



## Final Report

Consultant Services for  
Facility Utilization Study  
and Analysis of  
Elementary Schools for

Allegheny County  
Public Schools

RFP#18-001

August 24, 2018





FACILITY ENGINEERING ASSOCIATES, P.C.  
12701 Fair Lakes Circle, Suite 101  
Fairfax, VA 22033  
703-591-4855 Tel  
703-591-4857 Fax  
www.feapc.com

August 24, 2018

Allegany County Public Schools  
108 Washington Street  
P.O. Box 1724  
Cumberland, MD 21501-1724

ATTENTION: Lawrence McKenzie  
Chief Financial Officer

SUBJECT: **Final Report of Facility Utilization Study  
and Analysis of Elementary Schools  
RFP #18-001  
FEA Project No. R01.2017.009111**

Mr. McKenzie,

Facility Engineering Associates, P.C. (FEA) appreciates the opportunity to provide this final report of our Facility Utilization Study for the Elementary Schools in Allegany County. Our services have been provided in accordance with RFP #18-001 dated August 24, 2017, our Technical and Cost Proposals dated October 13, 2017, and your Purchase Order No. 55792 dated November 29, 2017.

The Facility Utilization Study and Analysis was conducted in accordance with the Work Plan and Technical Plan outlined in our Technical Proposal. The focus of this assessment was on the thirteen elementary and one (1) elementary/middle schools. An additional Middle School (Westmar) was added to the Study, based on its proximity to an Elementary school, and its potential to convert the facility to a K-8 school.

The Study also included an evaluation of school enrollments and capacities, space utilization, educational suitability, transportation and community considerations, and financial constraints. Our scope of services also included several stakeholder meetings to communicate the recommendations resulting from the Study.

It has been a pleasure working with ACPS and its Stakeholders. If you have any questions, please contact us at your convenience.

Respectfully,  
**FACILITY ENGINEERING ASSOCIATES, P.C.**

A handwritten signature in black ink that reads "Christopher P. Hodges".

Christopher P. Hodges, P.E., CFM  
Principal

A handwritten signature in black ink that reads "James P. Cressman".

James P. Cressman  
Project Professional

---

## Table of Contents

<i>Background, Study Elements and Scope of Services.....</i>	<i>4</i>
<i>1.1 – Background.....</i>	<i>4</i>
<i>1.2 – Elements of the Study.....</i>	<i>5</i>
<i>1.3 – Technical Plan and Scope of Services.....</i>	<i>6</i>
<i>Findings and Recommendations.....</i>	<i>7</i>
<i>2.1 – Findings.....</i>	<i>7</i>
<i>2.2 – Recommendations.....</i>	<i>13</i>
<i>2.3 – Space Utilization, Demographic and Program Impacts.....</i>	<i>19</i>



## Background, Study Elements and Scope of Services

### 1.1 – Background

Allegany County, located in western Maryland, is comprised of seven (7) incorporated municipalities and is approximately 428 square miles in size, with a population of over 75,000 people. Cumberland serves as the county seat.

As of 2017, the District serviced approximately 8,700 students in grades pre-K through 12 and employs 1,186 full-time personnel. By category, the District includes thirteen (13) elementary schools (grades pre-K through 5), one (1) elementary/middle school (grades pre-K through 8), three (3) middle schools (grades 6-8), three (3) high schools (grades 9-12), one (1) technical school (grades 11-12), and one (1) alternative placement program (grades 7-12). The reported gross building square footage is 1,728,182 square feet. In addition to these schools, there are additional facilities that house the Central Office, Plant Operations, Plant Maintenance, and Transportation. The District is governed by the Board of Education consisting of five (5) elected members and a student representative.

Allegany County Public Schools (ACPS) determined a need to conduct a Comprehensive Facility Utilization Study of elementary schools to identify, justify and recommend actions for the most effective and efficient use of capital resources while containing expenses. The Board adopted Board and Superintendent Goals for 2016-2017 that included a goal to, “Increase efficiency in the way we operate our schools.” Part of that effort is to:

- Form a Blue Ribbon Commission of community leaders, including those outside of education to study the needs of the school system, make recommendations to the school board and County Commissioners, and develop a charge statement for the group;
- Evaluate the system’s operation including enrollment by school, use of staff, class sizes, coverage of necessary tasks and use of available funding to find efficiencies and save money;
- Engage in a redistricting plan for the county, which would be directed by a redistricting committee;
- Include a budget item for a consultant to work through the process of increasing efficiencies in the system; and
- Develop a communication plan for handling the process.

In response to RFP# 18-001, Facility Engineering Associates (FEA) was engaged by ACPS in November 2017 to conduct a Facility Utilization Study of the Elementary Schools. The objective of the study was to provide information and recommendations to the Blue Ribbon Commission for subsequent decisions of the Board related to the development of a plan for the elementary schools in Allegany County.

The scope of the study was to focus attention on the elementary schools in order to identify and recommend actions for the most effective and efficient use of capital resources while containing expenses. The following capacity and enrollment data was provided in RFP # 18-001:

**ELEMENTARY SCHOOLS (Listed alphabetically)<sup>2</sup>**

School	Capacity	Enrollment (09/30/2016)	Staffing Per School
Beall Elementary	373	473	49
Bel Air Elementary	274	237	25
Cash Valley Elementary	380	296	47
Cresaptown Elementary	411	350	31
Flintstone Elementary	343	248	27
Frost Elementary	294	231	25
George's Creek Elementary	362	308	33
John Humbird Elementary	363	270	34
Mount Savage Elementary/Middle <sup>1</sup>	307	190	64
Northeast Elementary	340	319	31
Parkside Elementary	317	215	23
South Penn Elementary	559	529	61
West Side Elementary	409	396	43
Westernport Elementary	340	281	32

Note:

*1 Mount Savage is also a Middle School. Data in this table is specific to the Elementary Schools only.*

*2 Capacity and Enrollment data in this table was as listed in RFP #18-001 (09/30/16). Enrollment data was subsequently updated by ACPS for the study in November 2017.*

## 1.2 – Elements of the Study

The key elements of the study of the elementary schools, as stated in the RFP included the following:

- a) Assist in development of criteria to create elementary school attendance area options.
- b) Conduct research on various topics and collect and assemble data with regards to redistricting.
- c) Utilize and analyze division enrollment projections, city and county growth projections, and demographic trends and their likely impact on the facility needs of the District.
- d) Work with city and county GIS departments to determine student estimates, neighborhood locations, and impacts on bus routing.

- e) Utilize socio-economic information gathered during the most recent census available from the City of Cumberland and Allegany County.
- f) Develop a public relations plan and accompany materials, and coordinate and facilitate community engagement sessions, including but not limited to, a community survey and public meetings.
- g) Create three (3) school attendance area options for the thirteen (13) elementary schools within Allegany County.

ACPS schools are currently grouped by Region; Western – Central – Eastern. This grouping was developed to create a balanced feeder system to each of the County’s three High Schools.

### 1.3 – Technical Plan and Scope of Services

FEA provided a Technical Plan and Scope of Services in response to RFP# 18-001 that included the following:

**Phase 1: Data Review and Analysis** - this phase included working with project sub-consultants Proximity One and School Bus Consultants to conduct an assessment of available data regarding elementary school student location, existing transportation routing, and capabilities of the ACPS transportation group to evaluate transportation needs based on alternative attendance area options. Existing capacity, enrollment data, and enrollment projections were evaluated. Classroom layout and space analysis was conducted as part of Phase 3 of the evaluation.

**Phase 2: Facility Condition and Needs Assessment** – this phase included a building system-based physical assessment of the elementary school facilities. Our facility condition assessments included visual observations of building structural systems, exterior enclosures (e.g., roofs and exterior walls), interior finishes, mechanical – electrical – plumbing (MEP) systems, elevators, fire and life safety systems, site systems and features (e.g., athletic features, pavements, and playground equipment), and specialty construction.

**Phase 3: Educational Adequacy Appraisal and Enrollment vs. Capacity Analysis** - this phase included evaluation of the educational adequacy of each elementary school. The educational adequacy appraisal involved the adoption and application of portions of The Council of Educational Facilities Planners International (CEFPI) guidelines for auditing school facilities (CEFPI, 1998).

We also evaluated the size, location, adjacencies, accessibility and flexibility of instructional and non-instructional spaces (including classrooms, laboratories, libraries, media, gymnasiums, cafeterias, auditoriums, multi-purpose rooms, administration, guidance, clinics, teacher workrooms, and interior common spaces) by visual assessment. Classroom size and capacity by grade level was spot-checked against existing ACPS drawings and data. During the evaluation, an alternative efficiency measure involving potential conversion of an existing Middle School to a K-8 Elementary/Middle School was evaluated, and the existing Middle School (Westmar) was added to the study.

