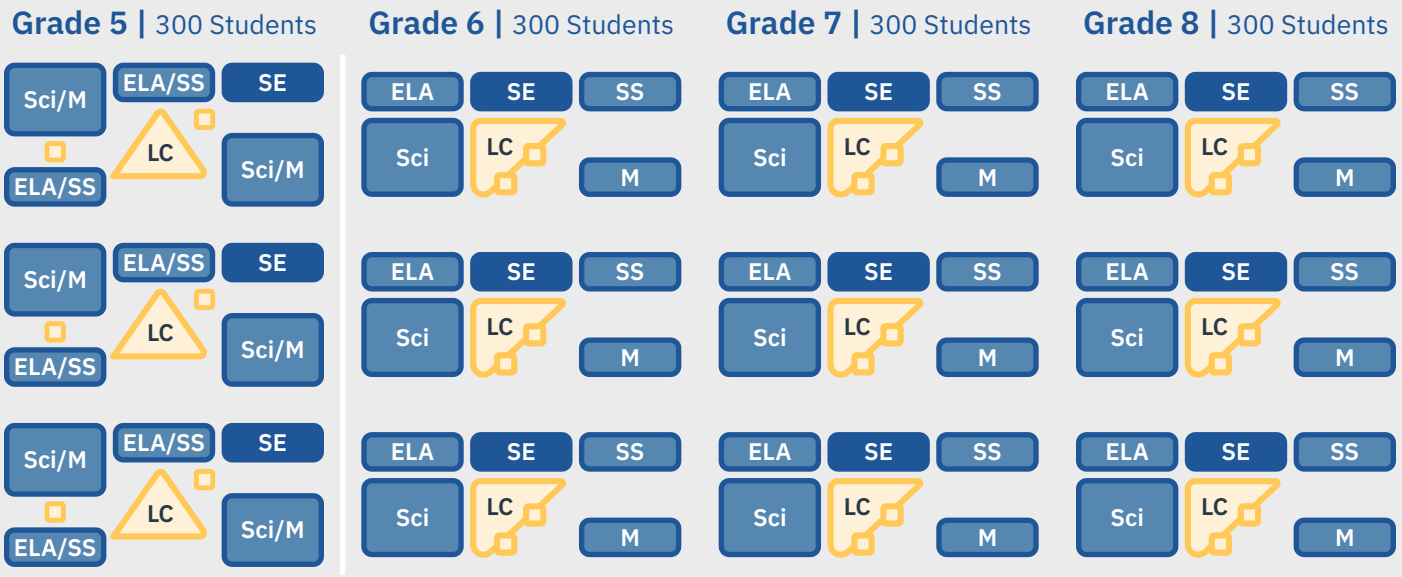
The resulting school sizes (see the team diagrams):

- 800 students totaling two full teams for grades 6, 7, and 8, and 4 full teams for grade 5
- 1,200 students totaling three full teams for grades 6, 7, and 8, and 6 full teams for grade 5

Based on building and site configurations, it was determined that Hillside and Southside would become 1,200-student schools and McLaughlin and Parkside would become 800-student schools.

Team Structure by School Size

1,200 Student Schools–all full Teams



ELA = English Language Arts
SS = Social Studies
SE = Special Education
Sci = Science
M = Math
LC = Learning Commons

800 Student Schools–all full Teams



ELA = English Language Arts
SS = Social Studies
SE = Special Education
Sci = Science
M = Math
LC = Learning Commons

To support Next Generation Learning and accommodate the appropriate student population, each middle school will be renovated and expanded. This construction will be phased to avoid overburdening the construction labor market. Consigli, the design team's constructability and estimating consultant, recommended this approach, citing potential labor shortages and increased costs in the southern New Hampshire market if too many projects proceed simultaneously. The accompanying schedule provides further details.

Group 1

03/25–04/27

Hillside Middle School (1,200 students)

Built in 1967 and expanded in 1995, Hillside Middle School will undergo renovations and additions as a Priority 1 project. The existing 137,733 square feet will be renovated, and a 40,230 square foot addition will house 5th grade classrooms, art and music classrooms, a media center, and support areas. A complete space summary is available on the project Dashboard[5].



Assessment[8]

McLaughlin Middle School (800 students)

Built in 1998 and expanded in 2005, McLaughlin Middle School will undergo renovations and additions as a Priority 1 project. The existing 130,214 square feet will be renovated, and a 23,007 square foot addition will house administration, guidance, a media center, technology labs, and support areas. The project will also create a new main entrance with relocated offices and guidance, enclose the courtyard for enhanced outdoor learning, improve interior circulation with a circular flow, and develop a new bus arrival/dismissal area at the rear of the school. A complete space summary is available on the project Dashboard[5].



Assessment[9]

Group 2

09/25–08/27

Southside Middle School (1,200 students)

Built in 1967 and expanded in 2005, Southside Middle School will undergo renovations and additions as a Priority 1 project. The existing 137,136 square feet will be renovated, and a building addition will be constructed. The size and specific purposes of the addition will be determined during the Programming phase in early 2025. A preliminary space summary is available on the project Dashboard[5], but is subject to revisions based on the Programming outcomes.



Assessment[10]

Parkside Middle School (800 students)

Built in 1967 and expanded in 1999, Parkside Middle School will undergo renovations and additions as a Priority 1 project. The existing 118,550 square feet will be renovated, and a building addition will be constructed. The size and specific purposes of the addition will be determined during the Programming phase in early 2025. A preliminary space summary is available on the project Dashboard[5], but is subject to revisions based on the Programming outcomes.



Assessment[11]

Current Catchment Zones and Building Capacities

Elementary and Middle Schools

Elementary schools are paired to ensure students progress together from grades K–4. Special Education programs, which may only be available at one school per grade level, can create exceptions to these attendance boundaries.

These elementary school pairings feed into the four middle schools. Periodic reassignments will likely be necessary to balance class sizes and building capacities. The first of these reassignments will occur after the completion of all four middle school addition and renovation projects.

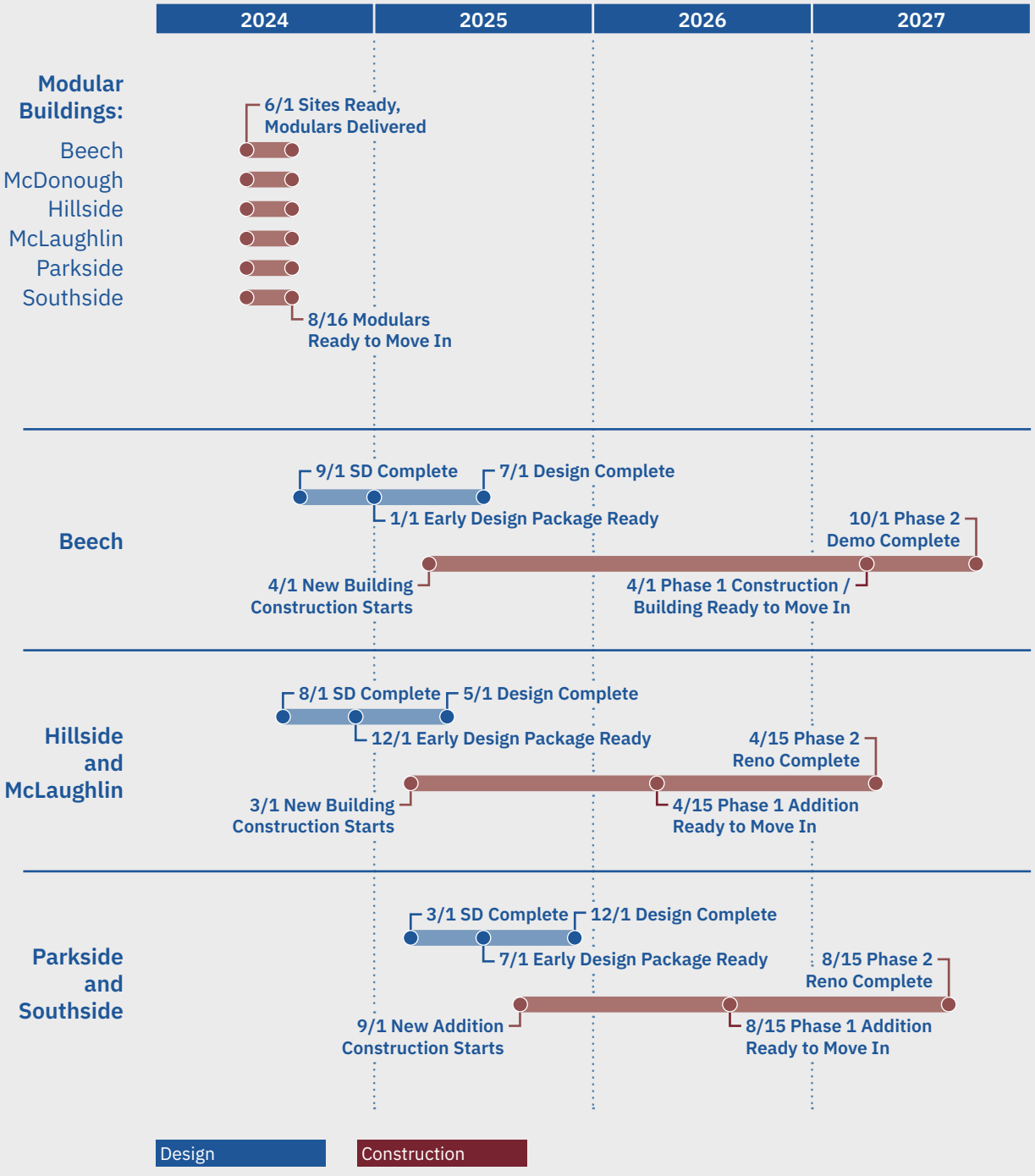
High Schools

The Priority 1 charge included developing a conceptual design for a new 2,000-student high school. This design is detailed in the "New Central High School" data and graphics. A specific site has not yet been identified.



It is recommended that a site identification committee be formed to explore acquiring a suitable private site of at least eight to 10 acres.

Priority 1 Design / Construction Schedule



06

Priority 2 Projects: Proposed

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Elementary Schools

The remaining 11 elementary schools require varying degrees of renovation, additions, or replacement. Many are currently undersized to meet the Plan's identified goals. Building condition assessments (physical and educational) are available on the Dashboard[1].

Several options were developed for the future of each elementary school. After careful consideration of educational needs, building conditions, and site constraints and opportunities, the following recommendations are illustrated on the following chart.





12 schools / 5,014 students ★ Schools with PreK Classrooms

✖ New Building	⬢ Renovation	✚ Addition & Renovation
★ **Bakersville Elementary** *Existing: 275 students* Proposed: 520 students Replace with new school	**Green Acres Elementary** *Existing: 350 students* Proposed: 300 students Comprehensive renovations	★ **McDonough Elementary** *Existing: 525 students* Proposed: 520 students Comprehensive renovations and addition to include classrooms and larger cafeteria. Close Lowell St. to reconfigure outdoorplay areas and parking.
Beech St. Elementary *Existing: 560 students* Proposed: 734 student new school at Sheriden Emmett Site (Phase 1 decision) with Wilson St. population	**Highland-Goffes Falls Elementary** *Existing: 490 students* Proposed: 300 students Comprehensive renovations, remove portable classrooms	
★ **Gossler Elementary** *Existing: 305 students* Proposed: 420 students Replace with new school	**Northwest Elementary** *Existing: 525 students* Proposed: 300 students Comprehensive renovations	
★ **Jewett St. Elementary** *Existing: 435* Proposed: 420 students Replace with new school	**Parker-Varney Elementary** *Existing: 345 students* Proposed: 320 students Comprehensive renovations	
★ **Smyth Rd. Elementary** *Existing: 325* Proposed: 420 students Replace with new school	**Weston Elementary** *Existing: 350 students* Proposed: 300 students Comprehensive renovations, including installation of more and/or larger windows	
★ **Webster Elementary** *Existing: 290* Proposed: 420 students Replace with new school		

Master Plan Proposed Timeline (2025–2052)

The following priority projects require "swing space"—temporary facilities where entire schools (or groups of schools) can be relocated during construction. The completion of the new high school will free up significant space in existing high school buildings that can serve as swing space. Alternatively, modular classrooms from completed Priority 1 projects can be moved to the appropriate sites, enabling either replacement or renovation/addition projects to proceed without students on site.

