



MADISON METROPOLITAN SCHOOL DISTRICT

Building Excellence – Long Range Facilities Plan

2024

Table of Contents

Introduction.....	3
Section 1: Looking Forward with a Focus on Teaching and Learning.....	5
Section 2: Current/Projected Enrollment and Building Capacity.....	8
2024-2029 Enrollment Projections.....	9
Current Building Capacities.....	11
Doyle Administration Building.....	14
Section 3: Past and Ongoing Facility Maintenance and Updates.....	15
Section 4: Current Educational Facility Conditions.....	17
2023 MMSD Educational Facility Conditions Report.....	17
Section 5: A Focus on Sustainability.....	19
2022 Comprehensive Energy Plan.....	20
Recent Sustainability Accomplishments.....	20
Section 6: Recommendations.....	22
Appendix.....	25
Appendix A: Highlights of MMSD Sustainability Efforts Since the Adoption of the Renewable Energy Goal Resolution (2019).....	25
Appendix B: Links of Interest.....	27



Introduction

The Long Range Facility Plan aims to set the direction for improving Madison Metropolitan School District (MMSD) facilities, providing the educational spaces our students deserve. This plan paves a path toward excellence, focused on creating spaces where high-quality instruction leads to deep learning. Our facilities must be places where the voices of our students are uplifted and where their backgrounds and experiences are seen as assets. Further, facilities improvements create spaces that our entire community can access through Madison School and Community Recreation (MSCR) programming and activities.

Therefore, the 2024 Long Range Facilities Plan is a plan of recalibration. The COVID-19 pandemic school closures and subsequent reopening brought new questions and challenges to the forefront. Mechanical systems were evaluated not only from the standpoint of optimal use, but also their ability to filter airborne pathogens. School-based staffing shortages hit record highs and continue to impact many of our teaching and learning structures within our facilities today. As such, it is necessary to ground this plan in our facility needs as well as our teaching and learning priorities, which are built on a foundation of hiring and retaining a diverse workforce that uplifts academics and social-emotional well-being.

The 2024 Long Range Facilities Plan is organized into the following sections:

- Section 1: Looking Forward with a Focus on Teaching and Learning
- Section 2: Current/Projected Enrollment and Building Capacity
- Section 3: Past and Ongoing Facility Maintenance and Updates
- Section 4: Current Educational Facility Conditions
- Section 5: A Focus on Sustainability
- Section 6: Recommendations
- Appendix

MMSD [Board Policy 1535](#) mandates that the Board of Education approve a long range facilities plan minimally every three years. The last plan, completed during the 2019-2020 school year, set the stage for the 2020 referendum where voters approved a \$350 million referendum, with \$317 million going toward improving MMSD school facilities. These projects included improvements at our four comprehensive high schools (to be completed by August 2024), building the new Southside Elementary School (completed August 2023), and remodeling an elementary school building into Capital High School (completed August 2023).

As the oldest district in Dane County, MMSD has many aging facilities. Our average facility age in MMSD is over 60 years old. The same key operating factors that framed the 2020 plan remain relevant today:



1. Total capital needs are greater than any single referendum or the district's annual operating budget can reasonably address; prioritization with an equity lens is critical.
2. Operating needs must be planned in conjunction with capital needs.
3. The financial plan to support this work must be a comprehensive, integrated, long-term solution based on future tax base growth.

On behalf of our students, we offer the following recommendations to the MMSD Board of Education, presented in no particular order:

1. Develop a Long Term Capital Improvement Plan for the next 20 years.
2. Conduct an after-action review to gather feedback and lessons learned from Referendum 2020 projects and processes.
3. Establish a Long Term Capital Improvement Trust Fund (Fund 46).
4. Consider a referendum in Fall 2024 focusing on updating 14 priority school facilities.
5. Review detailed long-term enrollment projections to inform district-wide decisions.
6. Establish a district-wide superintendent's advisory group to review facility data and provide recommendations where best to invest in updates for elementary schools.



Section 1: Looking Forward with a Focus on Teaching and Learning

Critical to the development of our long range facilities plan is the connection between our facilities and teaching and learning. We believe that every student in MMSD deserves the opportunity to receive a well-rounded education that prepares them for the future in facilities that are up to date and meet our students' diverse needs and interests.