**Phase 4: Report of Findings and Recommendations** – this phase included working with ACPS to create school attendance area options for the thirteen (13) elementary and one (1) elementary/middle school within Allegany County. One additional Middle School (Westmar) was added to the evaluation based on its current utilization and proximity to George’s Creek Elementary School. This report is the final deliverable for our Report of Findings and Recommendations.

**Phase 5: Community Dialogue - Stakeholder and Public Meetings** – this phase included facilitated meetings with the ACPS Blue Ribbon Commission, a Public meeting, and meetings with the Board of Education to communicate FEA’s preliminary and final recommendations.

This report represents the final deliverable for the Utilization Study. The objective of this study was to provide recommendations for Elementary School attendance area options for the Elementary Schools for ACPS. Our recommendations for attendance area adjustments and potential closing of schools based on the feasibility of those adjustments are included in the Recommendations section of this report.

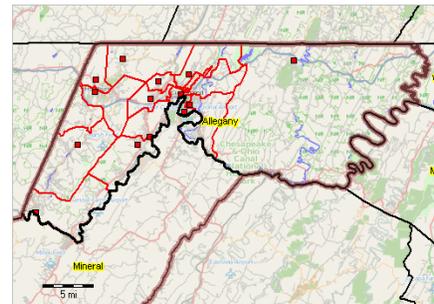
## Findings and Recommendations

### 2.1 – Findings

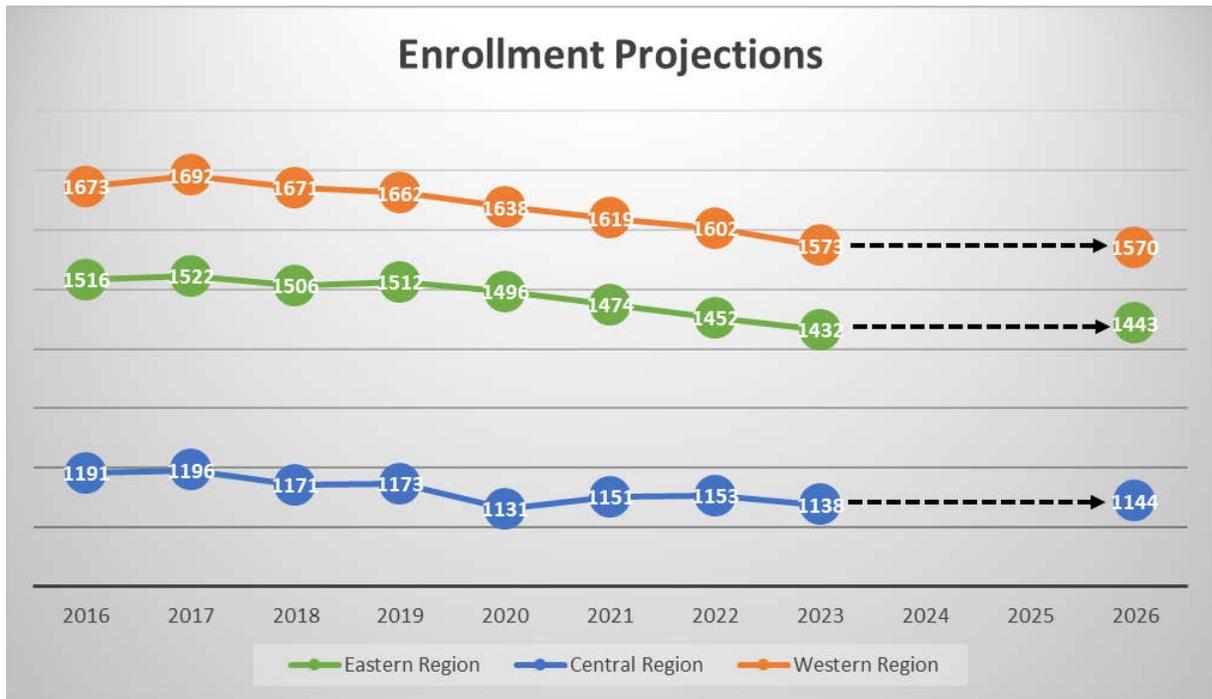
#### Data Review and Analysis

Data on ACPS school facilities was derived from the *Master Plan for School Facilities*, prepared by ACPS and dated June 2017. The following information from the Master Plan was evaluated in preparation of this report:

- Goals, Standards and Guidelines for the Utilization of School Facilities
- Inventory and Evaluation of Existing Facilities
- Allegany County and Area Population Trends
- Five Year Facility Needs



In November of 2017, student location information for the elementary schools was provided by ACPS and loaded into a GeoDemographic Information System (SDGIS). Student data was added to a GIS project as a point shapefile. This allowed the FEA Team to derive the baseline demographic and trending data to support the Facility Utilization Study. Data from the ACPS Master Plan (2017) was used to evaluate enrollment trends. The following are the 10-year enrollment projections for the Elementary Schools by Region.



**Figure 1 – 10-Year Elementary School enrollment projections by Region**

Elementary School enrollment data is summarized in Figure 1. Enrollment projections for the years 2024 and 2025 had not been included in the Master Plan; therefore, the data shows the years 2016 through 2023, followed by the projection for the year 2026.

Based on the 10-year enrollment projections in the Master Plan, there is small but consistent downward trend in Elementary School enrollment over the next 10 years. Additional demographic and existing transportation system information was analyzed and is included in the recommendations section of this report.

### Facility Condition Assessment and Educational Adequacy

FEA conducted a system-based Facility Condition Assessment (FCA) of the elementary school facilities. The output of the FCA is a calculation of Facility Condition Index (FCI), and an estimate of Deferred Maintenance. Deferred Maintenance (DM) is a term used to describe capital needs for building system renewal and replacement. DM is a relative measure of the amount of funding needed to keep the core and shell of the school functioning as intended. FCI is expressed as the ratio of Deferred Maintenance to Current Replacement Value (CRV).

For this study, FCI is used to evaluate the general condition of each of the Elementary Schools relative to each other. DM is also used as the basis for the potential cost savings if a school is removed from the system and responsibility for operations and maintenance of the school is transferred from ACPS to others. DM is typically modified by factors that convert DM system estimates to Capital Project Budget estimates.

FEA’s assessment of Educational Adequacy was based on a modified version of the *Guide for Facility Appraisal* prepared by the Council of Educational Facility Planners International (1998 Edition). Although the guide focuses on design elements of schools, it provides a reasonable framework for evaluating

school adequacy in several key areas. The *Guide* outlines a framework for evaluation of schools for the following school characteristics:

- 1.0 The School Site
- 2.0 Structural and Mechanical Features
- 3.0 Plant Maintainability
- 4.0 Building Safety and Security
- 5.0 Educational Adequacy
- 6.0 Environment for Education

