Albemarle County Public Schools
High School Facilities Planning Study

Final Report | 14 December 2017

Albemarle County Public Schools

HBA x *fni*

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1 The Study

HBA Architecture & Interior Design and Fielding Nair International (HBA x FNI), have been commissioned as an integrated design team of architects, planners and educators to recommend how to best address capacity needs and future enrollment growth at the high school level for Albemarle County.

The study includes concepts of how High School 2022 can be implemented across the school division and county. The primary focus is to find ways to give every student access to opportunities that support their passion, whether they be in or out of high school buildings.

The Study

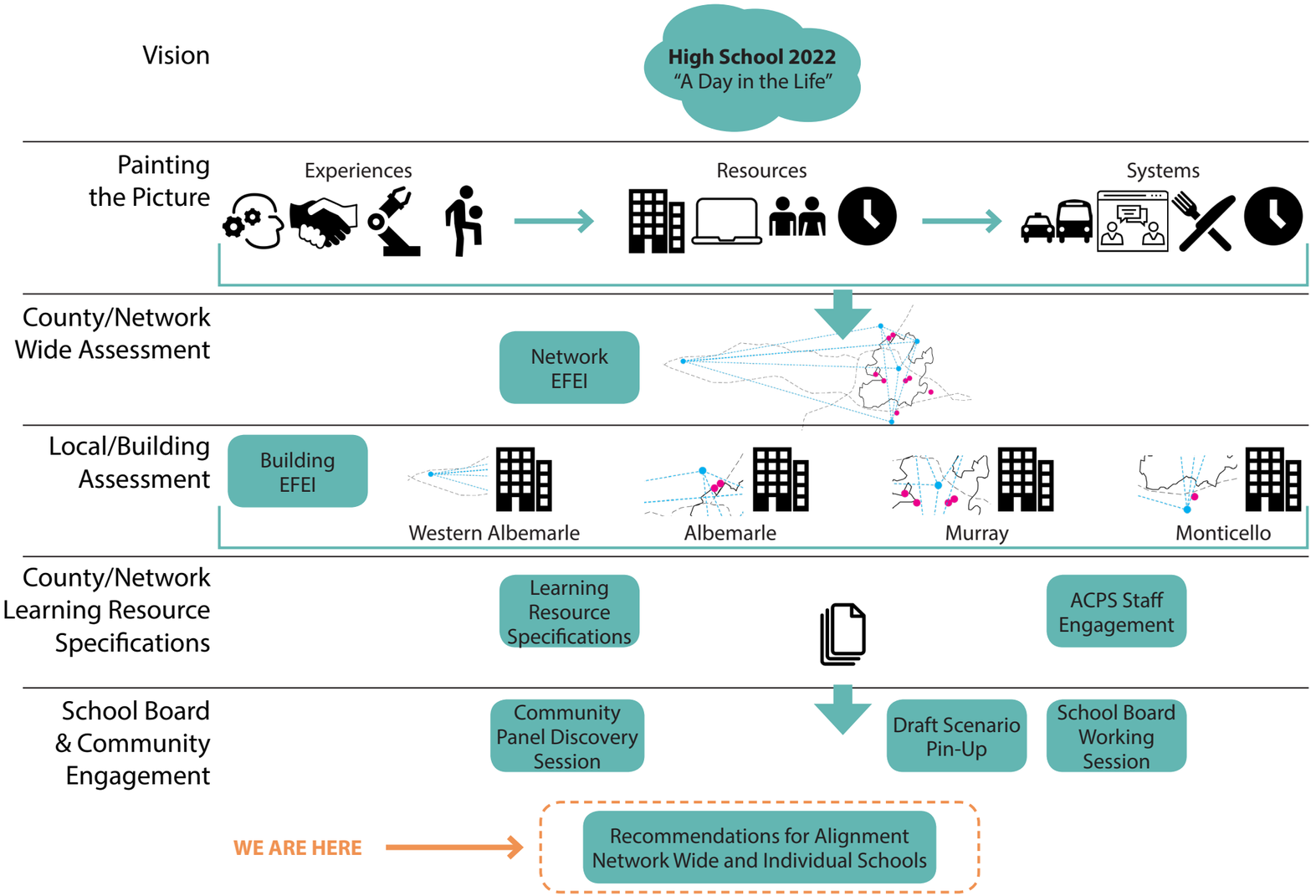
Process & Project Framework

The process began by developing a deeper understanding of the vision and mission of ACPS and the High School 2022 strategic plan. This study considers all of the School Division's resources, including high school facilities, as ultimately in service to the learning experiences envisioned at the core of High School 2022.

We then analyzed all of the existing experiences, resources and systems across the Division that support learning at the high school level. We feel that understanding the existing conditions and operations is essential to the planning process when looking toward the future.

