



# RAPID CITY AREA SCHOOLS

# Facility Master Planning Final Report

MARCH 02, 2016

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FACILITY MASTER PLANNING MARCH 2, 2016 FINAL REPORT

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# **EXECUTIVE SUMMARY**

In May 2015, the Rapid City Area School District contracted with MGT of America to develop a *Facilities Master Plan* to address the long-term facility needs of the district. The master plan would be an update to the previous facility master plan completed during the 2007-08 school year. The purpose of the master plan was to examine the areas of need and determine a course of action to remedy identified deficiencies.

The scope of the project included the following elements:

- **Educational Program Review:** MGT reviewed the current and future facility implications of the educational programs delivered by the district to determine the facility implications.
- **Enrollment projections:** MGT conducted a demographic analysis of the Rapid City area and provide enrollment projections by school.
- **Capacity and Utilization:** The study determined facility capacity ratings and comparison with enrollment projections to develop utilization rates by school. Graphic maps illustrate the utilization rates by attendance zone.
- **Facility Assessments:** Building and site condition, technology readiness, and educational suitability assessments were completed for all schools. These scores were each weighted to produce a combined score to be used in the prioritization of needs.
- Public Input: Public input was gathered by conducting public charrettes (meetings), an on-line survey, focus groups and interviews.
- **Final Report:** This final report includes the results of the study analyses and assessments, and provides recommendations to address the district's facility needs over the planning period.

The detailed information regarding each of the above elements is included in the final report chapters. A summary is provided here.



# EDUCATIONAL PROGRAM

Project activities related to the educational program were focused on ensuring that MGT understood the district's current and planned instructional programs, especially those with facility implications. For example, when a district focuses on performing arts and ensuring that all students have opportunities to graduate ready for college and career, the facility implications are significant.

The knowledge of current and planned programs resulted in the development of the *Educational Suitability and Technology Readiness Reference Guide* (see **Appendix A**) that defines the facility standards for each instructional space and insures consistency in the data collection. These standards are based on the district's current educational specifications and design practices. This document defines the standards in order to assess the following four components for each type of instructional space:

- **Learning environment** Does the space provide an appropriate physical configuration, HVAC, lighting, acoustical treatment, etc. to support student learning?
- Size Does the space meet the defined size standard for square footage?
- Location Does the space exist in the right location?
- Storage/Fixed Equipment Does the space have what teachers and students need to be successful, including safety equipment, permanent cabinetry, and technology?

The *Guide* also defines standards for non-instructional areas like cafeteria, administration, and health rooms, deals with safety issues like security vestibules, fencing, and bus/parent traffic patterns, and defines the technology infrastructure necessary to support the instructional program.

# **COMMUNITY ENGAGEMENT**

In order to gather community input and feedback, a variety of tools were utilized throughout the process of development of the Facility Master Plan. The goal for community engagement was to ensure that all interested members of the community had multiple opportunities for both input and feedback.

- **Input** processes asked the community what is important, what needs attention, what is working well, and what needs to be different?
- **Feedback** processes asked the community given these preliminary data, what should be the priorities, how should issues be weighted, what is **most** important to do?

Rapid City Area Schools has an involved and interested populace. They attended community sessions with many coming to schools that were not near their homes, and even when there were other events in competition. Many more community members used the online tools so that they could provide input and feedback at a time convenient for them.

From these data, it is clear that the RCAS community wants the district to focus their efforts on the following issues over the next 10 year plan:

- Fixing identified building deficiencies specifically HVAC.
- General classroom issues including the size and number of classrooms.
- Size of schools focusing initially on the size of elementary schools, but including all grade levels as new schools and additions are planned.



 Consolidation of middle schools – Focus first on maintaining the same number of middle schools, conducting needed renovations, and possibly replacing one with a new school based on physical conditions of the building.

# **DEMOGRAPHICS / ENROLLMENT PROJECTIONS**

Historical demographic trends from a variety of perspectives are included in the detail report. These perspectives include population trends, birth rates, school enrollment history, and housing trends. The conclusions reached include:

- **1.** Census Bureau population counts show an increase in the overall population but a decrease in population as it relates to the population segments which impact K-12 enrollment.
- 2. The general population and demographics of the RCAS area are changing and getting older, which could lead to fewer students in some areas of the district.
- **3.** Housing units will continue to increase but the rate of increase is speculative and dependent on the economy and the growth policies of the county.

Enrollment Projections were developed using four different projection models; average percentage annual increase, students-per-household, cohort survival, and linear regression. Based on historical data and the analysis of future growth the four models were weighted in order to project enrollment growth over the ten year planning period. As shown in the exhibit below, enrollment projections on which the master plan is based reflect a slight (approximately 1.3% per year) growth.



### HISTORICAL AND PROJECTED ENROLLMENT - K-12



### CAPACITY AND UTILIZATION

Capacity of all schools was calculated using a functional capacity model. This model counts the number of the various types of instructional rooms and multiplies that number by the maximum students-perroom or the *loading* factor to identify the gross capacity for the school. The gross capacity is then multiplied by a scheduling factor, which takes into account the realities of how the space is used. Typically, not all classrooms are scheduled for every period at a middle school or high school. For example, high school students move from room to room and enroll in a variety of courses. As a result, some rooms will sit empty or will be less than fully occupied at any given time. Teacher preparation periods will also contribute to rooms not being used for instruction at a particular time. Therefore, MGT uses a 70% scheduling factor at high schools to reduce the gross capacity of the building to reflect the unused rooms. Middle schools are assigned an 80% scheduling factor. An elementary school has a much more static and consistent daily use so MGT uses a 90% scheduling factor for elementary schools.

Utilization rates for each school were calculated by dividing the projected enrollment by the functional capacity. The exhibits below provide the functional capacity and both the current and projected utilization rates for each school.

SCHOOLS	CURRENT ENROLLMENT (2015) PK-12	PROJECTED ENROLLMENT (2025) K-12	CAPACITY K-12	CURRENT UTILIZATION	PROJECTED UTILIZATION			
Elementary Schools								
Black Hawk ES	458	554	387	118%	143%			
Canyon Lake ES\Kibben Kuster	363	440	302	120%	146%			
Corral Drive ES	484	531	446	109%	119%			
General Beadle ES	490	610	540	91%	113%			
Grandview ES	464	491	513	90%	96%			
Horace Mann ES	322	395	392	82%	101%			
Knollwood ES	484	572	549	88%	104%			
Meadowbrook ES	538	614	603	89%	102%			
Pinedale ES	435	435 482 446		98%	108%			
Rapid Valley ES	563	616	567	99%	109%			
Robbinsdale ES	477	583	509	94%	115%			
South Canyon ES	264	292	2 315 84%		93%			
South Park ES	353	394	374	95%	106%			
Valley View ES	653	736	617	106%	119%			
Wilson ES	372	435	392	95%	111%			
ELEMENTARY TOTAL/AVE.	6,720	7,745	6,948	97%	111%			

#### CURRENT AND PROJECTED UTILIZATION RATES - ELEMENTARY SCHOOLS



SCHOOLS	CURRENT (2015) PK-12	PROJECTED (2025) K-12	CAPACITY K-12	CURRENT UTILIZATION	PROJECTED UTILIZATION		
Middle Schools							
East MS	653	838	881	74%	95%		
North MS	522	570	763	68%	75%		
South MS	664	679	708	94%	96%		
Southwest MS	686	846	710	97%	119%		
West MS	670	683	664	101%	103%		
MIDDLE SCHOOL TOTAL/AVE.	3,195	3,617	3,726	86%	97%		
	Hi	igh Schools					
Central HS	1,902	1,913	2,048 93%		93%		
Rapid City HS	386	564	757	757 51%			
Stevens HS	1,537	1,699	1,617 95%		105%		
HIGH SCHOOL TOTAL/AVE.	3,825	4,176	4,423	86%	94%		
DISTRICT TOTAL/AVE.	13,740	15,538	15,097	91%	103%		

### CURRENT AND PROJECTED UTILIZATION RATES - MIDDLE & HIGH SCHOOLS

Conclusions reached regarding capacity and utilization include:

### ELEMENTARY SCHOOLS

The functional capacity for the elementary schools varies from a low of 302 to a high of 617. The district's elementary schools are being utilized at an "adequate" rate on a district-wide basis of 97%. The projected district-wide utilization for 2024-25 will grow to 111% with all but two schools over 100% utilization.

### MIDDLE SCHOOLS

The functional capacity at middle schools varies from a low of 664 to a high of 881. The district's middle schools are presently being utilized at an "adequate" rate of 86% overall, and the overall utilization is projected to increase to 97% by 2024-25.

The district is projected to have adequate capacity at the middle school level for the next ten years.

### HIGH SCHOOLS

The functional capacity for the high schools varies from a low of 757 to a high of 2,048. The district's high schools are currently being utilized at an "adequate" rate of 86%, however, this rate is projected to increase to 94% by 2024-25.

The district is projected to have adequate capacity at the high school level for the next ten years.



# **FACILITIES ASSESSMENTS**

The following four types of assessments were completed for all schools:

- Building condition
- Educational suitability
- Grounds condition
- Technology readiness

The building condition score measures the amount of deferred maintenance in the building's major systems, the educational suitability assessment evaluates how well the facility supports the educational program that it houses, the grounds condition score is a measure of the amount of capital needs or deferred maintenance at the site, and the technology readiness score measures the capability of the existing infrastructure to support information technology and associated equipment. All scores are based on a 100 point scale with 100 being the highest score possible.

These four scores are combined into one score for each school to assist in the task of prioritizing projects. Since the building condition score is a measure of the maintenance needs (e.g. leaky roofs, etc.) and the educational suitability score is a measure of how well the building design and configuration supports the educational program, it is possible to have a high score for one assessment and a low score for another assessment. It is the combined score that attempts to give a comprehensive picture of the conditions that exist at each school and how each school compares relative to the other schools in the district. To create the combined score, the four scores are weighted, based on which deficiencies the district wants to emphasize and the relative impact on capital costs. For Rapid City Area Schools, the building condition score was weighted 35 percent, the educational suitability score was weighted 15 percent, and the technology readiness score was weighted 15 percent.

The exhibit below provides the four individual scores along with the combined score for each school.

SITE NAME SCORE		SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS CONDITION SCORE	COMBINED SCORE 35/35/15/15				
	Elementary Schools								
Black Hawk ES	84.25	81.62	92.27	67.82	82.07				
Canyon Lake ES\Kibben Kuster	78.83	66.56	71.13	76.97	73.10				
Corral Drive ES	83.80	84.46	91.20 82.56		84.96				
General Beadle ES	90.00	85.72	92.27 85.34		88.14				
Grandview ES	72.06	74.59	84.40	73.02	74.94				
Horace Mann ES	74.60	60.07	75.60	78.20	70.20				
Knollwood ES	83.45	67.91	72.27 76.98		75.36				
Meadowbrook ES	73.48	64.12	72.27 72.29		69.85				
Pinedale ES	82.07	67.29	29 68.93		75.78				
Rapid Valley ES	84.28	80.07	88.93	88.82	84.19				
Robbinsdale ES	66.54	62.48	77.87	69.55	67.27				
South Canyon ES	72.46	63.39	62.27	85.18	69.66				

### COMBINED SCORES



SITE NAME	WEIGHTED BUILDING CONDITION SCORE	SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS CONDITION SCORE	COMBINED SCORE 35/35/15/15				
South Park ES	80.10	62.95	65.67	79.42	71.83				
Valley View ES	82.22	82.02	90.00	78.87	82.81				
Wilson ES	72.96	55.00	74.53	83.82	68.54				
Black Hawk ES	84.25	81.62	92.27	67.82	82.07				
ELEMENTARY SCHOOL AVERAGE	78.74	70.55	78.64	79.10	75.91				
Middle Schools									
East MS	85.85	84.71	90.00	90.00 81.56					
North MS 68.87		71.95	86.67	60.14	71.31				
South MS 59.82		65.44	57.87	78.18	64.25				
Southwest MS	84.15	76.97	80.00	81.57	80.63				
West MS	67.43	66.28	55.67	80.37	67.20				
MIDDLE SCHOOL AVERAGE	73.22	73.07	74.04	76.36	73.76				
	High Schools								
Central HS	83.65	80.97	72.27	81.80	80.73				
Rapid City HS	84.57	79.72	84.60 96.03		84.60				
Stevens HS	83.21	70.27	70.07 79.65		76.17				
HIGH SCHOOL AVERAGE	83.81	76.99	75.64	85.82	80.50				

The summary of findings associated with each of the scores is:

**Building Condition** - Overall, RCAS's facilities are consistently in fair to good condition, which indicates a very balanced approach to the maintenance of the facilities. The exception to this conclusion is the condition of three middle schools, North, South, and West Middle Schools, which are all below a score of 70.

**Educational Suitability** – Most of the schools scored in the "Fair" range for suitability. In most cases, this would indicate that the schools were not originally designed to meet the needs of today's educational programs.

**Grounds** – The Grounds assessment scores averaged in the high "Fair" to "Good" range. This indicates that the grounds are being generally well maintained and are meeting most of the needs of the educational programs.

**Technology Readiness** – There is a wide variation in the technology readiness scores for all the schools. This can indicate that the district may need to take a more "targeted" approach to information technology improvements.