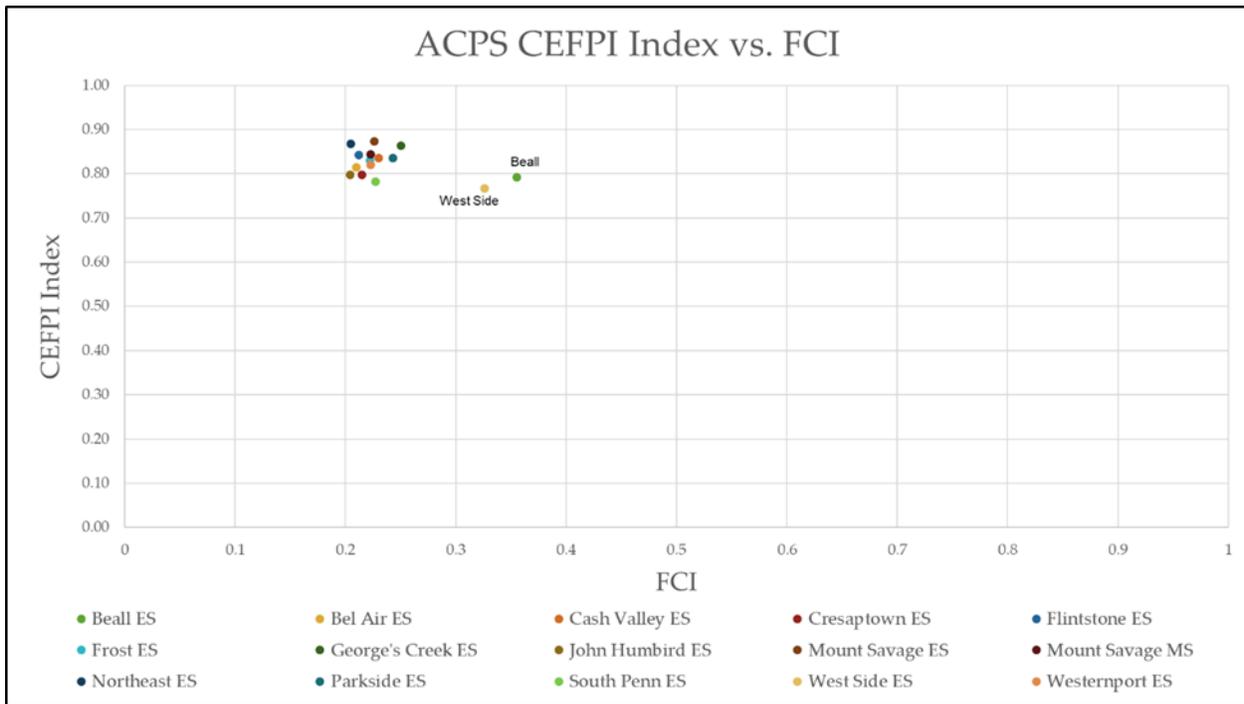
The modified version of the scoring criteria (CEFPI Score) included the School Site (1.0), Educational Adequacy (5.0), and Environment for Education (6.0). Evaluation of the physical building, including Structural/Mechanical Features (2.0), and Plant Maintainability (3.0) were evaluated in more detail using the FCA criteria and development of the FCI metric. Building Safety and Security (4.0) was not included in the Utilization Study.

A chart of Facility Condition Index (FCI), CEPI score, and a summary of Deferred Maintenance expressed as a cost-per-square-foot for each of the elementary Schools (GSF, Gross Square Feet is a measure of the overall size of the building) is provided in Figure 2.

Region	School	GSF	FCI	CEFPI Score	DM/GSF
Eastern	Bel Air ES	44,789	0.25	0.82	\$ 26.53
	Flintstone ES	68,108	0.22	0.84	\$ 25.38
	John Humbird ES	42,451	0.21	0.80	\$ 34.18
	Northeast ES	34,335	0.21	0.87	\$ 28.27
	South Penn ES	67,802	0.23	0.78	\$ 33.13
Central	Cash Valley ES	49,666	0.24	0.84	\$ 28.41
	Cresaptown ES	63,084	0.23	0.80	\$ 27.00
	Parkside ES	34,601	0.29	0.84	\$ 29.46
	West Side ES	49,300	0.33	0.77	\$ 40.26
Western	Mount Savage School (K-8)	116,623	0.21	0.84	\$ 32.13
	Beall ES	57,290	0.36	0.79	\$ 42.27
	Frost ES	36,864	0.30	0.83	\$ 35.39
	Georges Creek ES	44,560	0.26	0.86	\$ 27.90
	Westernport ES	47,091	0.22	0.82	\$ 30.88
	Westmar MS	125,649	0.24	0.84	\$ 41.52

**Figure 2 – FCI, CEFPI Score and Deferred Maintenance on a gross square foot (GSF) basis**

Figure 3 is a plot of the FCI and CEFPI Scores for each elementary school evaluated.



**Figure 3 – CEFPI index and Facility Condition Index (FCI) by Elementary School**

The schools evaluated in the study were well-maintained. Although there are two schools with FCI metrics that are somewhat lower than the other 12 Elementary Schools, these indicators appeared to be within the expected range relative to the age of those schools, and each was well-maintained. ACPS maintains a projection of Capital needs for upcoming years that is consistent with the Requirements of the State of Maryland.

**Enrollment vs Capacity Analysis**

FEA’s initial analysis of the Elementary School utilization compared current enrollment and classroom GSF to ACPS (MD) size standards, based on the available classroom space by Region. The CEFPI Guide also provides an additional benchmark for recommended classroom minimum size (square feet per student). The CEFPI benchmark was also utilized in comparison to ACPS classroom size requirements. Figure 4 is a summary of the initial capacity analysis.

ACPS Elementary Schools Utilization/Initial Analysis															
Region	GSF	Classroom GSF	Enrollment	ACPS Cap.	CEFPI Cap.	Current Utilization			11th Year Utilization			Highest Utilization			Current Available Capacity (Students)
						ACPS	CEFPI	AVG.	ACPS	CEFPI	AVG.	ACPS	CEFPI	AVG.	
Eastern	257,485	73,068	1,516	1,879	2,436	81%	62%	71%	76%	60%	75%	82%	64%	81%	350+
Central	196,651	54,627	1,191	1,517	1,821	79%	65%	72%	74%	62%	72%	79%	66%	76%	300+
Western	302,428	82,347	1,802	2,132	2,745	85%	66%	75%	79%	58%	68%	84%	63%	73%	300+
<b>TOTAL/AVERAGE</b>	<b>756,564</b>	<b>210,042</b>	<b>4,509</b>	<b>5,528</b>	<b>7,001</b>	<b>81%</b>	<b>64%</b>	<b>73%</b>	<b>76%</b>	<b>60%</b>	<b>68%</b>	<b>82%</b>	<b>64%</b>	<b>73%</b>	<b>Overall: 1 School per Region</b>

**Figure 4 – Initial Analysis of Enrollment vs Capacity by Region**



Our initial analysis of the utilization of the Elementary Schools indicated that there was sufficient capacity within the 3-regions of the ACPS Elementary School attendance areas for approximately 900 to 1000 additional Elementary School students. The excess capacity was equivalent to approximately one additional elementary school per Region. The initial assessment was presented to ACPS in May of 2018.

After the initial capacity assessment and preliminary report to the Blue Ribbon Commission and Board of Education, Westmar Middle School was added to the Utilization Study. Westmar was added based on its proximity to Georges Creek Elementary School, its low utilization, and the potential to convert Westmar to a K-8 school, similar to Mt. Savage (K-8) School in the northern portion of the Western Region.

As part of the evaluation, ACPS provided single-line drawings (Floor Plans) for each school. The drawings and accompanying tables provided by ACPS listed classroom capacity for each Elementary School classroom. The FEA assessment team spot-checked building and classroom measurements against the drawings and created Floor Plans and classroom square footage for each school. The Floor Plans are included as a deliverable for the Utilization Study and are to be uploaded to the ACPS document-sharing website. A list of Floor Plans delivered as part of this study is provided in Appendix A.

Data for Out-of-District (OOD) students was provided by ACPS. The data shown in the OOD columns represents the OOD students arriving at the listed school and those leaving the listed (Home) school for other schools. ACPS capacity is based on Maryland School standards and ACPS guidelines published in the (2017) Master Plan. The CEFPI capacity and utilization data is based on a CEFPI benchmark classroom size of 30 square feet per student. CEFPI utilization estimates differ from ACPS utilization since it is based on a different benchmark.

Region	School	GSF	Classroom GSF	Enrollment	OOD Arriving	OOD Leaving	ACPS Cap.	CEFPI Cap.
Eastern	Bel Air ES	44,789	13,099	227	19	20	274	437
	Flintstone ES	68,108	16,287	240	12	22	343	543
	John Humbird ES	42,451	11,876	257	30	59	363	396
	Northeast ES	34,335	12,083	302	59	27	340	403
	South Penn ES	67,802	19,723	490	100	60	559	657
	<b>Subtotal</b>	<b>257,485</b>	<b>73,068</b>	<b>1516</b>	<b>220</b>	<b>188</b>	<b>1879</b>	<b>2436</b>
Central	Cash Valley ES	49,666	14,729	267	38	41	380	491
	Cresaptown ES	63,084	14,480	336	34	34	411	483
	Parkside ES	34,601	10,718	208	32	71	317	357
	West Side ES	49,300	14,700	380	90	70	409	490
	<b>Subtotal</b>	<b>196,651</b>	<b>54,627</b>	<b>1191</b>	<b>194</b>	<b>216</b>	<b>1517</b>	<b>1821</b>
Western	Mount Savage School (K-8)	116,623	46,244	587	5	7	763	1541
	Mount Savage (K-5)	N/A	16,244	180	N/A	N/A	307	541
	Beall ES	57,290	18,258	436	89	39	373	609
	Frost ES	36,864	10,471	223	33	79	294	349
	Georges Creek ES	44,560	15,925	288	10	25	362	531
	Westernport ES	47,091	10,503	268	2	14	340	350
	Westmar MS	125,649	45,447	278	1	3	711	1515
	<b>Subtotal</b>	<b>428,077</b>	<b>146,848</b>	<b>2,080</b>	<b>140</b>	<b>167</b>	<b>3150</b>	<b>3922</b>
<b>TOTAL</b>	<b>882,213</b>	<b>274,543</b>	<b>4,787</b>			<b>6,546</b>	<b>8,178</b>	

Figure 5 – Enrollment and Capacity analysis by Elementary School



*Note: Enrollment data is derived from ACPS Master Plan for School Facilities (June 2017) - Enrollment data varies from that shown in RFP # 18-001, provided on page 5 of this report (taken from 2016). Data for Westmar is total school GSF and total Classroom square footage; enrollment for Westmar is for current Middle School.*

## **Stakeholder and Public Meetings**

Based on the information gathered in the Utilization Study, FEA made several presentations to the Blue Ribbon Commission, the Public, and to the Allegany County Board of Education.