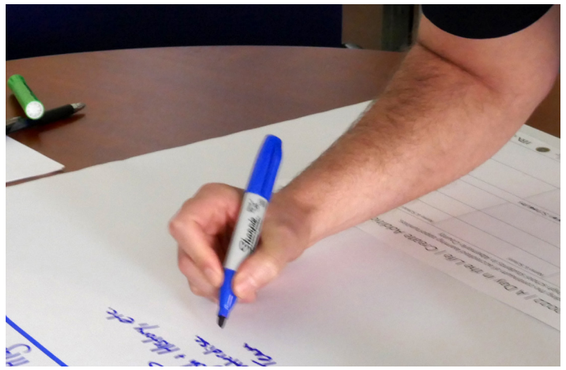
We studied the above at various scales from classroom to building to division and engaged a wide variety of stakeholders including members of ACPS, the school board, parents and students to gain a similar cross-scale understanding of culture and place.

The diagram at the right outlines the major components of the process from the start at top, to the development of the recommendations contained in this report at bottom.



The Study

Discovery & Engagement Process



Discovery Visit

The Design Team engaged with ACPS administration, teachers and students to learn about the existing culture and envision the future of high school in Albemarle County.

Community Engagement

The Design Team had the opportunity to learn about the culture of each high school and its immediate surrounding community from teachers, administrators, parents and students.

Discovery Findings Visit

The Design Team shared a framework of how high school in the Division could operate and, together with ACPS, the team created conceptual models and systems to implement High School 2022.

Presentation of Scenarios

The Design Team shared context data and preliminary scenarios to handle capacity and align facilities with High School 2022. The team facilitated an active discussion with members of ACPS and the School Board.

Facilities Assessments

The Design Team conducted Education Adequacy and Facilities Condition assessments to establish benchmarks and highlight areas of opportunity at each high school.

School Board Session

The Design Team participated in a School Board working session to share and discuss progress as refined from previous meetings.

Photo Credit: Josh Mandell, Charlottesville Tomorrow

The Study

4 Essential Questions

The context for this study is broad - from High School 2022 to building capacity and enrollment projections to the evolution of high school around the world.

The Design Team took inventory of this context and distilled it into four (4) essential questions.

The 4 Essential Questions guided the work of this study and serve as a framework for its organization.

The context section outlines many aspects of the context studied in greater detail.

Context

- ACPS Mission/Vision/Core Values
- High School 2022
- The Evolution of High School around the World
- Enrollment Projections
- Large Geography of School Division
- Facilities Conditions & Alignment with High School 2022
- Success and competitiveness of ACPS Specialized Programming
- Demographic Diversity

4 Essential Questions

1. How do we respond to enrollment pressure in the North & West?
2. What does each school site need?
3. How do we expand opportunity for all?
4. How do we use space as a catalyst for High School 2022?

2 Context

Context

High School 2022 | A Day in the Life

High School 2022 is ACPS' vision for the high school experience in Albemarle County.

The **"High School 2022 - A Day in the Life"** video shares examples of what this learning could look like,

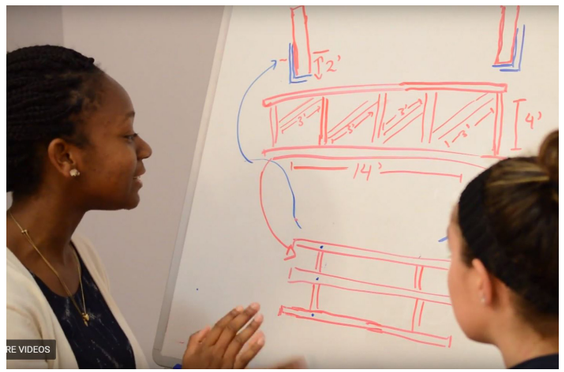
"...In addition to their standard coursework, students will engage in a variety of accredited learning experiences outside of the classroom to compliment their content knowledge. These experiences are designed to develop and further support content knowledge, workplace skills, community engagement, civic responsibility and career exploration in alignment with the Profile of a Virginia Graduate."
- Narrative as transcribed from video

The Design Team devoted a large amount of time learning about High School 2022.

The images to the right are clips from the "High School 2022 - A Day in the Life" video and illustrate some of the elements of High School 2022.

Specialized Programming

Exposure to a variety of specialized programming gives students the opportunity to explore their interests and potential career pathways.



Peer Mentorship

Peer mentoring programs promote every individual as a learner and a teacher.