We remain steadfast and unapologetic in our focus on literacy, which requires a sustained investment from the district. We also know that this alone will not prepare our students to be well-rounded and college, career, and community ready. Our students must be prepared to think critically in a global society that is multilingual and multicultural. This includes having access to the arts, world language, and dual language and language immersion opportunities that uplift students to be biliterate, bilingual, and bicultural. It also includes offering a diverse array of co-curricular opportunities and expanded career and technical education programming to allow for hands-on learning experiences and exploration. These opportunities must be available beginning with our youngest learners. We also must consider the diverse needs and abilities of all of our students, staff, and families throughout our planning process to ensure universal design is considered for all environments, services, and systems.

In looking forward with a focus on teaching and learning, we lift the following priorities in our long range facilities plan:



Early Learning

- **Full-Day 4K:** Continue to expand access to full-day four-year-old (4K) programming in all neighborhood schools. A potential alternative to the neighborhood school model could be early learning hubs, serving as a center for high-quality early learning options, including 4K, Early Childhood, and a Birth-to-5 Play and Learn parent education program. These early learning hubs would specifically address areas across the city with limited options and access to early learning programs.

Multilingual Education

- **Feasibility Study:** As cultural and linguistic diversity in MMSD continues to grow, meeting the needs of our English Learners is essential. A long-term feasibility study is necessary as we develop a district-wide approach to access multilingual programming (to be conducted during Winter 2024/Spring of 2025).
- **Expansion of Dual Language Immersion (DLI) and Language Immersion Opportunities:** Based on the long-term feasibility study, considerations should be made for the addition of a Hmong Heritage Language program on the west side of Madison and further expansion/adjustments to current DLI programming.
- **Increased Recruitment, Retention, and Professional Development of Bilingual Staff:** In order to realize our goal of having access to multilingual programming across all neighborhoods, we must also invest in a strong recruitment, retention, and professional development plan for bilingual staff across all levels of the system.

Well-Rounded Opportunities

- **Expand Arts Programming:** Create spaces allowing art forms to be realized and improve course offerings at the middle school level.
- **Expand Career and Technical Education Programming:** Build facilities and lab spaces in middle schools that meet industry standards for equipment, tools, access, and safety so students can explore coursework aligned with post-high school goals and workforce demands in areas such as culinary arts, STEM, information technology, and health services.
- **Expand and Improve Co-Curricular Programming:** Improve facilities and spaces in middle schools to expand high-quality co-curricular activities and diverse offerings.

Culture and Climate

- **Universal Design:** Create and/or improve spaces across MMSD schools to ensure universal design – meaning spaces are accessible, usable, and meet the needs of every person who utilizes the space. Through facilities design, we can improve school climate, culture, and engagement. Design elements in this category include:
 - Accessible spaces
 - Private spaces
 - Natural light and ventilation



- Flexible learning spaces
- Inclusive facilities
- Outdoor and social spaces
- Community engagement areas
- Nutritional and culinary spaces



Section 2: Current/Projected Enrollment and Building Capacity

MMSD has contracted with UW-Madison's Applied Population Laboratory (APL) to conduct multi-year 4K-12 enrollment projections for the district. The most [recent report](#)¹ from APL was submitted to MMSD in December 2023. Adding to this, we expect to have an initial 4K-12 enrollment review and projection report from Vandewalle & Associates by July 2024, with the complete report anticipated by September 2024. Informing their report, Vandewalle & Associates are reviewing the overall growth of the City of Madison and the seven municipalities that make up MMSD, recent and projected housing developments, infrastructure updates, and demographic updates. The upcoming Vandewalle & Associates report is important as [City of Madison projections](#) indicate there may be more than 100,000 new Madisonians over the next 25 years, which requires investment in our schools now.

Importantly, the pandemic affected many areas of our lives. We anticipated building a new elementary school in the Acacia Ridge area, as Olson Elementary could be at capacity in the future. This has not happened. The pandemic affected enrollment not only in Madison but also in the entire state of Wisconsin. The APL data below suggests that MMSD should expect to have declining enrollment in the near future. However, we know that where students reside has a major impact on the district's long-term planning. Below are the current 4K-12 enrollment projections based on the APL report. This information will be reviewed after we receive the final enrollment review and projections report from Vandewalle & Associates.

¹ [Planning for the Schools of Tomorrow](#): School Enrollment Projections Series, Madison Metropolitan School District, December 2023. Prepared by the Applied Population Laboratory, University of Wisconsin-Madison. Shared with the MMSD Board of Education in the November 30, 2023 [Weekly Update](#) (page 11).



2024-2029 Enrollment Projections

Tables 1.0-1.1 show current enrollment, five years of projected enrollment, and the five-year change in enrollment by school level and then by attendance area. District enrollment is projected to decrease by 1,395 students over the next three years, mostly in elementary grade levels. The decrease in elementary enrollment is due in part to declining birth rates in the City of Madison and Fitchburg; combined, Fitchburg and Madison births have been below 3,100 since 2018 and decreased to 2,895 in 2021.