Priority 1 (Group 1)

New Beech Elementary School

Priority 2 (Groups 2–5)

The suggested schedule for the 11 elementary schools divides them into three groups of three schools and one group of two schools. While the groupings and timelines are suggested, there is flexibility to adjust them based on City and District priorities.

This schedule is structured in six-year increments, with school projects planned approximately 12 months apart. This staggered approach aims to balance the workload for both the District and construction teams.

Funding is allocated in two stages:

- *Design Funding:* This funding supports the programming and design process, ensuring each school is appropriately sized and scoped.
- *Construction Funding:* Funding for construction is approved based on the estimates developed during the design phase.

Schedule

Funding process for design: TBD

Early planning and programming: 6–8 months

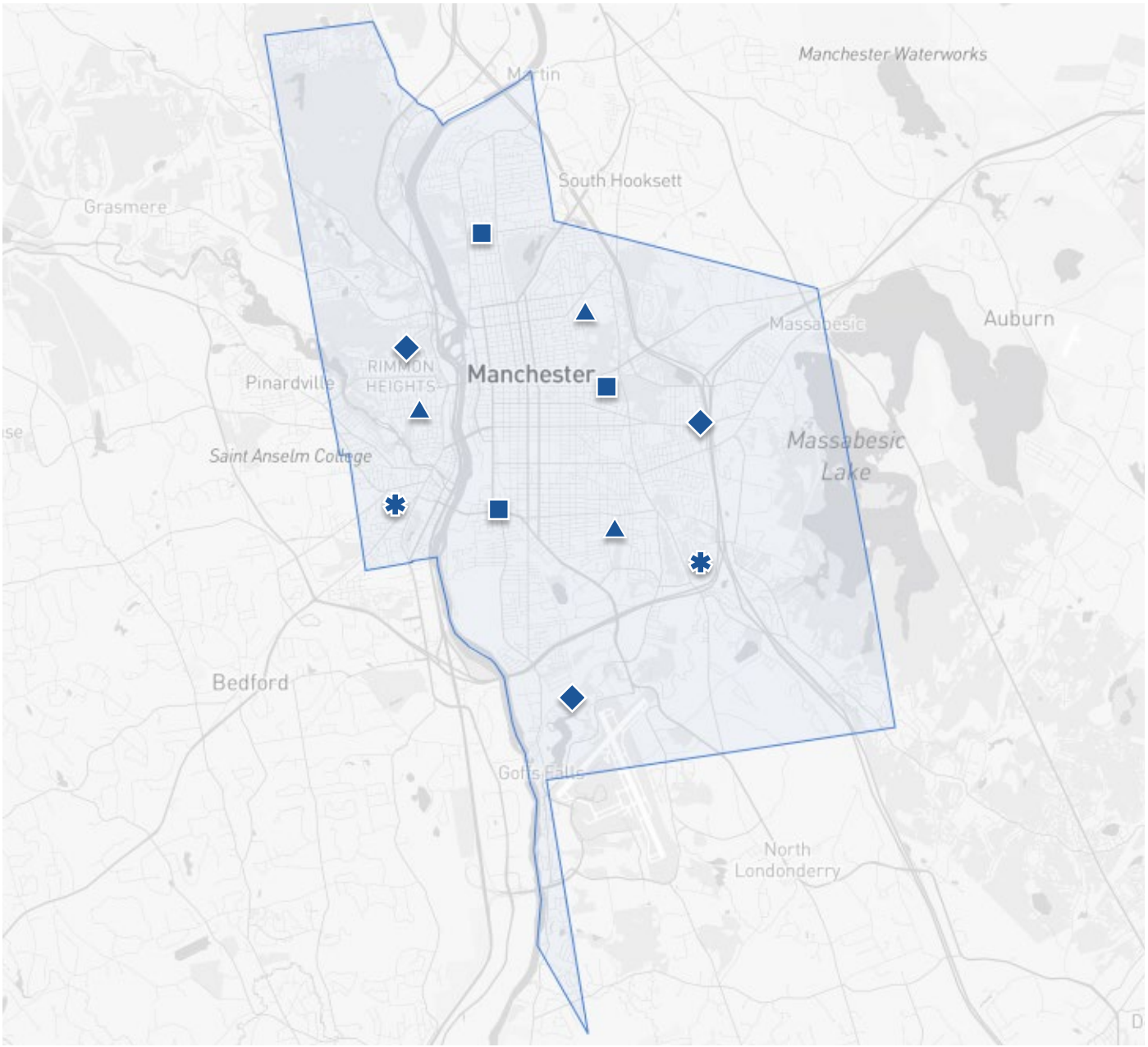
Full design process: 12 months

Funding process for construction: TBD

Construction: 18–24 months

Priority 2 Elementary School Groups

Group 2 ▲	Group 3 ■	Group 4 ◆	Group 5 ✱
2026–2033	2033–2039	2040–2046	2046–2052
Gossler Park	**Bakersfield**	**Weston**	**Parker Varney**
Jewett Street	**McDonough**	**Highland-Geoffs**	**Green Acres**
Smyth Road	**Webster**	**Northwest**	

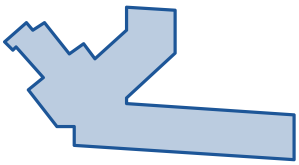




Group 2 ▲

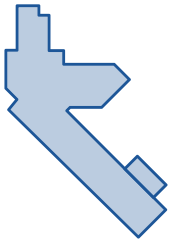
Design 2026–Project Completion 2033

These three schools (the “triplets”) have all been identified as lacking necessary program space. They are geographically dispersed across the district and located in densely populated neighborhoods.



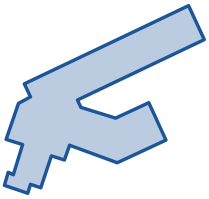
Gossler Park Elementary School

- Proposed new
- 420 students
- Includes PreK
- Community School
- Built in 1950s
- Identified as a replacement school based on the school's building and educational condition and needs
- Adds population



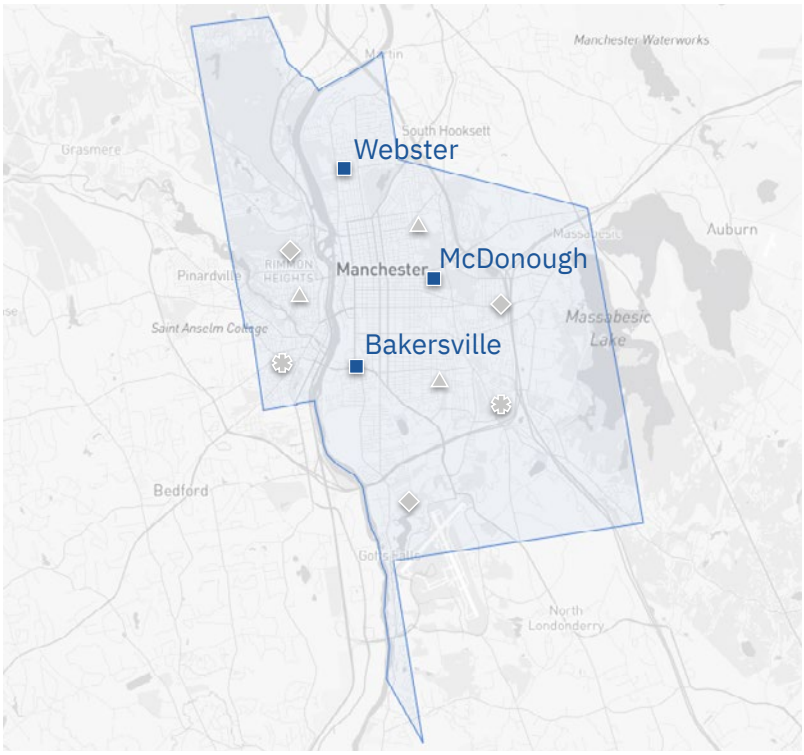
Jewett Street Elementary School

- Proposed new
- 420 students
- Includes PreK
- Built in 1950s
- Identified as a replacement school based on the school's building and educational condition and needs



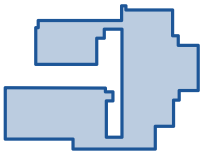
Smyth Road Elementary School

- Proposed new
- 420 students
- Includes PreK
- Built in 1950s
- Identified as a replacement school based on the school's building and educational condition and needs



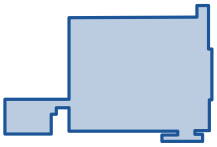
Group 3 ■

Design 2033–Project Completion 2039



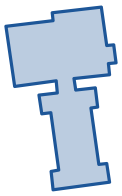
Bakersville Elementary School

- Proposed new
- 520 students
- Includes new Spanish Dual Language school and PreK
- Constructed in the late 19th/early 20th century
- Sits forward on a busy city intersection
- PreK component currently located offsite
- Identified as a replacement school based on the school's building and educational condition and needs
- Adds population



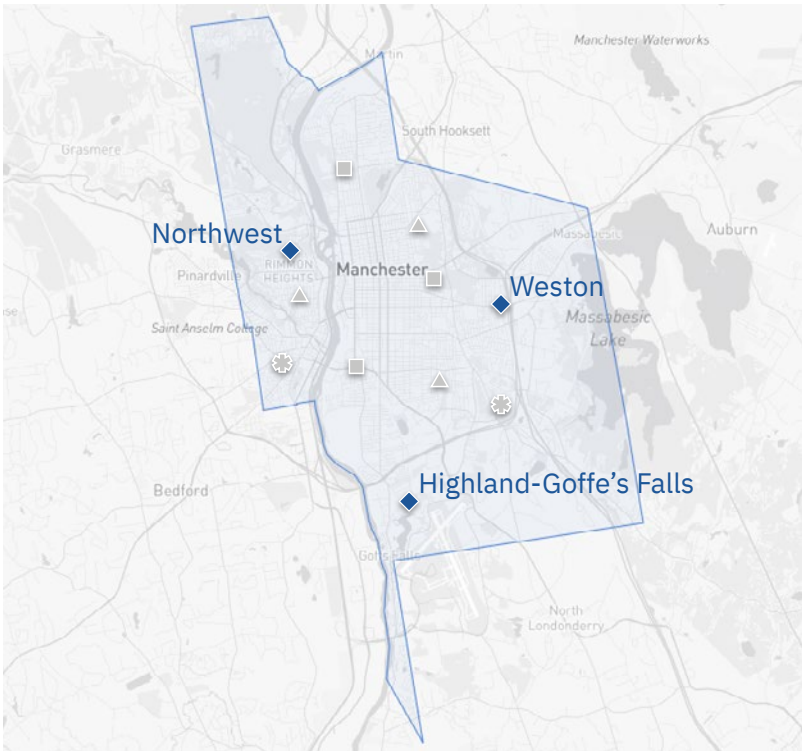
McDonough Elementary School

- Proposed addition and renovation
- 520 students
- Built in 1964 as a private high school, the existing building is newer than some elementary schools and serves densely populated neighborhoods
- Adds population



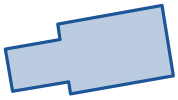
Webster Elementary School

- Proposed comprehensive renovation
- 420 students
- Includes PreK
- Constructed in 1940 and 1971, this building needs to be right-sized to offer the programs and opportunities for improved educational outcomes for all



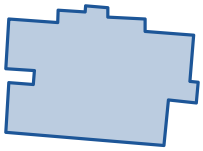
Group 4 ◆

Design 2040–Project Completion 2046



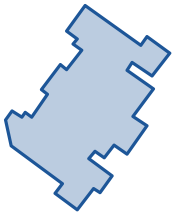
Weston Elementary School

- Proposed comprehensive renovations
- 320 students
- Built in 1922 and 1958, this building needs to be right-sized to offer the programs and opportunities for improved educational outcomes for all