### **Blue Ribbon Commission**

FEA met with the Blue Ribbon Commission to receive input on the criteria for the study, to review the preliminary results, to summarize feedback from the Public meeting, and to provide the final recommendations from the Study. Meetings were held on the following dates:

- February 28, 2018
- April 4, 2018
- May 16, 2018
- May 30, 2018, (in conjunction with the Public Meeting)
- June 5, 2018

The following list represents feedback from the Blue Ribbon commission:

- Equitable distribution of changes across all regions, schools
- Encourage walking environment where possible
- Consider transportation challenges; changing buses, travel time, families without cars
- Structure boundaries to encourage/recognize school loyalty
- District level programs; special needs
- Programs that lead to over-capacity; Daycare (Beall), Northeast (after-school)
- Impact on health/wellness programs; accessible areas for fitness
- General safety of students relative to the building environment (Note: An assessment of school Safety/Security was not in the scope of this evaluation)

### **Public Meeting**

FEA met with the Blue Ribbon Commission in a Public Forum on May 30, 2018 in order to introduce the Study in a public forum, for FEA to present the result of the Study, and to receive public feedback.

### **Board of Education Meetings**

FEA met with the Board of Education for Allegany County on two occasions to present the preliminary and final recommendations of the Utilization Study. Meetings were held on the following dates:

- April 10, 2018, and
- June 12, 2018

## 2.2 – Recommendations

Based on the data collected and the analysis conducted during the Utilization Study, FEA developed several recommendations that allow for more efficient use of Elementary School space. The study also considers the potential cost savings resulting from removal of specific elementary schools from the inventory, and alteration of Elementary School attendance areas to accommodate students from the closed schools. This section summarizes several recommendations and provides an estimate of cost savings from the closing of specific elementary schools and the alternative attendance area options.

The following is a list of recommendations based on the Utilization Study and input on key considerations from the Blue Ribbon Commission. Our recommendations are based on consideration of a number of factors including, but not limited to:

- Maintaining current feeder system to ACPS High Schools
- Building age, condition, educational suitability, and general accessibility
- Location, geography, and other physical transportation boundaries and limitations
- Program locations within ACPS Elementary schools
- Neighborhood structure and other considerations provided by the Blue Ribbon Commission

### Near-term

#### **Recommendation #1 (Central Region)**

Relocate Parkside Students and close Parkside Elementary

GSF	Classroom GSF	Enrollment	OOD Arriving	OOD Leaving	ACPS Utilization	CEFPI Utilization
34,601	10,718	208	32	71	66%	58%

Parkside:

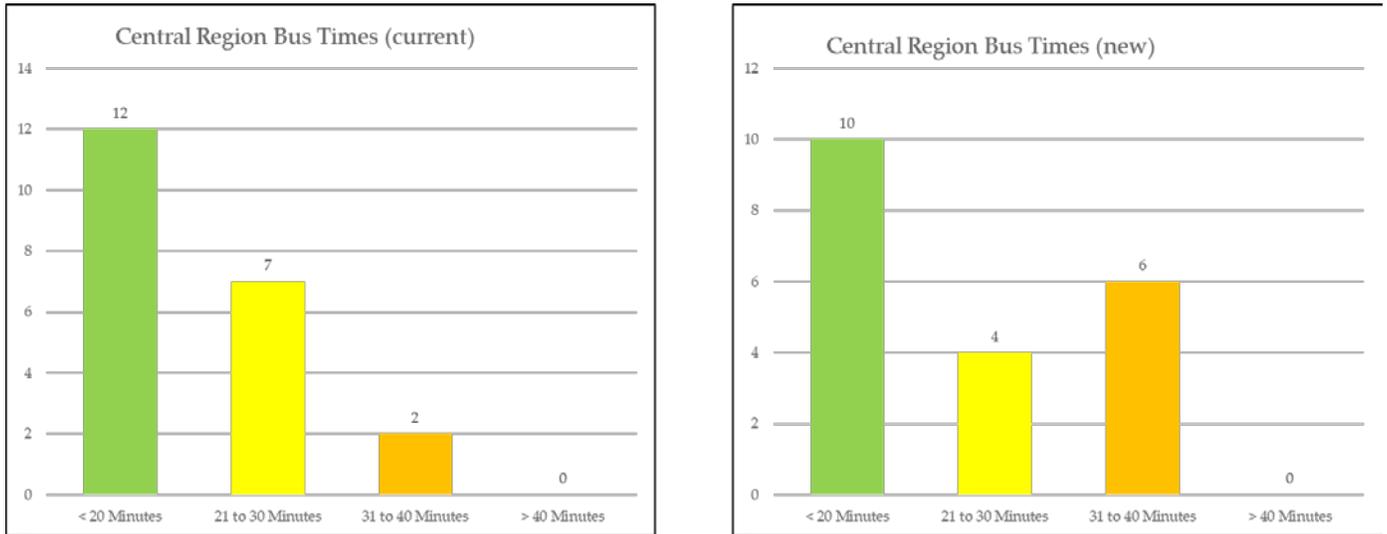
- Has the Lowest enrollment in Central Region
- Has the Lowest utilization in Central Region
- Has more OOD students leaving than arriving
- Can be redistributed entirely within the Central Region
- Allows for some neighborhoods to be reconnected by changing attendance areas for adjacent schools in Cumberland.

A map of the current attendance area boundaries for the Central Region is included in Attachment B. A suggested adjustment of attendance areas for the Central Region with Parkside removed from the school inventory is also included. Based on the capacity analysis, current enrollment data, and enrollment projections, the capacity for Parkside students to attend adjacent schools follows:

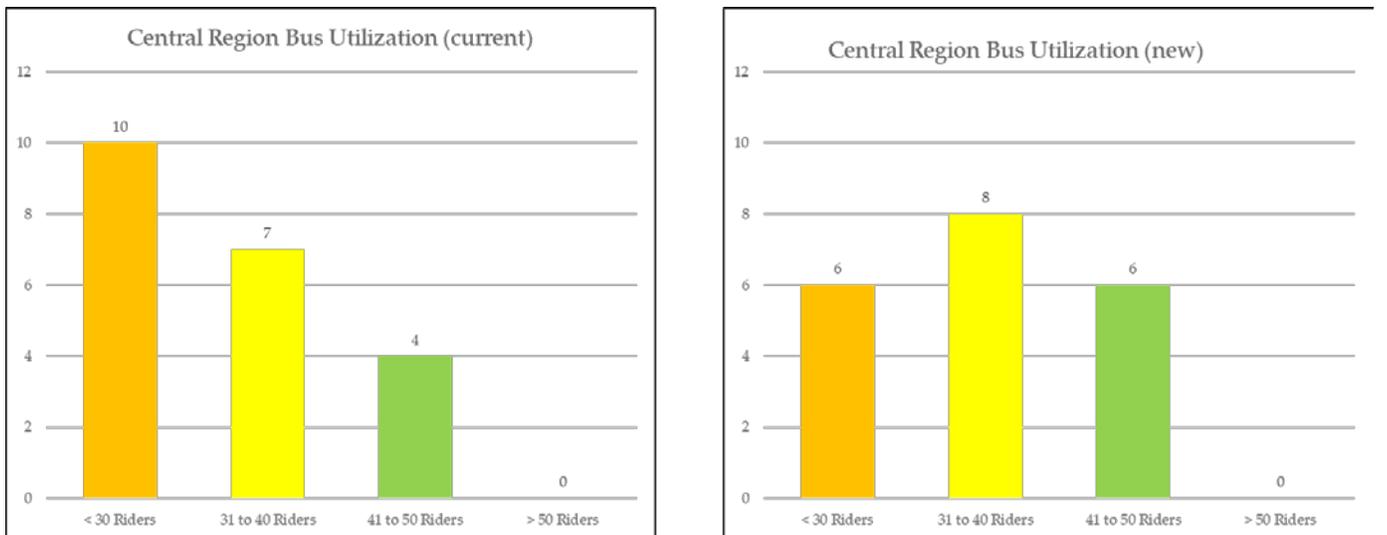
- ✓ Cash Valley
  - Capacity for approx. 113 students
  - Currently 5 bus routes total, with 71% of aggregated seating capacity filled
- ✓ West Side
  - Capacity for approx. 29 students
  - Currently 4 bus routes total, with 50% of aggregated seating capacity filled