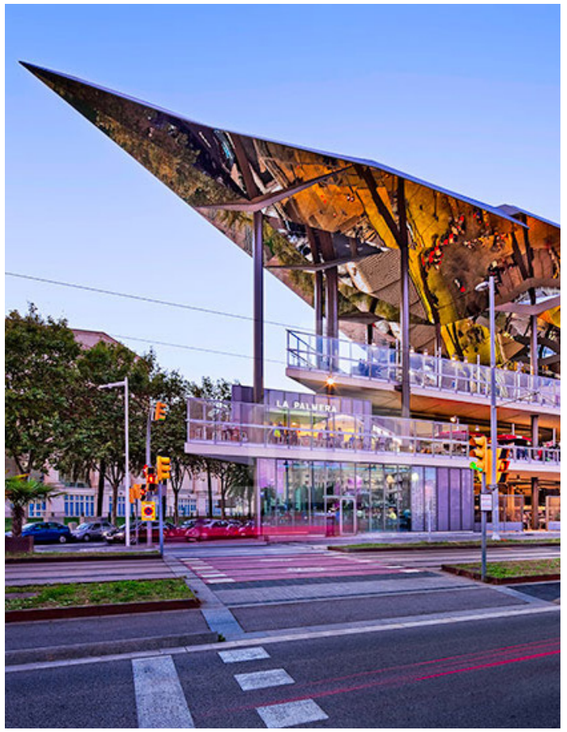
Community Engagement

Students participate in various out of building learning experiences and engage as active community members.

Context

The Evolution of High School around the World

As we look around the world, high school is evolving to prepare students for the demands of the 21st Century. Students must not only master the old basics of reading, writing, and arithmetic, but also the new basics of digital and information literacy, communication, creativity, and collaboration skills to name just a few. In this context high school facilities are also changing from large buildings with classrooms, to more nimble, flexible, environments that support the kind of workflows students will engage beyond high school. Below are a few themes relevant to this study from high school projects we have worked on recently.

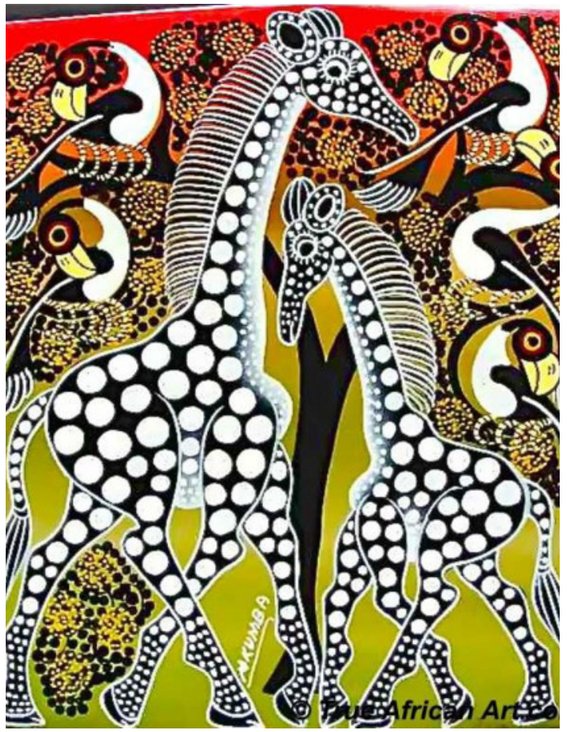


Marketplace of Ideas
Hawaii

From our work in Hawaii, we are exploring how the HS facility might be designed to be as flexible as a market, able to adapt to changes in the curricular focus, like a market can receive different vendors and stalls. Like a market, the 21st Century High School can also make visible the wide range of ideas students are pursuing.

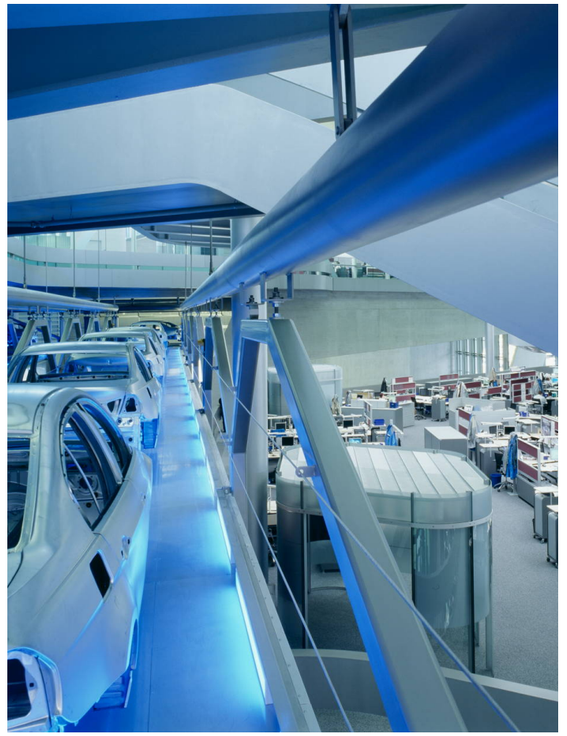
Activity Based Learning Space
Singapore

From our work in Singapore, we have explored a learning environment designed around activity rather subjects. From quiet areas for focus to active zones for making, the 21st century learning environment offers the flexibility for students and teachers to choose the right space for the right activity.



Identity
Tanzania

From our work in Tanzania, we have explored how high school facilities can reflect the richness of the community identities that surround the facilities.