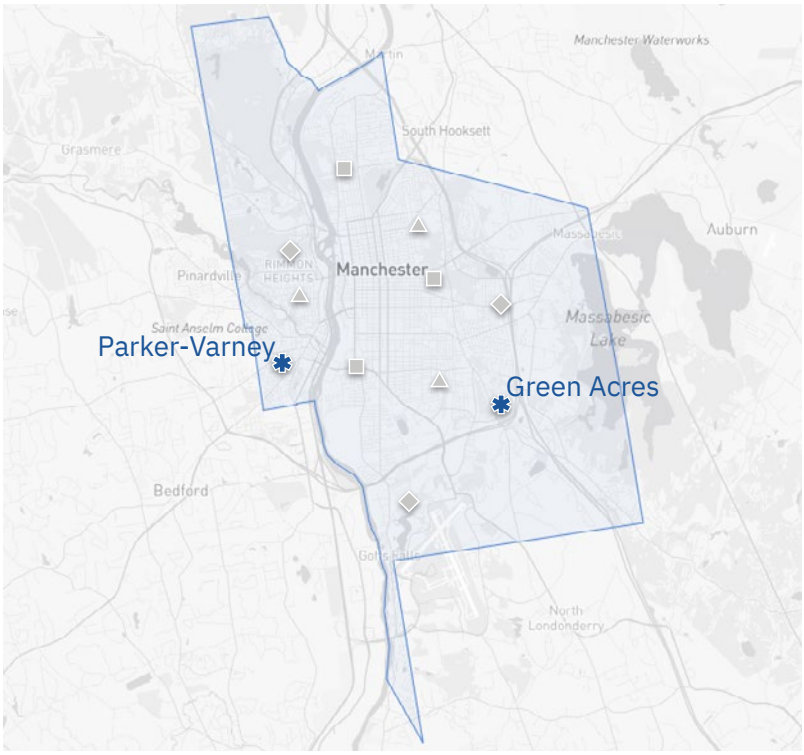
Highland-Goffes Falls Elementary School

- Proposed comprehensive renovation
- 320 students
- Designed/constructed in 1970 as an "open plan" school
- In subsequent years, interior partitions were added to create traditional classrooms
- Most classrooms have only one small window to the exterior; newer, larger windows will be added as part of the renovations



Northwest Elementary School

- Proposed comprehensive renovation
- 300 students
- To be right-sized
- Built in 1987
- No site area for expansion

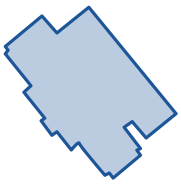


Group 5 ✱

Design 2047–Project Completion 2052

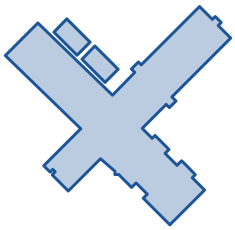
While all schools are slated for comprehensive renovation or replacement, ongoing building maintenance and system replacements are essential throughout their lifespan.

A proposed schedule for funding, designing, and constructing the 11 elementary school projects is included in this report.



Parker-Varney Elementary School

- Proposed comprehensive renovation
- 320 students
- Built in 1970 as an “open plan” school
- In subsequent years, interior partitions were added to create traditional classrooms
- Most classrooms have only one small window to the exterior; newer, larger windows will be added as part of the renovations
- Adds population



Green Acres Elementary School

- Proposed comprehensive renovation
- 300 students
- Built in the 1960s
- Recently partially renovated but still has educational issues
- Can wait longer than other schools with a combination of issues with physical educational and improved educational outcomes for all

High Schools

The current high school system is comprised of four schools: Memorial High School, Central High School, West High School, and the Manchester School of Technology (MST)/CTE Center. The Manchester School District Strategic Plan called for consolidating to three high schools, and this report outlines a method for achieving this. The report also explores an alternative scenario involving consolidation to two high schools.

The Strategic Plan also mandated the development of a common curriculum/course of studies for all high schools, which has been implemented. This common curriculum serves as the basis for the high school proposals presented in this report.

Each high school has been assessed for its physical condition and its capacity to support Next Generation teaching and learning. Significant issues were identified in most cases, leading to the recommendation that each school requires either renovations and additions or complete replacement. Specific building conditions are detailed on the Dashboard.



Memorial High School Assessment[12]



Central High School Assessment[13]



West High School Assessment[14]



Manchester School of Technology Assessment[15]

Recommendations for building renovations, additions, or replacements are designed to support the Strategic Plan's goals, including the Manchester School District Graduate Profile, and ultimately improve student outcomes.

Key considerations for high school planning include:

Measuring Student Outcomes: How can effective programs demonstrate positive change across all high schools?

Evolving Teaching and Learning: How can facilities support modern methodologies such as PBL, SEL, UDL, growth mindset principles, and other evolving methodologies?

These principles will influence building and room sizes, space adjacencies, and room features.

Interim Space Needs: Educational and teaching methodologies are constantly evolving. Curriculum changes, particularly in electives and pathways, may need to be accommodated well in advance of major building projects. While some adaptations can occur within existing classrooms, others may require modifications to room sizes, configurations, and building systems (mechanical, electrical, plumbing). These interim needs should be addressed through smaller capital projects or operational budgets.

References for Next Generation Teaching and Learning Methodologies

Universal Design for Learning (UDL)[3]

Social Emotional Learning (SEL)[4]

Project Based Learning (PBL)[17]

Growth Mindset[16]

District High School Enrollment

The District's plan for 1,000 students per grade will result in a total high school population of 4,000 students. The Strategic Plan initially called for a new 2,000-student high school. Two options are being considered: a three-school model and a two-school model. These options are detailed below.

	Current Enrollment 2024–2025	**Option 1**	or	Option 2
New Central High School	0	**2,000***		**2,000***
Memorial High School	1,302	**1,200***		**2,000***
West High School	767	**800****		**0**
MST/CTE	305	0		0
Central High School	1,129	0		0
Total Enrollment	3,503	4,000		4,000

The proposed three-school configuration, a new 2,000-student Central High School, a 1,200-student Memorial High School, and an 800-student West High School, addresses several key objectives:

- Directly responds to the need for a new comprehensive 2,000-student high school.
- Distributes CTE programs across multiple high schools.
- Maintains a high school on the west side of the City, offering a full academic program and a specialized Magnet School for the Arts.

It is recommended that current and projected student enrollments be reviewed for any deviations from current projections before each new project is proposed.

The secondary high configuration that was considered but ultimately not selected, was a two high school model including only a new 2,000-student Central High School and a 2,000-student Memorial High School. This configuration offered the following opportunities and challenges:

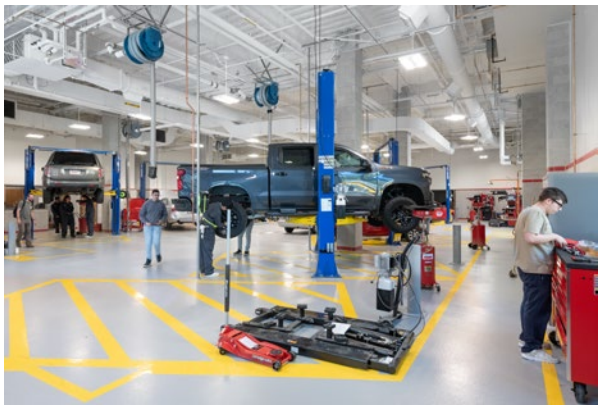
- Consolidation of administrative resources and renovated facilities
- Shorter duration to realize modernization of the high school learning environments
- Reduced geographic distribution of the high schools across the City, increasing challenges regarding transportation and ensuring that the diverse neighborhoods in the City have adequate representation
- Less ability to provide a smaller scale learning environment for magnet programs, reducing the variety of scale of high school facilities

Career and Technology Education

Currently, all CTE programs are concentrated at the MST building. However, based on high school visioning sessions and discussions with principals, expanding CTE opportunities to multiple high schools is desired by students and is being proposed.

- CTE programs can be distributed between the new Central High School and Memorial High School. While specific CTE programs are assigned to each school in this proposal, these assignments can be adjusted by Manchester School District and school principals before the programming and design phases. High-demand CTE programs may be offered at both schools.
- An "exploratory" CTE program is recommended, providing freshmen with short (two-to-three week) introductory experiences in each CTE area before they choose a specific program.
- Given the rapidly changing technological landscape, it is anticipated that CTE programs may need to be added or modified over time.
- Increased access to technical shops and programs for students in academic pathways is recommended. This hands-on learning experience could be academically beneficial for certain pathways.







Examples of CTE Program Spaces

Manchester School of Technology High School

MST High School currently offers a competency-based alternative to traditional high school learning, combining rigorous academics with CTE classes for approximately 300 students. This small size is a draw for some students and could be integrated as a "school within a school" within a larger high school setting. This integration could occur at either the new Central High School or the reimagined Memorial High School.

Proposed Arts Academy

Discussions during the visioning and community meetings have explored the possibility of an Arts Academy: a magnet program offering students intensive study in areas like visual and fine arts, performing arts, music, graphic design, or performance production. This study proposes locating the Arts Academy at West High School. Students interested in the arts but not seeking the commitment of a full academy would still have access to arts curriculum offerings within the standard program of studies at the other high schools.

Space Summaries

Space Summaries, detailing the types, quantities, and sizes of teaching, administrative, and support spaces, have been developed for each option and are available on the Dashboard. Conceptual site and massing diagrams for each option are included in this report.

Proposed High School Configuration (Option 1)

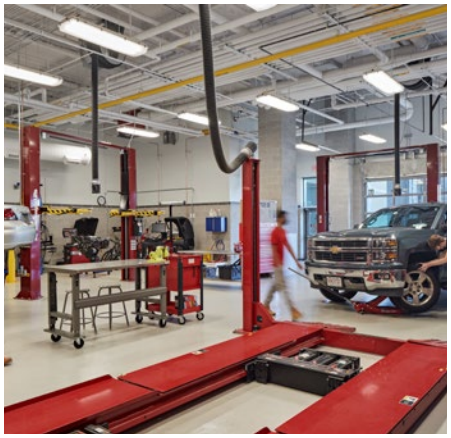
The aging Central High School, plagued by numerous building condition and educational effectiveness issues, is proposed for replacement with a new comprehensive high school designed for 2,000 students.

The new Central High School will combine academic and CTE programs. Its educational program will offer a full range of academic courses, including multiple current and future-focused pathway programs.

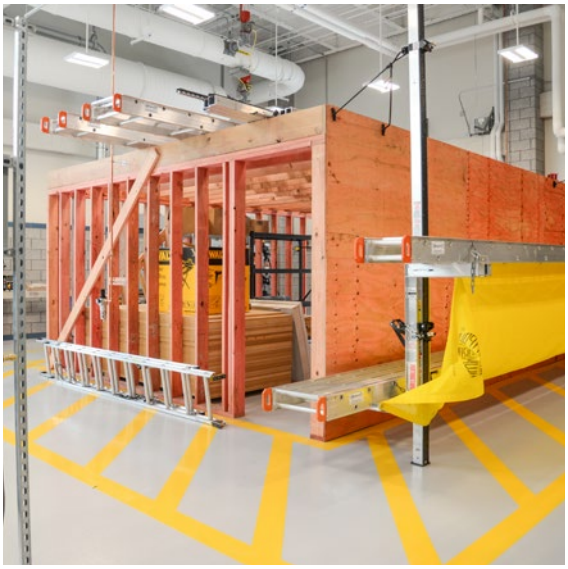
Suggested CTE Programs

- Advanced Bioengineering
- Biomedical
- Automotive Technology*
- Collision Repair / Refinishing
- Business and Marketing
- Criminal Justice / Law
- Design Communications
- Game Design / Graphics
- Video / Digital Media Productions
- Cosmetology*
- Culinary Arts*
- Exploratory Program (proposed)
- Robotics and Automation Technology (proposed)
- CTE Offices and Conference Spaces

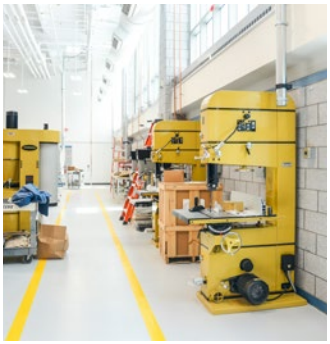
*Some popular programs may be present at more than one location.