Table 1.0: Projected Enrollment by School Level

	Actual 23-24	Projected 24-25	Projected 25-26	Projected 26-27	Projected 27-28	Projected 28-29	Five-Year Change
4K	1,388	1,347	1,296	1,307	1,310	1,294	-94
Elementary	10,897	10,635	10,295	9,984	9,718	9,512	-1,385
Middle	5,092	5,003	5,035	5,003	4,970	4,818	-274
High	7,705	7,693	7,519	7,393	7,231	7,209	-496
District	25,082	24,678	24,145	23,687	23,229	22,833	-2,249

Table 1.1: Projected Enrollment by Attendance Area

	Actual 23-24	Projected 24-25	Projected 25-26	Projected 26-27	Projected 27-28	Projected 28-29	Five-Year Change
East	5,546	5,411	5,299	5,188	5,089	4,998	-548
La Follette	5,174	5,096	4,989	4,914	4,777	4,707	-467
Memorial	6,637	6,513	6,367	6,253	6,157	6,068	-569
West	6,905	6,802	6,660	6,500	6,387	6,233	-672

According to the December 2023 APL report, all four attendance areas have projected five-year decreases in enrollment, ranging from a decrease of 467 to 672 students. The west-side schools have larger projected decreases in enrollment than east-side schools. Tables 1.2-1.5 below further break down these enrollment projections by both attendance area and school level. La Follette area middle schools have the only projected five-year increases in enrollment; all other areas and levels have projected decreases.



Table 1.2: Projected Enrollment by Level for East Attendance Area

	Actual 23-24	Projected 24-25	Projected 25-26	Projected 26-27	Projected 27-28	Projected 28-29	Five-Year Change
4K	234	212	203	204	204	203	-31
Elementary	2,460	2,439	2,361	2,290	2,200	2,163	-297
Middle	1,202	1,161	1,151	1,128	1,174	1,126	-76
High	1,650	1,599	1,584	1,566	1,511	1,506	-144
Entire Zone	5,546	5,411	5,299	5,188	5,089	4,998	-548

Table 1.3: Projected Enrollment by Level for La Follette Attendance Area

	Actual 23-24	Projected 24-25	Projected 25-26	Projected 26-27	Projected 27-28	Projected 28-29	Five-Year Change
4K	249	208	200	203	203	200	-49
Elementary	2,314	2,257	2,211	2,151	2,104	2,046	-268
Middle	1,078	1,075	1,091	1,105	1,087	1,097	+19
High	1,533	1,556	1,487	1,455	1,383	1,364	-169
Entire Zone	5,174	5,096	4,989	4,914	4,777	4,707	-467

Table 1.4: Projected Enrollment by Level for Memorial Attendance Area

	Actual 23-24	Projected 24-25	Projected 25-26	Projected 26-27	Projected 27-28	Projected 28-29	Five-Year Change
4K	277	263	253	255	256	252	-25
Elementary	3,108	3,024	2,922	2,828	2,765	2,706	-402
Middle	1,244	1,245	1,279	1,296	1,268	1,227	-17
High	2,008	1,981	1,913	1,874	1,868	1,883	-125
Entire Zone	6,637	6,513	6,367	6,253	6,157	6,068	-569

**Table 1.5: Projected Enrollment by Level for West Attendance Area**

	Actual 23-24	Projected 24-25	Projected 25-26	Projected 26-27	Projected 27-28	Projected 28-29	Five-Year Change
4K	177	164	158	161	162	157	-20
Elementary	3,015	2,915	2,801	2,715	2,649	2,597	-418
Middle	1,568	1,522	1,514	1,474	1,441	1,368	-200
High	2,145	2,201	2,187	2,150	2,135	2,111	-34
Entire Zone	6,905	6,802	6,660	6,500	6,387	6,233	-672

Current Building Capacities

MMSD updated its building capacities during the winter of 2023-2024. To determine current building capacity, the district's Research, Assessment & Improvement (RAI) department utilized district data on enrollment, classroom capacity, building/classroom dimensions, and room use information collected from principals.

Table 2.0 below details the operational capacity of each elementary school in their denoted attendance area. Operational capacity is defined as the maximum capacity of a building if every room available for instruction was used and is based on calculations by RAI. In addition, each table shows current utilization (based on current enrollment) and five-year projected utilization (based on available five-year projections). Schools with utilizations within 90-100% are highlighted in magenta, while schools with utilization above 100% are highlighted in black.