**Combined Score** – The average Combined Score for all grade levels is 76. These score results, averaging in the "Fair" range, indicate there are significant needs that need to be addressed across the district.



### **CONCLUSIONS & RECOMMENDATIONS**

The detail report provides the process for determining priorities, the options for facility improvements considered, and the recommended course of action. Based on the data, program implications, community engagement, committee discussions and the efficient use of resources the recommended master plan is to implement a 13 elementary school model, five middle school model, suitability improvements at Stevens High School and district-wide safety and security improvements. The exhibit below provide the recommendations by phase with budget estimates. This exhibit provides the budget estimates in current dollars. The detail report also provides the budget with a 5% annual inflation applied to phases 2 and 3. The phasing is based on the following factors:

- Prioritization of highest need
- Adequate capacity to house students prior to new construction or consolidations
- Distribution of funding necessary over the ten-year period

#### **10-YEAR FACILITY MASTER PLAN RECOMMENDATIONS**

Phase 1: Years 1 – 3	Budget Estimate				
New South Park Elementary School	\$26,195,400				
New North Elementary School	\$26,195,400				
New West Middle School	\$38,896,200				
Stevens High School - Improvements	\$16,088,000				
Phase 1 Total	\$107,375,000				
Phase 2: Years 4-6					
New South Middle School	\$38,896,200				
New West Elementary School	\$26,195,400				
Corral Drive Elementary – Addition / Site Improvements	\$6,745,300				
Black Hawk Elementary - Addition / Site Improvements	\$9,299,400				
Grandview Elementary – Renovation and Addition	\$4,777,600				
Phase 2 Total	\$85,913,900				
Phase 3: Years 7-10					
New Horace Mann Elementary School	\$26,195,400				
New Meadowbrook Elementary School	\$26,195,400				
North Middle School - Renovation	\$14,955,000				
Knollwood Elementary - Renovation and Addition	\$5,724,800				
Remaining Safety and Security Upgrades	\$1,950,000				
Phase 3 Total	\$75,020,600				
Total 10 Year Budget	\$268,309,500				



# SUPPORTING RECOMMENDATIONS

In addition to the master plan recommendation the report includes supporting recommendations that are intended to provide guidance with the implementation of the ten-year master plan. The supporting recommendations include:

- Regularly review attendance boundaries
- Continue to update long-term enrollment projections on a regular basis
- Examine district administration facility alternatives
- Communicate the plan



# I.0 METHODOLOGY AND APPROACH

In May 2015, the Rapid City Area School District contracted with MGT of America to develop a *Facilities Master Plan* to address the long-term facility needs of the district. The master plan would be an update to the previous facility master plan completed during the 2007-08 school year. The purpose of the master plan was to examine the areas of need and determine a course of action to remedy any identified deficiencies.

MGT's approach to developing educational facility master plans is based on the philosophy that facility needs should be based on the school district's educational mission, goals, and objectives. Consequently, we begin by developing an understanding of the facility implications of the educational programs and the program delivery methods which the district is providing across all the schools and in each individual school. The educational mission, goals, and objectives combined with the strategic structure of the district, the grade groupings, feeder patterns, school sizes, and educational specifications, define the architecture of the school facilities.

In addition to a thorough understanding of the educational programs, MGT collects an array of data to drive the decision making process for the prioritization of needs. Data collection activities include facility assessments for site and building condition, educational suitability, and technology readiness. These assessments measure and document various aspects of the existing facilities against the school district's standards for 21<sup>st</sup> Century schools.

Demographic data is collected and used to project long-term enrollments, which in turn are used to project future facility capacity needs. Historical data for birth rates, enrollments, census data, housing developments, and economic trends are combined with planning and zoning information for the school district's geographic area to develop enrollment projections for each school by each grade level. This data is analyzed using multiple projection methodologies and GIS mapping.

The capacity of each school is determined using an instructional space model. This type of capacity model counts the number of instructional spaces in a particular school, assigns class sizes according to district standards, and applies a utilization factor. The calculated capacities are then divided by the current and projected enrollments to determine the rate of utilization and identify where the district needs additional space or has a surplus of space currently and in the future. This determination helps guide decisions regarding new schools, additions to existing schools, and redistricting.



Another key step in formulating an effective facility master plan is developing an understanding and appreciation for the perceptions and priorities of the community which the school district serves. MGT utilizes several processes for community engagement including interviews, focus groups, public charrettes, and on-line surveys. These efforts recognize multi-cultural differences and bi-lingual communities. Our experienced consultants are adept at collaboration and working transparently with all sectors of the school district's community.

The planning process culminates with the development of multiple scenarios or strategies which outline how the school district can meet the current and future facility needs. The development of several approaches to the final master plan is helpful in ensuring all options are examined and compared. The final master plan scheme is developed with prioritized projects and strategies scheduled and budgeted over the ten year planning period of the master plan.

Rapid City Area Schools has successfully implemented the 2008 Facilities Master Plan by using it as a guide for an objective and structured capital improvements program. This 2016 plan will build on this process and be an effective tool in helping the district achieve its educational mission, goals and objectives.

In order to meet the goals of the project and follow the philosophical approach as outlined above the scope of work as shown was developed to guide all project activities and ensure deliverables that would meet the needs of the district.

### EXHIBIT 1-1

#### PROJECT SCOPE

- **Educational Program Review:** MGT reviewed the current and future facility implications of the educational programs delivered by the district to determine the facility implications.
- **Enrollment projections:** MGT conducted a demographic analysis of the Rapid City area and provide enrollment projections by school.
- **Capacity and Utilization:** The study determined facility capacity ratings and comparison with enrollment projections to develop utilization rates by school. Graphic maps illustrate the utilization rates by attendance zone.
- **Facility Assessments:** Building and site condition, technology readiness, and educational suitability assessments were completed for all schools. These scores were each weighted to produce a combined score to be used in the prioritization of needs.
- **Public Input:** Public input was gathered by conducting public charrettes (meetings), an on-line survey, focus groups and interviews.
- **Final Report:** This final report includes the results of the study analyses and assessments, and provides recommendations to address the district's facility needs over the planning period.



# 2.0 EDUCATIONAL PROGRAM

This chapter of the *Facility Master Plan* describes the methodology used to understand the educational programs in the district and also defining the facility implications for those programs. In order to complete this work, MGT conducted a thorough analysis of programs, both in place and planned, and then developed the educational suitability assessment that would capture data from each school. The educational program analysis described under the Educational Program Development section were conducted through individual interviews with district curriculum staff. The facility implications from that program analysis, described under Educational Suitability Assessment section, were gathered through a review and assessment of each school.

MGT's activities related to the educational program were focused on ensuring that MGT understood the district's current and planned instructional programs, especially those with facility implications. For example, when a district focuses on performing arts and ensuring that all students have opportunities to graduate ready for college and career, the facility implications are significant.

The space requirements for specialized programs vary from one type of room to another and the facility implications of instructional decisions are important to understand and build into a long-range plan if the district is to ensure that all students are provided opportunities to learn in adequate and equitable spaces, regardless of where they go to school. Ensuring a safe learning environment is also critical.

Improving facilities is a huge challenge for most school districts, including RCAS. Many schools in the district were not built/designed to support all of the needs for special education, English Language Learners or Title I programs, each of which requires space to do that work. Buildings designed before the mid-1970's typically have classrooms only. There were no spaces for itinerant PT/OT staff, psychologists to do testing, or ELL/special education/Title I staff to do pull-out groups or instruction. Schools that lack these instructional resource spaces may have to put counselors in closets, speech therapists on the stage, and English tutors out in the hallway. Schools that lack these spaces use whatever is available, but they may not be adequate to fully support the instructional program. Schools designed and built before 1990 typically also lack the infrastructure to support current and future technology. Schools may not even have adequate electrical service to support current HVAC demands.

# EDUCATIONAL PROGRAM DEVELOPMENT

MGT conducted a series of focused interviews and discussions with district staff in spring 2015. These interviews included administrative and curricular staff representing each content area (e.g., science, performing arts, technology, media, etc.). For each area, MGT asked questions regarding both current and planned program changes. Some specialized programs require specialized spaces. For example:

During the discussions with RCAS staff, MGT provided a template to guide the discussion. The discussions started with a review of existing and planned programs, including a review of the district's adopted curriculum guides for each grade level. RCAS staff also described the planned timeline for new program implementation. Part of the discussion concerned equity – did/should the programs exist in all schools or were they only in certain schools?



From these discussions, MGT developed the *Educational Suitability and Technology Readiness Reference Guide* (see **Appendix A**) to define the facility standards. These standard are based on the district's current educational specifications and design practices. This document was reviewed and approved by the district and used as the basis for the educational suitability assessments described in the next section. The standards define four components for each type of instructional space:

- **Learning environment** Does the space provide an appropriate physical configuration, HVAC, lighting, acoustical treatment, etc. to support student learning?
- Size Does the space meet the defined size standard for square footage?
- Location Does the space exist in the right location?
- **Storage/Fixed Equipment** Does the space have what teachers and students need to be successful, including safety equipment, permanent cabinetry, and technology?

The *Guide* also defines standards for non-instructional areas like cafeteria, administration, and health suite and deals with safety issues like security vestibules, fencing, and bus/parent traffic patterns.

In addition to curricular areas, MGT discussed the district's current and planned technology structures in support of instruction. IT staff from RCAS reviewed standards and assisted in the development of the tool used to assess Technology Readiness. The Technology Readiness assessment reviews how well the infrastructure in the schools supports technology: electrical service to support charging of devices, wireless access, video streaming capacity, etc. It does not include an evaluation of the IT software or equipment.

The MGT staff who conducted assessments received specialized trained to use the *Guide* as the standard when assessing each school.

# EDUCATIONAL SUITABILITY ASSESSMENT

As described, MGT developed the *Educational Suitability and Technology Readiness Reference Guide* for RCAS to define the standards for each type of space.

The *Guide* was used to calibrate the MGT software, BASYS<sup>®</sup> (Building Assessment System). BASYS<sup>®</sup> was used in RCAS in 2005-06 as the assessment software when the last district-wide facility assessment was conducted. (Note: BASYS<sup>®</sup> has been revised since 2005-06 to provide greater emphasis on the learning environment and instructional flexibility.) The *Guide* was also used to train the assessors who visited each school and document the suitability of each space. (See **Section 6.0** for the Educational Suitability Assessment data.)

MGT staff assessed each school based on the standards defined in the *Guide*. Site visits were scheduled by MGT through the district to ensure that knowledgeable staff were available at each site during the visit. Each evaluator met with the school principal to review the program(s) at each site and then walk the school to gather data about the spaces available to support the planned programs as well as the safety issues, play/athletic areas, and non-instructional spaces. As each walk-through was completed, the assessors entered data into the BASYS software while in the field. All data were initially reviewed for accuracy and completeness through MGT's quality control process and have been reviewed and approved by the district.

The BASYS software has four assessments: Building Condition, Site Condition, Educational Suitability, and Technology Readiness, each of which are on a 100-point scale with 90-100 being "Excellent" and scores under 50 typically being "Unsatisfactory." This scoring system is easily understood by the public that is accustomed to educational grading systems on a 100-point scale. (For more information about the assessments conducted, see **Section 6.0**.)



# 3.0 COMMUNITY ENGAGEMENT

MGT was contracted by Rapid City Area Schools (RCAS) to gather information and data in order to develop a long-range facility master plan. An important component of a viable master plan is data gathered from various community sources to ensure that critical perspectives have been heard and considered in the development of the final plan.

To ensure broad-based input, MGT conducted two sets of open community forums with an online survey aligned to the discussions at the community meetings, and invited internal and external input from identified individuals. The internal input included interviews with the superintendent, school board, and senior staff, as well as the curriculum staff, including focus groups with various staff. The external input included interviews with the county executive and county planning staff. The goal of each of these sessions was to identify overall strengths and challenges for the district and explore any specific issues unique to that person's role or function. The discussions with county planning staff were intended to provide information about planned developments across the county that could affect the schools – both number of students and location of students. Information from the internal and external interviews were used to shape the open community engagement activities.

The community engagement activities included two types of community engagement activities in support of the district's goal to create a long-range facility master plan. The activities were focused initially on gathering **input** – what was working well, what needed attention or focus during the study and for the long-range plan – and then gathering **feedback** – what had we heard, what data had been gathered and what did the community think about that information. Both types of activities included face-to-face meetings as well as online survey opportunities.

### **COMMUNITY INPUT ACTIVITIES**

In order to gather community input regarding the long range facility plans for the district, MGT conducted five large group sessions open to the public and provided an online survey that included the same set of questions used during the large group sessions.

- North Middle School November 10, 2015
- West Middle School November 12, 2015
- East Middle School November 17, 2015
- South Middle School November 18, 2015
- Southwest Middle School November 19, 2015



### **FINDINGS**

163 individuals participated in charrettes or took the online survey, for a total amount of respondents for the public input portion of the plan as 933 (N=933). For the purpose of this report, we have combined the data gathered from the community input sessions and the online survey, since nearly the same data were gathered through each venue. The combined charrette and survey responses are included in *Appendix B*.

• Over 71% of respondents feel the quality of education is *Excellent* or *Good*. Respondents cited the high quality of teachers as the primary contributor to the quality of education.



