Mary Taylor, CPA
Auditor of State

GROVEPORT MADISON LOCAL SCHOOL DISTRICT PERFORMANCE AUDIT

OCTOBER 15, 2009

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To the Residents and Board of Education of the Groveport Madison Local School District:

In January 2009, the Groveport Madison Local School District (GMLSD) engaged the Auditor of State's Office (AOS) to conduct a performance audit of facility capacity and utilization. Over the past several years, GMLSD has used a several approaches to attempt to mitigate overcrowding in its buildings. In addition, several attempts to secure local funding to update, renovate, and build new facilities have been unsuccessful. This performance audit uses leading practices to project enrollment and assess building capacity and utilization. The performance audit contains recommendations to address overcrowding by more effectively using existing space and identifies options to increase short- and long-term capacity. The District is encouraged to assess the various options and develop alternatives for addressing building utilization, independent of the performance audit.

This report has been provided to GMLSD, and its contents discussed with the appropriate officials and District administrators. The District has been encouraged to use the results of the performance audit as a resource for further improving its overall operations, service delivery, and financial stability.

Additional copies of this report can be requested by calling the Clerk of the Bureau's office at (614) 466-2310 or toll free at (800) 282-0370. In addition, this performance audit can be accessed online through the Auditor of State of Ohio website at http://www.auditor.state.oh.us/ by choosing the "Audit Search" option.

Sincerely,

Mary Taylor

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Auditor of State

October 15, 2009

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Project Overview

In January 2009, the Groveport Madison Local School District (GMLSD or the District) engaged the Auditor of State's Office (AOS) to conduct a performance audit of facility capacity and utilization. Over the past several years, the District has used a number of approaches to address issues with space utilization and overcrowding in its buildings. Several attempts to secure local funding to update, renovate, and build new facilities have failed. This performance audit uses leading practices to assess enrollment trends and building utilization rates, and identifies various methods to improve building use and its impact on students' educational environment.

Audit Objectives

Based on AOS research and discussion with District officials, the following audit objectives were identified:

- What is enrollment likely to be over the next five years?
- What was the District's functional capacity in FY 2008-09?
- Is the District effectively using its buildings?
- How can the District use its space differently to better utilize existing buildings and meet its educational needs?

Methodology

Performance audits are defined as engagements that provide assurance or conclusions based on an evaluation of sufficient, appropriate evidence against stated criteria, such as specific requirements, measures, or defined business practices. Performance audits provide objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.

The performance audit of GMLSD facility capacity and utilization was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS). These standards require that AOS plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for findings and conclusions based on the audit objectives. AOS believes that the evidence obtained provides a reasonable basis for the audit findings and conclusions.

To complete this report, auditors gathered and assessed data from various sources pertaining to facilities, conducted interviews with District personnel, and assessed requested information from GMLSD. Also, external organizations and sources were used to provide comparative information and benchmarks. They included the Ohio Department of Education, the American School & University Magazine (AS&U), the National Clearinghouse for Educational Facilities, the National Center for Education Statistics (NCES), the American School Board Association, and other related leading practices. Information used as criteria (benchmarks or leading practices) was not tested for reliability.

The performance audit process involved significant information sharing with GMLSD, including preliminary drafts of findings and proposed recommendations related to the identified audit objectives. Furthermore, periodic status meetings were held throughout the engagement to inform the District of key issues impacting facilities. Throughout the audit process, input from GMLSD was solicited and considered when assessing conditions and framing recommendations. Finally, the District provided verbal comments in response to the recommendations, which were taken into consideration during the reporting process. Where warranted, the report was modified based on the District's comments.

The Auditor of State and staff express their appreciation to the Groveport Madison Local School District for its cooperation and assistance throughout this audit.

Background

GMLSD is located in Franklin County and provided educational services to 5,825 preschool through grade twelve students in FY 2008-09. For FY 2007-08, the ODE reported that the District received 45.4 percent of its revenues from local sources, 46.5 percent from the State, and 8.0 percent from federal sources. ODE also reported that the District's expenditures per pupil were $9,501 which is about 4.4 percent below the State-wide average of $9,939. The District met 14 of 30 academic performance indicators established by ODE in FY 2007-08 and was categorized as a *continuous improvement* district.

Summary of Operations

GMLSD has ten school buildings: six elementary schools (preschool through grade 5), two middle schools (grades 6-7), a junior high school (grade 8), and a high school (grades 9-12). GMLSD also uses fourteen modular classrooms at the high school and two at Groveport Elementary. Of these, four are Board-owned and twelve are leased. Several District school buildings share adjacent campuses: Glendening Elementary and Middle School South; Sedalia Elementary and Middle School North; and Groveport Elementary and Groveport Madison Junior High School. The latter two buildings are the oldest schools in the District; Groveport Elementary was built in 1924 as the District's original high school, and the Groveport Madison

Junior High was built in sections during the 1950s to accommodate a growing student population. The two buildings are connected by a walkway which allows students at Groveport Elementary to use the cafeteria and a few classrooms in the junior high school building. GMLSD's other schools were built during the 1960s and 1970s. In 2002, GMLSD renovated the auditorium and built a stadium at the high school campus.

GMLSD has used several scheduling variations in recent years to address overcrowding that have impacted the configuration and use of buildings. Starting in FY 2004-05, GMLSD developed a split session schedule for grades 7-12 in an effort to reduce overcrowding. Prior to this, GMLSD had used a more traditional grade-level system with students in preschool through grade 5 housed in the elementary schools, grades 6-8 in the middle schools, grade 9 in the junior high, and grades 10-12 in the high school. When the District moved to split sessions, the entire District was reconfigured so that elementary schools housed preschool through grade 4 students, middle schools included grades 5 and 6, the junior high had grades 7 and 8, and the high school held grades 9-12.

The Board ended split sessions for junior high students for FY 2006-07 and ended them at the high school for FY 2007-08. In FY 2008-09, students in grades preschool through grade 5 attended elementary schools, students in grades 6-7 attended middle schools, grade 8 students attended the junior high, and students in grades 9-12 attended the high school. During the period when split sessions were in place, the community rejected five bond levy proposals for new and expanded facilities. Because the community has not approved its requests for new money for facilities, GMLSD has been able to fund only limited facility improvements through income tax revenue generated under a revenue sharing agreement with the Village of Groveport.

OSFC Assessment

GMLSD underwent an Ohio School Facilities Commission (OSFC) study in 2008. The study included a review and projection of enrollment by DeJong-Healy and an assessment of each building by ATA-Beilharz Architects. The assessments included reviews on the age and appropriateness of building construction materials, mechanical equipment, and modern facility attributes. All District buildings were deemed deficient in some factors. The OSFC used the enrollment projections and the facility assessment to guide the development of a master plan proposal. The proposals included two options for the District.

Option #1 projects a $134 million cost to perform the following:

- Abate (which means controlling asbestos and other hazardous building materials) and demolish Dunloe, Glendening, Groveport, and Madison elementaries and also the junior high;
- Renovate and add to Asbury;
- Renovate Sedalia;

- Renovate and add to Middle School North and Middle School South;
- Renovate and add to the high school so it could house 1,823 students; and
- Build two new elementary schools that each could house around 985 students.

Option #2 projects a $140 million cost to perform the following:

- Abate and demolish Dunloe, Glendening, Groveport, and Madison elementary schools as well as the junior high;
- Renovate and add to Asbury;
- Renovate Sedalia;
- Renovate and add to Middle School North and Middle School South;
- Renovate and add to the high school to house 837 students;
- Build an additional new high school that would house 986 students;
- Build four new elementary schools that would house around 492 students each.

Due to the lack of construction funding and the need to address operating deficits, the Board has not responded to the proposed OSFC master plan.

Historical Enrollment

Table 1-1 presents GMLSD's ten-year enrollment history. Students who were enrolled in GMLSD but who attended a joint-vocational school (JVS) on a full-time basis are excluded because the District does not use its facility space for these students.