Innovation Workflow
South Carolina

From our work in Greenville, South Carolina, we have studied how learning space can be arranged to make movement between tasks like designing and making more seamless and direct. The BMW Innovation Center pictured above, designed by Zaha Hadid, places advanced manufacturing directly next to design.

Question 1

How do we respond to enrollment pressure in the North & West?

We looked at the Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028 to determine where, when and to what extent growth is anticipated within the County.

Through analyzing the projections from the elementary to the high school level we were able to understand that the most pressing capacity needs are located in the North and West of Albemarle County.

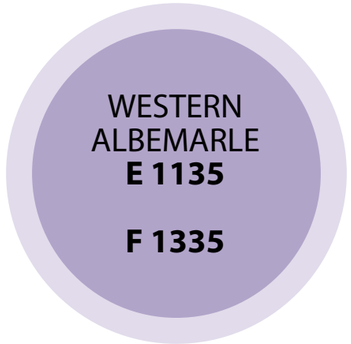
Context

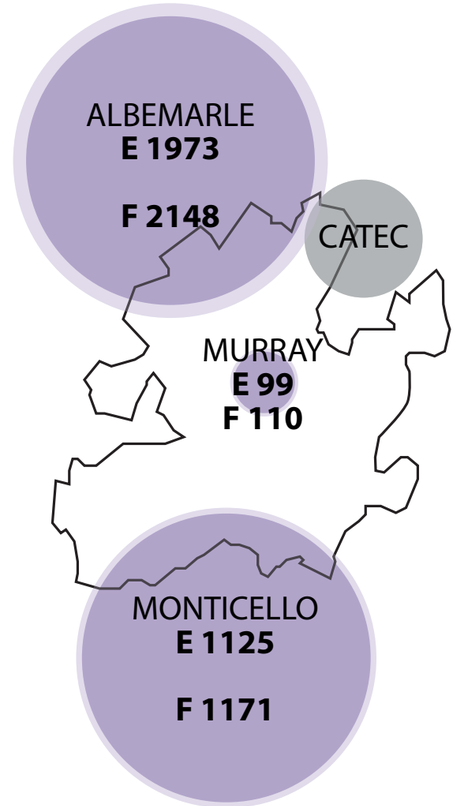
Enrollment | Existing* & Future** (7-Year Peak)

NOTES

* Existing Enrollment numbers are for 2017/2018 School Year based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

** Future Enrollment numbers are for 2024/2025 School Year (peak enrollment) based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.





Existing (E)

Future (F)

Albemarle County Public Schools

HBA x fni

Context

Enrollment Projections* | High School (7-Year Peak)

High School enrollment projections suggest significant growth in the West and moderate growth in the North.