• However, nearly 43% of respondents feel the environment for learning is *Fair* or *Poor*. Many respondents cited HVAC issues, particularly the lack of sufficient air conditioning as an example.





Sixty-six percent (66%) of respondents rated the physical conditions of RCAS schools as *Fair* or *Poor*, and only 34% rated conditions as *Excellent* or *Good*. Lack of air conditioning was overwhelmingly cited as most unsatisfactory element of the physical condition of schools, followed by room sizes that are insufficient to support the instructional programs.



• Sixty-eight percent (68%) of respondents identified AC in all the schools, and Program space improvements as the highest priorities in the district. Twenty-eight percent (28%) identified improvements in technology and safety and security.





Ninety percent (90%) of charrette respondents identified General Classrooms, Science/STEM spaces, and Fine/Performing Arts spaces as priority needs for elementary schools, with General Classrooms seen as the highest priority by 57% of respondents. General classrooms were cited as being too small in the older elementary schools, and a need to air condition the rooms throughout the district. Lab facilities to support STEM are seen as insufficient, and there are insufficient numbers of spaces to fully support Fine and Performing Arts.



 Similarly, 87% of respondents identified General Classrooms, Science/STEM spaces, and Fine/Performing Arts spaces as priority needs for secondary schools, with General Classrooms seen as the highest priority by 43% of respondents. There is also a slightly larger percentage of respondents seeing Fine/Performing Arts as a priority area (26%). There is also agreement that the number of spaces in secondary schools is too small to adequately support STEM and Fine/Performing Arts.





Ratings for the quality of safety and security in schools were split, with 57% rating it as *Excellent* or *Good*, and 42% rating it as *Fair* or *Poor*. Safety concerns among the respondents included: too many access points into the school buildings, lack of sufficient separation between parking lots and bus loading zones.



There was also a lack of consensus regarding the size of elementary schools. Currently, these schools range in size from 300 to 600 students. When asked whether adjustments should be made to make elementary school sizes more uniform, there was a range of responses. Forty-nine percent (49%) Strongly Agreed or Agreed to the statement, 24% of respondents were Neutral, and 27% Disagreed or Strongly Disagreed.





When asked for the best strategy to address size and age issues with elementary schools, 53% of
respondents stated Update and remodel schools most in need. Forty-one percent (41%) of
respondents identified consolidating older schools and building new ones and redistricting
attendance zones as the best strategies to address size and age.



When asked for the best strategy to address size and age issues with middle schools, 64% of
respondents stated *Maintain five middle schools, renovating those with the highest need*.
Twenty-four percent (24%) stated *Maintain five middle schools, but replace one existing with
new*. Only 12% identified with reducing the number of middle schools and renovating or
replacing the remaining middle schools.





These perceptual data regarding school size were helpful as part of MGT's review of school size issues. A separate portion of the MGT long-range plan includes a best practices review of school size based on the literature and contemporary practices in high achieving schools across the country. These community perspectives are very important in developing any final recommendations for the master plan.

# CONCLUSIONS

In order to gather community input and feedback, MGT used a variety of tools throughout the process of development of this Facility Master Plan. The goal for community engagement was to ensure that all interested members of the community had multiple opportunities for both input and feedback.

- **Input** processes asked the community what is important, what needs attention, what is working well, and what needs to be different?
- **Feedback** processes asked the community given these preliminary data, what should be the priorities, how should issues be weighted, what is **most** important to do?

Rapid City Area Schools has an involved and interested populace. They attended community sessions with many coming to schools that were not near their homes, and even when there were other events in competition. Many more community members used the online tools so that they could provide input and feedback at a time convenient for them.

From these data, it is clear that the RCAS community wants the district to focus their efforts on the following issues over the next 10 year plan:

- Fixing identified building deficiencies specifically HVAC.
- General classroom issues including the size and number of classrooms.
- Size of schools focusing initially on the size of elementary schools, but including all grade levels as new schools and additions are planned.
- Consolidation of middle schools Focus first on maintaining the same number of middle schools, conducting needed renovations, and possibly replacing one with a new school based on physical conditions of the building.



# 4.0 DEMOGRAPHICS AND ENROLLMENT PROJECTIONS

This section presents the demographic analysis and enrollment projections for the master planning period. The demographic analysis and enrollment projections were developed by MGT for the ten-year planning period. Over the next ten years, enrollment is expected to increase modestly across the district. The specific impact of future student enrollment on school building capacities is outlined in **Section 5.0** on Capacity and Utilization.

### HISTORICAL DATA

An analysis of both quantitative and qualitative data forms the basis for the enrollment projections. Quantitative data comes from the district, the county, and the U.S. Census Bureau ("Census"). Quantitative data provides the basic understanding of trends "by the numbers." Qualitative data is gathered from conversations with district officials familiar with enrollment trends (and county planners), and provides the "why" behind the numbers. Both forms of data are critical to the preparation of enrollment projections for the district's ten-year Facility Master Plan.

### RAPID CITY POPULATION TRENDS

It is important to understand the context in which enrollment trends occur within the district. Rapid City, SD had a population of 59,607 in 2000; Census data indicates that number has increased to 67,956 in 2010. **Exhibit 4-1** shows the increase in total population from 2000 to 2010.





Source: U.S. Census Bureau.



An examination of the age structure of Rapid City reveals that the largest segment of the population is between 25 and 54 years of age. **Exhibits 4-2** and **4-3** illustrate the population age structure of Rapid City in 2000 and in 2010.

EXHIBIT 4-2 RAPID CITY



Source: U.S. Census Bureau.







Source: U.S. Census Bureau.

Analysis of the age structure does not necessarily lead to any specific conclusions, but it does offer some interesting observations. Note that the population from *Under 5* show a slight increase from 2000 to 2010, while the population segements *5 to 9*, *10 to 14*, and *15 to 19* show a decline from 2000 to 2010, which indicates a decline in the school age population as a percentage of the whole population. There is an increase in the *25 to 34* segment but this increase is offset by a decline in the *35 to 44* segment. Typically these two age groups are considered the child bearing years, but in this case since there gain of one is balanced by the loss from the other we can anticipate a reasonably modest growth of new students enterning the systems. Also note that the segments *45 to 54, 55 to 59, 60 to 64, 65 to 74* and *75 to 84 all* show an increase from 2000 to 2010. This indicates that the older population is growing and the overall demographics of the community are changing.



This is further illustrated by the increase in the median age of the Rapid City population. **Exhibit 4-4** shows the increase in median age from 2000 to 2010.



EXHIBIT 4-4 RAPID CITY COUNTY MEDIAN AGE OF POPULATION 2000 TO 2010



Source: U.S. Census Bureau.

The percent change in the percent of population at each age segment further reveals that the population in Rapid City is getting older. **Exhibit 4-5** shows the percent change in population for each age segment. The *Under 5* population increased approximately 7.5% from 2000 to 2010. In addition, the *5 to 9* and *10 to 14* age segments decreased 1.7% and 14.4%, respectively, over that same time period. This data points to the decrease in population of the segments between *15 to 19, 20 to 24* and *35 to 44* as discussed previously and further indicates a slowing of the growth of student populations and those populations which typically produce students either through child birth or relocation.

### EXHIBIT 4-5 RAPID CITY, SD CHANGE IN PERCENT OF POPULATION 2000 TO 2010 (BY AGE SEGMENT)

AGE SEGMENT	% OF 2000 POPULATION	% OF 2010 POPULATION	CHANGE IN % OF POPULATION
Under 5	7.0%	7.5%	7.5%
5 to 9	6.7%	6.5%	-1.7%
10 to 14	7.2%	6.2%	-14.4%
15 to 19	7.8%	6.4%	-17.5%
20 to 24	8.4%	7.9%	-6.0%
25 to 34	13.2%	14.7%	11.4%
35 to 44	15.5%	11.1%	-28.7%
45 to 54	13.0%	13.5%	4.0%
55 to 59	4.2%	6.4%	51.8%
60 to 64	3.7%	5.1%	40.7%
65 to 74	6.7%	7.1%	5.1%
75 to 84	4.7%	5.1%	9.4%
85 and over	1.8%	2.3%	26.3%

Source: U.S. Census Bureau.



The racial structure in 2010 for Rapid City consisted of 77% white, 12% American Indian or Alaska Native, and other races accounted for the remaining 11% of the population. The white population increased from 50,226 in 2000 to 54,658 in 2010, however; the white population decreased as a percentage of total population (-4.8%). The Native Indian and Alaska Natives increased from 10% of the population in 2000 to 12% of the population in 2010. **Exhibit 4-6** illustrates the racial structure in Rapid City for 2000 and 2010.

### EXHIBIT 4-6 RAPID CITY RACIAL STRUCTURE (TOTAL POPULATION BY RACE) 2000 TO 2010



\*Hispanic or Latino (any race) Source: U.S. Census Bureau.

The data presented thus far builds the context for the following discussion regarding future RCAS enrollment.



### HISTORICAL ENROLLMENT

The core body of data used to develop an enrollment projection is historical enrollment. Total enrollment in Rapid City Area Schools stood at 13,102 students in 2006-07. Since then, enrollment has increased to 13,740 in 2015-16. **Exhibit 4-7** details the enrollment history of K-12 students. **Exhibit 4-8** charts the history.

### EXHIBIT 4-7 RAPID CITY AREA SCHOOLS ENROLLMENT HISTORY\* 2006-2015

Grade	06 - 07	07 - 08	08 - 09	09 - 10	10 - 11	11 - 12	12 - 13	13 - 14	14 - 15	15 - 16
к	1,009	1,091	1,066	1,097	1,121	1,085	1,264	1,162	1,174	1,120
1	996	1,003	1,081	1,083	1,128	1,181	1,141	1,231	1,155	1,123
2	1,034	1,001	996	1,075	1,065	1,132	1,167	1,116	1,224	1,120
3	988	1,016	1,018	974	1,062	1,093	1,147	1,128	1,095	1,188
4	970	1,013	1,030	1,027	962	1,064	1,084	1,127	1,125	1,065
5	996	973	993	1,056	1,009	995	1,075	1,075	1,126	1,104
6	1,000	1,003	974	993	1,036	1,026	990	1,065	1,054	1,098
7	990	979	1,008	964	994	1,039	1,049	998	1,055	1,055
8	1,046	970	965	1,005	979	989	1,063	1,043	999	1,042
9	1,228	1,215	1,239	1,255	1,272	1,231	1,215	1,249	1,213	1,164
10	1,058	1,112	1,080	1,111	1,047	1,148	1,047	1,021	1,032	998
11	877	845	874	866	873	867	872	869	850	849
12	910	881	818	820	814	790	824	800	838	814
K-5	5,993	6,097	6,184	6,312	6,347	6,550	6,878	6,839	6,899	6,720
6-8	3,036	2,952	2,947	2,962	3,009	3,054	3,102	3,106	3,108	3,195
9-12	4,073	4,053	4,011	4,052	4,006	4,036	3,958	3,939	3,933	3,825
K-12	13,102	13,102	13,142	13,326	13,362	13,640	13,938	13,884	13,940	13,740

\*Excludes: Early Intervention, Kibben Kuster and 19-21 program Source: Rapid City Area Schools, 2015.







Source: MGT of America, Inc., 2016.

An examination of historical enrollment at the grade-band level reveals that the increase in overall enrollment over the last ten years has been led by an increase in enrollment at the K-5 grade band, which increased 12.13% from 5,993 to 6,720 students. The 6-8 grade band increased in enrollment by 5.24% from 3,036 to 3,195, and the 9-12 grade band decreased by 6.1% from 4,073 to 3,825 in enrollment. **Exhibit 4-9** illustrates the historical enrollment for each grade band.







Source: MGT of America, Inc., 2016.



A closer look at historical enrollment at individual grade levels does not reveal any distinct trends at the elementary and middle school grade levels where historical enrollment data has trended upward. However at the high school grade-level enrollment data we do see a three year trend of declining student enrollment at the 9<sup>th</sup> and 10<sup>th</sup> grade levels which has a strong correlation to the census data discussed earlier in this chapter. Why this particular segment of the student population is changing and what demographic influencers are causing this change is difficult to determine without a more thorough examination of this population set. The following **Exhibits 4-10, 4-11**, and **4-12** illustrate the historical enrollment for each grade level.





Source: MGT of America, Inc., 2016.







Source: MGT of America, Inc., 2016.





Source: MGT of America, Inc., 2016.



The trends observed in the historical enrollment data will form a key component of the enrollment projections prepared as a part of this master plan.

#### LIVE BIRTHS AND KINDERGARTEN ENROLLMENT

A second key component to analyzing potential future enrollment is to examine live-birth trends in the area and the live-births-to-kindergarten capture rate. A steady or increasing birth rate could lead to additional students in the district, which would also push future enrollment higher. In Pennington and Meade Counties, live births have overall been increasing. However, the number of live births in Pennington and Meade Counties has been fluctuating between a low of 1,764 in 2001 to a high of 1,961 in 2006. **Exhibit 4-13** shows the trend of historical live births for these counties.



\*2015 estimated via linear regression.

Source: South Dakota Department of Health, Office of Health Statistics, 2015.