Table 1-1: Ten-Year Enrollment History[1]

Grade	FY 1999-00	FY 2000-01	FY 2001-02	FY 2002-03	FY 2003-04	FY 2004-05	FY 2005-06	FY 2006-07	FY 2007-08	FY 2008-09
K	525	528	506	535	491	411	397	382	442	397
1	529	455	499	465	498	484	463	423	431	435
2	480	493	455	458	471	480	470	444	411	396
3	469	464	456	471	475	479	475	467	454	385
4	441	469	467	472	478	452	450	449	445	446
5	456	430	492	467	503	467	455	447	451	432
6	495	475	472	549	518	504	498	488	469	423
7	474	503	470	485	528	489	493	480	495	457
8	467	468	507	492	492	512	485	487	485	452
9	461	455	456	522	499	523	530	511	684	621
10	481	495	449	454	522	447	493	528	476	524
11	345	356	337	266	306	324	274	242	275	230
12	358	356	299	299	314	222	308	286	224	235
Total K-12	**5,981**	**5,947**	**5,865**	**5,935**	**6,095**	**5,794**	**5,791**	**5,634**	**5,742**	**5,433**

Source: ODE enrollment data and GMLSD full-time JVS student counts.
[1] Does not include students attending a joint-vocational school on a full-time basis, or preschool and ungraded students.

As shown in **Table 1-1**, GMLSD's enrollment reached a ten-year high of 6,095 students in FY 2003-04. Since that peak, the District has experienced a generally declining enrollment trend, hitting a ten-year low of 5,433 students in FY 2008-09. **Table 1-2** presents the annual variance in students and the percent change it represents from the previous year.

Table 1-2: Ten-Year Enrollment History

Fiscal Year	K-12 Students	Student Difference from Prior Year	Percent Difference from Prior Year
1999-00	5,981	134	2.3%
2000-01	5,947	(34)	(0.6%)
2001-02	5,865	(82)	(1.4%)
2002-03	5,935	70	1.2%
2003-04	6,095	160	2.7%
2004-05	5,794	(301)	(4.9%)
2005-06	5,791	(3)	(0.1%)
2006-07	5,634	(157)	(2.7%)
2007-08	5,742	108	1.9%
2008-09	5,433	(309)	(5.4%)
Average	**5,822**	**(41)**	**(0.7%)**

Source: ODE historical enrollment

As shown in **Table 1-2,** GMLSD's enrollment fluctuated throughout the ten-year period. This volatility is partially related to the alternative scheduling plans implemented by the District and the introduction and expansion of a charter school in the community. In FY 2004-05, the District's enrollment dropped by 301 students, or 4.9 percent. This sharp drop coincided with the District's implementation of split sessions for grades 7-12. In FY 2006-07, the District experienced an additional drop of 157 students, or 2.7 percent. This coincided with the opening of the Groveport Community School, a charter school serving kindergarten through grade 4 students. When split sessions were ended at the high school in FY 2007-08, enrollment increased slightly (by 108 students or 1.9 percent). However, when the Groveport Community School expanded its facility the next year (FY 2008-09) to include kindergarten through grade 8 students, the District experienced its largest drop in ten years (309 students or 5.4 percent). Over the ten-year period, the District averaged a loss of 41 students per year, or a decrease of 0.7 percent.

Enrollment Projections

Although the 2008 OSFC report included the enrollment review and draft projections completed by DeJong-Healy, the District has not updated them. A previous performance audit (released in December 2008) recommended that GMLSD create its own enrollment projections as part of a district-wide facilities master plan. Because the recommendation has not yet been implemented, this audit reviewed the leading practices for projecting enrollment and used this information to review the methodology used by DeJong–Healy and develop updated enrollment projections.

Table 1-3 displays a list of researched entities and the various methods they have used for enrollment projections.

Table 1-3: Enrollment Projection Methodology

Entity	General Method
Broward County Public Schools, Florida	Geographically based cohort survival model, which projects future students by grade.
Brunswick Central School District, New York	Cohort survival and demographic multipliers (housing data)
California Department of Education	Grade progression ratio (GPR) – cohort survival projection model.
Lafayette Central School District, New York	Cohort survival statistic with modifications when assumptions differ from historic trends
Madison Metropolitan School District (MMSD), Wisconsin	Grade level cohort survival ratio.
National Center for Education Statistics (NCES)	Cohort survival model, age specific enrollment rate model, exponential smoothing models, and econometric models.
Office of Superintendent of Public Instruction, Washington	Cohort survival enrollment projection.
Springboro Community City School District, Ohio	Cohort survival with weighted average
University of Wisconsin Applied Population Laboratory, Wisconsin	Cohort survival projection methodology with detailed modifications.

Source: AOS

As **Table 1-3** indicates, the cohort survival ratio (CSR) methodology is widely used by school districts and is regarded as one of the most reliable methods for estimating enrollment.[1] A cohort is defined as a group of people sharing a particular common characteristic or demographic within a defined period of time, such as all students in the same grade level. As a cohort of students advances to the next grade level, the size of the cohort in the first year is used as a basis for estimating the size in the following year. CSR methodology assumes that the rate of student progression, or "cohort survival," from one grade to the next will be consistent with rates of progression in previous years. Thus, the rates from the last five years are calculated. Each "cohort survival ratio" is the size of the grade in the present year divided by the size of the next lower grade in the previous year. While a ratio of 1.0 indicates a static cohort, a ratio less than 1.0 represents a declining cohort, and a ratio greater than 1.0 represents an increasing cohort. These ratios are averaged over a period of time and then used to project future enrollment.

[1] While regression analysis has been compared as an alternative to the cohort survival ratio (CSR) method, the latter is generally considered less complicated and, therefore, more straightforward and transparent for public review. CSR is determined to be reliable for districts of at least 100 students and for the short term (1-5 years). This is the method that was used as the basis for a 2008 Ohio School Facilities Commission draft report prepared for the District by DeJong-Healy.

Table 1-4 presents the survival ratios for GMLSD based on historical enrollment.

Table 1-4: Cohort Survival Ratios

Year	K	1	2	3	4	5	6	7	8	9	10	11	12
2005	n/a	0.99	0.96	1.02	0.95	0.98	1.00	0.94	0.97	1.06	0.90	0.62	0.73
2006	n/a	1.13	0.97	0.99	0.94	1.01	1.07	0.98	0.99	1.04	0.94	0.61	0.95
2007	n/a	1.07	0.96	0.99	0.95	0.99	1.07	0.96	0.99	1.05	1.00	0.49	1.04
2008	n/a	1.13	0.97	1.02	0.95	1.00	1.05	1.01	1.01	1.40	0.93	0.52	0.93
2009	n/a	0.98	0.92	0.94	0.98	0.97	0.94	0.97	0.91	1.28	0.77	0.48	0.85
Average	n/a	**1.06**	**0.96**	**0.99**	**0.95**	**0.99**	**1.03**	**0.97**	**0.97**	**1.17**	**0.91**	**0.55**	**0.90**

Source: AOS and GMLSD
Note: A survivor ratio for kindergarten is not possible as a prior year count is not available.

As described, the ratios in **Table 1-4** represent the tendency for a class to shrink, stay static, or grow from one year to the next. For example, the average ratio of GMLSD first grade classes is 1.06, or 106 percent of the students in the previous year's kindergarten class. This may be due to various community factors such as alternative kindergarten programs or families relocating. In contrast, the ratio of 0.96 for second grade indicates that only 96 percent of the pervious first grade students are typically retained. Of note, grade 11 stands out with an unusual average ratio of 0.55. This represents the large group of students who move into a full-time JVS program between 10^{th} and 11^{th} grade.