LEGEND

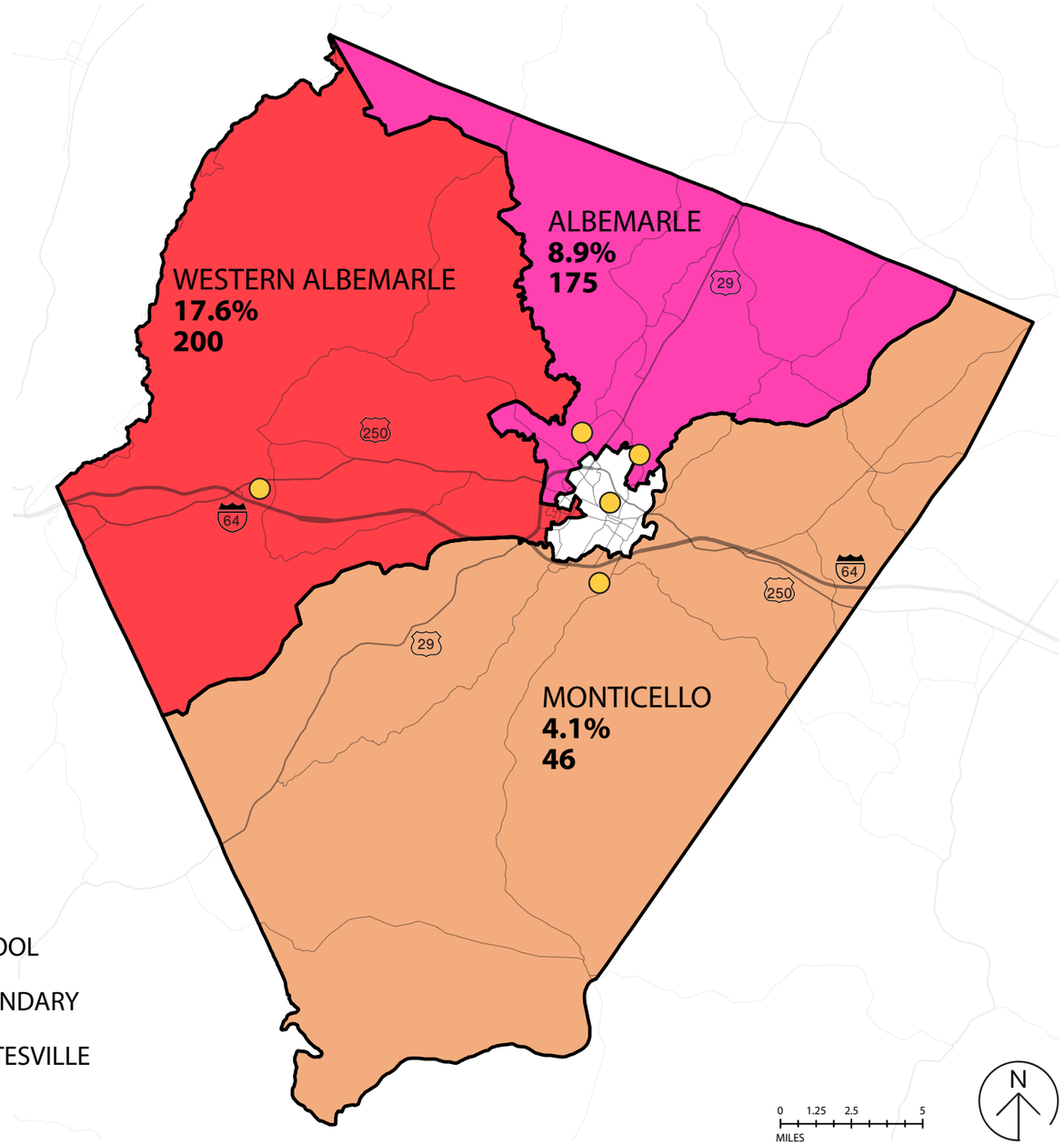
PROJECTED ENROLLMENT CHANGE

- The labels on the map indicate change in total enrollment and percent increase.
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; ESRI Cartographer: ZS, November 2017

- < -10.00%
- -9.99% - -5.00%
- -4.99% - -2.00%
- -1.99% - -0.01%
- 0.00%
- 0.01% - 2.00%
- 2.01% - 5.00%
- 5.01% - 10.00%
- >10.00%

* Enrollment numbers based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

ALBEMARLE COUNTY



LEGEND

- HIGH SCHOOL
- ELEMENTARY SCHOOL
- ATTENDANCE BOUNDARY
- CITY OF CHARLOTTESVILLE
- ROADS

Context

Enrollment Projections* | High School (10-Year)

Beyond the peak high school enrollment in 2024/2025, there is a slight decrease in growth in both the West and North.