Based on MMSD research and practice, we aim for elementary schools to be at 90% of their capacity, which allows for breathing room and flexibility in using space throughout the school year. From the capacity calculations, Kennedy and Van Hise elementary schools are operating at over 100% of capacity. Further, Kennedy is projected to increase in enrollment, thereby increasing its utilization rate to 111% in five years. The district may need to explore additional strategies for buildings at or above 90% capacity as part of a recommended 20-year Long Term Capital Improvement Plan.



Table 2.0: Building capacity for MMSD elementary schools, by attendance area

	Current Capacity	Current Enrollment	Current Utilization	Five-year Enrollment Projection	Five-Year Utilization
East Area	3074	2460	80%	2163	70%
Emerson Elementary	416	300	72%	255	61%
Gompers Elementary	218	186	85%	169	78%
Hawthorne Elementary	396	289	73%	257	65%
Lake View Elementary	297	287	97%	250	84%
Lapham Elementary	207	174	84%	141	68%
Lindbergh Elementary	158	133	84%	121	76%
Lowell Elementary	356	313	88%	279	78%
Marquette Elementary	194	160	82%	133	68%
Mendota Elementary	337	246	73%	231	69%
Sandburg Elementary	495	372	75%	327	66%
La Follette Area	2478	1989	80%	1762	89%
Elvehjem Elementary	473	357	76%	287	61%
Henderson Elementary	515	414	80%	373	72%
Kennedy Elementary	540	509	94%	484	90%
Nuestro Mundo Elementary*	455	295	65%	259	57%
Schenk Elementary	495	414	84%	359	73%
Southside Elementary*		325		284	
Memorial Area	3774	3108	82%	2706	72%
Anana Elementary	376	406	108%	339	90%
Chavez Elementary	630	594	94%	502	80%
Crestwood Elementary	317	271	85%	232	73%
Huegel Elementary	475	386	81%	346	73%
Muir Elementary	495	372	75%	326	66%
Olson Elementary	540	421	78%	384	71%
Orchard Ridge Elementary	356	220	62%	190	53%
Stephens Elementary	585	438	75%	387	66%
West Area	3897	3015	77%	2597	67%
Franklin Elementary	373	267	72%	242	65%
Leopold Elementary	772	568	74%	499	65%
Lincoln Elementary	583	345	59%	313	54%
Midvale Elementary	445	366	82%	315	71%
Randall Elementary	365	316	87%	244	67%
Shorewood Elementary	473	355	75%	293	62%
Thoreau Elementary	436	377	87%	336	77%
Van Hise Elementary	450	421	94%	355	79%
All Elementary Schools	13223	10897	82%	9512	72%



Tables 3.0 and 3.1 below detail the building operational capacity of each middle and high school in their denoted attendance area. In addition, each table shows current utilization (based on current enrollment) and five-year projected utilization (based on available five-year enrollment projections from APL). Schools with utilizations within 90-100% are highlighted in magenta, while schools with utilization above 100% are highlighted in black.

All middle schools are under the targeted 90% utilization and have the lowest average utilization rates across the three school levels. West and Memorial High Schools are both above the targeted 90% utilization rate. West High School is projected to continue to remain above the target. Memorial High School is projected to decrease its utilization rate to below 90% in five years. Noteworthy, RAI has not updated high school capacities to account for changes from the recent renovations; the capacities for high schools may have increased due to the 2020 referendum facility improvements.

Table 3.0: Building capacity for MMSD middle schools, by attendance area

	Current Operational Capacity	Current Enrollment	Current Utilization	Five-year Projection	Five-Year Utilization
East	3673	1782	49%	1716	47%
Black Hawk Middle	717	378	53%	349	49%
O'Keeffe Middle	963	439	46%	404	42%
Sennett Middle	1142	580	51%	590	52%
Sherman Middle	851	385	45%	373	44%
La Follette	807	498	62%	507	63%
Badger Rock Middle	157	99	63%	96	61%
Whitehorse Middle	650	399	61%	411	63%
Memorial	2016	1244	62%	1227	61%
Gillespie Middle	672	436	65%	420	63%
Spring Harbor Middle	381	270	71%	252	66%
Toki Middle	963	538	56%	555	58%
West	2150	1568	73%	1368	64%
Cherokee Middle	784	537	68%	508	65%
Hamilton Middle	963	771	80%	638	66%
Wright Middle	403	260	64%	222	55%
All Middle Schools	8646	5092	59%	4818	56%