As shown in **Table 1-4**, creating a survival ratio for kindergarten is not possible since there is no cohort from the prior year. Despite the consensus behind the CSR method for projecting enrollment, a standard method for estimating kindergarten enrollment is not universally shared among school districts and scholars. The importance of this estimate is not inconsequential as the kindergarten projection also shapes future enrollment. The FY 2011-12 estimate of second-graders and first-graders, for instance, relies on the FY 2009-10 and FY 2010-11 estimates of kindergarteners. By FY 2013-14, grades K-4 are all based on the assumptions made about previous kindergarten cohort sizes.

Planning and Managing School Facilities (Kowalski, 2002) states that one of the simplest approaches to estimating kindergarten enrollment is to use a six-year historical kindergarten enrollment average as a constant for future short-term projections. While this method eliminates the need for determining the relative movement of enrollment (i.e., increasing or decreasing), it also exaggerates the effect of occasional spikes. For GMLSD, the six-year average kindergarten enrollment is 420, higher than 4 of the last 6 years. This average does not seem consistent with the 6.2 percent decrease in enrollment the District experienced in the past six years. Kowalski indicates that a "slightly better approach" is to use grade-level ratios for kindergarten**.** The average ratio of kindergarteners from one year to the next for the past six-years can be calculated then applied to FY 2008-09 kindergarten enrollment and each year thereafter. For GMLSD,

using this average ratio has the effect of decreasing kindergarten enrollment by 4 percent each year, creating a set pattern of decreasing enrollment. The compounding effect of a 4 percent annual decline results in a significantly lower projected enrollment. Another method used by some schools is the linear regression method. This projection method tends to ignore outliers in an attempt to create a straight line approximation. Similar to creating the kindergarten ratio, trend analysis creates a consistent decrease in enrollment over time. All three methods described for enrollment projections are used by schools and may be appropriate in certain districts. However, due to fluctuations in the District's enrollment caused by changing demographics, development and expansion a community school, and split session scheduling, none of these straightforward methodologies seemed appropriate for GMLSD.

A widely used method to assist in capturing community cycles of growth is to include local demographics such as residential and business development in the analysis. The extent of the statistics used varies with the entity and the resources available for the projection, but statistics can include historical birth rates, area population projections, building permits, certificates of occupancy, home sales, and other anticipated new construction estimates. Generally, leading practices researched include some form of review of birth rates in a "birth-to-kindergarten" survival ratio. **Table 1-5** presents a list of researched entities and the methodologies used to project kindergarten enrollment.

Table 1-5: Kindergarten Enrollment Projection Methodology

Entity	Kindergarten Projection Method
Broward County Public Schools, Florida	Birth counts to kindergarten enrollment.
Brunswick Central School District, New York	Birth counts to kindergarten enrollment.
California Department of Education	Birth counts to both kindergarten and 1st grade enrollment using actual and projected births.
Lafayette Central School District, New York	Birth counts to kindergarten enrollment with review of historic enrollment.
Madison Metropolitan School District (MMSD), Wisconsin	Birth counts to kindergarten enrollment. City of Madison birth rates were used as an approximation.
National Center for Education Statistics (NCES)	Census birth rates with projections and populations projections.
Office of Superintendent of Public Instruction, Washington	Birth counts to kindergarten enrollment. - Reviewed methods and concluded this method more accurate than K linear method.
Springboro Community City School District, Ohio	Projecting from averages and trends in kindergarten enrollment.
University of Wisconsin Applied Population Laboratory	Census, local birth rates, etc.

Source: AOS
Note: The Ohio Department of Education and Ohio School Facilities Commission have not implemented a Statewide methodology, although most Ohio projections are completed using the DeJong method.

As listed in **Table 1-5**, birth counts are used by many entities to generate appropriate kindergarten projections. Based on a review of alternative methods, the DeJong-Healy birth rate and CSR methodologies were supported as leading practices and therefore are considered accurate methodologies for estimating enrollment.

Ratios of birth counts, from census tracts, county lines, or zip codes, to kindergarten classes five years later, can be used to project future kindergarten classes. For less distinct regions, such as a school district on the border of a large urban area, it is more difficult to identify the appropriate area to track birth counts. In the 2008 DeJong-Healy Draft Enrollment Report, the District was recognized as sharing multiple zip codes. DeJong-Healy reviewed and selected three zip codes, (43109, 43125, and 43207), as representative of the District. **Table 1-6** shows the historical birth counts of the selected zip codes and the kindergarten cohort enrollment.

Table 1-6: Historical Birth to Kindergarten Ratios

Birth Year	Birth Count[1]	School Year	Kindergarten Enrollment	Birth to Kindergarten Ratio
1993	835	1999	541	64.8%
1994	826	2000	525	63.6%
1995	773	2001	528	68.3%
1996	753	2002	506	67.2%
1997	832	2003	535	64.3%
1998	845	2004	491	58.1%
1999	830	2005	411	49.5%
2000	876	2006	397	45.3%
2001	805	2007	382	47.5%
2002	809	2008	442	54.6%
2003	800	2009	397	49.6%

Source: Franklin County Department of Health.
[1] Birth count is based on three zip-codes: 43109, 43125, and 43207.

Table 1-6 illustrates the birth to kindergarten ratio is not static and has decreased over time. The DeJong-Healy Draft Report used a factor of approximately 50.1 percent for the birth to kindergarten ratio.[2] Because the 2006 and 2007 birth count statistics are now available through the Ohio Department of Health, these were added and the DeJong-Healy projections updated to reflect this new information. **Table 1-7** presents the new kindergarten projections based on updated birth counts.

[2] In FY 2007-08, the GMLSD transitioned from half-day to full-day kindergarten and had a 60 student increase in kindergarten enrollment. While FY 2008-09 kindergarten enrollment dropped to a level consistent with previous years, the higher birth-to-kindergarten ratio indicates a potential increase that should be factored in future analyses.

Table 1-7: Projected Kindergarten Enrollment

Birth Count Year	Birth Count	Five Year Cohort (School Year)	DeJong-Healy 2008 Projection	Updated 2009 Projection
2004	848	2010	425	425
2005	803	2011	403	403
2006	897	2012	414	450
2007	836	2013	411	419
2008	n/a	2014	411	434[1]

Source: Franklin County Department of Health, DeJong-Healy 2008 Draft Report
[1] Average of prior two projected years since actual birth count was not available.

Since the 2008 birth count was not available, the FY 2013-14 projection was created by averaging the two previously projected years. Because the birth count increased substantially in 2006, the average projected kindergarten enrollment was higher than in the 2008 DeJong-Healy Draft Enrollment Report. These new projections were incorporated into the CSR method to create the updated five-year enrollment projection shown in **Table 1-8**.

Table 1-8: Enrollment Projections

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
2009-10	425	420	416	393	367	442	443	412	445	528	563	286	207	**5,347**
2010-11	403	450	402	413	375	364	453	432	402	520	478	307	257	**5,256**
2011-12	450	426	430	399	394	371	373	442	421	469	471	261	276	**5,183**
2012-13	419	476	408	427	380	390	381	364	430	491	425	257	235	**5,083**
2013-14	434	443	456	405	407	377	400	371	355	503	445	232	231	**5,059**

Note: Kindergarten projections by DeJong-Healy based on analysis of birth rate, business trends, and local issues - rates were updated based on 2006 and 2007 birth counts available since 2008 draft; cohort survival method is used for grades 1-12.

Table 1-8 indicates that the District is expected to experience an annual decrease in enrollment, losing 374 students by FY 2013-14, or an average of 74.8 students per school year.