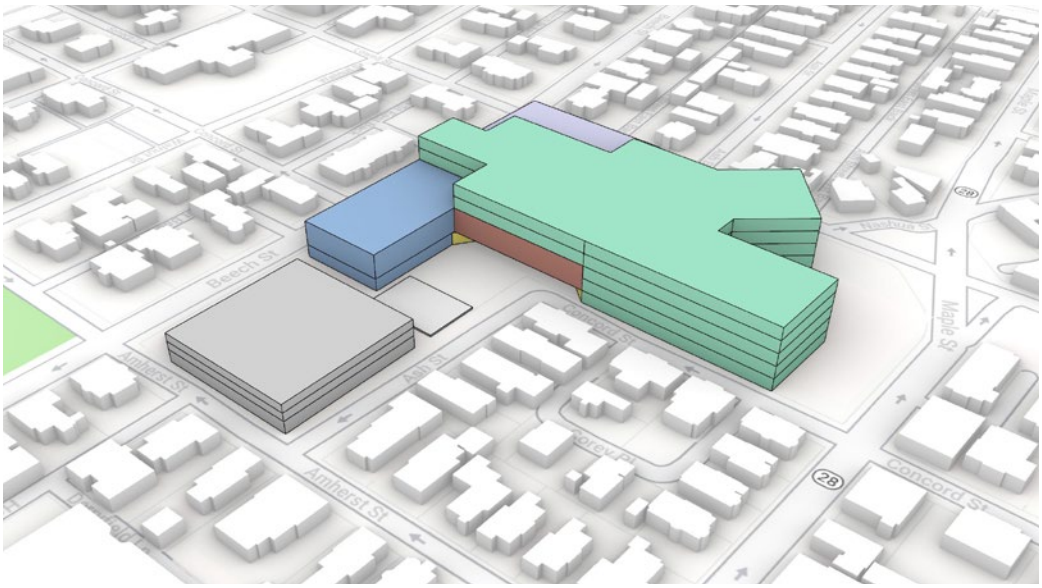


Examples of CTE Program Spaces



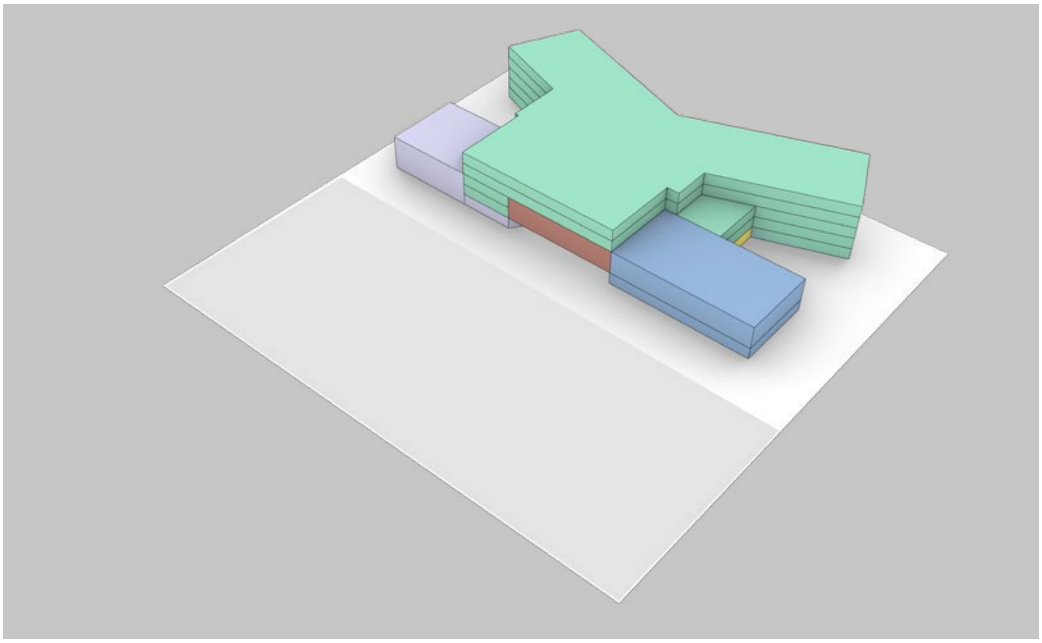


Two potential sites and configurations are being considered for the **new Central High School.**



- Academic
- Commons / Admin
- Physical Education
- At Grade Parking
- Media Center
- Auditorium / Arts & Music

Site 1
Existing Central High School with a new school building



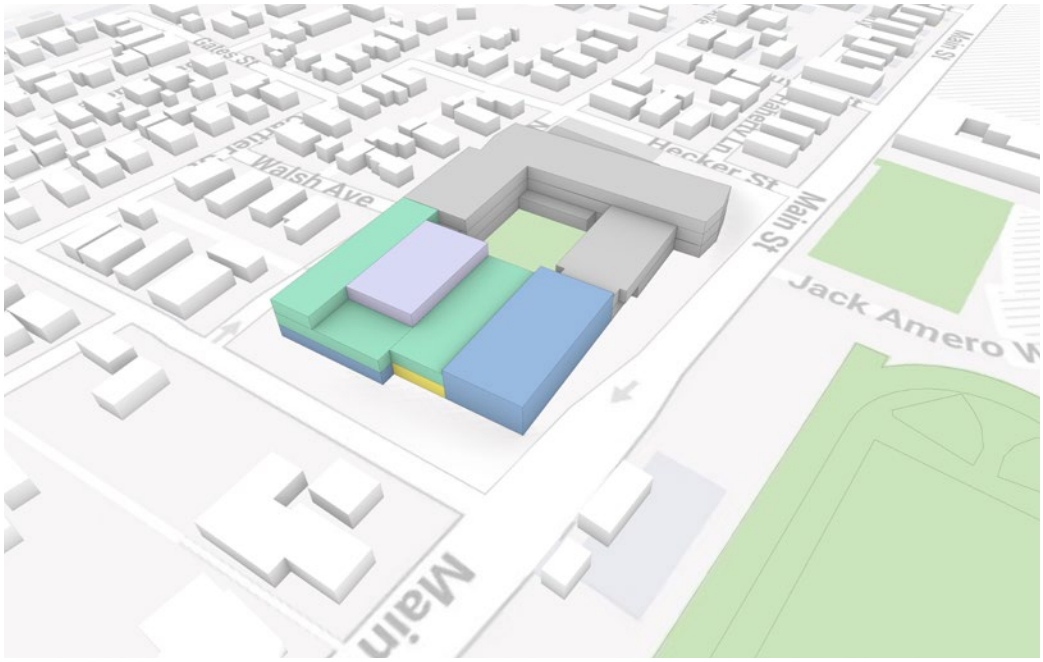
Site 2
A theoretical site, at least ten acres (preferably larger), is being considered for acquisition in the Center City area.

West High School

This proposed school, serving 800 students, will be constructed through additions and renovations. This significantly updated facility will address the need for a high school on the west side of the city, combining a comprehensive academic program with a Magnet School for the Arts.



- Main Entry
- Minor Entry
- Existing Building
- New Addition
- At Grade Parking
- Site Boundary



- Academic
- Commons / Admin
- Physical Education
- At Grade Parking
- Auditorium / Arts & Music

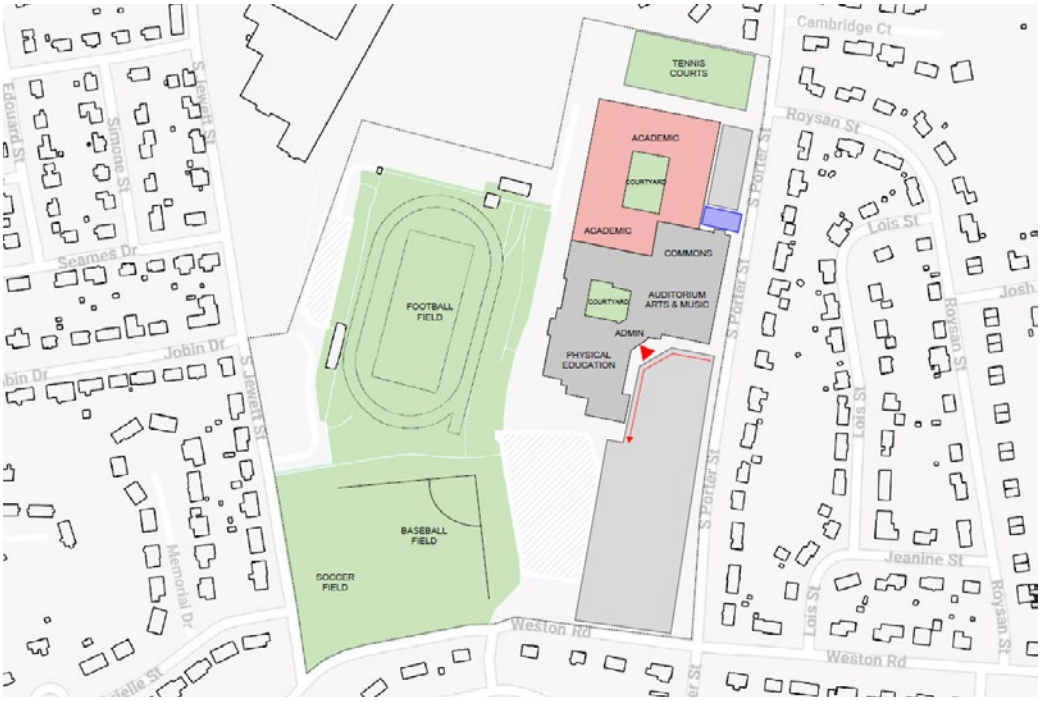
Memorial High School

The proposed Memorial High School, serving 1,200 students, will combine academic and CTE programs. Its educational program will offer a full range of academic courses, including multiple current and future-focused pathway programs.

Suggested CTE Programs

- Advanced Bioengineering
- Health Professions
- Residential Carpentry
- Horticulture/Landscape
- Cosmetology*
- Electrical Technologies
- Aviation Technologies
- Heating, Ventilation, and Air Conditioning (HVAC)
- Residential Plumbing
- Culinary Arts*
- Fire Science / Emergency Medical Technicians (EMT)
- Manufacturing Technology
- Automotive Technology*
- Exploratory Program (proposed)
- CTE Offices and Conference Spaces

*Some popular programs may be present at more than one location





Proposed High School Configuration (Option 2)

A secondary configuration that was considered but not selected was a two-school model with a new 2,000-student Central High School and a 2,000-student Memorial High School.

Central High School

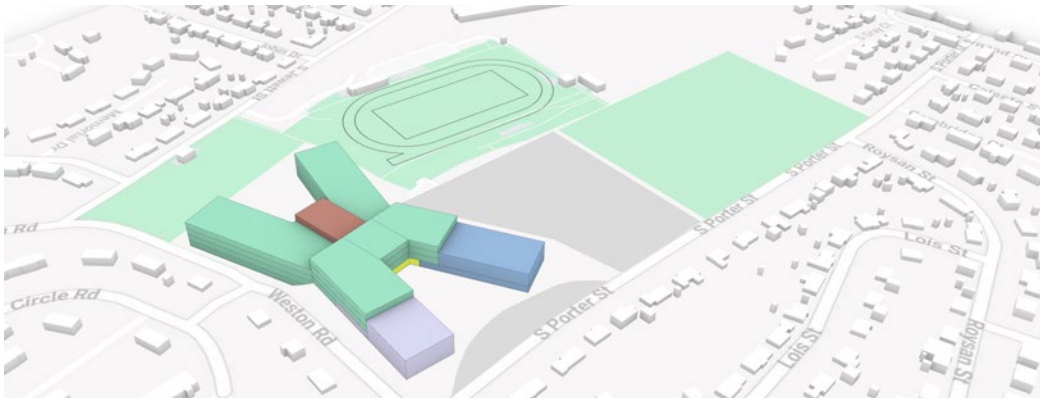
Refer to Option 1.