When examining the ratio of live-births-to-kindergarten enrollment, live-birth data is collected for the past 15 years and kindergarten enrollment for the past ten years. For example, a child born in 1990 would enroll in kindergarten at the age of five. Therefore, in this analysis, we are looking at how many children are enrolled in kindergarten as compared to the number of children born in the counties five years prior to a particular school year. **Exhibit 4-14** compares the district's historical kindergarten enrollment to the live birth data.





Source: MGT of America, Inc., 2016.

Two statistics are critical to understanding the relationship between live births and kindergarten enrollment in the district: the correlation coefficient and the capture rate.

The correlation coefficient calculates the relationship between two series of data. A correlation coefficient of 1 or -1 indicates a strong relationship; a correlation coefficient of 0 indicates a weak relationship. For RCAS, the correlation coefficient for kindergarten enrollment to live births is 0.577 which indicates a mildly strong relationship and therefore the live birth rate may be a good indicator of future kindergarten enrollment.



The capture rate measures the percentage of live births that resulted in kindergarten enrollment five years later. Over the last ten years, the district's capture rate has averaged 59.3%, however, the capture rate has been fluctuating in recent years, as **Exhibit 4-15** illustrates. This capture rate indicates that the population segments which typically are associated with the childbearing years are not producing as many children as historically has been the case. This trend was discussed earlier in this chapter as indicated in the census data (**Exhibit 4-5**). The recent overall increase in this capture rate probably indicates the slight growth in the *25 to 34* population segment (also indicated in **Exhibit 4-5**).





Source: MGT of America, Inc., 2016.


**Exhibit 4-16** illustrates the projected live births for the district. Live births are projected using a linear regression model based on historical live births in Pennington and Meade Counties. Given the decline in capture rates from approximately 65% in 2012 to 59% in 2015 there is a strong likelihood that kindergarten enrollments will remain flat or slightly decline in the coming years.







#### HOUSING UNITS

Another factor used to develop enrollment projections is an analysis of the trends in housing units in the county. The U.S. Census Bureau recorded 25,096 housing units in Rapid City in the 2000 Census and 30,294 housing units in 2010. The census data provides a starting point for this analysis, but building permit data provides additional information upon which to base an assumed number of housing units following the 2000 and 2010 Census.

Since 2006, the number of housing permits issued each year in Rapid City has fluctuated greatly. In an effort to better understand these fluctuations MGT met with the Rapid City and Pennington County planners to further analyze the housing permit information. Although somewhat difficult to predict, a consensus was developed using historical averages, knowledge of the construction environment and an examination of future permitting requests which concluded that overall housing starts would maintain an average of nearly 2% per year for the next ten years. **Exhibit 4-17** illustrates the number of housing permits issued each year since 2006 in Rapid City, which includes both single- and multi-family building permits.





Source: City of Rapid City, Community Planning and Development Services, 2015.



If we combine the historical and average projected building permits, and assume that each permit will result in a built residential unit, we can estimate the number of future housing units in the district. The total estimated number of housing units is generated by using the number of housing units established by the 2010 Census and adding it to the number of historical and projected building permits as illustrated by **Exhibit 4-18** below.





Source: MGT of America, Inc., 2016

## **CONCLUSIONS AND OBSERVATIONS ABOUT HISTORICAL DATA**

Based on the analysis of data presented in this section, we have concluded the following regarding the demographics of Rapid City:

- **4.** Census Bureau population counts show an increase in the overall population but a decrease in population as it relates to the population segments which impact K-12 enrollment.
- 5. The general population and demographics of the RCAS area are changing and getting older, which could lead to fewer students in some areas of the district.
- 6. Housing units will continue to increase but the rate of increase is speculative and dependent on the economy and the growth policies of the county.



# **ENROLLMENT PROJECTION METHODOLOGY**

Enrollment projections are merely an *estimate* of future activity based on the historical data and information provided. As demonstrated by the district calculations over the past ten years, there can be constant variations in growth. These numbers can be highly accurate, but it must be remembered that the numbers are still a projection or estimate. During the implementation of any of the recommendations provided, it is critical that the district reassess these numbers on a regular basis and adjust plans accordingly.

To identify trends and prepare for adequate spaces, teaching staff and materials and supplies, educational leaders use several methods of projecting enrollment. Among the most commonly used models are *Average Percentage Annual Increase, Cohort Survival, Linear Regression*, and *Student-per-Housing Unit* models. Because no one model is foolproof, MGT generates a weighted average of these four "base" models to arrive at its enrollment projection.

A rule of thumb when forecasting enrollment is that the models should use as many years of historical data as there are years in the projection period. In other words, if the model is projecting enrollment for five years from now, then five years of historical data is used. If the model is projecting enrollment for ten years from now, then ten years of historical data is used. Each of the following "base" models draw data in this manner for their calculations.

#### AVERAGE PERCENTAGE ANNUAL INCREASE MODEL

This model calculates future school enrollment growth based on the historical average growth from year to year for each grade level. This simple model multiplies the historical average percentage increase (or decrease) by the prior year's enrollment to project future enrollment estimates. For example, if enrollment in the first grade decreased five percent from 2000 to 2001 and decreased seven percent from 2001 to 2002, then the average percentage change would be a six percent decrease, and six percent would be the factor used to project future enrollment in this model.

#### LINEAR REGRESSION MODEL

This model uses a statistical approach to estimating an unknown future value of a variable by performing calculations on known historical values. Once calculated, future values for different future dates can then be plotted to provide a "regression line" or "trend line". MGT has chosen a "straight-line" model to estimate future enrollment values, a model that finds the "best fit" based on the historical data.

#### COHORT SURVIVAL MODEL

This model calculates the growth or decline between grade levels over a period of ten years based on the ratio of students who attend each of the previous years, or the "survival rate". This ratio is then applied to the incoming class to calculate the trends in that class as it "moves" or graduates through the school system. For example, if history shows that between the first and second grades, the classes for the last ten years have grown by an average of 3.5%, then the size of incoming classes for the next ten years is calculated by multiplying them by 103.5%. If the history shows a declining trend, the multiplying factor would be 100% minus the declining trend number.

The determination of future kindergarten enrollment estimates is critical, especially for projections exceeding more than five years. There are two methods of projecting kindergarten enrollment. The first model is based on the correlation between historical resident birth rates (natality rates) and historical kindergarten enrollment. The second model uses a linear regression line based on the



historical kindergarten enrollment data. The correlation method was used for RCAS due to the mildly strong correlation coefficient between live births and kindergarten enrollment.

#### STUDENTS-PER-HOUSEHOLD MODEL

This last model utilizes the estimated number of housing units as its base data. Using the housing unit data and historical enrollment data, MGT created a student generation factor for each projected grade level. By taking the total enrollment by grade level and dividing it by the current housing levels, a *student generation factor* (SGF) was calculated for each grade level. This factor indicates the number of students within each grade level that will be generated by each new housing unit.

Once each of these four base models has been calculated, MGT generates a weighted average of each of the models. A weighted average allows the analysis to reflect all of the trends observed in the historical data and the over-arching themes from the qualitative information gathered in this process. The weighted average also works to maximize the strengths of each of the "base" models.

Two models, the Average Percentage Annual Increase Model and the Linear Regression Model, emphasize historical data. These models are quite effective predictors if there is no expectation of unusual community growth or decline and student population rates have minimal fluctuation.

The Cohort Survival Model also uses historical enrollment numbers, but takes into account studentmobility patterns and the effects of the natality rates in prior years. The Cohort Survival Model is perhaps the best-known predictive tool using this type of data. However, like the Annual Percentage Annual Increase Model and the Linear Regression Model, the Cohort Survival Model loses its predictive capabilities in communities that experience, or are expecting to experience, more rapid growth or rapid decline.

The Students-Per-Household Model allows the planner to take into account projections for housing developments and general growth in the county. This model looks forward and is based on the input from local planners. The planning information is important and the district should continue to monitor this information.

Exhibit 4-19 identifies the weights used in this analysis.

WEIGHTING FACTORS					
MODEL	PROJECTION MODEL WEIGHT				
Average Percentage Annual Increase	20%				
Students-per-Household	25%				
Cohort Survival	35%				
Linear Regression	20%				

#### EXHIBIT 4-19 WEIGHTS USED TO GENERATE WEIGHTED AVERAGE OF "BASE" MODELS



Exhibit 4-20 illustrates the four enrollment projection models and the one combined weighted model.







Source: MGT of America, Inc., 2016.

# **ENROLLMENT PROJECTIONS**

MGT staff has utilized the methodology described above to forecast enrollment for the district over the next ten years, which are shown in **Exhibit 4-20**. **Exhibit 4-21** on the following page illustrates the historical and projected enrollment for the entire district. The difference in total projected enrollment for the district (**Exhibit 4-20**) and the total of the individual schools (**Exhibit 4-25**) is due to the mathematics of the models and the historical enrollment of a particular school. For example, a school may show significant growth from year-to-year, which would result in a high average annual growth modeling factor and a high overall projection for that particular school. However, the abundance of growth at a particular school will be balanced by the other schools in the district-wide model, which leads to a lower average annual growth modeling factor and a less significant increase in future enrollment. The same is true for grade band projections as compared to the sum of the individual schools within a particular grade band. In the end, the district-wide and grade band totals provide good macro views of potential future trends. The individual school projections appropriate for planning for that particular school projections appropriate for planning for that particular building's future.

# EXHIBIT 4-20 RAPID CITY AREA SCHOOLS PROJECTED ENROLLMENT

PROJECTED ENROLLMENT										
Grade	16 - 17	17 - 18	18 - 19	19 - 20	20 - 21	21 - 22	22 - 23	23 - 24	24 - 25	25 - 26
к	1,143	1,141	1,160	1,132	1,181	1,178	1,193	1,209	1,219	1,239
1	1,116	1,089	1,079	1,128	1,121	1,148	1,154	1,168	1,192	1,210
2	1,122	1,096	1,132	1,141	1,171	1,185	1,212	1,222	1,237	1,242
3	1,185	1,208	1,181	1,166	1,192	1,232	1,255	1,282	1,279	1,293
4	1,103	1,056	1,060	1,071	1,077	1,118	1,145	1,144	1,167	1,166
5	1,093	1,131	1,125	1,133	1,148	1,144	1,157	1,192	1,200	1,222
6	1,090	1,089	1,128	1,123	1,117	1,109	1,112	1,139	1,166	1,166
7	1,087	1,090	1,098	1,129	1,098	1,109	1,116	1,111	1,135	1,163
8	1,073	1,098	1,074	1,059	1,116	1,098	1,102	1,107	1,105	1,115
9	1,192	1,182	1,194	1,208	1,197	1,242	1,217	1,228	1,227	1,224
10	1,002	1,010	1,024	1,034	1,012	1,016	1,063	1,048	1,055	1,056
11	856	846	853	853	868	871	869	911	901	907
12	825	817	820	832	834	846	850	846	876	851
K-5	6,762	6,721	6,738	6,773	6,889	7,005	7,114	7,216	7,293	7,373
6-8	3,250	3,277	3,300	3,311	3,331	3,316	3,330	3,357	3,406	3,445
9-12	3,875	3,855	3,892	3,926	3,910	3,976	3,999	4,032	4,060	4,039
K-12	13,887	13,853	13,930	14,010	14,130	14,298	14,443	14,605	14,760	14,857





EXHIBIT 4-21 RAPID CITY AREA SCHOOLS HISTORICAL AND PROJECTED ENROLLMENT – K-12



The District is strongly encouraged to continue revisiting these projections on an annual basis and update them to reflect current trends and data. The following **Exhibits 4-22** through **4-24** illustrate the historical and projected enrollment at each grade band.



EXHIBIT 4-22 RAPID CITY AREA SCHOOLS HISTORICAL AND PROJECTED ENROLLMENT – K-5





EXHIBIT 4-23 RAPID CITY AREA SCHOOLS HISTORICAL AND PROJECTED ENROLLMENT – 6-8

Source: MGT of America, Inc., 2016

EXHIBIT 4-24 RAPID CITY AREA SCHOOLS HISTORICAL AND PROJECTED ENROLLMENT – 9-12





The methodologies discussed above were used to generate projections for each school. **Exhibit 4-25** provides the 2025 projection by school.

### EXHIBIT 4-25 RAPID CITY AREA SCHOOLS PROJECTED ENROLLMENT BY SCHOOL

SCHOOL NAME	PROJECTED (2025) K-12
Black Hawk ES	554
Canyon Lake ES\Kibben Kuster	440
Corral Drive ES	531
General Beadle ES	610
Grandview ES	491
Horace Mann ES	395
Knollwood ES	572
Meadowbrook ES	614
Pinedale ES	482
Rapid Valley ES	616
Robbinsdale ES	583
South Canyon ES	292
South Park ES	394
Valley View ES	736
Wilson ES	435
Elementary Total	7,745
East MS	838
North MS	570
South MS	679
Southwest MS	846
West MS	683
Middle School Total	3,617
Central HS	1,913
Rapid City HS	564
Stevens HS	1,699
High School Total	4,176
District Total	15,538



## **FINDINGS**

As the foregoing **Exhibit 4-25** shows, enrollment across the district is expected to fluctuate slightly in the next few years, but shows a modest increase by the end of the ten year planning period. While this projection somewhat contradicts birth and age data, it is a reasonable conclusion given the historical enrollments and the current and projected level of development:

- Live births are projected to decrease which will counteract growth in housing.
- While there is a mildly strong correlation between the live birth rate and the kindergarten capture rate, the capture rate has historically been less than 100 percent indicating some level of exodus of students out the district.
- The census data from 2000 to 2010 has shown a decrease in elementary age children.
- While the slowing economy has negatively affected the rate of construction of homes, there is a
  general consensus among stakeholders that the rates of building and migration into the county
  will increase as the economy improves.