LEGEND

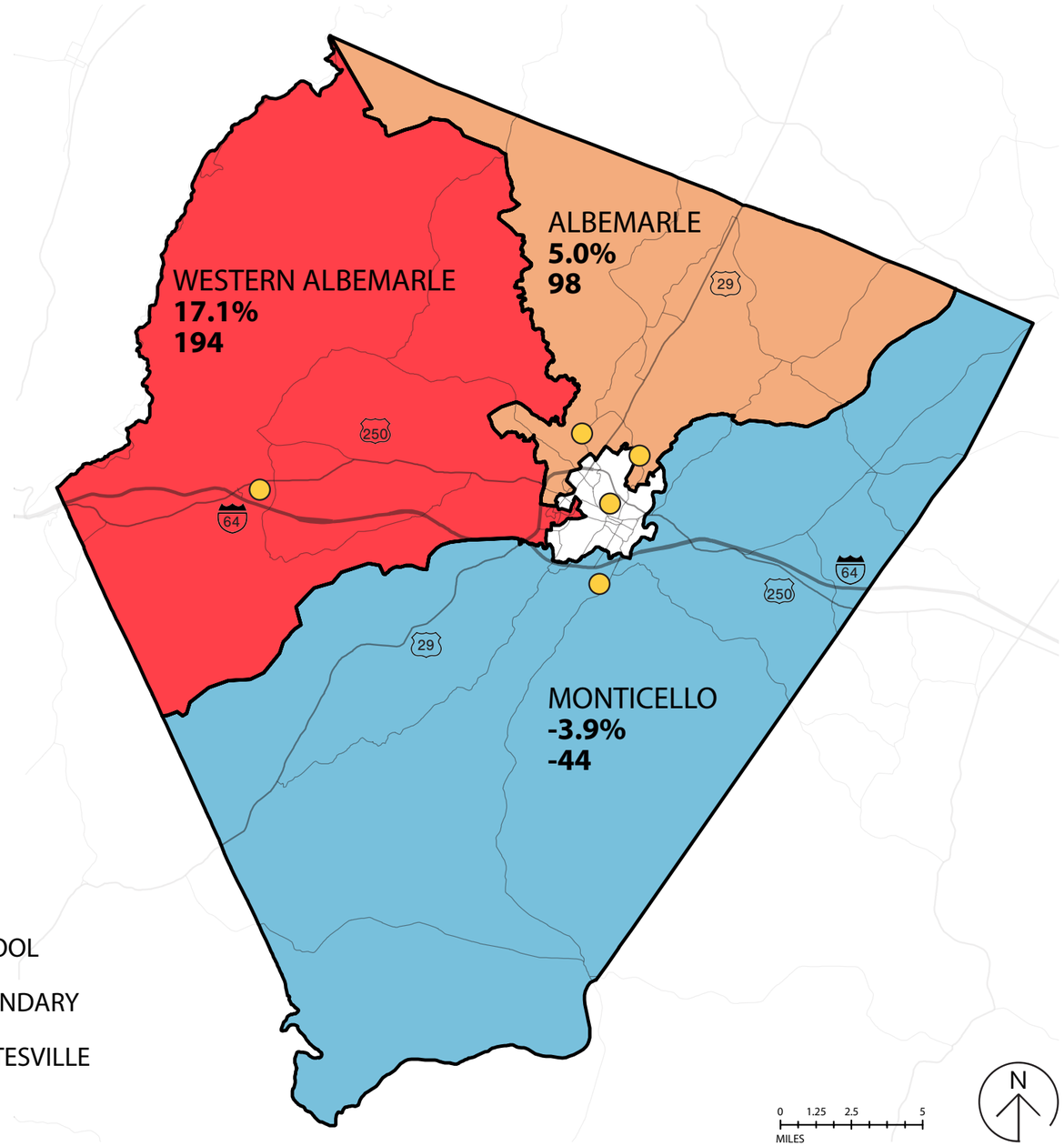
PROJECTED ENROLLMENT CHANGE

- The labels on the map indicate change in total enrollment and percent increase.
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; ESRI Cartographer: ZS, November 2017

- < -10.00%
- -9.99% - -5.00%
- -4.99% - -2.00%
- -1.99% - -0.01%
- 0.00%
- 0.01% - 2.00%
- 2.01% - 5.00%
- 5.01% - 10.00%
- >10.00%

* Enrollment numbers based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

ALBEMARLE COUNTY



LEGEND

- HIGH SCHOOL
- ELEMENTARY SCHOOL
- ATTENDANCE BOUNDARY
- CITY OF CHARLOTTESVILLE
- ROADS

0 1.25 2.5 5
MILES

N

Albemarle County Public Schools

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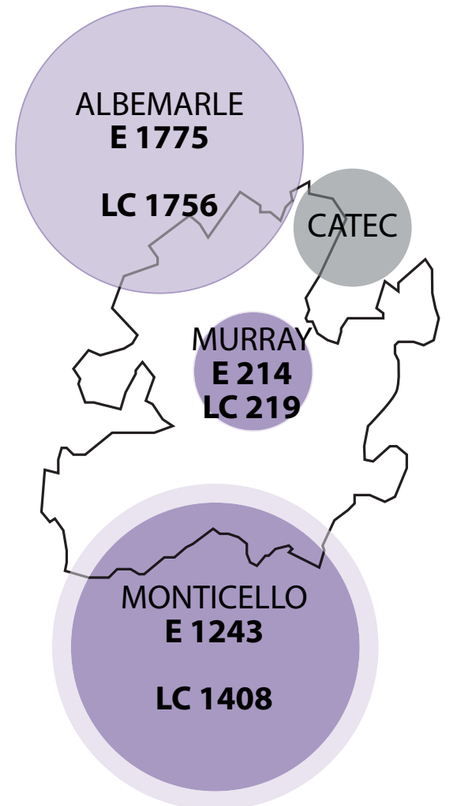
Context

Capacity | Existing* v Modernization**

NOTES

* Existing Capacity as calculated per current ACPS guidelines. Refer to Appendix A for complete calculations and additional diagrams.

** For a more detailed look at the modernization envisioned at each school, including its impact on capacity, please see the Modernization subsection of Chapter 3 Opportunities.



Existing (E)

Modified Programming w/Learning Communities (LC)

Albemarle County Public Schools

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Context

Future Enrollment* (7-Year Peak) | Capacity w/Modernization**

NOTES

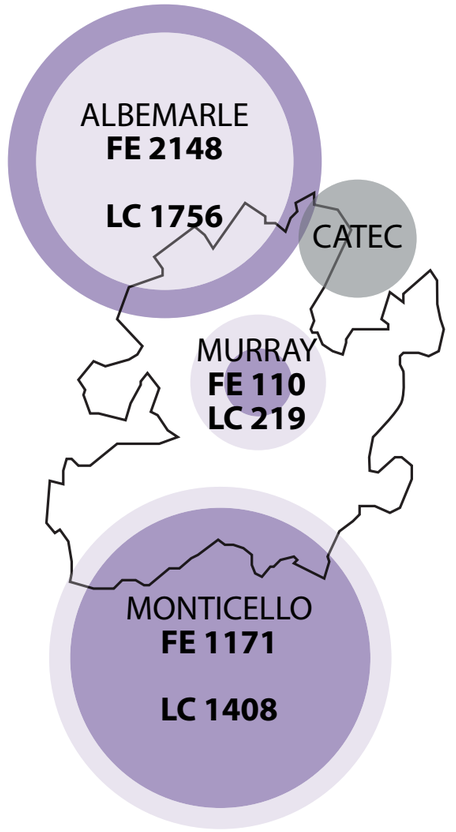
Modernization alone cannot support the increasing enrollment demands at Albemarle and Western Albemarle High School.