Memorial High School

A new replacement building is proposed for Memorial High School, designed to accommodate 2,000 students. The current facility's public spaces, including the gym, cafeteria, and library, are inadequate for a student population of this size. The new building is expected to offer the same CTE programs outlined in Option 1.



- Main Entry
- Bus Loading
- Service Area
- New Addition
- At Grade Parking
- Site Boundary



- Academic
- Commons / Admin
- Physical Education
- At Grade Parking
- Media Center
- Auditorium / Arts & Music

Estimates of Probable Costs and Schedules

Probable costs are a function of several factors including, but not limited to, material costs and labor, availability of qualified contractors, construction schedule, market conditions, complexity, and what is known as the project delivery method. The cost provided in this report are intended to capture factors and decisions that can impact costs at a very high level and to provide an understanding of design and construction cost vocabulary.

Several factors influence probable project costs, including:

- **Cost Breakdown:** Project cost is comprised of hard costs and soft costs.
- **Inflation:** Construction costs are subject to inflation over time.
- **Schedule:** The timing of bidding and construction significantly impacts costs.
- **Construction Type:** New construction, additions and renovations, and renovations alone have different cost implications.
- **Site Conditions:** Whether the site is occupied or unoccupied during construction affects costs.

Proposed Funding Design and Construction Procurement Process

A multi-staged funding process is recommended to best align funding with the proposed project.

Funding for Design	All capital projects require a political process for funding approval. Following this approval, design professionals (i.e., architects, engineers) and an Owner's Project Manager (OPM) must be selected. A 12-month window is recommended for this phase. Funding for these professionals and other specialists will cover the project through final design and bidding/procurement.
Early Planning / Programming	It is recommended that the early planning/ programming phase take six to eight months for elementary schools and 12 months for high schools. Upon completion of this phase, the size, scope, and specific features of each school will be finalized.
Full Design Process Includes: Schematic Design (SD); Design Development (DD); and Contract Documents (CD)	It is recommended that the full design process take 12 months.
Funding Process for Construction	TBD
Construction	Construction timelines are estimated at 18-24 months for new elementary schools and 24-36 months for new high schools, with longer durations expected for occupied renovations.

Construction Procurement

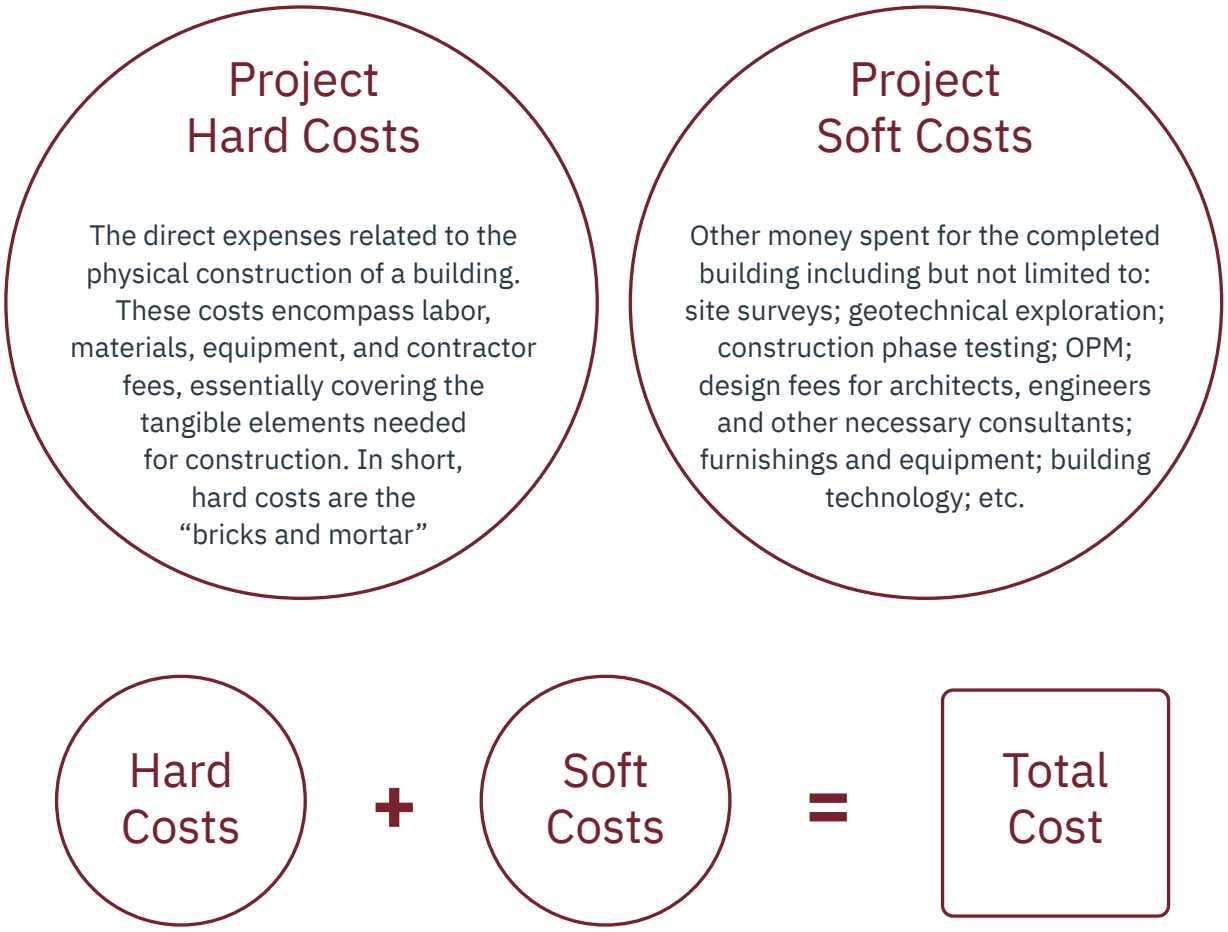
Construction procurement can be accomplished through either conventional contractor bidding or a Construction Manager (CM) process.

The conventional contractor bidding process (design-bid-build) involves a public bidding process after design documents are complete. Typically, the lowest responsible bidder is selected. This approach is well-suited for projects on unoccupied sites with straightforward conditions and is generally less expensive than the CM process.

The CM process involves hiring a Construction Manager during the design phase to provide expertise on scheduling, phasing, pricing, constructability, and other critical factors. A fee is paid for these services. While the CM does publicly bid portions of the work, they have more flexibility in awarding and managing the various contracts. This process is often preferred for complex projects such as:

- Renovations in occupied buildings (i.e., schools with students present)
- Complicated phased renovations
- Projects requiring an accelerated construction schedule, including the use of early bid packages

Priority 2 Elementary Schools Cost Model



Priority 2 Elementary Schools Cost Model

In the following charts, "Total Construction Cost" represents the hard costs. At this early planning stage, with no design completed, a 15% Feasibility Contingency is added to account for unknown scope and design elements. The Rough Order of Magnitude (ROM) includes a further 30% for soft costs (design, permits, fees, etc.) and represents the anticipated total project cost.

Elementary Schools	Total Construction Cost (hard costs)	Total with 15% Feasibility Contingency	ROM Total Project Cost Model (includes 30% for soft costs)
Group 2			
✖ Gossler Park	$69 M	$80 M	$104 M
✖ Jewett Street	$67 M	$78 M	$101 M
✖ Smyth Road	$67 M	$78 M	$101 M
Group 3			
✖ Bakersville	$93 M	$107 M	$139 M
✚ McDonough	$58 M	$67 M	$87 M
⬢ Webster	$81 M	$94 M	$122 M
Group 4			
⬢ Highland-Goffe's Falls	$23 M	$27 M	$35 M
⬢ Northwest	$21 M	$25 M	$33 M
⬢ Weston	$22 M	$26 M	$34 M
Group 5			
⬢ Green Acres	$26 M	$30 M	$39 M
⬢ Parker-Varney	$29 M	$34 M	$44 M
Temp. Swing Space for Sites w/o Space for Modular Classroom	$7 M	$9 M	$12 M
Total	**$563 M**	**$655 M**	**$852 M**

Legend	
✖	New Building
⬢	Renovation
✚	Addition & Renovation

Total Range: $852 Million–$894 Million

At this early planning stage, a range of dollars has been identified to further anticipate and account for unknowns.

Student Capacity: 5,014 students

Priority 2 High Schools Cost Model

High Schools	Total Construction Cost (hard costs)	Total with 15% Feasibility Contingency	ROM Total Project Cost Model (includes 30% for soft costs)
✖ **New Central High School** *2,000 Students* *Existing Site*	$374 M	$431 M	$560 M
✚ **Memorial High School** *1,200 Students*	$295 M	$340 M	$442 M
✚ **West High School** *800 Students*	$242 M	$279 M	$363 M
Total	**$911 M**	**$1,050 M**	**$1,365 M**

Legend	
✖	New Building
✚	Addition & Renovation

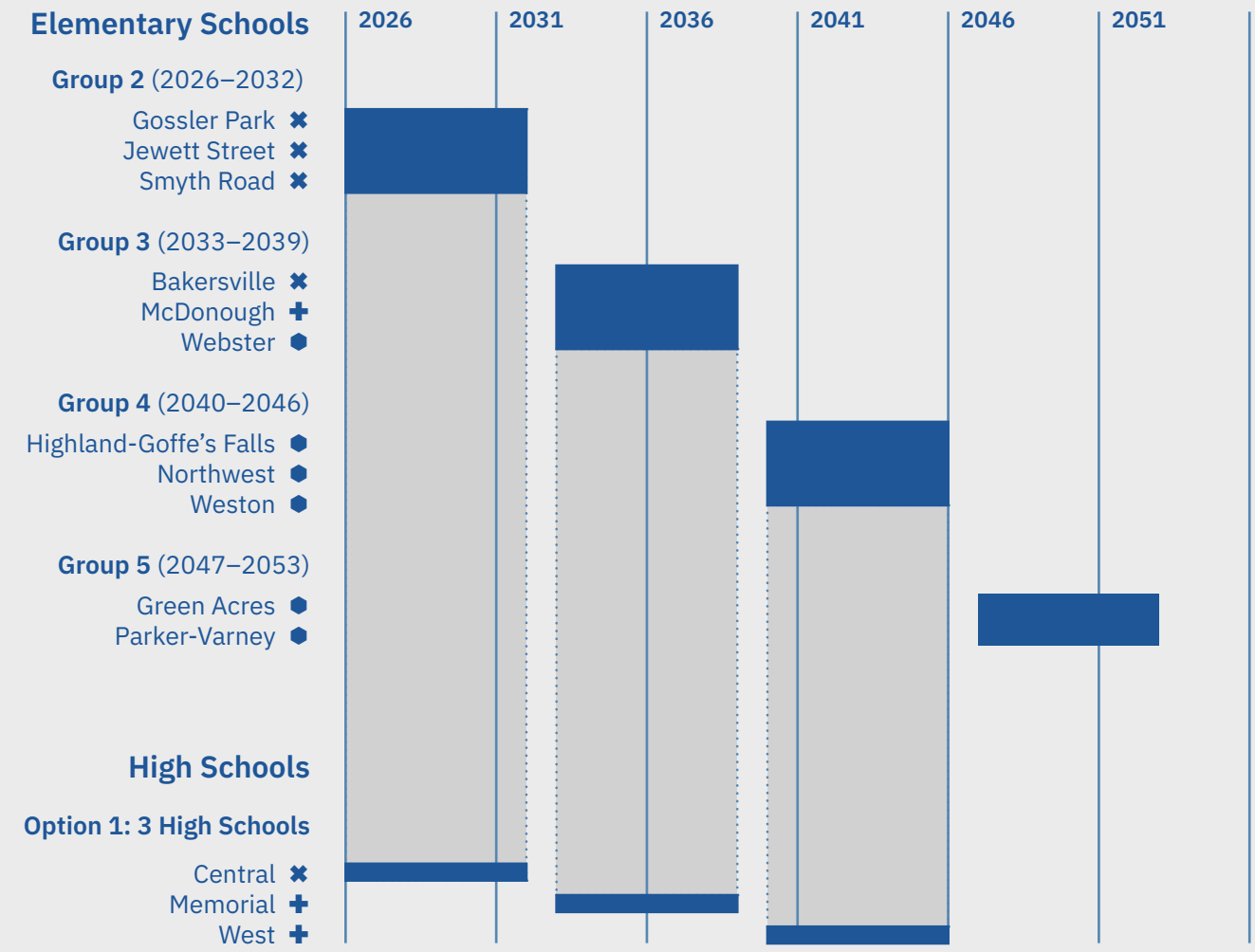
Project Cost Escalation

Note: Project costs are based on 2024 dollars escalated to the midpoint of construction for each project's proposed schedule, assuming 4% escalation per annum.