- ✓ Cresaptown
  - Capacity for approx. 75 students
  - Currently 6 bus routes total, with 73% of aggregated seating capacity filled

The transportation impact from the closing of Parkside (considered on a Regional basis) is summarized below, and includes the potential reduction in the required number of busses from 21 to 20:



**Figure 6 – Changes in Central Region Bus times based on Parkside (current) and Parkside (removed)**



**Figure 7 – Changes in Central Region Bus utilization based on Parkside (current) and Parkside (removed)**

Note: Changes in student location and population varies by year. Final attendance area designations based on the removal of any school requires recalculation based on the current enrollment at the time of the change. The recommendations included in this report are approximate. Final attendance area boundaries and transportation considerations should be verified again based on the most current enrollment and Out-of-District data prior to making the change.

The following is an estimate of cost savings if Parkside elementary School is closed.

<b>Operational Cost Savings</b>	
Operations (Utilities and Janitorial)	\$141,492/yr
Staffing (Principal, Admin, Support)	\$244,000/yr
Transportation (One Bus)	\$37,000/yr
<b>Approximate Annual Cost Savings</b>	<b>\$422,492</b>
<b>Capital Cost Savings</b>	
Near-Term Capital (Based on factored DM)	\$1,500,000

The estimate of near-term capital cost savings is based on several system replacements identified in the Facility Condition Assessment and is derived from a cost-multiplier (of approximately 2.0) applied to the near-term (1-3 year) Deferred Maintenance costs in the systems-based Facility Condition Assessment. The cost-multiplier considers regional factors, overhead, profit, owner costs, and other factors, and would more closely reflect actual Capital Renewal project costs. The transportation estimate comes from a 2008 study by the Safe Routes to School National Partnership and reflects the reduction of the amount of bus routes by one.

### **Recommendation #2 (Western Region)**

Relocate George’s Creek Students to Westmar and close George’s Creek Elementary (Develop K-8 school at Westmar.

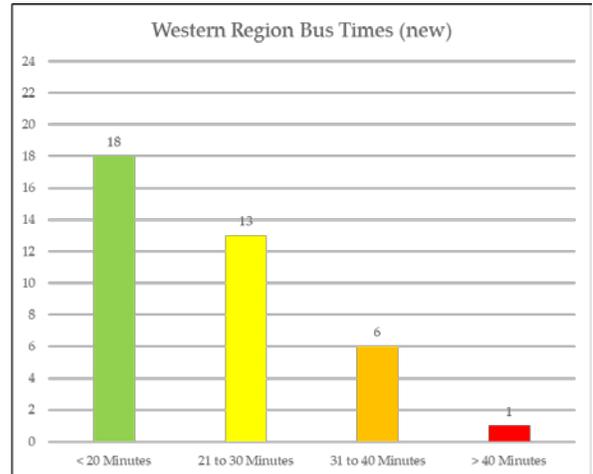
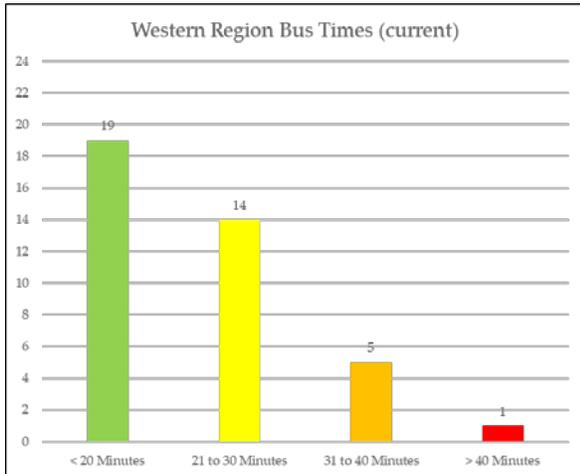
GSF	Classroom GSF	Enrollment	OOD Arriving	OOD Leaving	ACPS Utilization	CEFPI Utilization
44,560	15,925	288	10	25	80%	54%

George’s Creek:

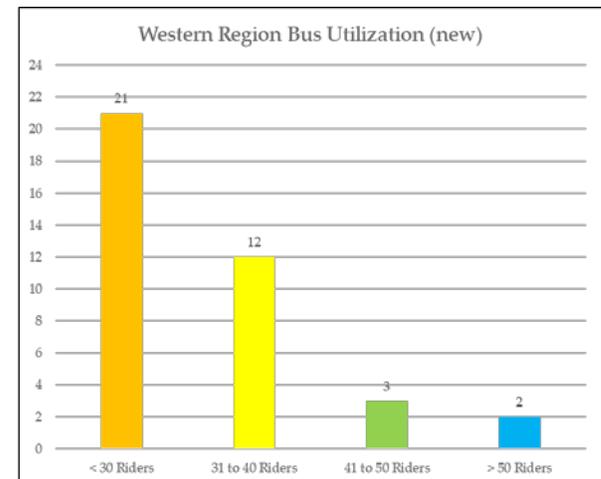
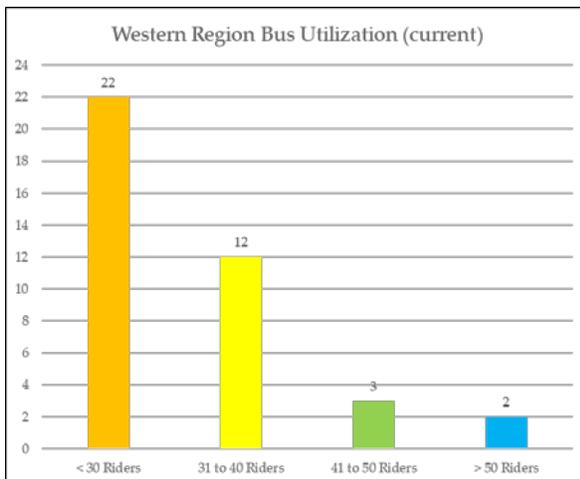
- Is located adjacent to, and can be completely redistributed into Westmar Middle School
- Has more OOD students leaving than arriving
- Westmar Middle school has the lowest utilization and most available capacity of any of the Elementary/Middle Schools
- Westmar has the capacity for over 400 students (total), with an ability to accommodate all of Georges Creek students if one floor is converted to Pre-K to grade 5
- Would require conversion of one floor to accommodate Pre-K to grade 5

A map of the current attendance area boundaries for the southern portion of the Western Region is included in Attachment B. The relocation of George’s Creek students to Westmar would not require relocation outside of the current attendance area for George’s Creek.

The transportation impact from the closing of George’s Creek (considered on a Regional basis) is summarized below:



**Figure 8 – Changes in Western Region Bus times based on the closure of George’s Creek**



**Figure 9 – Changes in Western Region Bus utilization based on the closure of George’s Creek**



The following is an estimate of cost savings if George’s Creek Elementary School is closed.

<b>Operational Cost Savings</b>	
Operations (Utilities and Janitorial)	\$186,935/yr
Staffing (Principal, Admin, Support)	\$244,000/yr
Transportation (One Bus)	\$37,000/yr
<b>Approximate Annual Cost Savings</b>	<b>\$467,935</b>
<b>Capital Cost Savings</b>	
Near-Term Capital (Based on factored DM)	\$900,000
<b>Capital Cost (Renovation)</b>	
Conversion of Westmar to K-8  Estimated Cost Allowance of \$80/sf and 10,000 square feet renovated	  <b>\$800,000</b>

The estimate of near-term capital cost savings is based on several system replacements identified in the Facility Condition Assessment and is derived from a cost-multiplier (of approximately 2.0) applied to the near-term (1-3 year) Deferred Maintenance costs in the systems-based Facility Condition Assessment. The cost-multiplier considers regional factors, overhead, profit, owner costs, and other factors, and would more closely reflect actual Capital Renewal project costs. The transportation estimate comes from a 2008 study by the Safe Routes to School National Partnership and reflects the reduction of the amount of bus routes by one.