* Future Enrollment numbers are for 2024/2025 School Year (peak enrollment) based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

** For a more detailed look at the modernization envisioned at each school, including its impact on capacity, please see the Modernization subsection of Chapter 3 Opportunities.

Future Enrollment (FE)

Capacity w/Modified Programming w/Learning Communities (LC)



Question 2

What does each school site need?

We analyzed each school in terms of its physical conditions and adequacy to support the educational vision of High School 2022.

Understanding the existing parameters, opportunities and challenges of each site helped determine the best course of action for the Division to handle capacity in a way that supports the vision.

Context

Existing Conditions & Future Projections | Investment Needed

EFEI - Education Facilities Effectiveness Instrument

Facilities Conditions Assessment
$60 M (Million) = Estimated capital renewal investment needed over next 20 years at 3 Comprehensive High Schools

Opportunity Photos

Albemarle
Sustainability

Western Albemarle
Transparency

Monticello
Student-Crafted Learning

WESTERN ALBEMARLE

$21 M

EFEI = 46.75
High Scores
- Technology
- Shared Learning Resources

Low Scores
- Transparency
- Sustainability

EFEI = 55.50
High Scores
- Shared Learning Resources
- Inside/Outside Connections

Low Scores
- Transparency
- Sustainability

ALBEMARLE

$25 M

CATEC

EFEI = 48.00
High Scores
- Choice & Comfort
- Inside/Outside Connections

Low Scores
- Transparency
- Student Dining

MURRAY

EFEI = 74.25
High Scores
- Cave Space
- Teachers Professional Space

Low Scores
- Sustainability
- Student-Crafted Learning

MONTICELLO

$14 M

Albemarle County Public Schools

HBA x fni

Context

EFEI Analysis | Summary

EFEI - Education Facilities Effectiveness Instrument

- A tool used as part of the Educational Adequacy Assessment to measure each school building for its potential to support the envisioned high school program.
- Refer to Appendix B | Education Adequacy Assessment (EFEI) for assessment criteria and a detailed analysis for each school.

LEGEND

4.00 - 5.00	EXCELLENT
3.00 - 3.99	SATISFACTORY
2.00 - 2.99	BORDERLINE
1.00 - 1.99	POOR
0.00 - 0.99	INADEQUATE

		Albemarle HS	Monticello HS	Western Albemarle HS	Murray HS
1	FLEXIBILITY	2.25	2.75	1.75	2.50
2	MAKING EVERYWHERE	0.75	1.25	0.75	1.25
3	TRANSPARENCY	0.00	2.75	0.00	0.00
4	CHOICE AND COMFORT	3.00	1.75	2.25	3.25
5	WATERING HOLE SPACE	1.50	2.25	1.50	1.75
6	CAVE SPACE	1.25	4.75	0.50	0.75
7	UNIVERSAL DESIGN	1.00	3.50	1.25	1.50
8	TECHNOLOGY	3.25	3.50	3.75	2.75
9	ACOUSTICS	2.50	2.25	2.50	2.25
10	TEACHERS PROFESSIONAL SPACE	1.25	4.50	2.50	1.25
11	WELCOMING ENTRY	3.75	4.25	2.75	2.50
12	SHARED LEARNING RESOURCES	3.50	3.75	3.25	2.00
13	STUDENT-CRAFTED LEARNING	0.50	0.75	0.50	2.50
14	ARTS STUDIOS	3.25	2.50	2.25	2.00
15	MUSIC AND PERFORMANCE	4.75	3.50	3.25	0.50
16	HEALTH & PHYSICAL FITNESS	3.75	3.75	3.25	1.50
17	TOILET ROOMS	1.75	3.25	3.00	4.25
18	STUDENT DINING	2.00	2.25	1.75	0.50
19	SAFE LEARNING SPACES	2.50	4.50	2.75	2.00
20	DAYLIGHTING AND ARTIFICIAL LIGHTING QUALITY	2.75	3.25	0.25	2.50
21	INSIDE/OUTSIDE CONNECTIONS	3.50	3.75	2.00	2.75
22	NATURAL VENTILATION	1.50	1.75	0.75	1.75
23	SUSTAINABILITY	0.25	0.50	0.00	0.50
24	LOCAL SIGNATURE	1.00	2.00	0.50	1.25
25	CONNECTED TO COMMUNITY	2.00	2.25	2.25	2.00
26	AESTHETICS	2.00	3.00	1.50	2.25
	EFEI ASSESSMENT SCORE (out of 130 possible points)	55.50	74.25	46.75	48.00
	EFEI RATING (5.00 Scale)	2.13	2.86	1.80	1.85

Context

Site Plan | Monticello High School

Area of the Existing Site
- 65.97 acres (per county estimates)

Area of the Existing Building Footprint
- 180,000 sf (estimated)

Site Opportunities and Challenges
- Minimal site area is available for building expansion due to adjacencies of property lines, grade constraints and previously constructed site elements.