Priority 2 Proposed Schedule and Timelines for Elementary and High Schools

The schedules below provide a roadmap for the sequential completion of grouped projects. It is important to acknowledge that financial and political variables can influence the realization of these goals. Community factors may also impact the grouping of elementary school projects. It is strongly recommended that projected enrollments, teaching and learning methodologies, and programs be re-evaluated after the completion of each project or group of projects.

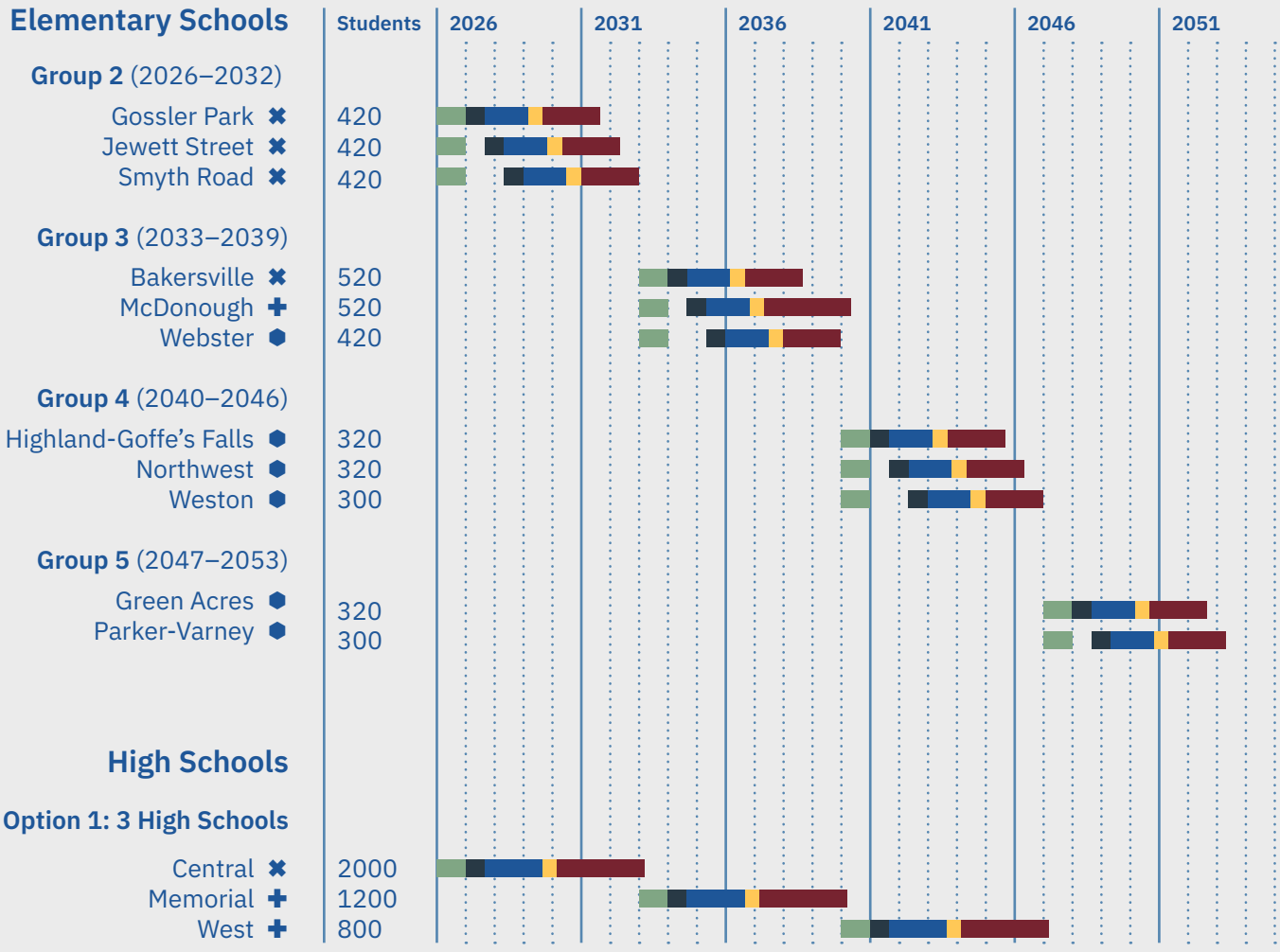
Schedule Overview



Legend

✖	New Building
⬢	Renovation
✚	Addition & Renovation

Schedule Breakdown



Legend			
✖ New Building	Funding for Design	Construction Funding
⬢ Renovation	Early Planning / Programming	Construction
✚ Addition & Renovation	Full Design	

Sections

07 Specialty Services and Populations
08 Manchester School District Central Office
09 Cost of Doing Nothing
10 Interim Educational Upgrades
11 Next Step Recommendations
12 Studies on School Environments and Student Outcomes
13 Acknowledgments
14 Glossary of Terms
15 Index of Hyperlinked Resources

Specialty Services and Populations

Comprehensive Student Support Services

Special Education

Students with disabilities must be educated in the least restrictive environment appropriate to their needs, from PreK through age 22. This encompasses a wide range of disabilities, with services provided in various settings: general education classrooms, resource rooms, small pull-out/pull-over rooms, or sub-separate classrooms with students who have similar disabilities (e.g., autism spectrum disorder, cognitive delays, social/emotional/behavioral issues). The amount of time spent in each environment is determined by the student's Individualized Education Plan (IEP).

Student services and wellness programs require support due to growing student populations at nearly all grade levels. While some programs are available at every school, specialized services are often concentrated at specific locations. Nationally, the number of students in special education has doubled in the past four decades (Pew Research Center). In some New Hampshire communities, including Manchester, these increases have exceeded national averages, and these trends are expected to continue.

English Learners (EL)

Manchester's status as a refugee resettlement city has resulted in a diverse student population of approximately 2,600 ELs, representing 65 different languages. These students exhibit a wide range of English proficiency and learning levels, including newcomers and Students with Limited or Interrupted Formal Education (SLIFE). While "push-in" support within mainstream classrooms is the preferred service model, all schools maintain numerous classrooms for pull-out instruction. Many elementary students also receive Title 1 services. Additionally, some schools offer after-hours English learning classes for adults, and some middle schools have dedicated EL teams.

Pre-Kindergarten Learning

Currently, the Manchester School District offers PreK education for children aged 2.9 and above who have identified special needs. These children are integrated into PreK classes with a ratio of seven special needs students to eight general education peers. PreK classes are currently offered in six elementary schools.

The national conversation around universal PreK is focused on providing access for all eligible children, driven by the rising costs of childcare and the widely recognized importance of early childhood education in closing achievement gaps. While Manchester currently lacks the resources to implement universal PreK, it is anticipated that this will become a reality within the next 20 years, if not sooner, in Manchester and potentially statewide. Therefore, it is recommended that Manchester develop a city-wide strategy for universal PreK implementation. Previous community discussions have emphasized the importance of distributing PreK programs throughout the city rather than centralizing them. As the Priority 2 elementary schools are planned, incorporating PreK facilities into the design process is highly recommended.

Dual Language Program(s)

Manchester is the first New Hampshire school district to implement a dual language program. A two-way English-Spanish immersion program launched at Bakersville Elementary School in Fall 2024, aiming to celebrate student academic achievement and bi-literacy through rigorous, standards-based instruction in both languages, thus fostering motivation and improved educational outcomes.

The District's mission for the program is to combine instructional excellence and community support to develop essential Next Generation Learning skills in all students. A commitment to improving educational outcomes for all and justice underpins the program, ensuring all students, regardless of background or neighborhood, achieve academic excellence and become bilingual, bi-literate, and culturally enriched learners. Plans are underway to expand this program to the middle school level (grades 5-8).

The District is also planning to launch a two-way English-French immersion program at Webster Elementary School, with similar goals of fostering academic achievement and bi-literacy through rigorous instruction in both languages. This program is also intended for eventual expansion to the middle school level (grades 5-8).

Comprehensive Family Support Services

These programs demonstrate the District's commitment to addressing students' basic needs, offering educational opportunities for all ages, and celebrating linguistic diversity. By providing food and clothing support, adult education, and dual language programs, the District aims to create an accessible and enriching environment where every student and community member can thrive academically and personally. Ultimately, these initiatives foster a stronger, healthier, and more inclusive community.

Food Pantries

All schools in the District have a food pantry available to students and their families in need. Operating hours vary and may include after-school and weekend access. Space Summaries for each school include dedicated space for these food pantries.

Clothing Closets

Every school in the District has a clothing closet stocked with donated (new or gently used) clothing and toiletries for students in need. These closets are typically accessible during school hours. Dedicated space for these clothing closets is included in the Space Summaries for each school.

Adult Education

The Manchester Adult High School (MAHS), a year-round program affiliated with the Manchester School District and the New Hampshire Department of Education, offers New Hampshire residents aged 16 and older the opportunity to earn a high school diploma. Many MAHS programs are currently offered at the four traditional high schools, and it is anticipated that this will continue.

A variety of other programs are also available to students and adults through outside agencies, including Apprenticeship NH, the My Turn Program, and the New Hampshire High School Equivalency program. Information on all of these programs can be accessed on the Manchester Adult Education[18] page of the Manchester School District's website.

Alternative Special Needs School: Discussion

The Manchester School District is exploring the feasibility of developing an alternative school for middle and high school students (and ages 18-22) with severe to global deficits who require specialized learning environments and accommodations not easily provided in traditional school settings. Currently, many of these students are bussed to special education schools outside of Manchester, sometimes even across state lines into Massachusetts.

Establishing a local alternative school would allow these students to remain closer to home and to family, friends, and peers, while also reducing significant bussing times and associated costs for the District. Extended bus rides can be particularly challenging for students with severe disabilities, some of whom require a private nurse or aide during transport.

The District needs to assess the practicality of creating and operating such a school. While the challenges are substantial, the potential benefits for these students and the District are significant.

Potential Challenges

- Assembling the necessary teachers and staff
- Where to place the school
- Timing and phasing of the school start up

Potential Rewards

- Keeping students closer to home
- Operational savings
- Tuition from neighboring communities

What types of disabilities and impairments would be served by this alternative school?

Students with significant global developmental delays, behavioral challenges, intellectual or neurological impairments, and/or complex medical needs will be served.

Potential Services Offered

- Adaptive Physical Education
- Occupational Therapy
- Behavioral Therapy
- Work Preparedness
- Reading Consultation
- Assistive Technology
- Physical Therapy
- Speech and Language
- Counseling
- Transition Services
- Vocational Training
- Professional Development

Potential Building Location and Improvements

Upon completion and occupancy of the new Central Comprehensive High School, the District and community will determine the future use of the vacated building(s).

One option is to house the alternative program within the new high school building itself. This could foster beneficial social interactions between students in both programs and potentially reduce the overall space required by sharing certain facilities. However, significant renovations would likely be necessary to properly accommodate the specialized programs and student needs of the alternative program.