In the next section on Capacity and Utilization, we will utilize these enrollment projections to measure the future utilization rates in Rapid City and determine whether there will be excess space or a need for additional space.



# 5.0 CAPACITY AND UTILIZATION

This section examines and compares the capacity and utilization rates of Rapid City Area Schools' facilities over the ten years for the master plan.

The *functional capacity* of an educational facility is defined as the number of students the facility can accommodate. More specifically, a school's capacity is the number of students which can be accommodated given the specific educational programs, the class schedules, the student-teacher ratios, and the size of the rooms. The *utilization rate* of a facility is calculated by dividing the current or projected enrollment of the educational facility by the capacity. The utilization rate is used to determine if the facility has excess space or if it is lacking sufficient space for the given enrollment.

# FUNCTIONAL CAPACITY

The *functional capacity* used by MGT is calculated using the *Instructional Space Model*. This model counts the number of the various types of instructional rooms and multiplies that number by the maximum students-per-room or the *loading* factor to identify the gross capacity for the school. The gross capacity is then multiplied by a scheduling factor, which takes into account the realities of how the space is used. Typically, not all classrooms are scheduled for every period at a middle school or high school. For example, high school students move from room to room and enroll in a variety of courses. As a result, some rooms will sit empty or will be less than fully occupied at any given time. Teacher preparation periods will also contribute to rooms not being used for instruction at a particular time. Therefore, MGT uses a 70% scheduling factor at high schools to reduce the gross capacity of the building to reflect the unused rooms. Middle schools are assigned an 80% scheduling factor. An elementary school has a much more static and consistent daily use so MGT uses a 90% scheduling factor for elementary schools.

**Exhibit 5-1** on the following page lists the loading factors and scheduling factors used to calculate the functional capacities.



#### EXHIBIT 5-1 RAPID CITY AREA SCHOOLS FUNCTIONAL CAPACITY LOADING FACTORS

INSTRUCTIONAL SPACE MODEL GUIDELINES				
Room Type	Loading Factor (Students/Room)			
Pre-Kindergarten	18			
General classroom grades K-2	25			
General classroom grades 3-12	30			
Science (6-12)	28			
Vocational (6-12)	25			
Music (6-12)	40			
P.E. (6-12)	25			
Art (6-12)	25			
Computer Lab	0			
K-5 Special Education self-contained	10			
6-12 Special Education self-contained	12			
K-5 Resource (pull-out)	0			
6-12 Resource (pull-out)	0			
Utilization Factor				
Elementary Schools	90%			
Middle Schools	80%			
High Schools	70%			



Exhibit 5-2 shows how the model is used to calculate the capacity of a theoretical school.

## EXHIBIT 5-2 RAPID CITY AREA SCHOOLS EXAMPLE OF CAPACITY CALCULATION

ROOM TYPE	NUMBER OF CLASSROOMS X	STUDENTS/CLASS ROOM	=CAPACITY
General Classroom (3-12)	47	30	1,410
Science Lab Classes (6-12)	9	28	252
Computer Lab	2	0	0
Art (6-12)	3	25	75
Music (6-12)	4	40	160
Vocational (6-12)	5	25	125
PE (6-12)	5	25	125
Special Ed - Self Contained (6-12)	2	12	24
Resource (pull-out) (6-12)	0	0	0
Portable Room Count	5	0	0
	2,171		
	70%		
	1,520		



**Exhibit 5-3** lists the capacities for the Rapid City schools as calculated using the Instructional Space Model. As the exhibit shows, the elementary schools have a total, district-wide capacity of 6,948 with an average per school capacity of 463. The middle schools have a total, district wide capacity of 3,726 with an average-per-school capacity of 745, and the high schools have a total, district-wide capacity of 4,423 with an average per school capacity of 1,474.

## EXHIBIT 5-3 RAPID CITY AREA SCHOOLS FUNCTIONAL CAPACITIES

SCHOOLS	K-5 CAPACITY
Elementary Schools	
Black Hawk ES	387
Canyon Lake ES\Kibben Kuster	302
Corral Drive ES	446
General Beadle ES	540
Grandview ES	513
Horace Mann ES	392
Knollwood ES	549
Meadowbrook ES	603
Pinedale ES	446
Rapid Valley ES	567
Robbinsdale ES	509
South Canyon ES	315
South Park ES	374
Valley View ES	617
Wilson ES	392
ELEMENTARY TOTAL	6,948
Middle Schools	
East MS	881
North MS	763
South MS	708
Southwest MS	710
West MS	664
MIDDLE SCHOOL TOTAL	3,726
High Schools	
Central HS	2,048
Rapid City HS	757
Stevens HS	1,617
HIGH SCHOOL TOTAL	4,423
DISTRICT TOTAL	15,097



# **UTILIZATION RATES**

The effective management of school facilities requires a school's capacity and enrollment to be aligned. When capacity exceeds enrollment (underutilization), operational costs are higher than necessary and facilities may need to be repurposed or the facilities may need to be removed from inventory. When enrollment exceeds capacity (overutilization), the school may be overcrowded and may require capital expenditures or redistricting (adjustment to attendance boundaries) to alleviate the crowding.

**Exhibit 5-4** shows the corresponding utilization rates calculated using the *functional capacities* and the current and projected enrollment at each school.

## EXHIBIT 5-4 RAPID CITY AREA SCHOOLS CURRENT AND PROJECTED UTILIZATION RATES

UTILIZATION	DESCRIPTION
> 110	Inadequate
100 – 109.9	Approaching Inadequate
85 - 99.9	Adequate
70 - 84.99	Approaching Inefficient
< 70	Inefficient

SCHOOLS	CURRENT ENROLLMENT (2015) PK-12	PROJECTED ENROLLMENT (2025) K-12	CAPACITY K-12	CURRENT UTILIZATION	PROJECTED UTILIZATION
	Eleme	ntary Schools			
Black Hawk ES	458	554	387	118%	143%
Canyon Lake ES\Kibben Kuster	363	440	302	120%	146%
Corral Drive ES	484	531	446	109%	119%
General Beadle ES	490	610	540	91%	113%
Grandview ES	464	491	513	90%	96%
Horace Mann ES	322	395	392	82%	101%
Knollwood ES	484	572	549	88%	104%
Meadowbrook ES	538	614	603	89%	102%
Pinedale ES	435	482	446	98%	108%
Rapid Valley ES	563	616	567	99%	109%
Robbinsdale ES	477	583	509	94%	115%
South Canyon ES	264	292	315	84%	93%
South Park ES	353	394	374	95%	106%
Valley View ES	653	736	617	106%	119%
Wilson ES	372	435	392	95%	111%
ELEMENTARY TOTAL/AVE.	6,720	7,745	6,948	97%	111%



## EXHIBIT 5-2 (CONTINUED) RAPID CITY AREA SCHOOLS CURRENT AND PROJECTED UTILIZATION RATES

SCHOOLS	CURRENT (2015) PK-12	PROJECTED (2025) K-12	CAPACITY K-12	CURRENT UTILIZATION	PROJECTED UTILIZATION			
	Middle Schools							
East MS	653	838	881	74%	95%			
North MS	522	570	763	68%	75%			
South MS	664	679	708	94%	96%			
Southwest MS	686	846	710	97%	119%			
West MS	670	683	664	101%	103%			
MIDDLE SCHOOL TOTAL/AVE.	3,195	3,617	3,726	86%	97%			
	Hi	gh Schools						
Central HS	1,902	1,913	2,048	93%	93%			
Rapid City HS	386	564	757	51%	74%			
Stevens HS	1,537	1,699	1,617	95%	105%			
HIGH SCHOOL TOTAL/AVE.	3,825	4,176	4,423	86%	94%			
DISTRICT TOTAL/AVE.	13,740	15,538	15,097	91%	103%			



# CAPACITY AND UTILIZATION CONCLUSIONS

#### ELEMENTARY SCHOOLS

The functional capacity for the elementary schools varies from a low of 302 to a high of 617. The district's elementary schools are being utilized at an "adequate" rate on a district-wide basis of 97%. The projected district-wide utilization for 2024-25 will grow to 111% with all but two schools over 100% utilization.

The district should examine the specific situation for the schools that are projected to have "inadequate" or "approaching inadequate" utilization rates to determine if action is required, and whether the approach will require capital improvements or redistricting. Specific recommendations will be presented in **Section 7.0** of the Master Plan.

#### MIDDLE SCHOOLS

The functional capacity the middle schools varies from a low of 664 to a high of 881. The district's middle schools are presently being utilized at an "adequate" rate of 86% overall, and the overall utilization is projected to increase to 97% by 2024-25.

The district is projected to have adequate capacity at the middle school level for the next ten years.

#### HIGH SCHOOLS

The functional capacity for the high schools varies from a low of 757 to a high of 2,048. The district's high schools are currently being utilized at an "adequate" rate of 86%, however, this rate is projected to increase to 94% by 2024-25.

The district is projected to have adequate capacity at the high school level for the next ten years.



# 6.0 FACILITIES ASSESSMENTS

This section presents the results of the facilities assessments that were conducted by MGT and staff from Rapid City Area Schools. The assessments were conducted using BASYS<sup>®</sup>, MGT's facility assessment software program. There are four types of assessments, including:

- Building condition
- Educational suitability
- Grounds condition
- Technology readiness

# **BUILDING CONDITION ASSESSMENT**

The BASYS<sup>®</sup> building condition score measures the amount of deferred maintenance in the building's major systems. The weighted condition score of a school is the average condition score (weighted by building square footage) of all the buildings at a school (including portables). The scores are interpreted as follows:

90+	<b>New or Like New:</b> The building and/or a majority of its systems are in good condition, less than three years old, and only require preventive maintenance.
80-89	<b>Good:</b> The building and/or a majority of its systems are in good condition and only require routine maintenance.
70-79	<b>Fair:</b> The building and/or some of its systems are in fair condition and require minor to moderate repair.
60-69	<b>Poor:</b> The building and/or a significant number of its systems are in poor condition and require major repair, renovation, or replacement.
BELOW 60	<b>Unsatisfactory:</b> The building and/or a majority of its systems should be replaced.

The condition assessment rates each system in a building as "new", "good", "fair", "poor", or "unsatisfactory" based on a detailed description of each rating for the particular system. The possible score for each system is based on that system's contribution to the overall cost of building construction. Therefore, the condition score is a measure of that portion of the value of the building which is in good condition. The capital needs score (100 minus the condition score) is a measure of the capital needs or deferred maintenance. This score, when presented as a percent, is also referred to as the facility condition index or FCI. For example, a building which has a condition score of 80, has a capital needs score of 20 (100 - 80 = 20). A capital needs score of 20 indicates that 20 percent of the value of the building can be reinvested in the building in order to attain a score of 100 and put the building in a "like new" condition. The condition score and resulting calculations do not include the costs of additions, site improvements, improvements for educational suitability, or technology readiness improvements.



**Exhibit 6-1** presents the range of the weighted average condition scores (weighted by GSF) by type of facility for RCAS. As the exhibit shows, there is a range of condition scores, from 59 to 90, with the average condition scores in the "Good" to "Fair" range.

## EXHIBIT 6-1 RAPID CITY AREA SCHOOLS WEIGHTED AVERAGE BUILDING CONDITION SCORE RANGES

SITE TYPE	BUILDING ( SCORE	CONDITION RANGE	AVERAGE CONDITION	
	LOW	HIGH	SCORE	
Elementary Schools	66.54	90.00	78.74	
Middle Schools	59.82	85.85	73.22	
High Schools	83.21	84.57	83.81	
Support Facilities	78.81	89.40	84.10	

Source: MGT of America, Inc., 2016.

**Exhibit 6-2** presents the weighted average condition score for each school that was assessed. As the exhibit shows, condition scores are, for the most part, in the "Fair" to "Good" categories which indicates that the facilities range in need from minor maintenance to preventive maintenance.