Conversion of Westmar to a K-8 school would require a time and capital budget commitment. The alteration of Westmar to a K-8 school would require approximately 18 to 24 months and a budget of approximately \$800,000. The conversion of one floor of Westmar to accommodate elementary school students is based on a budget of \$80 per square foot (at 10,000 square feet) and consists of classroom, restroom, corridor, and communications alterations. This budget estimate includes alterations to accommodate K-5 students and does not consider the cost or time allocation for a full renovation of the school.

### **Recommendation #3 (Western Region)**

Rebalance the attendance areas for Beal and Frost Elementary Schools in the north-western portion of the Western Region.

School	GSF	Classroom GSF	Enrollment	OOD Arriving	OOD Leaving	ACPS Cap.	CEFPI Cap.
Beall ES	57,290	18,258	436	89	39	117%	72%
Frost ES	36,864	10,471	223	33	79	76%	64%

Beall and Frost:

- Many students pass Frost to get to Beall
- OOD is +50 for Beall and -46 for Frost
- Beall utilization is greater than 100% due to daycare
- Frost has a discontinuous boundary

A map of the current attendance area boundaries for the northern portion of the Western Region is included in Attachment B. A suggested adjustment of attendance areas for Beall and Frost is also included.

Note: Changes in student location and population varies by year. Final attendance area designations based on the removal of any school requires recalculation based on the current enrollment at the time of the change. The recommendations included in this report are approximate. Final attendance area boundaries and transportation considerations should be verified again based on the most current enrollment and Out-of-District data prior to making the change.

## **Long-term**

### **Recommendation #4 (Eastern Region)**

Our short-term recommendations have been provided for the following:

- Parkside
- George's Creek
- Westmar (conversion to K-8)
- Beall
- Frost

Recommendations for removal of an additional school from the Eastern Region becomes difficult if a re-districting of all Middle and High Schools is not considered. FEA provided a preliminary recommendation to evaluate the removal of John Humbird in the Eastern region to accomplish a near-full capacity inventory of Elementary Schools. However, John Humbird is a relatively new school, has a significant compact attendance area, and has a walking-friendly environment. Therefore, we do not recommend additional changes to the Eastern Region schools at this time.

As a long-term recommendation, we suggest a further evaluation of attendance areas for Elementary, Middle and High Schools, with an emphasis on improving utilization of the remaining Elementary Schools in the Cumberland area (considering the current feeder system). The Cumberland-area schools that would be the emphasis for further consideration includes the following:

- Bel Air
- Cresaptown
- John Humbird
- West Side
- Northeast
- South Penn

It is our opinion that the closure of Parkside, a recommendation in this report, is feasible prior to re-evaluating the Cumberland-area schools listed above. However, all Middle and High Schools attendance area boundaries should be considered in a full re-districting study. Any changes to attendance areas resulting from a re-districting study may result in some minor adjustments to the attendance areas changes (Parkside, George’s Creek/Westmar, Beall and Frost) recommended in this report.

Based on geographic considerations, it is unlikely that significant boundary modifications could be made to the following Elementary/K-8 Schools:

- Flintstone
- Westernport
- Mount Savage (K-8)

## 2.3 – Space Utilization, Demographic and Program Impacts

### *Space Utilization*

FEA reviewed data from a 2013 report on Maryland schools prepared in a joint effort between the 21st Century School Fund, Inc., the U.S. Green Building Council, Inc., and the National Council on School Facilities. Figure 10 shows a summary of Maryland schools, and average GSF per student throughout the State.

2013			
Enrollment	# of Schools	Area of K–12 District Buildings	Average Area per Student
859,252	1,449	138 million gross square feet (GSF)	160 GSF

Allegany County Elementary and K-8 Schools	GSF per student
Current	184
Without Parkside and Georges Creek	168

**Figure 10 – Comparison of ACPS gross square footage per Student with MD school district average**

Although the GSF per student is reduced (184 to 168) if Parkside and Georges Creek elementary schools are closed, the average GSF per student remains above the average for all Maryland schools.

### ***Demographic Considerations***

The code of Maryland Regulations governing schools includes section 13A.02.09, which requires any Maryland local board of education to follow specific guidelines when considering the closing of a school. In part, those guidelines include the following:

#### **01 Adoption of Procedures to Govern School Closings.**

- A. Each local board of education shall establish procedures to be used in making decisions on school closings.*
- B. The procedures shall ensure, at a minimum, that consideration is given to the impact of the proposed closing on the following factors:*
  - (1) Student enrollment trends;*
  - (2) Age or condition of school buildings;*
  - (3) Transportation;*
  - (4) Educational programs;*
  - (5) Racial composition of student body;*
  - (6) Financial considerations;*
  - (7) Student relocation;*
  - (8) Impact on community in geographic attendance area for school proposed to be closed and school, or schools, to which students will be relocating.*

#### **Figure 11 – Excerpt form a portion of COMAR 13A.02.09 – Closing Schools**

When a school district is considering closing a school or altering attendance areas, factors such as the racial composition of the population the school serves can be approximated. Available demographic data is evaluated for a specific shape file in a Geographic Information System (GIS). Public sources such as the U.S. Census can provide an approximation of the racial composition or family income of specific “census blocks”. The GIS can overlay a census block over an existing or proposed attendance area to determine the characteristics of school attendance areas.

In this case, the closing of a school (Parkside) or the alteration of attendance areas (Frost and Beall) produces an altered shape file which can be used as a basis for determining the characteristics associated with the altered attendance area in comparison to the original attendance area. GIS data for Allegany County, based on the most recent U.S. Census (2010) was used to derive the approximate racial composition shown in Figures 12 and 13.

Approximate <i>Current</i> Racial Composition of the Attendance Area of the Listed School <sup>1</sup>						
School	White	African American	Asian	Hispanic (any race)	American Indian & Native Hawaiian	Other
Parkside	92.4%	3.8%	0.6%	1.1%	0.1%	1.9%
West Side	91.2%	4.8%	0.5%	1.3%	0.1%	2.1%
Cresaptown	92.5%	3.9%	0.6%	1.1%	0.2%	1.8%
Cash Valley	92.7%	3.8%	0.5%	1.2%	0.1%	1.6%
Beall	91.1%	4.9%	0.7%	1.2%	0.1%	2.0%
Frost	91.3%	4.7%	0.7%	1.2%	0.1%	2.0%

**Figure 12 – Approximate current racial composition of listed school attendance areas**

Approximate Racial Composition <i>with Attendance Area Changes</i> <sup>1</sup>						
School	White	African American	Asian	Hispanic (any race)	American Indian & Native Hawaiian	Other
West Side	90.9%	5.0%	0.5%	1.2%	0.1%	2.2%
Cresaptown	92.4%	4.0%	0.7%	1.0%	0.2%	1.8%
Cash Valley	92.7%	3.8%	0.5%	1.3%	0.1%	1.6%
Beall	90.7%	5.1%	0.8%	1.2%	0.1%	2.0%
Frost	91.8%	4.4%	0.6%	1.2%	0.2%	1.9%

**Figure 13 – Approximate racial composition after recommended attendance area changes**

*Note 1 – The data in Figures 12 and 13 is based on U.S. Census data for Allegany County (2010) and should be considered an approximation of the racial breakdown of the population within the attendance area for each school, before and after the closing of a school or alteration of the attendance area.*

Although no conclusions are drawn about the changes in attendance areas relative to racial composition, this type of data is helpful to determine if “*that consideration is given to the impact of the proposed closing*” (COMAR 13A.02.09).

### School Lunch (FARM) Program

Based on the implementation of the recommendations, figure 14 below provides an estimate for the change in the number of students receiving free or reduced-price meals (FARM) at the affected schools.