Student Transportation

Given that most students attending this alternative school will be transported door-to-door by small bus or van (some with a nurse or aide), a significant number of vehicles are anticipated. This necessitates large arrival and dismissal zones and convenient access to city streets capable of handling such traffic. If the alternative school is located on the same campus as a high school, arrival and dismissal times would need to be carefully coordinated to avoid conflicts

Recommendations:

Establish an internal exploratory committee to:

- Investigate potential program offerings and a phased implementation approach.
- Assess the likelihood of participation from neighboring communities.
- Evaluate the availability of specialized teachers, clinicians, and support staff.
- Develop a projected operating budget.
- Create a projected building renovation budget.
- Explore engaging a specialty consultant to advise on the many complex issues associated with this type of specialty school.

Manchester School District Central Office

The District Offices, currently located on the third floor of West High School, suffer from limited and disconnected elevator access and restricted onsite parking. The District aims to create a more accessible and welcoming environment for the public and staff, along with a more professional workspace that includes dedicated professional development space and libraries for all grade levels and departments.

The current office layout, occupying repurposed classrooms, consists of a mix of individual offices and cubicles within larger suites. This type of configuration is likely to continue in any new or renovated space. However, the current space suffers from inconsistencies in size, with some areas being too small and others too large. There is also a need to consolidate administrative staff currently dispersed throughout the District and create better adjacencies between different administrative groups.

Options for Central Office Locations:

- *Commercial Lease Space*
  Leasing commercial space within the City is a possibility. This would shift costs from capital expenses to operational expenses. A cost-benefit analysis comparing leasing versus renovating existing or soon-to-be-available space (e.g., after the construction of a new high school) is recommended.

- *Inclusion in the new High School*
  Incorporating the District Offices into the design of the new Central High School is another option. However, this may be the most expensive choice. Furthermore, the site of the new high school is yet to be determined, and the parking needs of the Central Office could potentially impact the high school project.

- *Relocation of the MST Building*
  Once CTE programs are relocated to other high schools, the MST building could potentially be repurposed to house the District Offices. This option could also provide space for professional learning environments for teachers and staff districtwide

It is recommended that a new location be found in the short term to better serve members of the public, staff, and teachers. Relocating the MST building can provide a good solution but will likely not be available for 12–15+ years. It is recommended that considering commercial lease space could be a good short- to mid-term solution.

The Cost of Doing Nothing

This report only touches upon the numerous ways that inaction ("doing nothing") can negatively impact the education, health, and mental well-being of children, adults, and the community.

"Doing nothing" in this context does not mean a complete absence of action. It is understood that buildings require ongoing operational and capital investments to maintain functionality.

Rather, "doing nothing" refers specifically to not moving forward with the capital investments and studies outlined in this report. The negative consequences of such inaction can be categorized as:

1. Financial
2. Teaching and Learning
3. Measuring Student Outcomes

All of these stand in stark contrast to the City's Strategic Plan.

1. **Financial:** Significant resources will still be required for ongoing maintenance and repairs, regardless of addressing broader educational space and configuration needs. These unavoidable costs include:
   - Maintaining and improving school safety and security infrastructure and systems
   - Repairing existing damaged and broken components and systems
   - Replacing aging mechanical and electrical equipment, including roofs
   - Paying out-of-district tuitions for specialized services
   - Managing energy costs for inefficient buildings

2. **Teaching and Learning:** Failure to invest in facilities hinders the District's ability to:
   - Implement new teaching and learning methodologies.
   - Address existing environmental factors that contribute to student and staff absenteeism, as well as student dropout rates.
   - Maximize student engagement.

3. **Measured Student Outcomes:** Effective programs demonstrate positive change by:
   - Increasing student attendance rates
   - Improving academic achievement across subjects
   - Enhancing student engagement in learning
   - Fostering a positive school climate for students and staff
   - Promoting student well-being and mental health

Interim Educational Upgrades

The proposed capital projects span nearly 30 years, beginning in 2026. Given that each grade level spans four years, this timeline means that over seven generations of students will experience some of the existing school buildings in their current condition, including both physical and educational inadequacies.

While the absolute minimum requirement for schools is to provide a warm, safe, and dry environment for children, education in the 21st century demands much more. As discussed throughout this report, advancements in teaching and learning methodologies require supportive and adaptable learning spaces.

Physical Conditions

Depending on the timeline for a specific capital project (within a given group), decisions must be made regarding the extent of interim upgrades required. Budgeting and implementation are necessary for essential repairs (i.e., fixing what's broken), roof replacements, boiler maintenance, and improvements to building aesthetics.

Educational Adequacy

Educational adequacy must be addressed in both the short and medium term. The following actions could be taken:

- Address the non-critical considerations listed below, as these can free up space and improve building aesthetics.
- **Invest in new lightweight, ergonomic furniture.** This will enhance student comfort, increase opportunities for PBL, student collaboration, experiential/hands-on learning, and other modern teaching and learning methodologies.
- **Acquire new educational equipment.** Examples include 3D printers, STEM/STEAM activity kits, and maker space equipment.
- **Upgrade and expand technology access.** Ensure all teaching spaces are equipped with interactive technology.
- **Increase the availability of marker boards.** Both attached and mobile boards can improve peer-to-peer learning opportunities.
- **Improve building aesthetics.** Create welcoming and engaging spaces that students want to be in.
- **Enhance school safety and security.** Implement vestibules and upgrade security systems.

Funding for these improvements will likely require a combination of capital and operational budget allocations.

Next Step Recommendations

1. High School Site Selection Committee: Form a committee to identify potential sites for a new high school, focusing on acquiring a private site(s) in the center city area with a minimum of eight to 10 acres.

2. Arts Academy Committee: Establish a committee to assess the interest and viability of developing an Arts Academy.

3. CTE Program Distribution Committee: Create a committee to recommend the optimal distribution of CTE programs across the high schools.

4. Alternative Special Needs School Exploratory Committee: Assemble an internal exploratory committee to assess the viability of an alternative special needs school for middle and high school students. Consider hiring a specialized consultant to assist with this effort. Key issues to address include:
   - Potential program offerings and phased implementation
   - Likelihood of neighboring community participation
   - Availability of specialized teachers, clinicians, and staff
   - Projected operating budget
   - Projected building renovation budget

5. Educational Upgrades: Begin planning for educational upgrades at all schools, as previously discussed, to improve both physical conditions and educational adequacy for enhanced teaching and learning.

Studies on School Environments and Student Outcomes

The quality of the school environment demonstrably impacts students, teachers, and other occupants. Numerous studies document the relationship between school environments and student outcomes.



Lighting

Natural and Electrical

Lighting

Daylighting In Schools: [19]
Reanalysis Report–Heschong Mahone Group, Inc.: Principal in Charge: Lisa Heschong

How does light impact kids in school? [20]
by Kathrine Nitter, Norwegian University of Science and Technology



Building

Components, Conditions, Age, Quality, and Aesthetics

Facilities Attributes Affecting Academic Outcomes

Do School Facilities Affect Academic Outcomes? [21]
National Clearinghouse for Educational Facilities, Mark Schneider (6 pages of references / studies at the end of this paper)

Do School Facilities Matter? [22]
Measuring the Effects of Capital Expenditures on Student and Neighborhood Outcomes, Julien Lafortune & David Schönholzer.

Clever Classrooms: Summary report of the HEAD Project [23]

The Impact of School Infrastructure on Learning: A Synthesis of the Evidence [24]

Addressing A Multi- Billion Dollar Challenge: Advancing Knowledge of How High Quality School Environments Can Positively Affect Educational Outcomes [25]

Foundations For Student Success: How School Buildings Influence Student Health, Thinking and Performance [26]

Clean, quiet, safe, comfortable, and healthy environments are crucial for successful teaching and learning. Evidence-based research clearly demonstrates the influence of school facilities on learning.

Well-respected studies and reports further substantiate the impact of school environments.



Acoustics

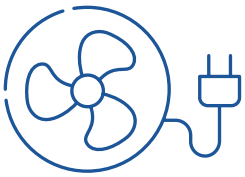
Comfort, Speech Intelligibility

Acoustics

The Impact of Classroom Acoustics on Scholastic Achievement [27]

Classroom Acoustics: The Problem, Impact, and Solution [28]
Authors: USG ME

How Classroom Acoustics Influence Students and Teachers: A Systematic Literature Review [29]
Jordi Mogas-Recalde, Ramon Palau, Marian Márquez



Indoor Air Quality

Ventilation, Thermal Comfort, and Humidity

Ventilation

How Your School's Indoor Air Quality Affects Health and Learning [30]
American Lung Association

School Climate

Using School Climate to Improve Attendance and Grades: Understanding the Importance of School Satisfaction Among Middle and High School Students [31]
Shay M. Daily, Megan L. Smith, Christa L Lilly, Danielle M. Davidov, Michael J. Mann, Alfgeir L. Kristjansson.

Acknowledgments

SMMA recognizes the continued participation and guidance of the Board of Mayor and Aldermen, the Board of School Committee, the District Administration, the Facilities Department, and the teachers and staff of the Manchester School District, both past and present.

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- Educational Planning
- Landscape Architecture
- Civil Engineering
- Structural Engineering
- Mechanical Engineering
- Plumbing and Fire Protection Engineering
- Electrical Engineering
- Technology Design
- Graphic Design

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VHB
Traffic

UEC
Hazardous Materials

Glossary of Terms

This glossary includes terminology used throughout this Master Plan, as well as other helpful terms that are applicable to the K-12 learning environment.

#

- **1:1:** A smart device for each student in the school, such as a tablet, laptop, or one of many devices in-between. Smart phones are not typically included in this category, as it is almost impossible to use them for serious research and writing. For 1:1 programs to be effective, students must be able to use the devices at home and elsewhere, not just at school.
- **3:1:** The digital infrastructure needed for 1:1 programs. Many people, mostly adults in the school, use multiple devices: a smart phone, tablet, and laptop. When in wireless mode, they are all trying to connect to the network at the same time, putting an even greater strain on often inadequate wireless systems. When discussing developing 1:1 programs for schools, the wireless infrastructure needs to be far more robust (larger bandwidth) to accommodate even more devices in the future.

A

- **Active Learning:** Any situation in which students are participatory and involved, often by making, doing, role-playing, discussing, debating, etc., rather than just listening to the teacher.
- **Academic High School:** High school with a curriculum primarily focused on college preparation. These high schools typically lack school-to-work, CTE, or vocational programs.
- **Advanced Placement (AP):** College-level courses offered in high schools, the content of which is determined by standardized AP tests offered by the college board. While completion of such courses in high school has been shown to increase the likelihood of success in college, some AP programs have recently been criticized for being based in rote learning.
- **Advisory:** A period of a day (often a short period), typically in middle schools and high schools, during which all students meet in small groups with an adult (teachers, paraprofessionals, administrators, etc.) to discuss almost anything that students have concerns about. Advisory periods are often seen as a good way to make adult-student connections and improve communications.
- **Alternative School:** Most often a program within a school that is substantially separate from the general population. It typically serves students with social-emotional issues who have difficulty fitting into traditional school environments. Depending on the needs of the school community, alternative school programs can serve other populations such as gifted and talented, at-risk students, dropouts, etc.
- **At-risk Students:** Most often students who are not engaged or interested in school and are at risk of dropping out. This can range from high-achievers who are bored to low-achievers uninterested in school because it does not teach in a way they can learn, or is disconnected from their lives.

B

- **Blended Learning:** A program in which content delivery is a combination of online and face-to-face school-based learning, with students having some control of time, place, and pace of learning.
- **Block Schedule:** A high school schedule with class periods of 90 to 120 minutes long, rather than conventional 60-minute periods. These longer class periods allow for "more time on learning," while also allowing for a variety of activities such as "hands-on" or project-based learning.