Functional vs. Maximum Capacity

AOS used a standard methodology for calculating school building capacity that is often employed by educational planners. District capacity was calculated based on walking through buildings, confirming floor plans, and discussing the use of classrooms with building representatives. *Maximum capacity* is calculated based on a count of the physical rooms capable of housing 25 students and represents the maximum capacity if every available room was used as a classroom. In contrast, the *functional capacity* is determined based on the use of each room. Only academic and modular classrooms are rooms counted as having the capacity for 25

students. The maximum capacity used for special education classes, regardless of room size, is constrained by Ohio Administrative Code 3301-51-09 and is based on the type of disabilities of students served in the room. An average capacity of 9 was used to determine the capacity of special education rooms. The methodology for determining functional capacity assumes elementary buildings are expected to provide rooms for art, music, physical education, libraries, and computer labs. Since these rooms are used by students who are counted in the academic classrooms, they are not included in the functional capacity count. Other rooms used for preschool programs, offices, and resource rooms for students receiving services outside the classroom, are considered supplemental rooms and are also not included in the functional capacity. **Table 1-9** presents the building room count by function for the elementary schools.

Table 1-9: Elementary Building Room Uses

	Academic Classrooms (K-5)	Special Education	Resource Rooms/ Offices[1]	Preschool	Art/ Music/ Library/ Computer Labs[2]	Modulars	**Total**
Potential Capacity	***25***	***25***	***25***	***25***	***25***	***25***	
Functional Capacity	***25***	***9***	***0***	***0***	***0***	***25***	
Asbury Elementary	15	0	2	1	3	0	**21**
Dunloe Elementary	14	1	4	0	3	0	**22**
Glendening Elementary	17	1	4	1	2	0	**25**
Groveport Elementary	17	1	2	1	3	2	**26**
Madison Elementary	15	0	2	1	3	0	**21**
Sedalia Elementary	17	2	2	2	2	0	**25**
Total	**95**	**5**	**16**	**6**	**16**	**2**	**140**

Source: GMLSD District floor plans, building tours, and interviews.
[1] Offices and programs situated in regular classrooms are part of maximum capacity. The rooms are used as office spaces and as pull-put rooms for programs including speech, title I, and literacy.
[2] Library space was only counted if this was a potential enclosed classroom space. The gym was not included.

As noted in **Table 1-9**, the elementary schools include 140 potential rooms. Of these, 95 were used as regular classrooms in FY 2008-09.

During the course of the audit, Ohio passed HB 1, which included requirements for the State Board of Education to set minimum standards for education. Within the funding formula

included in the bill are class size reductions funds, which reduce the student teacher ratio in kindergarten through third grade to fifteen to one. Based on the passage of future administrative rules by the ODE (operating standards) and the State Board of Education, GMLSD may have to consider the implications of adjusting functional capacity for elementary buildings to accommodate substantially smaller class sizes (see **R1.2**).

The functional capacity of secondary buildings is calculated different than for the elementary buildings. Because of the use of block scheduling in secondary buildings, rooms used for art, music, physical education, library, and computer labs are scheduled for classes, they are included in the functional capacity. As with elementary buildings, special education rooms are included at an average of 9 students per room, and rooms used for offices and other services are not included in the functional capacity at all. Once a capacity based on room use is established, it is multiplied by an 85 percent factor to account for natural inefficiencies in block scheduling and the planning period teachers typically have during the day. **Table 1-10** presents the building room count for the secondary schools. Since the junior high and high school both have a number of irregularly sized rooms, **Table 1-10** includes several smaller 20-student capacity rooms to account for this additional functional capacity.

Table 1-10: Secondary Building Room Uses

	Academic Classrooms/Arts & Labs[1]	Academic Classrooms/Arts & Labs[1]	Physical Education[2]	Special Education	Resource Rooms/ Offices[3]	Resource Rooms/ Offices[3]	Library[4]	Modulars	Total
Potential Capacity	***25***	***20***	***25***	***25***	***25***	***20***	***25***	***25***	
Functional Capacity	***25***	***20***	***25***	***9***	***0***	***0***	***0***	***25***	
Middle School North	22	0	1	3	3	0	0	0	29
Middle School South	22	0	1	3	3	0	0	0	29
Middle School Total	**44**	**0**	**2**	**6**	**6**	**0**	**0**	**0**	**58**
Junior High School	20	2	2	6	0	1	1	0	32
High School	40	3	2	5	0	0	0	14	64
Total	**104**	**5**	**6**	**17**	**6**	**1**	**1**	**14**	**154**

Source: GMLSD District floor plans, building tours, and interviews.
Note: Buildings included a significant number of smaller capacity rooms. The 25 student and 20 student sized rooms were included in this table.
[1] Represents core subjects such as English, science, math, and history; art and music; and computer labs, home economics labs, and vocational program.
[2] Gyms and weight rooms were included because functional capacity methodology includes these rooms in secondary buildings.
[3] Offices and programs situated in regular classrooms are part of maximum capacity. The rooms are used as office spaces and as pull-put rooms for programs including special education inclusion, resource rooms, and Ohio Achievement Test (OAT).
[4] Library space was only counted if this was a potential enclosed classroom space.

In **Table 1-10**, the secondary buildings include 154 potential rooms. Of these, 109 are used as regular academic classrooms including those for art, music, computer lab, home economics lab, and vocational lab programs.

Based on the capacities and room counts listed in **Table 1-9** and **Table 1-10**, **Table 1-11** presents the maximum and functional capacity of all District buildings.

Table 1-11: Maximum and Functional Capacity

	Maximum Capacity	Functional Capacity	Functional / Maximum	Lost Capacity[1]
Asbury Elementary	525	375	71.4%	150
Dunloe Elementary	550	359	65.3%	191
Glendening Elementary	625	434	69.4%	191
Groveport Elementary	650	484	74.5%	166
Madison Elementary	525	375	71.4%	150
Sedalia Elementary	625	443	70.9%	182
Elementary Total	**3,500**	**2,470**	**70.6%**	**1,030**
Middle School North	725	512	70.6%	213
Middle School South	725	512	70.6%	213
Middle School Total	**1,450**	**1,024**	**70.6%**	**426**
Junior High School	785	547	69.7%	238
High School	1,585	1,279	80.7%	306
Junior HS - HS Total	**2,370**	**1,826**	**77.0%**	**544**
District Total	**7,320**	**5,320**	**72.7%**	**2,000**

Source: GMLSD District floor plans, building tours, and interviews

[1] Capacity reduced due to State-mandated capacity restrictions and decisions on functional use of rooms.

As shown in **Table 1-11**, District buildings used 72.7 percent of maximum capacity in FY 2008-09. Some of the "lost capacity" is unavoidable due to OAC capacity limitations for special education programs.[3] Changes in the special education population or the methods of program delivery could change the number of rooms dedicated to special education and thus the building's functional capacity. The high school uses the most (80.7 percent) of its maximum capacity for classrooms, which is not surprising considering it has no rooms being use as special education resource rooms or offices which could alternatively be used as classrooms. The lower percentage of maximum capacity used at the elementary and middle school buildings may indicate opportunities exist to better use the potential classroom space (see **R1.4**).

[3] Ohio Administrative Code 3301-51-09 details class size requirements for special needs students. These are based on the type of specific disability but range between 6 and 12 students in a classroom.

Utilization

Table 1-12 presents the FY 2008-09 enrollment for GMLSD buildings and the percentages of functional and maximum capacity utilized.

Table 1-12: Capacity Utilization FY 2008-09

	Enrollment[1]	Functional Capacity	Utilization of Functional Capacity	Maximum Capacity	Utilization of Maximum Capacity
Asbury Elementary	401	375	106.9%	525	76.4%
Dunloe Elementary	362	359	100.8%	550	65.8%
Glendening Elementary	451	434	103.9%	625	72.2%
Groveport Elementary	451	484	93.2%	650	69.4%
Madison Elementary	383	375	102.1%	525	73.0%
Sedalia Elementary	443	443	100.0%	625	70.9%
Elementary Total	**2,491**	**2,470**	**100.9%**	**3,500**	**71.2%**
Middle School North	420	512	82.1%	725	57.9%
Middle School South	460	512	89.9%	725	63.4%
Middle School Total	**880**	**1,024**	**86.0%**	**1,450**	**60.7%**
Junior High School	452	547	82.6%	785	57.6%
High School	1,610	1,279	125.9%	1585	101.6%
District Total	**5,433**	**5,320**	**102.1%**	**2,370**	**87.0%**

Source: GMLSD District Floor Plans and ODE Student Enrollment FY 2008-09.
Note: Totals may vary due to rounding.
[1] Enrollment data is based on K-12 enrollment, excluding preschool and ungraded students. In addition, full-time JVS students are excluded from the High School enrollment.