Table 3.1: Building capacity for MMSD comprehensive high schools

	Current Operational Capacity	Current Enrollment	Current Utilization	Five-year Enrollment Projection	Five-Year Utilization
East High	2666	1650	62%	1506	56%
La Follette High	2285	1533	67%	1364	60%
Memorial High	2262	2008	90%	1883	83%
West High	2240	2145	96%	2111	94%
Shabazz High	202	114	57%	99	49%
All High Schools	9453	7336	78%	6864	73%

Doyle Administration Building

The Doyle Administration Building, built in 1939, was at one time the Washington Public Grade and Orthopedic School. It now houses MMSD's Central Office administrative and school support staff. The Doyle Administration Building also is where the Board of Education's business and meetings take place.

Over time, the Doyle Administration Building has become less functional for the current office and meeting space needs. Mechanically, Doyle does not meet MMSD's sustainability goals and has been assigned an overall D composite grade in the 2023 MMSD Educational Facilities Condition Report. Further, the Doyle Administration Building has D ratings for other critical building aspects, such as HVAC and plumbing. The highly sought-after mid-downtown location may be valued by entities such as UW-Madison or investors/developers, underscoring the potential for sale or a joint-lease agreement.



Section 3: Past and Ongoing Facility Maintenance and Updates

Over the past 10 years, the MMSD Board of Education and the MMSD community have continued to invest in facility maintenance and improvements. Through annual budgeted dollars, referendum funds, and one-time federal monies, an expanse of construction projects and ongoing improvements have been completed to enhance our learning environments.

- **Referendum 2015:** In April 2015, voters approved a \$41 million referendum addressing capacity and accessibility issues at 16 schools across the district. [Projects](#)² were completed during a 36-month period, ending in June 2018.
- **Referendum 2020:** In November 2020, voters approved a \$317 million referendum to renovate our four comprehensive high schools, build a brand new school (Southside Elementary) as an elementary-level addition to Badger Rock Middle School, and transform the Hoyt building into a permanent location for Capital High School.

Ongoing Facility Maintenance and Updates

A single four-year referendum or operating budget cannot address the facility needs of our district alone. For this reason, MMSD has continued to use operating funds to maintain and improve our facilities.

²Projects are described in The Madison Metropolitan School District April 2015 Referendum [Final Summary Report](#), which was prepared in October 2018.



- Beginning in fall 2008, the MMSD Board created a Capital Expansion Fund 41. Fund 41 is an operations fund that is restricted to finance current and future capital expenditures related to buildings and sites. Over the past 16 years, the Board has levied a total of \$86.33 million into Fund 41.
- Over the past 12 years, we have invested \$172.8 million on custodial, maintenance and improvement of our facilities from our local funds (Fund 10 and Fund 41) in the Buildings & Grounds annual department budget. Examples of this work include increasing accessibility at schools, adding secure entrances, roofing projects, heating, as well as ventilation and air conditioning (HVAC) updates.
- In addition to the \$172.8 million described above, since 2011-2012 we have spent \$223.5 million for Building Services staff to complete custodial, maintenance, and improvements of facilities from our local funds. In total, including staff, we have invested \$396.3 million on custodial, maintenance, and improvement of our facilities from our local funds.
- In addition, MMSD used \$12.6 million in ESSER funds over the past four years to improve our facilities. An example of this work includes HVAC improvements.



Section 4: Current Educational Facility Conditions

MMSD stakeholders and taxpayers can be proud of all that has been accomplished on behalf of our students. However, it is essential to continue updating MMSD schools and facilities as our needs extend beyond what can be budgeted for in regular operating costs.

2023 MMSD Educational Facility Conditions Report

The [2023 MMSD Educational Facility Condition Assessment Report](#) details necessary upgrades and estimated costs to provide adequate facilities throughout the district, along with costs to achieve the goals outlined in the Board of Education's 2019 [Renewable Energy Goal by 2040 Resolution](#)³. Estimates are based on current market conditions and do not contain future projections of increased costs. While the report describes the costs of improving mechanical and building systems, it does not represent the full cost of taking a facility from its current status to occupant-ready. Examples of costs not included in the report are supply chain issues, delivery, inflation, consulting fees, labor increases, technology hardware, move management, storage costs, furniture, and environmental service costs.

The report reviewed 44 MMSD facilities, including 31 elementary schools, 11 middle schools, one alternative high school, and one administrative building. Excluded were buildings with renovations that were currently under construction or recently completed, such as the comprehensive high schools, Capital High, and Southside Elementary.