Free and Reduced Meals (FARM)		
Percentage of students receiving free or reduced-price meals by School		
School	Current FARM %	Estimated FARM % with Recommendations
Cash Valley Elementary	66%	63%
Cresaptown Elementary	50%	51%
Parkside Elementary	56%	N/A
Westside Elementary	61%	60%
Beall Elementary	55%	55%
Frost Elementary	31%	34%
George's Creek	71%	N/A
Westmar Middle	67%	69% <sup>1</sup>

**Figure 14 – Free and Reduced Meals Program**

*Note 1 – The Estimated FARM % with Recommendations for Westmar includes the Westmar (original MS) school enrollment and the George’s Creek (ES) enrollment combined.*

### Report Deliverables

Further deliverables to this report include the following:

- Floor plans for each of the 14 Elementary Schools and one Middle School considered in this study are to be delivered electronically. The list of school drawings to be delivered are listed in Appendix A.
- Shape-files of the revised attendance areas (suitable for uploading to ACPS transportation software) are also available and are to be delivered electronically.

### School Floor Plans

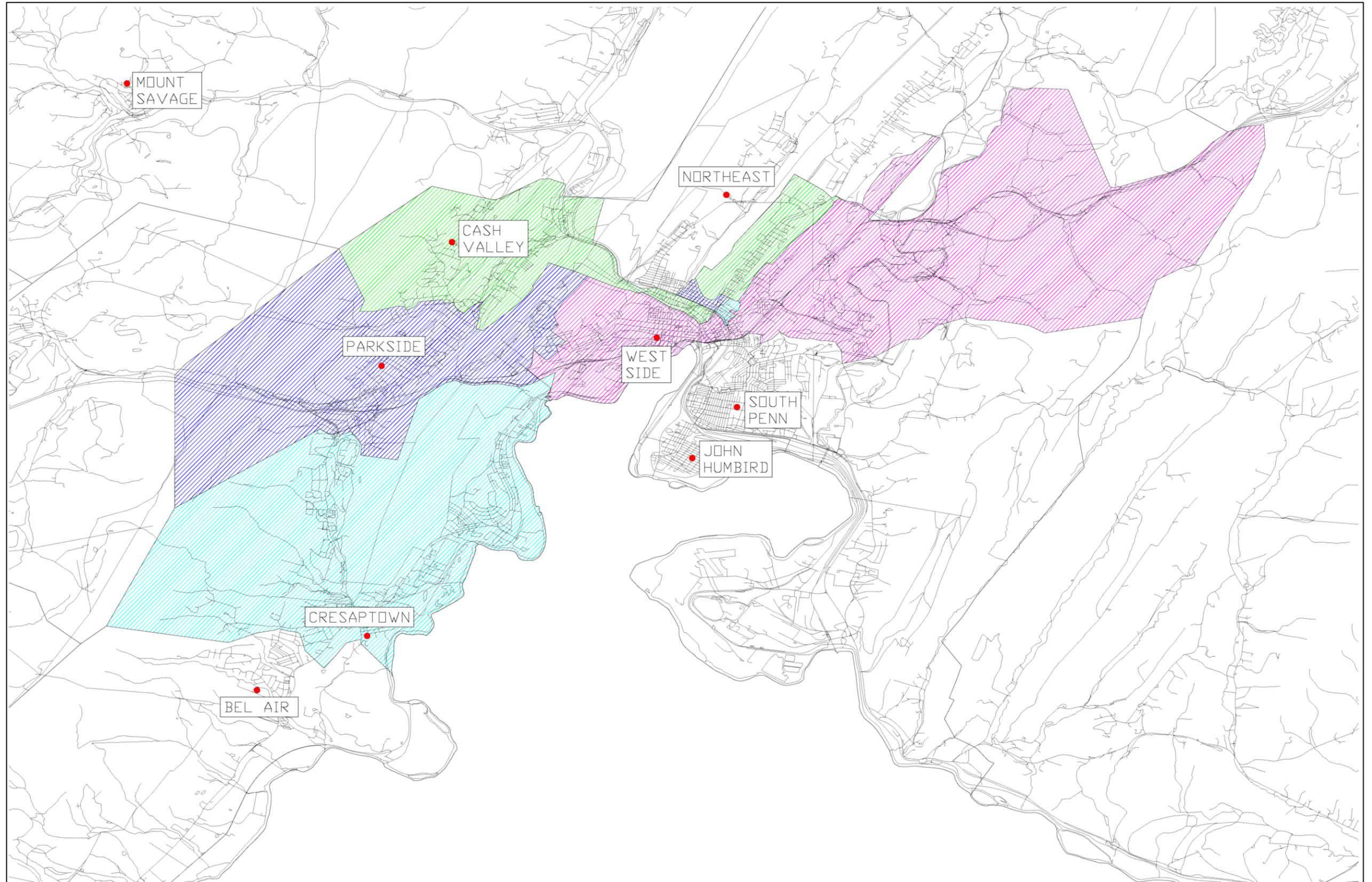
1. Beall Elementary
2. Bel Air Elementary
3. Cash Valley Elementary
4. Cresaptown Elementary
5. Flintstone Elementary
6. Frost Elementary
7. George's Creek Elementary
8. John Humbird Elementary
9. Mount Savage K-8
10. Northeast Elementary
11. Parkside Elementary
12. South Penn Elementary
13. West Side Elementary
14. Westernport Elementary
15. Westmar Middle

### School Boundary Drawings

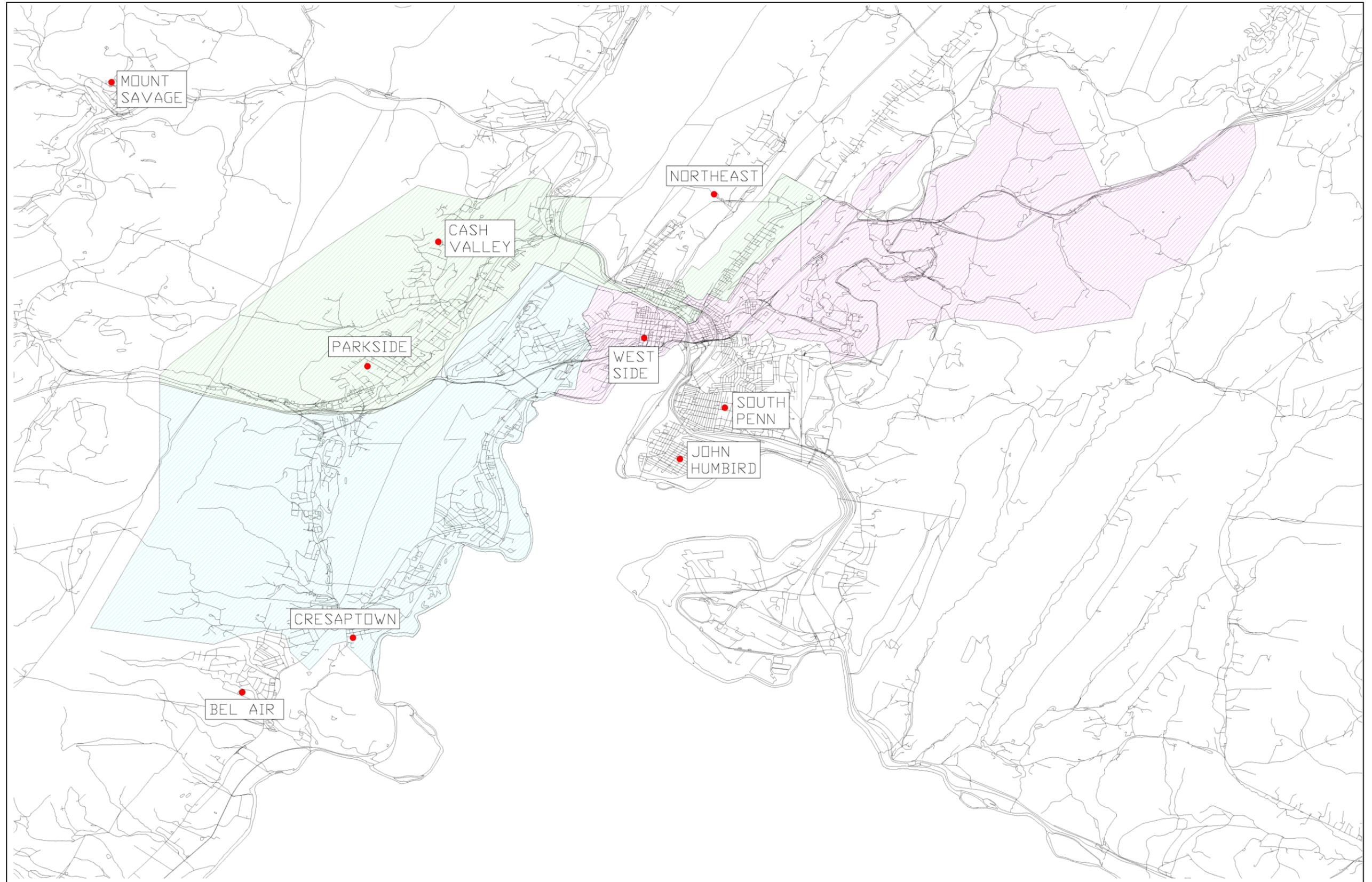
1. Central Region
2. Central Region without Parkside
3. George's Creek and Westmar Middle School
4. Beall and Frost Elementary
5. Beall and Frost Alternative Boundaries