Table 1-12 shows that existing District facility space is not adequate for student enrollment based on the current functional use of the buildings. In FY 2008-09, GMLSD used 102.1 percent of its functional capacity. Optimal utilization of a building is considered 85 percent of functional capacity. Rates in the high school and at the elementary schools are well above the optimal rate, confirming observations and District statements that these buildings are experiencing the effects of high utilization and overcrowding. Because two buildings, Middle School North and the junior high, fall below the optimal rate, more space in these buildings could be potentially utilized for students. However, since the District's total enrollment exceeds 100 percent of its facility space, a redistribution of students will not be sufficient to address the shortage in facility space.

In addition to functional capacity, **Table 1-12** shows the utilization of maximum capacity based on the full usage of all rooms large enough for 25 students. While a school district has constraints on special education class sizes, the use of rooms for programs such as computer

technology, art, and music, or as office space, are at the discretion of the District. GMLSD is using 87.0 percent of all available space in FY 2008-09, ranging from a low of 57.6 percent at the junior high to a high of 101.6 percent at the high school. Each building has varying opportunities for repurposing, the ultimate effects of which will be impacted by class sizes and enrollment. The District can lower the classroom utilization by repurposing alternative rooms, or can maintain supplemental programs but accept a higher utilization rate in traditional academic rooms. This trade-off should be based on an understanding of capacity and projected enrollment, (see **R1.1**) and should be considered in the long-range facility plans (see **R1.5**).

Impact of Modular Classrooms

Because of the high utilization rate within District buildings, modular classrooms were included in the capacity of Groveport Elementary and the high school shown in **Table 1-12** and **Table 1-13**, respectively. Modular classrooms add to the maximum capacity of a building, which in turn increases functional capacity if the unit is used as classroom space. The high school, without modular classrooms, would be at a utilization rate of 164.0 percent. Therefore, GMLSD is unable to abandon its modular units at this time. In addition, removing the two modular classrooms at Groveport Elementary would increase the building's utilization rate to 103.9 percent of functional capacity.

Projected Utilization

Based on enrollment projections for FY 2009-10 and FY 2013-14, the District's utilization percentages are presented in **Table 1-13.**

Table 1-13: Utilization of Capacity

	Functional Capacity[2]	FY 2009-10 Projected Enrollment[1]	% Utilization of Capacity	FY 2013-14 Projected Enrollment[1]	% Utilization of Capacity
Elementary Schools (K-5)	2,470	2,463	99.7%	2,522	102.1%
Middle Schools (6-7)	1,024	855	83.5%	771	75.3%
Junior High School (8)	547	445	81.4%	355	64.9%
High School (9-12)	1,279	1,584	123.8%	1,411	110.3%
District Total	**5,320**	**5,347**	**100.5%**	**5,059**	**95.1%**

Source: GMLSD District Floor Plans and AOS enrollment projections.
Note: This table is based on K-12 enrollment, excluding preschool and ungraded students. In addition, full-time JVS students are excluded from the High School enrollment.
[1] Projected enrollment data is based on K-12 enrollment, excluding preschool and ungraded students. In addition, full-time JVS students are excluded from the High School enrollment.
[2] Functional capacity is based on FY 2008-09 use.

Although District enrollment is anticipated to decrease over the next 5 years, **Table 1-13** indicates that district-wide, GMLSD will still be at a relatively high overall utilization rate—95.1 percent in FY 2013-14. Due to a higher K-5 enrollment, utilization at the elementary schools is expected to increase to 102.1 percent by FY 2013-14. Enrollment in grades 9-12 is expected to decrease, resulting in a decrease in utilization to 110.3 percent in FY 2013-14, which is still in excess of the optimal rate by 25.3 percentage points. In contrast, utilization of the middle schools and the junior high are expected to drop further below the optimal level over time.

Recommendations

R1.1 GMLSD should annually update enrollment projections, initially provided during the OSFC assessment, using the birth rate and CSR methodologies. GMLSD should also regularly review and update the functional capacities provided in this audit. Finally, the District should use enrollment and capacity data to monitor current and projected building utilization rates. Enrollment projections are only reasonably accurate for a short period of time and therefore should be updated regularly. Functional capacity of buildings can change from year to year depending on student enrollment and the type and location of programs in the buildings. Maintaining up-to-date enrollment projections and building utilization rates will provide sound data to inform decision-makers and help frame plans regarding facilities.

The 2008 Performance Audit found that the District had not developed formal enrollment projections or building capacities. The 2008 Audit recommended the District develop projections and capacity analyses as part of an overall facility master plan. A demographic study was part of the 2008 DeJong-Healy Draft Enrollment Report but it has not been updated since being presented to the District.

Creating a Successful Facilities Master Plan (DeJong, 2001) recommends that school districts create enrollment projections and capacity analyses as part of a comprehensive database necessary to develop a district facility master plan. *Educational Facility Master Planning* (SchoolFacilities.com, 2005) states that, "properly portraying building utilization and capacity is an important tool by which a district can promote building efficiency to the community and increase the likelihood of passing a bond referendum."

According to *Using Demographic Studies to Project School Enrollments* (School Business Affairs, 2002), a school district should annually update projections to reflect changing conditions in the economy or housing market that can seriously affect enrollment. They recommend the following process:

1. Collect historical enrollment data;
2. Contact the state department of health and vital statistics;
3. Select an enrollment projection method;
4. Meet with local planning and construction department officials;
5. Determine the age of the community; and
6. Perform enrollment calculations.

Annually examining birth rates and reapplying the cohort survival methodology will provide the District with current and reliable enrollment projections. Up-to-date enrollment projections can assist the District in anticipating necessary facility changes and sharing important enrollment trends with the community.

For this audit, AOS developed capacity numbers based on a modified version of the methodology described in *Defining Capacity* (DeJong, 1999). Decisions on the use of rooms affect and limit the functional capacity of a building regardless of the building's maximum capacity. Estimating capacities and utilization rates can provide valuable planning information. In addition, changing the functional use of rooms will have an effect on functional capacity and building utilization, which in turn will impact perceived overcrowding.

R1.2 GMLSD should consider reducing the high utilization at the elementary schools by leasing space for its preschool programs. This will provide additional capacity at the elementary school buildings for students in grades kindergarten through five and lower the utilization rate to a more acceptable level. The District may also want to consider leasing space for special education programs or other primary grades to create additional space in order to move toward the lower student-to-teacher ratios recommended in H.B. 1.

In FY 2008-09, enrollment at the elementary schools exceeded functional capacity. Based on enrollment projections for FY 2013-14, this high utilization trend is projected to worsen. At the 85 percent optimal utilization rate, a building will have approximately 21 students per teacher. With the 102.1 percent utilization rate, the District would average about 25.5 students per teacher, assuming one teacher per classroom. Further, while districts have always been constrained in the use of a potential space with minimum class size requirements for special education program students, the passage of HB 1 may impose an additional requirement of a fifteen to one ratio in kindergarten through grade three. If the lower student-to-teacher ratios become a requirement, GMLSD may be able to pursue waivers in the short-term, but it will eventually need to expand the space available at the elementary schools (see **R1.6**).

The elementary buildings currently have 6 classrooms dedicated to special needs preschool students. The community has several commercial and industrial parks available that provide opportunities for the District to lease adequate space. Groveport Community School located its facility inside a renovated industrial building located near District's high school. GMLSD has considered this as a potential strategy for expanding facility space, but has not actively pursued this option. By moving the preschool students into leased space, the District can free up the rooms to be repurposed as K-5 grade-level regular education classrooms. In addition, with a single preschool facility, it may be possible to achieve savings from economies of scale that could partially offset the increased costs for leasing and transportation. The District may be able to move special education programs or additional grades to leased space to extend the available space and limit overcrowding.