³ In 2019, the MMSD Board of Education adopted the [Renewable Energy Goal by 2040 Resolution](#). In April 2024, the MMSD Board of Education adopted revised language in this resolution to focus on the reduction of Greenhouse Gas emissions, and align with industry best practices: [The 2024 Greenhouse Gas Emissions Reduction by 2045 Resolution](#).



In MMSD, we have five combined elementary/middle schools and one combined middle/high school; for the purposes of this summary, we are treating these combined facilities as separate school facilities. Of the 43 schools reviewed, three received an overall B rating, 31 received an overall C rating, and nine received an overall D rating. The sole administration building reviewed had an overall D rating. No facilities reviewed received overall A or F rating.

The district has high-priority critical facility needs. In looking at key components that make up the overall ratings, it is noteworthy that:

- Twenty-five facilities received a D or F rating for HVAC (including the Doyle Administration Building)
- Six schools received a D or F rating for Accessibility
- Three schools received a D or F rating for Power
- Two schools received a D or F rating for Life Safety



Section 5: A Focus on Sustainability

The MMSD Board of Education is committed to sustainability efforts. As part of the 2020 referendum, the Board allocated over \$2 million for sustainability improvements in the district. The newly constructed Southside Elementary School, along with Paul Olson Elementary School (2008), incorporated sustainability aspects in the building construction. In fact, Olson achieved silver-level status as a Leadership in Energy and Environmental Design (LEED) school. Sustainability is an important factor in the work of future MMSD facilities. See Appendix A for highlights of MMSD's sustainability efforts since the Board adopted a Renewable Energy Goal Resolution in 2019.

In 2019, the Board of Education adopted a [Renewable Energy Goal by 2040 Resolution](#). In April 2024, the MMSD Board of Education adopted revised language for this resolution to focus on reducing Greenhouse Gas (GHG) emissions and align with industry best practices: [The 2024 Greenhouse Gas Emissions Reduction by 2045 Resolution](#). The revised language aims to reduce GHG emissions in all district operations with a 50% reduction by 2035, a 75% reduction by 2040, and a 100% reduction in GHG emissions by 2045. The 2024 Greenhouse Gas Emissions Reduction by 2045 Resolution has been weaved into this Long Range Facility Plan and our facility planning going forward.

Similarly, the City of Madison committed to reaching 100% renewable energy and net zero emissions for City operations by 2030 and community-wide by 2050. Madison area utility partners Madison Gas and Electric Company (MGE) and Alliant Energy have similar carbon reduction goals. MGE already has reduced its carbon emissions from electricity generation nearly 40%, which is almost halfway to the Company's goal of at least an 80% reduction in carbon by 2030. As such, MMSD's sustainability goals are impacted and dependent on these utility providers.



2022 Comprehensive Energy Plan

In April 2022, Building Services engaged Plunkett Raysich Architects (PRA) and Design Engineers to find a path toward 100% renewable energy to meet the Board's 2019 Renewable Energy Goal target end date of 2040. The result of this engagement is detailed in the [Comprehensive Energy Plan](#), released in October 2022. This plan prescribed that a minimum of 400,000 square feet of MMSD's total 4.9 million square footage area would need to be converted from fossil fuel sources to renewable sources annually to meet the 2040 renewable energy goal.

The 2022 Comprehensive Energy Plan provided preliminary costs associated with renovations needed to achieve the district's renewable energy goal. The costs did not include additional building components that may need replacement during a potential renovation; these were further explored, quantified, and updated in the 2023 facilities condition report.

Recent Sustainability Accomplishments

MMSD has been engaging in work that is aligned with our long-term sustainability vision, as guided by the Board of Education. Highlights of sustainability work conducted as part of the 2020 referendum facility improvements include:

- **Lighting:** All renovated spaces outfitted with energy-efficient LED fixtures.
- **HVAC:** Upgrades made to HVAC systems, resulting in reduced operating costs.
- **Energy Benchmarking:** Implemented a public-facing energy dashboard, with an expected May 2024 website launch date.
- **Electrical and HVAC Equipment Commissioning:** Enhance equipment operation and ensure specified energy efficiency standards attained.
- **Light Pollution Reduction:** Comprehensive assessment and measures employed to mitigate exterior light pollution.
- **High-Efficiency Plumbing Fixtures:** Installed high-efficiency plumbing fixtures.
- **Exterior Envelope Sealing:** Strategic sealing of exterior envelopes to diminish thermal loss and safeguard renovated spaces against environmental elements.
- **Improved Windows and Doors:** Upgraded exterior and interior windows and doors to mitigate thermal loss and enhance overall energy efficiency.
- **Renewable Energy:** Installed solar arrays (scheduled completion in 2024).
- **Electric Vehicle Charging Stations:** Installed electric vehicle charging stations.