1

# Central Region

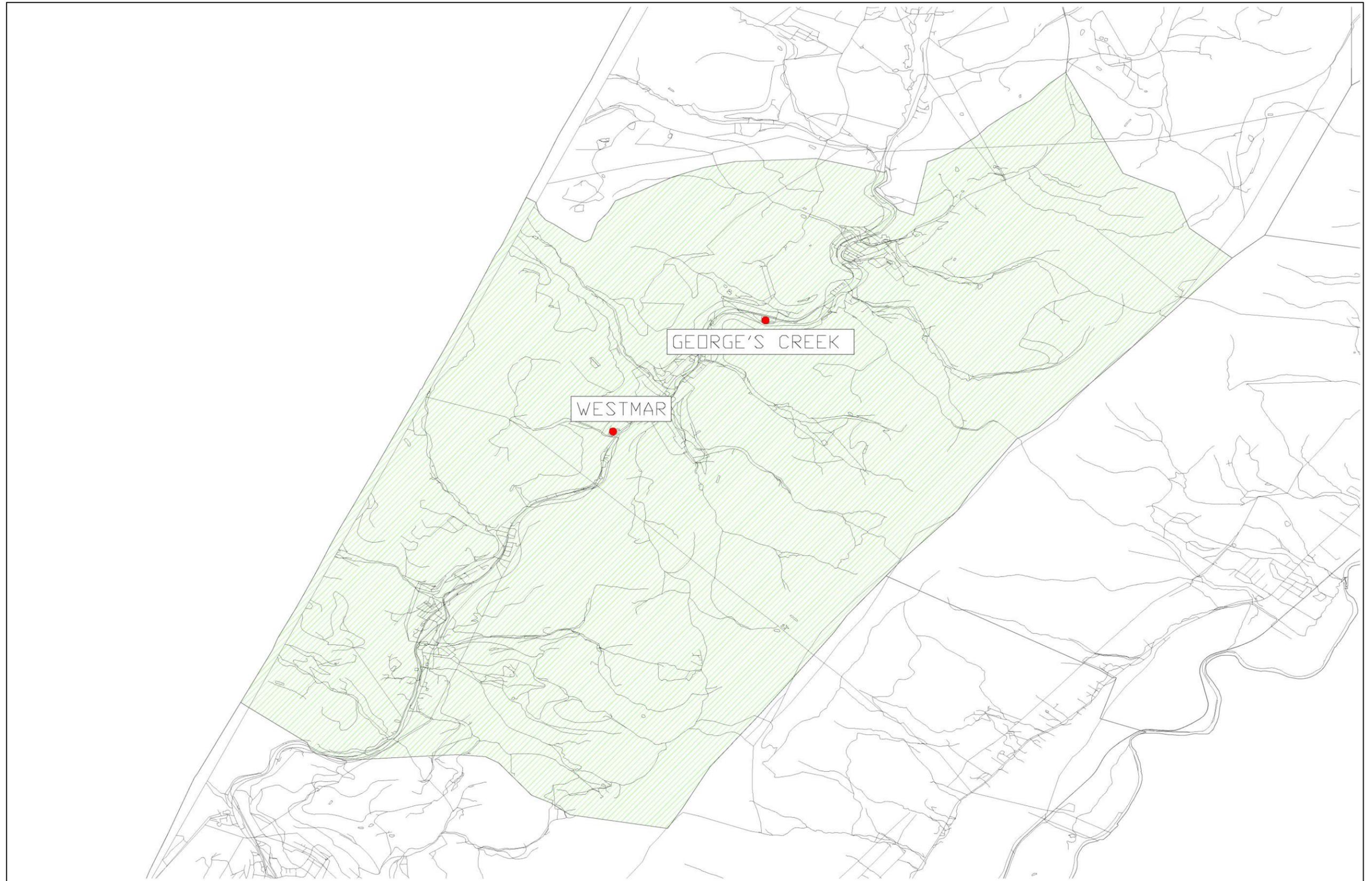


**Central  
Region  
without  
Parkside**

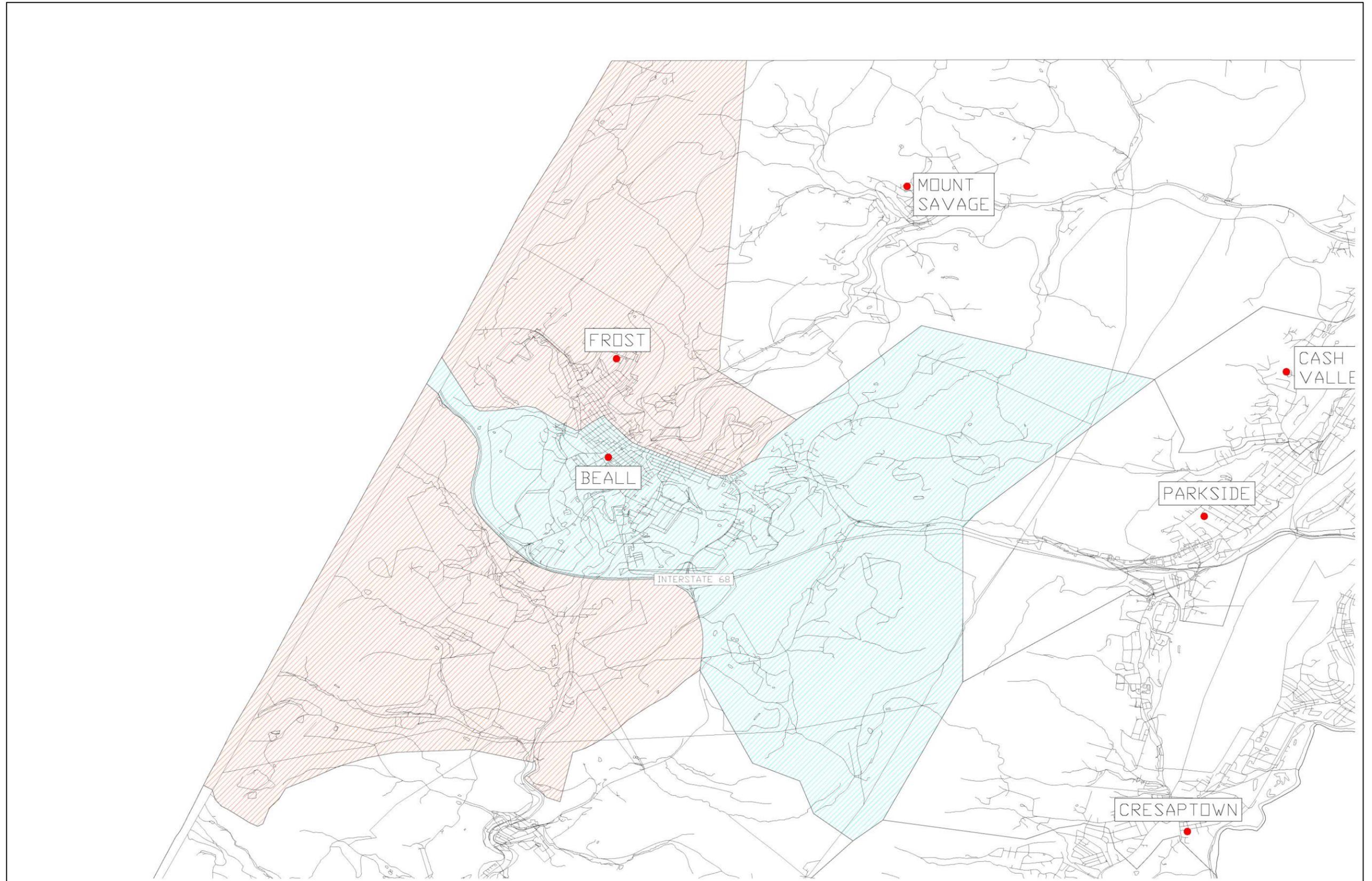


3

**George's  
Creek and  
Westmar  
Middle  
School**



**Beall and  
Frost  
Elementary**



# Beall and Frost Alternative Boundaries