Overcrowding in Urban Schools (Burnett, 1995) and *Bursting Through* (AS&U, 1999) both recommend school districts consider leasing facilities in order to add to capacity. In New York City, the Office of Comptroller uses leasing to address continued overcrowding across the City's school district. *Early Grade Centers Ease Space Woes* (Education Week, 1998) reports on a trend for districts to expand capacity by separating out initial elementary school grades.

Leasing space for preschool classes will increase capacity by 150 students in the elementary buildings. Based on projections of 2,463 students in FY 2009-10, the District would have a utilization rate of 94.0 percent in the elementary schools after preschool classroom are repurposed for kindergarten through grade five students. At this rate, elementary schools would have a student-to-teacher ratio of 23.5 to 1. If a lower student-to-teacher ratio is desired in the elementary schools, then GMLSD should consider additional alternatives such as leasing space for additional grade levels or adding modular classrooms adjacent to the building to increase capacity and reduce high utilization (see **R1.6**).

Financial Implication: Retail/industrial space in the area leases for $12-15/sq. ft. annually with an additional $3-8/sq. ft. in maintenance costs for the common areas. This amounts to a total of $15-23/sq. ft., with a mid-point of $19 per sq. ft. In the OSFC Design Manual, the standard for preschool space is 1,200 sq. ft. per classroom. To accommodate 6 preschool classrooms, plus an additional 10 percent for offices and common areas, the annual lease cost would be approximately $150,500. In contrast, installing 6 modular classrooms would have one-time installation costs of about $75,000-100,000 with an annual lease cost of approximately $21,600 (based on the District's FY 2008-09 modular lease).

R1.3 GMLSD should consider addressing high utilization rates at the high school by redistributing grade levels at the high school, junior high, and middle schools. Moving 8th grade students to the middle schools and 9th grade students to the junior high building will relieve excessive overcrowding in the high school. However, steps will also need to be taken at the middle school (see R1.4) to ease overcrowding caused by moving the 8th grade. While reconfiguring the grades may not be a complete solution to the District's overcrowding problem, it will help more appropriately distribute enrollment. Redistributing grades will also reduce the physical demands on the high school building and potentially improve the educational environment.

In FY 2008-09, enrollment at the high school exceeded functional capacity, which included the use of 14 modular classrooms, by 25.9 percent. The District has maximized the use of this building and no additional space could be identified for repurposing. In fact, the high school is the only building where the enrollment (1,610) actually exceeded

the building's maximum capacity (1,585). Based on enrollment projections showing a decline in high school students, the utilization is expected to decrease to 110.3 percent by FY 2013-14, still significantly above the 85 percent optimal utilization rate.

Overcrowding has reportedly led to problems impacting the comfort, safety, and quality of the educational program at the high school. While the District has installed 14 modular classrooms at the high school to mitigate overcrowding, the use of modulars in such large numbers has consequences. *Maxed Out: New York City School Overcrowding Crisis* (Campaign for Fiscal Equity, 2009) states that while temporary structures such as modulars are popular for addressing overcrowding, these facilities still rely on the building's common shared spaces, such as cafeterias, gymnasiums, parking lots, restrooms, and main offices. In GMLSD's case, the high school's shared areas must serve over 64 percent more students than they were designed to support. A building administrator and several Board members expressed concern that high school common areas were overused, and that these areas were not adequate to serve the increased student load.

During facility tours, auditors noted that the high school building showed excessive wear and poor maintenance including missing ceiling tiles and torn carpeting. In *Public School Principals Report on Their School Facilities* (NCES, 2007), when the number of students enrolled is larger than the number of students the school is designed to accommodate, it may contribute to increased wear and tear on schools and may affect the classroom environment. *School Safety and Security Toolkit* (National Crime Prevention Council, 2003) states that overcrowding is one of the characteristics that can lead a school to be unsafe. In GMLSD's case, additional security officers have been hired to address safety issues at the high school, which the District believes are related to overcrowding.

Overcrowding in Urban Schools (Burnett, 1995) states that one space solution to address high utilization is the district-wide redistribution of existing capacity. By moving ninth grade to the junior high building, the high school enrollment in FY 2010-11 is expected to be reduced from 1,584 to 1,043 students which would eliminate excessive overcrowding at the high school and the heavy burden on the building's common areas. In fact, with only 1,043 students some of the 14 modular units at the high school could be relocated to other buildings (see **R1.4**).

Financial Implication: Because the District is only redistributing grades between buildings, the costs will be limited to moving grade-appropriate educational material between buildings. This can be done internally by summer custodial employees and parent-teacher group volunteers, which should minimize costs.

R1.4 Concurrently with the implementation of the grade level reconfiguration proposed in R1.3, GMLSD should repurpose rooms at the middle schools and relocate modular classrooms from the high school to the middle schools. This will create a more reasonable and equitable utilization of classroom space across the District's buildings.

Table 1-13 shows that the projected FY 2013-14 use of the middle schools and the junior high will fall below the optimal utilization rate. Although the District's overall utilization would be 95.1 percent, the District will have three buildings that are below optimal levels. Reconfiguring the District grade levels (see **R1.3**) will help more equitably distributing students across the District and allow the buildings to be used more at a level commensurate with their design capacity. However, in order to accommodate the addition of 8th graders at the middle school, additional capacity will be needed at the middle school buildings. This can be accomplished by repurposing classrooms at the middle schools and moving modular classrooms from the high school.

Based on interviews and physical tours of the middle school buildings, several rooms were identified that were potentially available for classrooms. At Middle School North, two regularly sized rooms were used in FY 2008-09 as inclusion rooms with fewer than five students at a time. These could be consolidated into a single room that could be divided. In Middle School South[4], one room is used for Ohio Achievement Test (OAT) testing and one for OAT teacher training. These two rooms could be consolidated into one divided room. Together, two rooms were identified that could be repurposed, providing an additional 50 student capacity. This would not be sufficient to reduce overcrowding, but the District could relocate eight leased modular classrooms from the high school to the middle schools to better utilize space across buildings. **Table 1-14** presents the adjusted functional capacity and utilization based on repurposed rooms and relocated modular classrooms.

[4] In addition, the District uses a room at Middle School South to house its technology infrastructure. This could be moved to another campus or Board offices; however, the Superintendent indicated that it would be costly due to the fiber-optic network that was specifically installed at this building..

Table 1-14: Alternative Capacity Configurations

	Adjusted Functional Capacity[2]	FY 2009-10 Projected Enrollment	% Utilization of Capacity	FY 2013-14 Projected Enrollment	% Utilization of Capacity
Elementary Schools (K-5)	2,620	2,463	94.0%	2,522	96.3%
Middle Schools (6-8)	1,274	1,300	102.0%	1,126	88.4%
Junior High School (9)	547	528	96.5%	503	92.0%
High School (10-12)	1,079	1,056	97.9%	908	84.2%
District Total	**5,545**	**5,347**	**96.9%**	**5,059**	**91.6%**

Source: GMLSD District Floor Plans and AOS enrollment projections.
Note: This table is based on K-12 enrollment, excluding preschool and ungraded students. In addition, full-time JVS students are excluded from the High School enrollment.
[1] Projected enrollment data is based on K-12 enrollment, excluding preschool and ungraded students. In addition, full-time JVS students are excluded from the High School enrollment.
[2] Functional capacity is based on FY 2008-09 use with repurposed classrooms: 6 elementary preschool rooms, 3 middle school rooms, and 8 modular rooms moved from High School to middle schools.

As **Table 1-14** illustrates, by shifting the grades, repurposing rooms, and relocating modular classrooms, utilization across the District is more evenly distributed. By FY 2013-14, enrollment at all buildings is expected to be under 100 percent of functional capacity.

