

## EXECUTIVE SUMMARY

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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.

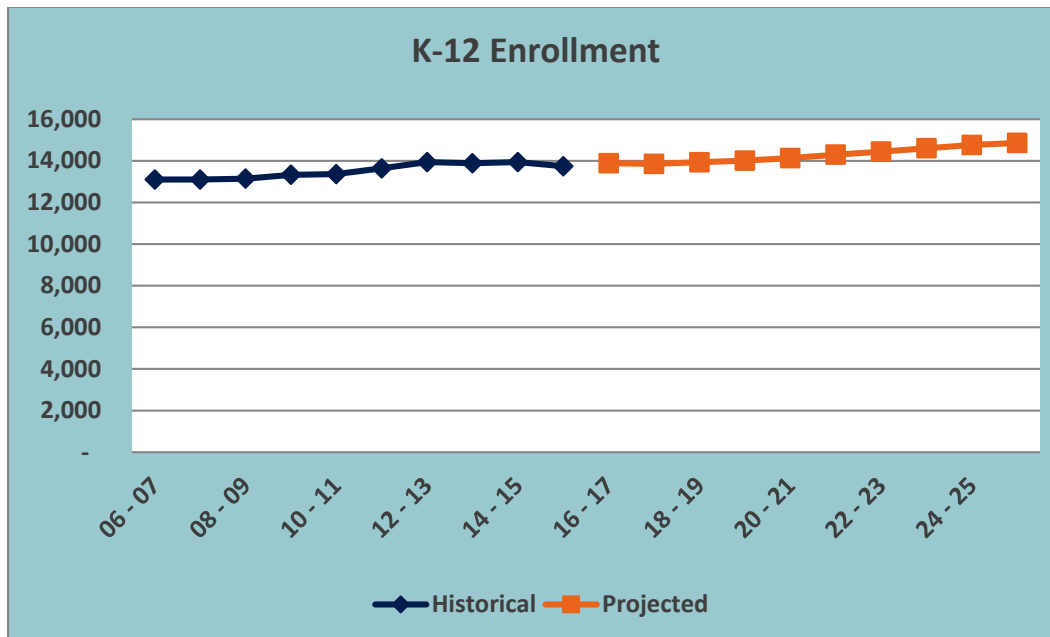
## DEMOGRAPHICS / ENROLLMENT PROJECTIONS

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-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.

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.

### CURRENT AND PROJECTED UTILIZATION RATES – ELEMENTARY SCHOOLS

SCHOOLS	CURRENT ENROLLMENT (2015) PK-12	PROJECTED ENROLLMENT (2025) K-12	CAPACITY K-12	CURRENT UTILIZATION	PROJECTED UTILIZATION
<b>Elementary Schools</b>					
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%
<b>ELEMENTARY TOTAL/AVE.</b>	<b>6,720</b>	<b>7,745</b>	<b>6,948</b>	<b>97%</b>	<b>111%</b>

## CURRENT AND PROJECTED UTILIZATION RATES – MIDDLE &amp; HIGH SCHOOLS

SCHOOLS	CURRENT (2015) PK-12	PROJECTED (2025) K-12	CAPACITY K-12	CURRENT UTILIZATION	PROJECTED UTILIZATION
<b>Middle Schools</b>					
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%
<b>MIDDLE SCHOOL TOTAL/AVE.</b>	<b>3,195</b>	<b>3,617</b>	<b>3,726</b>	<b>86%</b>	<b>97%</b>
<b>High Schools</b>					
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%
<b>HIGH SCHOOL TOTAL/AVE.</b>	<b>3,825</b>	<b>4,176</b>	<b>4,423</b>	<b>86%</b>	<b>94%</b>
<b>DISTRICT TOTAL/AVE.</b>	<b>13,740</b>	<b>15,538</b>	<b>15,097</b>	<b>91%</b>	<b>103%</b>

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 35 percent, the grounds condition 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.

### COMBINED SCORES

SITE NAME	WEIGHTED BUILDING CONDITION SCORE	SUITABILITY SCORE	TECH READINESS SCORE	GROUND'S CONDITION SCORE	COMBINED SCORE 35/35/15/15
<b>Elementary Schools</b>					
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	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

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
<b>ELEMENTARY SCHOOL AVERAGE</b>	<b>78.74</b>	<b>70.55</b>	<b>78.64</b>	<b>79.10</b>	<b>75.91</b>
<b>Middle Schools</b>					
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
<b>MIDDLE SCHOOL AVERAGE</b>	<b>73.22</b>	<b>73.07</b>	<b>74.04</b>	<b>76.36</b>	<b>73.76</b>
<b>High Schools</b>					
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
<b>HIGH SCHOOL AVERAGE</b>	<b>83.81</b>	<b>76.99</b>	<b>75.64</b>	<b>85.82</b>	<b>80.50</b>

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
<b>Phase 1 Total</b>	<b>\$107,375,000</b>
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
<b>Phase 2 Total</b>	<b>\$85,913,900</b>
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
<b>Phase 3 Total</b>	<b>\$75,020,600</b>
<b>Total 10 Year Budget</b>	<b>\$268,309,500</b>



## 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