# EXHIBIT 6-2 RAPID CITY AREA SCHOOLS CONDITION SCORES – BY SITE

SITE NAME	GSF	WEIGHTED AVERAGE CONDITION SCORE
Elemen	tary Schools	
Black Hawk ES	42,200	84.25
Canyon Lake ES\Kibben Kuster	43,264	78.83
Corral Drive ES	46,460	83.80
General Beadle ES	98,450	90.00
Grandview ES	48,179	72.06
Horace Mann ES	35,253	74.60
Knollwood ES	50,636	83.45
Meadowbrook ES	51,319	73.48
Pinedale ES	37,904	82.07
Rapid Valley ES	46,000	84.28
Robbinsdale ES	43,958	66.54
South Canyon ES	29,188	72.46
South Park ES	27,774	80.10
Valley View ES	53,850	82.22
Wilson ES	32,283	72.96
ELEMENTARY SCHOOL TOTAL/AVERAGE	45,781	78.74



## EXHIBIT 6-2 (CONTINUED) RAPID CITY AREA SCHOOLS CONDITION SCORES – BY SITE

SITE NAME	GSF*	WEIGHTED AVERAGE CONDITION			
Middle Schools					
East MS	144,550	85.85			
North MS	113,702	68.87			
South MS	120,758	59.82			
Southwest MS	86,372	84.15			
West MS	136,497	67.43			
MIDDLE SCHOOL TOTAL/AVERAGE	120,376	73.22			
High	n Schools				
Central HS	500,038	83.65			
Rapid City HS	194,970	84.57			
Stevens HS	393,500	83.21			
HIGH SCHOOL TOTAL/AVERAGE	362,836	83.81			
Support Facilities					
Jefferson Building Special Services	23,250	89.40			
Lincoln IT Center	22,132	78.81			
SUPPORT FACILITIES AVERAGE	22,691	84.10			
DISTRICT TOTAL/AVERAGE	96,899	78.67			



# EDUCATIONAL SUITABILITY ASSESSMENT

The educational suitability assessment evaluates how well the facility supports the educational program that it houses. Each school receives one suitability score which applies to all the buildings at the facility. The educational suitability of each school was assessed with BASYS<sup>®</sup> using the following categories:

ENVIRONMENT	The overall environment of the schools with respect to creating a safe and positive learning environment.
CIRCULATION	Pedestrian/vehicular circulation and the appropriateness of site facilities and signage.
SUPPORT SPACE	The existence of facilities and spaces to support the educational program being offered. These include general classrooms, special learning spaces (e.g. music rooms, libraries, science labs), and support spaces (e.g. administrative offices, counseling offices, reception areas, kitchens, health clinics).
SIZE	The adequacy of the size of the program spaces.
LOCATION	The appropriateness of adjacencies (e.g., physical education space separated from quiet spaces).
STORAGE & FIXED EQUIPMENT	The appropriateness of utilities, fixed equipment, storage, and room surfaces (e.g. flooring, ceiling materials, and wall coverings).

#### Suitability scores are interpreted as follows:

90+	<b>Excellent:</b> The facility is designed to provide for and support the educational program offered. It may have a minor suitability issues but overall it meets the needs of the educational program.
80-89	<b>Good:</b> The facility is designed to provide for and support a majority of the educational program offered. It may have minor suitability issues but generally meets the needs of the educational program.
70-79	<b>Fair:</b> The facility has some problems meeting the needs of the educational program and will require remodeling/renovation.
60-69	<b>Poor:</b> The facility has numerous problems meeting the needs of the educational program and needs significant remodeling, additions, or replacement.
BELOW 60	<b>Unsatisfactory:</b> The facility is unsuitable in support of the educational program.



**Exhibit 6-3** presents the range and average of suitability scores by facility type. The suitability scores range from 55 to 85. The average scores fall within the "Good" to "Fair" range:

## EXHIBIT 6-3 RAPID CITY AREA SCHOOLS SUITABILITY SCORE RANGES

SITE TYPE	SUITABILITY SCORE RANGE		
	LOW	HIGH	SUITABILITY SCORE
Elementary Schools	55.00	85.72	70.55
Middle Schools	65.44	84.71	73.07
High Schools	70.27	80.97	76.99
Support Facilities	85.33	85.33	85.33

Source: MGT of America, Inc., 2016.

**Exhibit 6-4** presents the educational suitability score for each school. As the scores indicate, a few schools have significant suitability deficiencies.

## EXHIBIT 6-4 RAPID CITY AREA SCHOOLS SUITABILITY SCORES – BY SITE

SITE NAME	SUITABILITY SCORES	
Elementary Schoo	ls	
Black Hawk ES	81.62	
Canyon Lake ES\Kibben Kuster	66.56	
Corral Drive ES	84.46	
General Beadle ES	85.72	
Grandview ES	74.59	
Horace Mann ES	60.07	
Knollwood ES	67.91	
Meadowbrook ES	64.12	
Pinedale ES	67.29	
Rapid Valley ES	80.07	
Robbinsdale ES	62.48	
South Canyon ES	63.39	
South Park ES	62.95	
Valley View ES	82.02	
Wilson ES	55.00	
ELEMENTARY SCHOOL TOTAL/AVERAGE	70.55	



## EXHIBIT 6-4 (CONTINUED) RAPID CITY AREA SCHOOLS SUITABILITY SCORES – BY SITE

SITE NAME	SUITABILITY SCORES		
Middle Schools			
East MS	84.71		
North MS	71.95		
South MS	65.44		
Southwest MS	76.97		
West MS	66.28		
MIDDLE SCHOOL TOTAL/AVERAGE	73.07		
High Schools			
Central HS	80.97		
Rapid City HS	79.72		
Stevens HS	70.27		
HIGH SCHOOL TOTAL/AVERAGE	76.99		
Support Schools			
Jefferson Building Special Services	85.33		
Lincoln IT Center	N/A		
SUPPORT FACILITIES TOTAL/AVERAGE	85.53		
DISTRICT TOTAL/AVERAGE	72.50		



# **GROUNDS CONDITION ASSESSMENT**

The grounds condition assessment score is a measure of the amount of capital needs or deferred maintenance at the site, which includes the driveways and walkways, the parking lots, the playfields, the utilities, and fencing, etc. The scores are interpreted as follows:

90+	<b>New or Like New:</b> The site and/or a majority of its systems are in good condition, less than three years old, and only require preventive maintenance.
80-89	<b>Good:</b> The site and/or a majority of its systems are in good condition and only require routine maintenance.
70-79	<b>Fair:</b> The site and/or some of its systems are in fair condition and require minor to moderate repair.
60-69	<b>Poor:</b> The site and/or a significant number of its systems are in poor condition and will require major repair or renovation.
BELOW 60	<b>Unsatisfactory:</b> The site and/or a majority of its systems should be renovated.

The grounds assessment scores were calculated in the same manner as the building condition scores. **Exhibit 6-5** presents the range of grounds assessment scores and the average grounds assessment scores by facility type. The grounds assessment scores ranged from 60 to 96 and averaged in the "Fair" to "Good" range.

#### EXHIBIT 6-5 RAPID CITY AREA SCHOOLS GROUNDS ASSESSMENT SCORE RANGES

SITE TYPE	GROUNDS ASSESSMENT SCORE RANGE		AVERAGE GROUNDS
	LOW	HIGH	Jeone
Elementary Schools	67.82	88.82	79.10
Middle Schools	60.14	81.57	76.36
High Schools	79.65	96.03	85.82
Support Facilities	74.35	87.39	80.87



**Exhibit 6-6** presents the grounds assessment score by each school site. Each school site receives a single grounds assessment score.

## EXHIBIT 6-6 RAPID CITY AREA SCHOOLS GROUNDS SCORES – BY SITE

SITE NAME	GROUNDS SCORES	
Elementary Schools		
Black Hawk ES	67.82	
Canyon Lake ES\Kibben Kuster	76.97	
Corral Drive ES	82.56	
General Beadle ES	85.34	
Grandview ES	73.02	
Horace Mann ES	78.20	
Knollwood ES	76.98	
Meadowbrook ES	72.29	
Pinedale ES	87.74	
Rapid Valley ES	88.82	
Robbinsdale ES	69.55	
South Canyon ES	85.18	
South Park ES	79.42	
Valley View ES	78.87	
Wilson ES	83.82	
ELEMENTARY SCHOOL TOTAL/AVERAGE	79.10	
Middle Schools		
East MS	81.56	
North MS	60.14	
South MS	78.18	
Southwest MS	81.57	
West MS	80.37	
MIDDLE SCHOOL TOTAL/AVERAGE	76.36	
High Schools		
Central HS	81.80	
Rapid City HS	96.03	
Stevens HS	79.65	
HIGH SCHOOL TOTAL/AVERAGE	85.82	
Support Facilities	5	
Jefferson Building Special Services	87.39	
Lincoln IT Center	74.35	
SUPPORT FACILITIES TOTAL/AVERAGE	80.87	
DISTRICT TOTAL/AVERAGE	79.50	
Source: MGT of America, Inc., 2016.		



# **TECHNOLOGY READINESS**

The BASYS<sup>®</sup> technology readiness score measures the capability of the existing infrastructure to support information technology and associated equipment. The score can be interpreted as follows:

90+	<b>Excellent</b> : The facility has excellent infrastructure to support information technology.
80-89	<b>Good:</b> The facility has the infrastructure to support information technology.
70-79	Fair: The facility is lacking in some infrastructure to support information technology.
60-69	<b>Poor:</b> The facility is lacking significant infrastructure to support information technology.
BELOW 60	<b>Unsatisfactory:</b> The facility has little or no infrastructure to support information technology.

**Exhibit 6-7** presents the range of technology scores and the average technology scores by facility type. Technology readiness scores vary from 55 to 92, with the averages in the "Fair" range.

# EXHIBIT 6-7 RAPID CITY AREA SCHOOLS TECHNOLOGY SCORE RANGES

SITE TYPE	TECHNOLOGY READINESS SCORE RANGE		
	Low	High	
Elementary Schools	62.27	92.27	78.64
Middle Schools	55.67	90.00	74.04
High Schools	70.07	84.60	75.64
Support Facilities	80.00	80.00	80.00



## Exhibit 6-8 presents the technology readiness score for each school site.

## EXHIBIT 6-8 RAPID CITY AREA SCHOOLS TECHNOLOGY SCORES – BY SITE

SITE NAME	TECHNOLOGY SCORES	
Elementary Schools		
Black Hawk ES	92.27	
Canyon Lake ES\Kibben Kuster	71.13	
Corral Drive ES	91.20	
General Beadle ES	92.27	
Grandview ES	84.40	
Horace Mann ES	75.60	
Knollwood ES	72.27	
Meadowbrook ES	72.27	
Pinedale ES	68.93	
Rapid Valley ES	88.93	
Robbinsdale ES	77.87	
South Canyon ES	62.27	
South Park ES	65.67	
Valley View ES	90.00	
Wilson ES	74.53	
ELEMENTARY SCHOOL TOTAL/AVERAGE	78.64	
Middle Schools		
East MS	90.00	
North MS	86.67	
South MS	57.87	
Southwest MS	80.00	
West MS	55.67	
MIDDLE SCHOOL TOTAL/AVERAGE	74.04	
High Schools		
Central HS	72.27	
Rapid City HS	84.60	
Stevens HS	70.07	
HIGH SCHOOL TOTAL/AVERAGE	75.64	
Support Facilities	5	
Jefferson Building Special Services	80.00	
Lincoln IT Center	N/A	
SUPPORT FACILITIES TOTAL/AVERAGE	80.00	
DISTRICT TOTAL/AVERAGE	77.36	



# **COMBINED SCORES**

The building condition, educational suitability, grounds condition, and technology readiness scores are combined into one score for each school to assist in the task of prioritizing projects. Since the building condition score is a measure of the maintenance needs (e.g. leaky roofs, etc.) and the educational suitability score is a measure of how well the building design and configuration supports the educational program, it is possible to have a high score for one assessment and a low score for another assessment. It is the combined score that attempts to give a comprehensive picture of the conditions that exist at each school and how each school compares relative to the other schools in the district.

To create the combined score, the four scores are weighted, based on which deficiencies the district wants to emphasize and the relative impact on capital costs. For Rapid City Area Schools, the building condition score was weighted 35 percent, the educational suitability score was weighted 35 percent, the grounds condition score was weighted 15 percent, and the technology readiness score was weighted 15 percent. **Exhibit 6-9** presents the range of the combined scores and the average combined scores by facility type. The combined scores vary from 64 to 88, with the averages in the "Fair" to "Good" range.

**Exhibit 6-10** presents all the scores for each facility and the resulting combined score using this weighting formula. Note that support facilities are not assigned a Combined Score since they are not assessed for Educational Suitability or Technology Readiness.

# EXHIBIT 6-9 RAPID CITY AREA SCHOOLS COMBINED SCORE RANGES

SITE TYPE	COMBINED SC				
	Min	Max	COMBINED SCORES		
Elementary Schools	67.27	88.14	75.91		
Middle Schools	64.25	85.43	73.76		
High Schools	76.17	84.60	80.50		
Support Facilities	86.27	86.27	86.27		

Source: MGT of America, Inc., 2016.