Five Quick & Inexpensive Ways to End Overcrowding (Educational Priorities Panel, 2004) recommends school districts reconfigure existing schools as a low-cost alternative for expanding capacity. *Schools: When Enrollment Soars* (FacilitiesNet, 2006) and *Maxed Out: New York City School Overcrowding Crisis* (Campaign for Fiscal Equity, 2009) specifically recommend repurposing non-classroom or underutilized building spaces.

Even with the reconfiguration of grade levels at GMLSD, the District will need to rely on modular classrooms to house all its students. In a 2005 survey of school administrators, *Public School Principals Report on Their School Facilities* (NCES, 2007), indicated that a third (37 percent) of all school districts used modular classrooms, sometimes as a strategy for dealing with overcrowding. Disadvantages include higher lifetime maintenance costs, lower energy efficiency, no secondary roof membrane, and a relatively shorter lifespan. *Pre-engineered Buildings* (Public Schools of North Carolina, 2008) lists the advantages of portables including fast placement of buildings, low cost, and expandability to grow with a district's needs. *Moving to Modular* (American School Board Association, 2003) states that the overall quality of modular classrooms has increased greatly in the past decade. Many school districts turn to modular classrooms because they are cheaper and quicker to build than traditional bricks-and-mortar

structures. While there are concerns about structural problems and air quality, modular classrooms are quieter, and students have fewer distractions.

Although redistributing the modular classrooms is not a substitute for a long-term solution (see **R1.5**), overcrowding can reduce the safety and comfort for students (see **R1.3**). Because of the District's overall high utilization rates, using all available space in the District is a low-cost alternative to extend existing capacity and more equitably disperse the effects of overcrowding.

Financial Implication: There would be some cost associated with relocating the modular units to the middle schools, but this would result in a one-time implementation cost. The total for installation and removal is estimated to be $125,000 – 150,000 with costs varying based on the condition of foundations and access to utilities. This cost estimate includes the removal of 8 modular classrooms at a cost of approximately $25,000 for dismantling and moving these units.

R1.5 GMLSD should develop the facilities master plan recommended in the 2008 performance audit and use the plan as the basis for subsequent building and grade configuration decisions. It can start the process by using the enrollment, capacity, and building assessment data provided by AOS and OSFC to engage Board members, District leaders, and the community in discussions about short- and long-term methods to improve its educational environment for students. Once a facility plan is in place, it should be monitored, updated, and adjusted as circumstances, conditions, and information change.

Even after implementing the performance audit recommendations, the District's buildings will still be crowded. While the District has explored several different types of building and grade configurations to address crowding, these options have been temporary measures. The District's enrollment exceeds the functional capacity of its school buildings, even with the use of 16 modular classrooms. Overcrowding cannot be sufficiently corrected by redistributing students and grades between buildings (see **Table 1-14**). While some decline in enrollment is projected, District-wide building utilization rates are projected to be above optimal levels through FY 2013-14. GMLSD would need to significantly increase the number of modular classroom to bring utilization rates to around 85 percent. Further, additional modular classroom do not address the stress on shared spaces such as cafeteria, restrooms, hallways, and parking lots that is contributing to a faster rate of wear-and-tear on the structures.

In addition to being crowded, GMLSD school buildings are in poor condition and need improvements to ensure the comfort and safety of all students. During building walkthroughs, buckets were observed in multiple locations down hallways to catch water from roof leaks, and buildings were generally in poor repair with missing ceiling tiles,

torn carpets, and cramped rooms. As noted in the 2008 OSFC facility assessment study, all buildings in the District are in need of various levels of repair. The report included a comprehensive assessment of the facilities and identified the specific issues in which buildings are inadequate in relation to various facility and safety standards.

While renovating or replacing existing buildings is the appropriate long-term solution, the community must support such a plan. In recent years, GMLSD has not developed the kind of consensus necessary to generate funding for extensive building improvements. On five separate occasions, the District has been unsuccessful in gaining community support to fund building projects. The implementation of split scheduling in grades 7-12, initiated in 2004 to relieve overcrowding, led to confusion over the true nature of the District's capacity and utilization problems. Split scheduling generated significant negative community reaction, and, in 2005, voters elected three new Board members who all campaigned on promises to return to a traditional schedule.

Current Board members have expressed differing opinions on the state of the District's capacity and utilization, debating both the extent of overcrowding, or whether the District exceeds capacity at all. Two distinct community groups, Help Our Pupil Excel (HOPE) and the Coalition for the Betterment of Groveport Madison Schools, have further added to the array of critiques on District management, finances, and education issues. In order to pass a levy to fund building improvements, the Board will need to develop a consensus regarding the condition of buildings and the extent of the overcrowding issue. By tracking facility related data such as enrollment trends and capacity analyses (see **R1.1**), the Board, administrators, and community could create a common understanding of the status of District facilities and its long-term needs. This would establish the basis for developing consensus in support of the facilities master plan.

Creating a Successful Facilities Master Plan (DeJong, 2001) states that school districts should develop a long-term facilities master plan that contain information on capital improvements and financing, preventative maintenance and work orders, overall safety and condition of buildings, enrollment projections and capacity analysis. The plans should be developed on foundations of sound data and community input. A facilities master plan, if developed appropriately, has the potential to significantly affect the quality of education in a school district. As a road map, the facilities master plan should specify the projects that have been identified, the timing and sequence of the projects, and their estimated costs. A district-wide facilities master plan is typically a 10-year plan that should be updated periodically to incorporate improvements that have been made, changes in demographics or other educational directions.

Facility Planning for Educational Change: The Perfect Storm (APPA, 2002) describes steps taken by Fairfax County Public Schools (Virginia) to develop a community based plan. To include input from a wide variety of perspectives, background, and expertise, the

district created a task force to develop an Instructional Accommodations Plan. The task force met over a period of four months to identify strategies that were feasible approaches. The goals of task force included the following:

- Proactively address ongoing growth;
- Maximize tax dollars for renovations, additions, and new schools;
- Ensure efficient and effective use of available school capacity;
- Reduce the number of students receiving instruction in trailers;
- Incorporate plans into future bond referenda; and
- Identify additional funding sources.

In *Maxed Out: New York City School Overcrowding Crisis* (Campaign for Fiscal Equity, 2009), a non-profit group studying New York's school situation recommends addressing overcrowding by prioritizing the schools with the most urgent space problems. The group discourages the reliance on enrollment declines to solve overcrowding, indicating that a district should target underutilized space, address temporary structures, and develop long-term solutions.

As recommended in the 2008 performance audit, GMLSD should develop a facilities master plan to provide a road map for addressing facility needs and providing appropriate facilities to support educational programs. Developing a plan will assist GMLSD in creating community support for the vision and direction of the District. Engaging in a comprehensive facility planning process that identifies short- and long-term plan, will better position the District to build consensus around the need for and cost of updating and "right sizing" its facilities.

R1.6 Because previous attempts to pass a bond levy for improving and expanding facilities have failed, GMLSD should study the potential viability and community interest in alternative strategies to further alleviate overcrowding.

The District does not have sufficient facility space for its current student enrollment. Its buildings exceed the optimal rate of utilization even with the implantation of various strategies to lease preschool (**R1.2**), reconfigure grades (**R1.3**), and redistribute leased modular classrooms (**R1.4**). Further, enrollment projections indicate that this high utilization of District facilities will continue through FY 2013-14. The District should consider alternative strategies as a means for addressing the issue and expanding capacity to accommodate students.

Overcrowding in Urban Schools (Burnett, 1995) recommends two basic methods for addressing overcrowding; identifying "new" facility space and extending the time that existing facilities are used. Under this framework, options for a district include

constructing new facilities, leasing new space, sharing buildings with other entities, reallocating existing facilities, or scheduling facilities for year round or extended day use.