- **Environmental Work:** Undertook comprehensive lead/asbestos remediation and hazardous material mitigation efforts.
- **Wellness Provisions:** Established fitness centers, integrated healthy building materials, optimized natural lighting, and implemented active design principles, such as flexible spaces, thermal comfort measures, access to fresh drinking water, all-gender bathroom accommodations, and accessible universal design.



Section 6: Recommendations

The MMSD Board of Education has worked to ensure that the learning needs of our students are a driver of capital projects, as demonstrated in Referendum 2020 projects. The attention to student needs will continue to be a priority as we plan current and future projects, resulting in high-quality learning facilities. Additionally, the Board has boldly committed to reducing greenhouse gas emissions by 2045, moving the district forward with a critical lens to sustainability.

We recommend the MMSD Board of Education take the following actions:

1. **Develop a Long Term Capital Improvement Plan:** To determine MMSD facility improvements for the next 20 years, create a multifaceted plan tying together the current building conditions report with the Vandewalle & Associates long term enrollment projections.
2. **Conduct an After-Action Review:** Develop and implement an after-action review to gather feedback and lessons learned from Referendum 2020 projects and processes. The after-action review should connect end users of renovated spaces with partners/stakeholders involved in the work to learn and fine-tune future referendum work and processes.
3. **Establish a Long Term Capital Improvement Trust Fund (Fund 46):** A Fund 46 is a long-term capital improvement fund that allows districts to set aside funds for capital improvement projects. As part of creating Fund 46, the Board of Education must approve a minimum of a 10-year capital improvement plan. The Fund 46 designation requires that the Board use the funds only for the approved projects.



4. **Consider a Referendum in Fall 2024:** Focus on updating the facilities in Table 4.0 below, listed in order of priority. This list is based on MMSD's commitments during Referendum 2020 to focus next on middle schools, current building conditions, and accessibility, while using sustainability recommendations as a lens, and Building Services' priorities based on HVAC systems.

Table 4.0: Facility Priority List

Priority Ranking	Facilities	Attendance Area	Overall Building Condition Grade (Nov. 2023)	Comments
1	Shabazz HS	City Wide	D	Same Location: Combination HS/MS
2	Sherman MS	East	D	
3	Black Hawk MS	East	C	Same Location: Combination MS/Elem
4	Gompers Elem	East	C	
5	Toki MS	Memorial	D	Same Location: Combination MS/Elem
6	Orchard Ridge Elem	Memorial	D	
7	Cherokee Heights MS	West	C	
8	Sennett MS	La Follette	C	
9	Anana Elem	Memorial	C	
10	Crestwood Elem	Memorial	C	
11	Henderson Elem	La Follette	D	
12	Stephens Elm	Memorial	D	
13	Lowell Elem	East	C	
14	Franklin Elem	West	C	

5. **Review Detailed Long-Term Enrollment Projections:** Review data from Vandewalle & Associates to determine where facilities are needed over the next 25 years. This review will help to inform district-wide programmatic decisions such as location(s) of bilingual programs and 4K. It will also help inform neighborhood facility needs and available capacity projections for MMSD schools.
6. **Establish a District-Wide Superintendent's Advisory Group:** Create a district-wide advisory group to continue our long range facilities analysis in order to ensure efficient use



of existing school spaces. The work will include an analysis of school attendance areas, building assessments, existing classroom space, growth projections, instructional design needs, and community input.



Appendix A: Highlights of MMSD Sustainability Efforts Since the 2019 Adoption of the Renewable Energy Goal Resolution

2019

- BOE adopts Renewable Energy Resolution (RER)

2020

- Purchase of Badger Rock (geothermal HVAC system in line with RER)
- 2020 geothermal design for renovations is removed from Referendum 2020 as cost-prohibitive
- Allocation of sustainability allowance for Referendum 2020, which supports the overall sustainability efforts of MMSD (helping to offset the effect of the above decision)

2021

- Application for a grant with the Department of Energy for Comprehensive Energy Planning (CEP)
- Grant awarded to co-fund CEP and planning begins