## EXHIBIT 6-10 RAPID CITY AREA SCHOOLS COMBINED SCORES – BY SITE

SCORES	DESCRIPTION
> 90	Excellent/Like New
80 - 89.99	Good
70 - 79.99	Fair
60 - 69.99	Poor
< 59.99	Unsatisfactory



#### EXHIBIT 6-10 (CONTINUED) RAPID CITY AREA SCHOOLS COMBINED SCORES – BY SITE

SITE NAME	WEIGHTED BUILDING CONDITION	SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS CONDITION SCORE	COMBINED SCORE 35/35/15/15							
Elementary Schools												
Black Hawk FS	84.25	81.62	92.27	67.82	82.07							
Canvon Lake ES\Kibben Kuster	78.83	66.56	71.13	76.97	73.10							
Corral Drive ES	83.80	84.46	91.20	82.56	84.96							
General Beadle ES	90.00	85.72	92.27	85.34	88.14							
Grandview ES	72.06	74.59	84.40	73.02	74.94							
Horace Mann ES	74.60	60.07	75.60	78.20	70.20							
Knollwood ES	83.45	67.91	72.27	76.98	75.36							
Meadowbrook ES	73.48	64.12	72.27	72.29	69.85							
Pinedale ES	82.07	67.29	68.93	87.74	75.78							
Rapid Valley ES	84.28	80.07	88.93	88.82	84.19							
Robbinsdale ES	66.54	62.48	77.87	69.55	67.27							
South Canyon ES	72.46	63.39	62.27	85.18	69.66							
South Park ES	80.10	62.95	65.67	79.42	71.83							
Valley View ES	82.22	82.02	90.00	78.87	82.81							
Wilson ES	72.96	55.00	74.53	83.82	68.54							
Black Hawk ES	84.25	81.62	92.27	67.82	82.07							
ELEMENTARY SCHOOL AVERAGE	78.74	70.55	78.64	79.10	75.91							
	Γ	Viddle Schools										
East MS	85.85	84.71	90.00	81.56	85.43							
North MS	68.87	71.95	86.67	60.14	71.31							
South MS	59.82	65.44	57.87	78.18	64.25							
Southwest MS	84.15	76.97	80.00	81.57	80.63							
West MS	67.43	66.28	55.67	80.37	67.20							
MIDDLE SCHOOL AVERAGE	73.22	73.07	74.04	76.36	73.76							
		High Schools										
Central HS	83.65	80.97	72.27	81.80	80.73							
Rapid City HS	84.57	79.72	84.60	96.03	84.60							
Stevens HS	83.21	70.27	70.07	79.65	76.17							
HIGH SCHOOL AVERAGE	83.81	76.99	75.64	85.82	80.50							



#### EXHIBIT 6-10 (CONTINUED) RAPID CITY AREA SCHOOLS COMBINED SCORES – BY SITE

SITE NAME	WEIGHTED BUILDING CONDITION SCORE	SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS CONDITION SCORE	COMBINED SCORE 35/35/15/15	
	Si	pport Facilities				
Jefferson Building Special Services	89.40	85.33	80.00	87.39	86.27	
Lincoln IT Center	78.81	N/A	N/A	74.35	N/A	
SUPPORT FACILITIES AVERAGE	84.10	85.33	80.00	80.87	86.27	
DISTRICT AVERAGE	78.67	72.50	77.36	79.50	76.47	

Source: MGT of America, Inc., 2016.

#### **FINDINGS**

**Building Condition** - Overall, RCAS's facilities are consistently in fair to good condition, which indicates a very balanced approach to the maintenance of the facilities. The exception to this conclusion is the condition of three middle schools, North, South, and West Middle Schools, which are all below a score of 70.

**Educational Suitability** – Most of the schools scored in the "Fair" range for suitability. In most cases, this would indicate that the schools were not originally designed to meet the needs of today's educational programs.

**Grounds** – The Grounds assessment scores averaged in the high "Fair" to "Good" range. This indicates that the grounds are being generally well maintained and are meeting most of the needs of the educational programs.

**Technology Readiness** – There is a wide variation in the technology readiness scores for all the schools. This can indicate that the district may need to take a more "targeted" approach to information technology improvements.

**Combined Score** – The average Combined Score for all grade levels is 76. These score results, averaging in the "Fair" range, indicate there are significant needs that need to be addressed across the district.

The facility assessments provide the data to prioritize projects based on the overall facility needs of the district. This data combined with the capacity and utilization analysis, the educational goals and programs, capital improvement budgets, and the district's school size goals, will be used to make specific recommendations in **Section 7.0**.



# 7.0 RECOMMENDATIONS

This section presents the recommendations and conclusions based on the data presented in previous chapters of this master plan report. This chapter is divided into the following three sections:

- The process of developing the master plan, the options considered, a summary of total needs and associated budget estimates, and the prioritization process.
- The ten-year master plan recommendations for school facility improvements, additions, and new construction.
- Supporting recommendations that are important as the district implements the master plan.

# **PROCESS AND PRIORITIZATION**

The process of prioritization involved the development of a needs summary based on the data obtained, development of optional scenarios for meeting the needs, budget estimates and assigned "cut points" for determining priority levels.

The first step in determining priorities is to develop a "combined score" based on the facility assessment scores provided earlier in this report. Based on facility committee discussion and MGT recommendations the following weighting was assigned to each of the individual scores in order to calculate the combined score:

- Facility Condition and Suitability weighted at 35% each
- Site and Technology Readiness weighted at 15% each

**Exhibits 7-1** through **7-4** on the following pages provide the facility score matrix with the combined score included based on the weighting above.



## EXHIBIT 7-1 RAPID CITY AREA SCHOOL DISTRICT ELEMENTARY SCHOOL MATRIX

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE	ENROLLMENT		CAPACITY	PACITY UTILIZATION	
							CURRENT (2015)	PROJECTED (2025)		CURRENT (2015)	PROJECTED (2025)
Blackhawk	11	84.25	81.62	92.27	67.82	82.07	458	554	387	118%	143%
Canyon Lake ES\Kibben Kuster	13	78.83	66.56	71.13	76.97	73.10	363	440	302	120%	146%
Corral Drive ES	6	83.80	84.46	91.20	82.56	84.96	484	531	446	109%	119%
General Beadle ES	9	90.00	85.72	92.27	85.34	88.14	490	610	540	91%	113%
Grandview ES	10	72.06	74.59	84.40	73.02	74.94	464	491	513	90%	96%
Horace Mann ES	9	74.60	60.07	75.60	78.20	70.20	322	395	392	82%	101%
Knollwood ES	10	83.45	67.91	72.27	76.98	75.36	484	572	549	88%	104%
Meadowbrook ES	12	73.48	64.12	72.27	72.29	69.85	538	614	603	89%	102%
Pinedale ES	10	82.07	67.29	68.93	87.74	75.78	435	482	446	98%	108%
Rapid Valley ES	15	84.28	80.07	88.93	88.82	84.19	563	616	567	99%	109%
Robbinsdale ES	8	66.54	62.48	77.87	69.55	67.27	477	583	509	94%	115%
South Canyon ES	6	72.46	63.39	62.27	85.18	69.66	264	292	315	84%	93%
South Park ES	8	80.10	62.95	65.67	79.42	71.83	353	394	374	95%	106%
Valley View ES	66	82.22	82.02	90.00	78.87	82.81	653	736	617	106%	119%
Wilson ES	1	72.96	55.00	74.53	83.82	68.54	372	435	392	95%	111%
Total/Average	194	78.74	70.55	78.64	79.10	75.91	6,720	7,745	6,948	97%	111%

Source: MGT of America, Inc., 2016.



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#### EXHIBIT 7-2 RAPID CITY AREA SCHOOL DISTRICT MIDDLE SCHOOL MATRIX

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE	ENROLLMENT		ENROLLMENT		CAPACITY	UTILIZ	ATION
							CURRENT (2015)	PROJECTED (2025)		CURRENT (2015)	PROJECTED (2025)		
East MS	0	85.85	84.71	90.00	81.56	85.43	653	838	881	74%	95%		
North MS	35	68.87	71.95	86.67	60.14	71.31	522	570	763	68%	75%		
South MS	18	59.82	65.44	57.87	78.18	64.25	664	679	708	94%	96%		
Southwest MS	21	84.15	76.97	80.00	81.57	80.63	686	846	710	97%	119%		
West MS	27	67.43	66.28	55.67	80.37	67.20	670	683	664	101%	103%		
Total/Average	101	73.22	73.07	74.04	76.36	73.76	3,195	3,617	3,726	86%	97%		



#### EXHIBIT 7-3 RAPID CITY AREA SCHOOL DISTRICT HIGH SCHOOL MATRIX

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE	ENROLLMENT		ENROLLMENT		CAPACITY	UTILIZ	ATION
							CURRENT (2015)	PROJECTED (2025)		CURRENT (2015)	PROJECTED (2025)		
Central HS	18	83.65	80.97	72.27	81.80	80.73	1,902	1,913	2,048	93%	93%		
Rapid City HS	7	84.57	79.72	84.60	96.03	84.60	386	564	757	51%	74%		
Stevens HS	90	83.21	70.27	70.07	79.65	76.17	1,537	1,699	1,617	95%	105%		
Total/Average	115	83.81	76.99	75.64	85.82	80.50	3,825	4,176	4,423	86%	94%		


# EXHIBIT 7-4 RAPID CITY AREA SCHOOL DISTRICT OTHER SCHOOLS MATRIX

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE
Jefferson Building Special Services	1	89.40	85.33	80.00	87.39	86.27
Lincoln IT Center*	3	78.81	N/A	N/A	74.35	N/A
Total/Average	4	84.10	85.33	80.00	80.87	86.27

\* Suitability and technology readiness were not included at Lincoln because no PK – 12 programs are housed. Source: MGT of America, Inc., 2016.

The next step in developing priorities is to determine appropriate "cut points". Again, after committee discussion the following cut points were developed for determining phase 1 and phase 2 priorities in terms of both combined score and projected utilization. **Exhibit 7-5** provides these cut points:

# EXHIBIT 7-5

### COMBINED SCORE AND UTILIZATION PRIORITIZATION CUT POINTS

	COMBINED SCORE	PROJECTED UTILIZATION
PRIORITY 1	<70	>110%
PRIORITY 2	<75	>100%

Based on the cut points shown above, **Exhibits 7-6** through **7-9** on the following pages show the matrices with the priorities color coded.



# EXHIBIT 7-6 RAPID CITY AREA SCHOOL DISTRICT ELEMENTARY SCHOOL MATRIX WITH PRIORITIES

SCHOOL NAME	ACREAGE		EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE	ENROI		CAPACITY	UTILIZ	ZATION
							CURRENT (2015)	PROJECTED (2025)		CURRENT (2015)	PROJECTED (2025)
Blackhawk	11	84.25	81.62	92.27	67.82	82.07	458	554	387	118%	143%
Canyon Lake ES\Kibben Kuster	13	78.83	66.56	71.13	76.97	73.10	363	440	302	120%	146%
Corral Drive ES	6	83.80	84.46	91.20	82.56	84.96	484	531	446	109%	119%
General Beadle ES	9	90.00	85.72	92.27	85.34	88.14	490	610	540	91%	113%
Grandview ES	10	72.06	74.59	84.40	73.02	74.94	464	491	513	90%	96%
Horace Mann ES	9	74.60	60.07	75.60	78.20	70.20	322	395	392	82%	101%
Knollwood ES	10	83.45	67.91	72.27	76.98	75.36	484	572	549	88%	104%
Meadowbrook ES	12	73.48	64.12	72.27	72.29	69.85	538	614	603	89%	102%
Pinedale ES	10	82.07	67.29	68.93	87.74	75.78	435	482	446	98%	108%
Rapid Valley ES	15	84.28	80.07	88.93	88.82	84.19	563	616	567	99%	109%
Robbinsdale ES	8	66.54	62.48	77.87	69.55	67.27	477	583	509	94%	115%
South Canyon ES	6	72.46	63.39	62.27	85.18	69.66	264	292	315	84%	93%
South Park ES	8	80.10	62.95	65.67	79.42	71.83	353	394	374	95%	106%
Valley View ES	66*	82.22	82.02	90.00	78.87	82.81	653	736	617	106%	119%
Wilson ES	1	72.96	55.00	74.53	83.82	68.54	372	435	392	95%	111%
Total/Average	194	78.74	70.55	78.64	79.10	75.91	6,720	7,745	6,948	97%	111%

Source: MGT of America, Inc., 2016.



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# EXHIBIT 7-7 RAPID CITY AREA SCHOOL DISTRICT MIDDLE SCHOOL MATRIX WITH PRIORITIES

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE	ENRO	LLMENT	CAPACITY	UTILIZ	ATION
							CURRENT (2015)	PROJECTED (2025)		CURRENT (2015)	PROJECTED (2025)
East MS	66*	85.85	84.71	90.00	81.56	85.43	653	838	881	74%	95%
North MS	35	68.87	71.95	86.67	60.14	71.31	522	570	763	68%	75%
South MS	18	59.82	65.44	57.87	78.18	64.25	664	679	708	94%	96%
Southwest MS	21	84.15	76.97	80.00	81.57	80.63	686	846	710	97%	119%
West MS	27	67.43	66.28	55.67	80.37	67.20	670	683	664	101%	103%
Total/Average	101	73.22	73.07	74.04	76.36	73.76	3,195	3,617	3,726	86%	97%



# EXHIBIT 7-8 RAPID CITY AREA SCHOOL DISTRICT HIGH SCHOOL MATRIX WITH PRIORITIES

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE	ENRO	LLMENT	CAPACITY	UTILIZ	ATION
							CURRENT (2015)	PROJECTED (2025)		CURRENT (2015)	PROJECTED (2025)
Central HS	18	83.65	80.97	72.27	81.80	80.73	1,902	1,913	2,048	93%	93%
Rapid City HS	7	84.57	79.72	84.60	96.03	84.60	386	564	757	51%	74%
Stevens HS	90	83.21	70.27	70.07	79.65	76.17	1,537	1,699	1,617	95%	105%
Total/Average	115	83.81	76.99	75.64	85.82	80.50	3,825	4,176	4,423	86%	94%



# EXHIBIT 7-9 RAPID CITY AREA SCHOOL DISTRICT OTHER SCHOOLS MATRIX WITH PRIORITIES

SCHOOL NAME	ACREAGE	CONDITION SCORE	EDUCATIONAL SUITABILITY SCORE	TECH READINESS SCORE	GROUNDS SCORE	COMBINED SCORE
Jefferson Building Special Services	1	89.40	85.33	80.00	87.39	86.27
Lincoln IT Center	3	78.81	N/A	N/A	74.35	N/A
Total/Average	4	84.10	85.33	80.00	80.87	86.27

Source: MGT of America, Inc., 2016.