- **New Construction:** GMLSD underwent a facilities study as part of an assessment by the Ohio School Facilities Commission in 2008. District buildings all were deficient in some factors and the OSFC used this assessment to guide development of a master plan proposal. The proposal cites two options for the District, ranging from $134 to $140 million. The District will need to continue to assess its needs and determine what the community will support.

- **Renovation:** According to the OSFC, every building in GMLSD except Groveport Elementary, the oldest, would cost less to renovate than to rebuild in terms of total estimated costs. According to *Renovate or Replace?* (Pennsylvania Department of Education, 2007), it is generally less expensive to renovate an existing school than build a new one, especially considering the cost of land acquisition and development. *Hard Lessons of Michigan's Construction Boom* (Michigan Land Use Institute, 2004) reports that renovation typically costs between $60 and $90 per square foot, while new construction costs about $120 to $160 per square foot. During renovations, class rooms can be added to expand the functionality of a building.

- **Year-Round Program**: *Year-Round Program Guide* (California Department of Education, 2009) specifically reports that the use of a "multi-track calendar" can expand seating capacity of a facility by 25 percent. The *Guide* states that disadvantages include the availability of flexible rooms to address the issues surrounding at-risk students. Other potential costs associated with these scheduling options arise from longer staffing hours and extended transportation routes.

- **Double-Shifts:** *Bursting Through* (AS&U, 1999) reports that school districts have used extended schedules in order to expand capacity, but the schedules have not always been popular with parents. Unfortunately, despite the community's previous reaction and experience with alternative schedules, the District's overcrowding, building conditions, and limited funding opportunities may require the District to explore potentially unpopular solutions.

- **Leasing**: This alternative option can be costly but is potentially faster and more flexible than developing and funding a construction project. Leasing includes finding facilities for an academic program or for any smaller unit that can be separated without significantly impacting the educational program. New York City's Office of Comptroller (2009) has used leasing as a means of responding quickly and effectively to local overcrowding in the City's schools.

- **Reducing Amenities**: In *Public Schools Overcrowding Relief* (Miami-Dade County Working Group, 2004), a final report presented to the School Board of Miami-Dade County recommended the District respond to high utilization by taking the difficult step of considering the amenities which could be eliminated without impacting the instructional program. Based on an analysis of the buildings, the elementary schools in particular have art and music programs in rooms that could be repurposed as regular classrooms. During the 2008 Performance Audit, Asbury Elementary had reassigned its music room and had a portable music program, commonly referred to as "music on a cart." Using this delivery method for both music and art in all District elementary buildings would enable the District to repurpose up to 11 art and music rooms.[5]

- **Sharing Facilities**: According to *Smaller, Safer, Saner Successful Schools* (National Clearinghouse for Educational Facilities, 2007), schools that share facilities with other organizations can offer broader learning opportunities for students, high quality services to students and their families, and higher student achievement and graduation rates. In addition, sharing facilities is a way to stretch and make more efficient use of tax dollars. On the edge of a large metropolitan area, GMLSD has an opportunity to form collaborative relationships with other regional entities including other districts, career centers, or local governments. Due to the continuing constrained economic environment, some of these entities may be newly inclined to reconsider these types of partnerships.

- **Portables**: While relocating portables classrooms to the middle schools has been recommended as a means of redistributing functional capacity to make utilization rates more equitable across buildings, adding new portables in the future may be a necessary method for adding new capacity. *Moving to Modular* (American School Board Association, 2003) states that the overall quality of modular classrooms has increased greatly in the past decade.

The District has explored several different types of building and grade configurations to address high utilization, while also proposing bond levies to the community for the improvement of facilities. The failure of the levies has led to the implementation of further strategies for addressing utilization and has also led to varied interpretations of the true state of District conditions. By implementing methods to expand functional capacity, the District can potentially relieve the negative effects associated with overcrowding and generally improve the educational environment for students.

[5] Groveport Elementary uses the music room located at the adjacent Junior High School. For consistency with the table, this room was omitted from the count.

Financial Implications Summary

The following table presents a summary of the estimated annual cost savings and one-time implementation costs identified in recommendations presented in this section of the report. Only recommendations with quantifiable financial implications are listed.

Summary of Financial Implications

Recommendation	Estimated One-Time Implementation Revenue	Estimated Annual Costs
R1.2 Lease preschool facility space [1]		$150,500
R1.4 Relocating existing modular units	$150,000	
Total	**$150,000**	**$150,500**

Source: AOS recommendations

[1] There will likely be additional one-time costs to convert a leased facility for classroom use but costs cannot be estimated until a specific property is identified.

DISTRICT RESPONSE

District Response

The letter that follows is the Groveport Madison Local School District's official response to the performance audit. Throughout the audit process, staff met with District officials to ensure substantial agreement on the factual information presented in the report. When the District disagreed with information contained in the report and provided supporting documentation, revisions were made to the audit report.

"Cruiser"
More Than A Mascot

Groveport Madison Schools

Administrative Offices

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Groveport, OH 43125
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September 22, 2009

Asbury Elementary
5127 Harbor Blvd.
833-2000

Dunloe Elementary
3200 Dunloe Rd.
833-2008

Glendening Elementary
4200 Glendening Dr.
836-4972

Groveport Elementary
715 E. Main St.
836-4975

Madison Elementary
4600 Madison School Dr.
833-2011

Sedalia Elementary
5400 Sedalia Dr.
833-2014

Middle School North
5474 Sedalia Dr.
837-5508

Middle School South
4400 Glendening Dr.
836-4953

Junior High School
751 E. Main St.
836-4957

Senior High School
4475 S. Hamilton Rd.
836-4964

Scott Bennington, Senior Audit Manager
Performance Audit Division
Office of the Auditor of State
88 E. Broad Street, P.O. Box 1140
Columbus, OH 43216

Dear Mr. Bennington:

We extend our gratitude for your staff's analysis and suggestions for improving the performance of the Groveport Madison Schools. This audit comes on the heels of the passage of our levy replacement ballot issue and will further assist us as we continue to assess the district in the area of cost containment and efficiency. We have been working diligently over the past four years to appropriately manage our resources and educational program delivery in our continuously changing school district. This report will serve to assist us by utilizing the data, leading practices, and recommendations that it contains.

We appreciate the thoughtful process that was undertaken to develop a more comprehensive set of recommendations specific to our aging facilities than was originally reported in the 2008 Performance Audit. We will study these suggestions and implement the following courses of action for each specific recommendation below:

R1.1
The district will create and maintain an annual enrollment projection using birth rate data to project kindergarten trends and CSR for grades 1 through 12. The district will attempt to mine more accurate birth rate data by analysis of district zip codes as well as attempt to differentiate birth rate by the kindergarten cut-off birth date. The district will determine net migration as an additional factor in enrollment. A space utilization study will be made to determine possible improvements in the functional capacity of each school building.

R1.2
The district will study onetime costs (lease negotiations, inspections, interior modifications, occupancy permits), ongoing costs (lease payments, utilities, communications, security, custodial, administrative, transportation) of using leased facilities not designed for educational programs to house pre-school programs and special education classes. The district will also study the educational impacts of these possibilities as well as the legal impacts of separate facilities for special education students. These results will be included as an option in the district's Facilities Master Plan.

R1.3, R1.4
The district will determine the educational factors and cost factors related to the various possible grade level and building configurations (including modular relocations) that would be necessary as a result of decompressing the high school population by moving freshmen from the Hamilton Road building.

R1.5, R1.6
The district will develop a Facilities Master Plan detailing current conditions, current capacity, and current enrollment and the effect of these elements on costs and educational outcomes. It will present a default course of action as well as various options and scenario with the potential costs and potential educational outcomes of each.

Finally, the Groveport Madison Schools is appreciative of your staff members' hard work, and we intend to seriously examine the recommendations that have been made. Undoubtedly all of the recommendations that you have enclosed in this report will be considered and, as practical, implemented as expeditiously as possible.

Sincerely,

H. Scott McKenzie
Superintendent

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