2022

- CEP work unfolds
- Building Services identifies the basis of design for Geothermal HVAC conversion to align renovations of existing (or constructing new) facilities with RER goals. The conceptual design consists of a centralized geothermal plan. The servicing heating and cooling load is through a shared ground-source geothermal loop and distributed through fan coil units located in the hallways of the buildings. This ensures no academic interruption while servicing or equipment repair actions.
- Design for crucial renovations begins with the most critical mechanical needs in MMSD: Sherman/Shabazz, Black Hawk/Gompers, Anana, and Crestwood (three facilities, six schools).
- A comprehensive solar feasibility study was performed for all high schools.
- Building Services requests a Facilities Condition Report update from PRA & Design Engineers to identify critical mechanical needs and cost. This includes district HVAC needs and costs associated with the geothermal conversion of the HVAC systems as prescribed by the established designs (described above).
- Hermsdorff Solar Farm opens (8 megawatt (MW) solar array and 3 MW contracted for MMSD).
- ESSER III funds are directed to HVAC needs.
- Referendum 2024 planning begins. Building Services articulates \$2 billion renovation needs to achieve sustainability goals.



- Collaboration with MGE and Alliant Energy Center for co-generation fields (similar to Hermsdorff farm partnership).
- Exploration of partnerships with MGE on the expansion and commissioning of the Hermsdorff farm begins.
- Fleet electrification begins (approximately 10% of fleet and infrastructure is electrified).
- Collaboration with Sustain Dane on liquid capture (separating waste and recycling program).
- Chad Worrall designs improvements of the liquid capture products with the intent to streamline the process for MMSD, due to lack of funds the program is still under development. The design by Chad Worrall is used on a national scale in Canada by McDonald's.
- CEP and options were presented to BOE with the intent to discuss RER adjustment to practical terms.
- Commissioning of Referendum 2020 equipment begins (part of sustainability allowance in Referendum 2020).
- Application for a grant through the Department of Energy for constructing a geothermal project (based on existing design). The application is not awarded.
- LED lights installation in Pflaum Road facility.

2023

- Commissioning in Referendum 2020 continues.
- Atrius - Public Facing Storytelling Dashboard is planned as part of Referendum 2020 sustainability
- Solar design for LHS and WHS is planned based on the feasibility study
- Building Services creates a position description for Energy Manager and requests allocation.
- The LED conversion project is brought to BOE for districtwide conversion of Fluorescent fixtures to LED lights. BOE did not support and requested additional information for future consideration.
- In partnership with First Student, MMSD applied for a grant to purchase electric buses. The grant is awarded and five electric school buses are added for MMSD use.
- LED Lights installation in Gompers
- LED Lights installation in Stephens

2024

- MMSD staff coordinate updates with PRA and Design Engineers to deliver a comprehensive energy plan with a presentation of practical implications for facilities and schools based on the CEP presented in 2022.
- Project proposal for LED light conversion districtwide presented to the BOE. The project is approved.



- Whitehorse Schenk School is converted to LED per the districtwide project approved by BOE.
- Building Services and First Student Collaborate on a fleet electrification grant and infrastructure grant with MGE.
- Building Services, Sustain Dane, and GFL (MMSD's contracted trash and recycling partner) meet to renew conversations on school lunch liquid capture (milk, juice, etc.) and recycling capabilities, processes, and efforts.

Appendix B: Links of Interest

[2015 Referendum Final Project Summary](#)

[2017 Athletic Facility Assessment](#)

[2017 Educational Facility Condition Assessment](#)

[2017 Periodic Table of Facilities Assessment](#)

[2017-2037 Student Enrollment Projections: Preliminary Report](#)

[2018-2038 Student Enrollment Projections Update](#)

[MMSD Board Policy 1535: School Buildings](#)

[Dohm Farm Property / Acacia Ridge Land Purchase Memo, January 2019](#)

[Far-West Side Area Long-Range Planning \(Olson Elementary Projection/Capacity\), February 2019](#)

[Sprecher School Building Area Analysis, May 2019](#)

[Far-North Side Elementary Schools Enrollment Data and Analysis, May 2019](#)

[2019 Long Range Facilities Plan - Building Excellence](#)

[2022-23 DPI District Report Card](#)

[MGE "Madison Solar Project Delivering Locally Generated Clean Energy", April 2022](#)

[November 2022 Presentation - Going Green by 2040](#)

[2022 Comprehensive Energy Plan](#)

[September 2023 Initial Visual Roof Inspection Report \(pages 4-48\)](#)

[Summary of the Educational Facility Condition Assessment Memo, November 2023](#)

[2023 Educational Facility Condition Assessment](#)

[PRA and Design Engineers Cost Analysis](#)

[2024-2029 Student Enrollment Projects, Applied Population Lab, December 2023](#)