As can be concluded from the above exhibits, the community engagement process, and the educational program review, the highest priority needs identified are:

- Condition at Robbinsdale, Wilson, South Canyon and Meadowbrook Elementary Schools
- Condition at South and West Middle Schools
- Projected utilization at Canyon Lake/Kibbon Custer, Black Hawk, Corral Drive, Robbinsdale, and General Beadle Elementary Schools
- Projected utilization at Southwest Middle School
- Suitability issues at Stevens High School
- Safety and security upgrades
- Improved facility utilization



# **OPTIONS CONSIDERED**

The third step in the prioritization process was to hold facility committee discussions regarding different options for meeting the needs over the ten-year period and the associated budget implications. The first options reviewed were for elementary schools and were based on the number of schools needed to meet the educational program needs while most efficiently utilizing district resources. **Exhibits 7-10** and **7-11** provide a summary of the two options considered (13 school option and 12 school option) along with the budget estimate for each.

# EXHIBIT 7-10 RAPID CITY AREA SCHOOLS ELEMENTARY OPTION 1

Facilities Master Plan
Draft Recommendations
ES Option 1

13 School Model	
Project	Budget Estimate
Black Hawk ES - Addition to increase capacity to 600	\$ 9,299,400
Corral Drive ES - Addition to increase capacity to 600	\$ 6,745,300
Grandview ES - Addition to increase capacity to 600	\$ 3,798,300
Grandview ES - Renovation	\$ 4,777,600
Horace Mann ES - Replace with ES @ 600 student capacity	\$ 26,195,400
Knollwood ES - Addition to increase capacity to 600	\$ 2,226,600
Knollwood ES - Renovation	\$ 3,498,200
Meadowbrook ES - Replace with ES @ 600 student capacity	\$ 26,195,400
South Park ES - Replace with ES @ 600 student capacity	\$ 26,195,400
New ES @ 600 at West MS Site	\$ 26,195,400
New ES @ 600 in North Rapid City	\$ 26,195,400
Grand Total	\$ 161,322,400



# EXHIBIT 7-11 RAPID CITY AREA SCHOOLS ELEMENTARY OPTION 2

Facilities Master Plan Draft Recommendations ES Option 2						
12 School Model						
Project		Budget Estimate				
Black Hawk ES - Addition to increase capacity to 600	\$	9,299,400				
Corral Drive ES - Replace with ES @ 650 student capacity	\$	28,378,400				
Grandview ES - Addition to increase capacity to 650	\$	5,981,300				
Grandview ES - Renovation	\$	4,777,600				
Knollwood ES - Addition to increase capacity to 650	\$	4,409,600				
Knollwood ES - Renovation	\$	3,498,200				
Meadowbrook ES - Replace with ES @ 650 student capacity	\$	28,378,400				
South Park ES - Replace with ES @ 650 student capacity	\$	28,378,400				
General Beadle - Addition to increase capacity to 650	\$	4,802,500				
Rapid Valley - Addition to increase capacity to 650	\$	3,623,700				
New ES @ 650 at West MS Site	\$	28,378,400				
New ES @ 650 in North Rapid City	\$	28,378,400				
Grand Total	\$	178,284,300				



To arrive at the 13 school model the following occurs:

- New schools / additions are planned for an enrollment of 600 students.
- Four existing schools close (Robbinsdale, Wilson, South Canyon, and Canyon Lake/Kibbon Custer)
- Two new schools are added, one at the West Middle School site and one in North Rapid City

To arrive at the 12 school model the following occurs:

- With the exception of Black Hawk, new schools / additions are planned for an enrollment of 650 students. Black Hawk capacity remains at 600 because this provides space for the projected enrollment and Black Hawk is not a candidate for boundary changes.
- Five existing schools close (Robbinsdale, Wilson, South Canyon, Canyon Lake/Kibbon Custer, and Horace Mann)
- Two new schools are added, one at the West Middle School site and one in North Rapid City

**Exhibit 7-12** below provides a summary of the school configuration and capacities at the completion of each option.

# EXHIBIT 7-12 RAPID CITY AREA SCHOOL DISTRICT ELEMENTARY OPTION SUMMARY

SCHOOL	OPTION 1 CAPACITY	OPTION 2 CAPACITY
Black Hawk ES	600	600
Corral Drive ES	600	650
General Beadle ES	540	650
Grandview ES	600	650
Horace Mann ES	600	0
Knollwood ES	600	650
Meadowbrook ES	600	650
Pinedale ES	446	446
Rapid Valley ES	567	650
South Park ES	600	650
Valley View ES	617	617
New ES - West	600	650
New ES - North	600	650
Total	7,570*	7,513*

\*These capacities should be reviewed in the latter years of the plan to ensure they align with enrollment projections. Source: MGT of America, Inc., 2016.



Middle school options included reviewing the needs and associated costs of remaining with the current five middle schools and reducing the number to four. **Exhibits 7-13** and **7-14** provide a summary of these two options along with the budget estimate for each.

# EXHIBIT 7-13 RAPID CITY AREA SCHOOL DISTRICT MIDDLE SCHOOL OPTIONS

Middle School Options
<b>Option 1</b> (5 Middle Schools)
<ul> <li>Replace West MS @ 750 student capacity</li> </ul>
<ul> <li>Replace South MS @ 750 student capacity</li> </ul>
<ul> <li>Renovate North MS</li> </ul>
<ul> <li>Boundary Adjustment (Southwest / West)</li> </ul>
Option 2 (4 Middle Schools)
<ul> <li>Increase Capacity at Southwest and North MS to 950 students</li> </ul>
Replace South MS @ 950 student capacity
Renovate North MS



# EXHIBIT 7-14 RAPID CITY AREA SCHOOL DISTRICT MIDDLE SCHOOL BUDGET ESTIMATES

Facilities Master Plan
Draft Recommendations
MS Option 1

	-	
5 MS Model		
Project	Bu	dget Estimate*
West MS - Replace with MS @ 750 student capacity	\$	38,896,200
South MS - Replace with MS @ 750 student capacity	\$	38,896,200
North MS - Renovation	\$	14,955,000
Grand Total	\$	92,747,400

# Facilities Master Plan Draft Recommendations MS Option 2

4 MS Model				
Project	Budget Estimate*			
Southwest MS - Increase capacity to 950 students	\$	12,426,000		
North MS - Increase capacity to 950 students	\$	9,687,700		
South MS - Replace with MS @ 950 student capacity	\$	49,268,500		
North MS - Renovation	\$	14,955,000		
Grand Total	\$	86,337,200		

Source: MGT of America, Inc., 2016.

Since high school needs centered on the educational suitability issues at Stevens, there is no need to review multiple options. The needs at Stevens will be addressed in the Master Plan Recommendations.

When considering all options, the change in grade level re-alignment to K-6 elementary schools and 7-8 middle schools and the possibility of implementing year round schools were reviewed. The grade level re-alignment option was not found to be feasible based on the existing facilities, community input, and educational program. Implementation of a year round model could provide a means of reducing the capital need but would need to be reviewed in depth regarding its effect on current programs, the type of scheduling system to be utilized, and the degree of acceptance in Rapid City. It is important to note that year round programs that reduce the capital need do not extend the number of school days. Instead the intent is to schedule students and staff so that vacation periods are staggered and facilities are utilized year round



# **TEN-YEAR FACILITY MASTER PLAN**

Based on the data, program implications, community engagement, committee discussions and the efficient use of resources it is recommended that the District implement the 13 elementary school model, five middle school model, suitability improvements at Stevens High School and district-wide safety and security improvements. **Exhibits 7-15** and **7-16** show the recommendations by phase with budget estimates. **Exhibit 7-15** provides the budget estimates in current dollars and **Exhibit 7-16** includes 5% annual interest for phases 2 and 3. The phasing is based on the following factors:

- Prioritization of highest need
- Adequate capacity to house students prior to new construction or consolidations
- Distribution of funding necessary over the ten-year period

# EXHIBIT 7-15

### RAPID CITY AREA SCHOOLS 10-YEAR FACILITY MASTER PLAN RECOMMENDATIONS

Phase 1: Years 1 – 3	Budget Estimate		
New South Park Elementary School	\$26,195,400		
New North Elementary School	\$26,195,400		
New West Middle School	\$38,896,200		
Stevens High School - Improvements	\$16,088,000		
Phase 1 Total	\$107,375,000		
Phase 2: Years 4-6			
New South Middle School	\$38,896,200		
New West Elementary School	\$26,195,400		
Corral Drive Elementary – Addition / Site Improvements	\$6,745,300		
Black Hawk Elementary - Addition / Site Improvements	\$9,299,400		
Grandview Elementary – Renovation and Addition	\$4,777,600		
Phase 2 Total	\$85,913,900		
Phase 3: Years 7-10			
New Horace Mann Elementary School	\$26,195,400		
New Meadowbrook Elementary School	\$26,195,400		
North Middle School - Renovation	\$14,955,000		
Knollwood Elementary - Renovation and Addition	\$5,724,800		
Remaining Safety and Security Upgrades	\$1,950,000		
Phase 3 Total	\$75,020,600		
Total 10 Year Budget	\$268,309,500		



### EXHIBIT 7-16 RAPID CITY AREA SCHOOLS 10-YEAR FACILITY MASTER PLAN RECOMMENDATIONS WITH INFLATION

Phase 1: Years 1 – 3	0% Compound Interest		
New South Park Elementary School	\$26,195,400		
New North Elementary School	\$26,195,400		
New West Middle School	\$38,896,200		
Stevens High School - Improvements	\$16,088,000		
Phase 1 Total	\$107,375,000		
Phase 2: Years 4-6	5% Compound Interest		
New South Middle School	\$49,642,500		
New West Elementary School	\$33,432,700		
Corral Drive Elementary – Addition / Site Improvements	\$8,608,900		
Black Hawk Elementary - Addition / Site Improvements	\$11,868,700		
Grandview Elementary – Renovation and Addition	\$6,097,600		
Phase 2 Total	\$109,650,400		
Phase 3: Years 7-10	5% Compound Interest		
New Horace Mann Elementary School	\$40,637,700		
New Meadowbrook Elementary School	\$40,637,700		
North Middle School - Renovation	\$23,200,100		
Knollwood Elementary - Renovation and Addition	\$8,881,000		
Remaining Safety and Security Upgrades	\$3,025,100		
Phase 3 Total	\$116,381,600		
Total 10 Year Budget	\$333,407,000		



# SUPPORTING RECOMMENDATIONS

The following recommendations are intended to provide guidance with the implementation of the tenyear master plan.

#### **RECOMMENDATION I:**

**REGULARLY REVIEW ATTENDANCE BOUNDARIES** 

A key component of the ten-year facilities master plan is the efficient use of existing facilities. One important element in accomplishing this objective is the need to review attendance boundaries on a regular basis. Care needs to be taken in order to balance the need to utilize facilities more efficiently with meeting the needs of students, but policies can and should be developed to address both concerns. These policies often include allowing students to remain at a particular school once enrolled, not requiring a change when safety concerns exist, etc. As the master plan is implemented schools with appropriate capacity will become available in locations where students are likely to reside making this process much simpler.

#### **RECOMMENDATION 2:**

CONTINUE TO UPDATE LONG-TERM ENROLLMENT PROJECTIONS ON A REGULAR BASIS

Long-term enrollment projections should continue to be updated as the master plan is implemented. In addition to the current level of growth that is occurring in Rapid City, improvements to facility conditions, new facilities, and program changes will likely lead to increased demographic changes. A sound projection basis has been provided in this report. The updates should be relatively simple and, therefore, require much less effort than was undertaken for this study. MGT recommends continuing to update the data no less than once every three years.

### **RECOMMENDATION 3:**

EXAMINE DISTRICT ADMINISTRATION FACILITY ALTERNATIVES

The possibility exists for the School District to re-locate from the current District office location shared with City departments. This possibility should be thoroughly examined in order to determine the pros and cons of each option both in terms of administrative efficiencies and long term cost savings. The possibility of combining district functions at one site, thereby decreasing the need for multiple locations, could be to the District's advantage both operationally and financially.

Possible locations include:

- Utilizing unused space at Rapid City High School
- Jefferson Facility
- Canyon Lake / Kibbon Custer Complex

While implementation of the master plan will also provide unused space at Robbinsdale, Wilson and South Canyon, the location, square footage, and facility condition at these locations do not lend themselves as viable possibilities for District functions and may be of more value to sell. This is also true for Lincoln and the maintenance storage building if those functions can be associated with the relocated district administrative facility.



#### **RECOMMENDATION 4**:

#### COMMUNICATE THE PLAN

Funding of the long-term master plan will likely require approval of additional funding sources by district voters. As with all school district initiatives, it will be critical to develop a communications plan to inform the public of the need, the plan for addressing the need, and the advantages brought to the community.