C

- **Career and Technical Education (CTE):** Refers to schools or programs within a school that provide students with opportunities to explore career options through a course of study including both academic and technical or vocational courses, career planning, and work-based learning.
- **Classroom:** The basic instructional space within schools.
- **Class Size:** Most often a target number for the maximum number of students in a given class type or subject area. The target is sometimes set by the school committee or district administration, and sometimes by union contracts. It often varies by grade level, and sometimes by ability levels.
- **Climate Resilience:** The ability within a community to reduce risk, prepare, and recover from gradual climate change or extreme climate events for the purpose of retaining or improving the integrity of infrastructure. Climate resilience is an integral part of sustainable design.
- **Cluster Plan:** Classrooms organized with close adjacencies, often around a large-group instruction space, project room, or other focal space, in contrast to a double-loaded corridor. In middle schools, a cluster often houses a "team" (teachers who share the same group of students). In high schools, they can house an academic department, a house, or a school within a school. A cluster plan often defines a small learning community. Also known as "pod plan".
- **Comprehensive High School:** A school that includes both an academic curriculum and CTE programs.
- **Critical Thinking:** The trained ability to think clearly and dispassionately. Critical thinking is logical thinking based on sound evidence, involving the ability to gather and analyze information and solve problems.

D

- **Differentiated Instruction:** The use of alternate instruction delivery models intended to better match the needs of some students different ways of learning.
- **Double-loaded Corridor:** A traditional classroom plan in which rows of classrooms flank both sides of a corridor. Also referred to as an egg-crate design.

E

- **Early Childhood:** Grade grouping that starts with PreK and kindergarten; often includes grade one and sometimes additional early grades.
- **English Language Learner (ELL):** A student in an ESL program whose native language is not English and typically requires specialized or modified instruction in both English and their academic courses.
- **English as a Second Language (ESL) Programs:** Programs for students who do not have fluency in English.

F

- **Flipped Classroom:** A delivery process in which the curriculum content such as lecture, video, or reading is provided to the student to experience outside the classroom as homework. Class time is then used for discussion with and among the students, group projects, and other application of content knowledge. Flipped classroom is a component of active learning.

G

- **Grade Configuration:** The arrangement of grades that make up a school. Most often set around pedagogy but occasionally set around available facilities. It can vary significantly among communities.
- **Growth Mindset:** A belief that one can develop intelligence, talent, and abilities through hard work, good strategies, and input from others.

H

- **House Plan:** A grouping of spaces, classroom, administrative, support, etc., developed around an identity or theme.

I

- **Immersion (full):** An instructional approach combining written, musical, and visual arts and culture to a subject, often referred to in foreign language instruction.
- **Inclusion:** Special Education and ELL students integrated into typical general education classrooms.
- **Interdisciplinary Learning:** An approach of multiple core subjects being taught in an integrated way, often on a subject or theme and often around a project.
- **Intervention:** Most often a specialist who joins a general education classroom to support student(s) in need of assistance, rather than “pulling them out” for that assistance.

L

- **Large Group Instruction:** A larger, unassigned space used for a variety of activities such as multiple classes that meet together, for guest lectures, project work, gallery space, large student or community meetings, etc.
- **Learning Commons:** An educational space often adjacent to classrooms used for a variety of activities such as PBL, small or large group work, tutoring, collaboration, meetings, and other activities that are difficult to conduct in a classroom.
- **Learning Stair:** An often large stair that incorporates seating for both formal and informal gatherings, teaching, or socializing, often in an amphitheater-type configuration.
- **Learning Style:** Modes of learning that reflect individuals’ natural and sometimes trained traits such as visual, verbal, tactile, kinesthetic, or auditory. Also referred to as “modality”.

- **Lifelong Learning:** A belief that, with the correct approach in school, people will remain engaged and excited about learning throughout their lives.
- **Life Skills Program:** For students with severely restricted cognitive development. These programs vary from school to school, but in high schools the spaces needed often include a training kitchen, an apartment-like area with a bed, an assisted-use toilet room with shower and changing table, and a variety of small group teaching environments including technology. While often present at all grade levels, high schools typically offer the most developed Life Skills programs.

M

- **Maker Spaces:** Hands-on spaces, often with age-appropriate tools to create, prototype, and test ideas and projects.

N

- **Next Generation Learning:** An educational approach that links the four skills: Communication, Collaboration, Creativity, and Critical Thinking/Problem Solving. Also known as 21st Century Learning.

P

- **Paraprofessional:** A trained aide who assists the classroom teacher, often in Special Education classrooms or regular-ed classrooms that mainstream Special Education students.
- **Pedagogy:** The study of education and education practice and delivery. Can also refer to a philosophy about the best way to teach.
- **Peer-to-Peer Learning:** Students learning from each other.
- **Personalized Instruction:** Differentiated instruction brought down to the individual level.
- **Portable Classrooms:** Prefabricated building components that comprise classrooms and often wings used to accommodate overcrowding. Also used as swing space to temporarily house classes during renovation projects.
- **Project-based Learning (PBL):** A learning modality that meets curriculum content goals by asking students to address deep, open-ended situations such as solving problems or inventing things. It is naturally inclined to interdisciplinary learning and student collaboration, both highly valued Next Generation Learning skills.
- **Pull out (pull over):** Removal of a Special Education student from the classroom to a separate room or space for remedial or targeted instruction. The term suggests the space is very nearby the classroom.
- **Push In:** In-classroom delivery of appropriate services to students with special needs.

R

- **Resource Room:** A Special Education space intended for small group instruction and/or tutoring or remedial work. Also referred to as a “learning lab”.

S

- **Science, Technology, Engineering, and Math (STEM):** The integration of Science, Technology, Engineering, and Math in an applied and interconnected way.

- **Science, Technology, Engineering, the Arts and Mathematics (STEAM):** The integration of the arts (design and visual and performing arts) into a STEM curriculum.
- **School-to-Work Program:** Programs designed to prepare students to move directly into the workforce after high school, rather than going straight to college; often associated with CTE or vocational training programs.
- **School within a School:** Most often incorporated in very large high schools to break down the size of the school into multiple schools within the same building or campus, often with separate administrations and facilities. It can be designed around academic specialties, social houses, or other ways to create smaller learning communities.
- **Service Learning:** Programs in which students engage in real-world and socially relevant community activities in ways structured to enable them to attain specified academic learning objectives.
- **Small Group Instruction:** Small teaching space intended for individual or small group learning or activities. The space is meant for a variety of uses such as individual or peer-to-peer learning, accommodation of individualized learning styles, special education, and general education.
- **Social Emotional Learning (SEL):** The process through which all young people and adults acquire and apply the knowledge, skills, and attitudes to develop healthy identities, manage emotions, and achieve personal and collective goals; feel and show empathy for others; establish and maintain supportive relationships; and make responsible and caring decisions. SEL can also play an important role in Special Education programs for students with disabilities related to cooperating with others or establishing relationships within a classroom or school / community.
- **Special Education Programs (SPED):** Programs designed to help students with disabilities learn and thrive in school. These programs are tailored to meet the needs of individual students.
- **Students with Interrupted Formal Education (SIFE):** Typically foreign refugees who have gaps of two or more years of formal education in their native country.
- **Student-centric Learning:** A teaching and learning methodology that includes students in the planning, implementation, and assessments of classroom activities.
- **Sustainable Design:** The design, construction and operation of a school that employs strategies to create low-carbon and healthy environments in which to work and learn. It strikes a balance among sustainability's major pillars—the environment, economy, and improveded educational outcomes for all—and strives to reduce the depletion of Earth's resources while providing resilient educational spaces for generations to come. Its simplest strategies are, in order, to reduce, reuse, and recycle.
- **Substantially Separate Programs:** Special Education programs or classrooms where a student's learning needs prevent or inhibit them from participating in a general education class, requiring a special setting. These classrooms often serve students who require a highly modified curriculum, smaller class size, and a lower student/teacher ratio. Program examples include Life Skills, cognitive delay, language-based learning, social-emotional, autism, and other special needs.

T

- **Title I:** A federally funded program began in 1965 that provides funds for programs intended to improve academic improvement of low-income children.
- **Title IX:** A federal legislation passed in 1972 that prohibits discrimination based on gender. It is most often associated with equal sports facilities for girls and boys pertaining to quantity of space, programs, and spending.

U

- **Universal Design for Learning (UDL)**: A framework that guides the design of learning experiences to proactively meet the needs of all learners, recognizing that all people learn differently. With choice, students learn in modalities that work best for them.

V

- **Visioning:** An often community-based effort of assembling stakeholders (including educators, teachers, administrators, students, parents, and community members) in a workshop format for the purpose of exploring how the school or school district might develop long-term direction for educational delivery and the facilities needed to support this delivery.

Index of Hyperlinked Resources

This index contains the direct URLs to each Resource as well as the page number where it is referenced within this Report.

1. Manchester School District Master Plan Dashboard (pages 10, 26, 34, 36, 60)
   mansd-mp.org/index.html
2. Manchester School District Strategic Plan (page 21)
   www.mansd.org/documents/our-district/strategic-plan/387828
3. Universal Design for Learning (pages 28, 69)
   www.cast.org/impact/universal-design-for-learning-udl
4. Social Emotional Learning (pages 28, 69)
   casel.org/fundamentals-of-sel/
5. CPTED (page 30)
   www.cpted.net/
6. NELMS (page 52)
   www.nelms.org/
7. AMLE (page 52)
   www.amle.org/
8. Hillside Middle School Assessment (page 54)
   mansd-mp.org/profiles/hillside.html
9. McLaughlin Middle School Assessment (page 54)
   mansd-mp.org/profiles/mclaughlin.html
10. Southside Middle School Assessment (page 55)
    mansd-mp.org/profiles/southside.html
11. Parkside Middle School Assessment (page 55)
    mansd-mp.org/profiles/parkside.html
12. Memorial High School Assessment (page 68)
    mansd-mp.org/profiles/memorial.html
13. Central High School Assessment (page 68)
    mansd-mp.org/profiles/central.html
14. West High School Assessment (page 68)
    mansd-mp.org/profiles/west.html
15. Manchester School of Technology Assessment (page 68)
    mansd-mp.org/profiles/manchester-school-of-technology.html
16. Growth Mindset (page 69)
    http://bit.ly/4kNrdDc

17. PBL (page 69)
www.pblworks.org/what-is-pbl#:~:text=Project%20Based%20Learning%20is%20a,question%2C%20problem%2C%20or%20challenge

18. Adult Education (page 87)
www.mansd.org/o/msd/page/adult-high-school

19. Daylighting in Schools (page 94)
newbuildings.org/wp-content/uploads/2015/11/A-3_Dayltg_Schools_2.2.51.pdf

20. Impact of Light (page 94)
phys.org/news/2022-09-impact-kids-school.html

21. Facilities and Academic Outcomes (page 94)
files.eric.ed.gov/fulltext/ED470979.pdf

22. Do School Facilities Matter? (page 94)
ojp-content.s3.us-east-2.amazonaws.com/NHI/Old/BaseImages/2019/06/Chris/DoSchoolFacilitiesMatterMeasuringT_preview.pdf

23. Clever Classrooms (page 94)
https://www.cleverclassroomsdesign.co.uk/_files/ugd/902e4a_6aa724a74ba04b46b716e528b92ad7fc.pdf

24. Impact of School Infrastructure (page 94)
files.eric.ed.gov/fulltext/ED604388.pdf

25. Addressing a Multi-Billion Dollar Challenge (page 94)
perkinseastman.com/white-papers/addressing-a-multi-billion-dollar-challenge/

26. Foundations for Student Success (page 94)
forhealth.org/Harvard.Schools_For_Health.Foundations_for_Student_Success.pdf

27. Impact of Acoustics (page 95)
www.nonoise.org/quietnet/qc/ICA2001.htm

28. Classroom Acoustics (page 95)
www.usgme.com/default/blog/post/classroom-acoustics-the-problem-impact-and-solution

29. Acoustic Influences on Students and Teachers (page 95)
files.eric.ed.gov/fulltext/EJ1318047.pdf

30. Indoor Air Quality (page 95)
www.lung.org/blog/schools-indoor-air-quality-faqs#:~:text=Indoor%20air%20quality%20problems%20in,to%20chemicals%20used%20in%20schools

31. School Climate (page 95)
pmc.ncbi.nlm.nih.gov/articles/PMC8385678/