Albemarle County Public Schools

HBA x fni

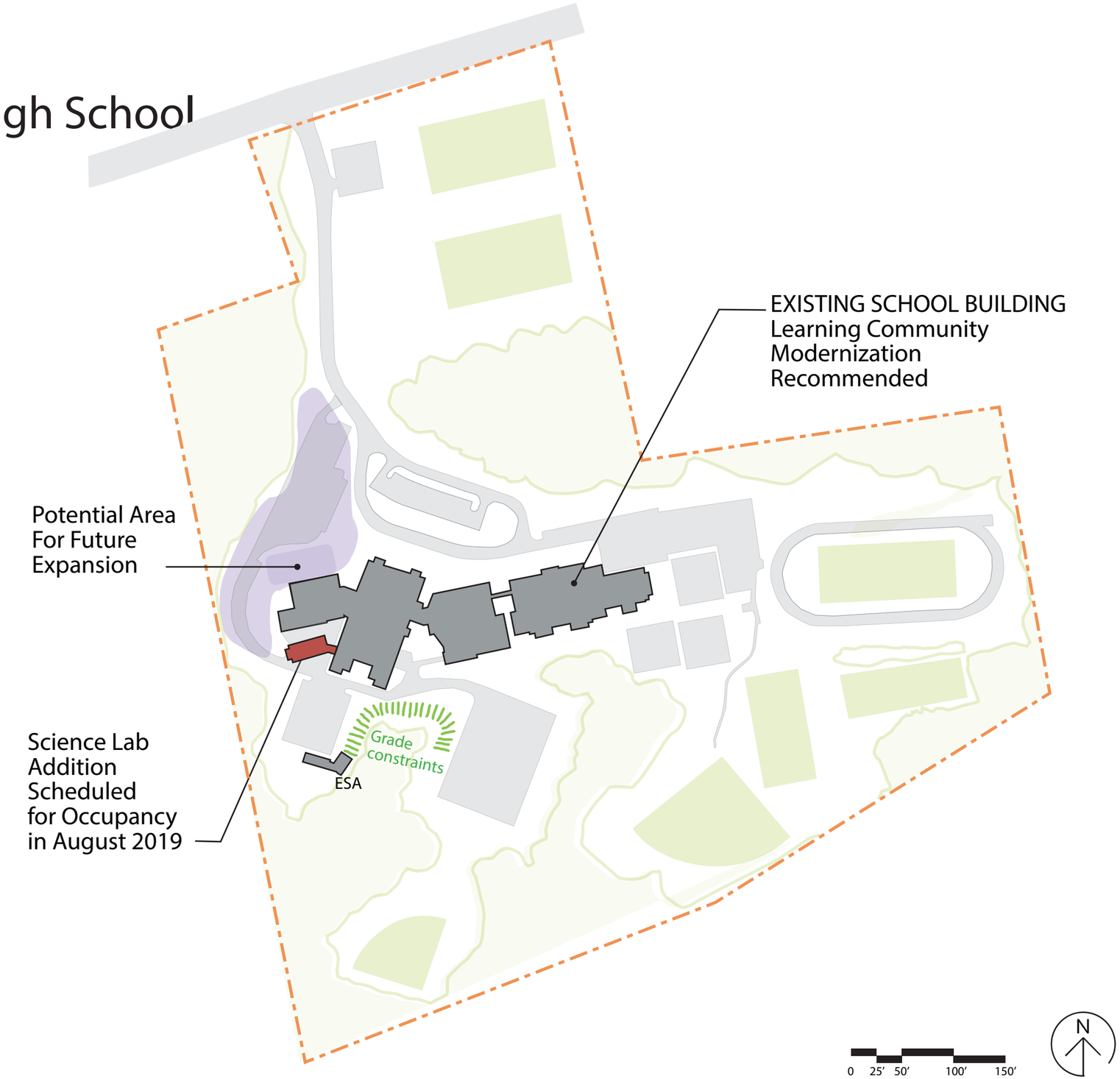
Context

Site Plan | Western Albemarle High School

Area of the Existing Site
- 75.00 acres (per county estimates)

Area of the Existing Building Footprint
- 150,600 sf (estimated)

Site Opportunities and Challenges
- Minimal site area is available for building expansion due to adjacencies of property lines, grade constraints and previously constructed site elements.



Albemarle County Public Schools

HBA x fni

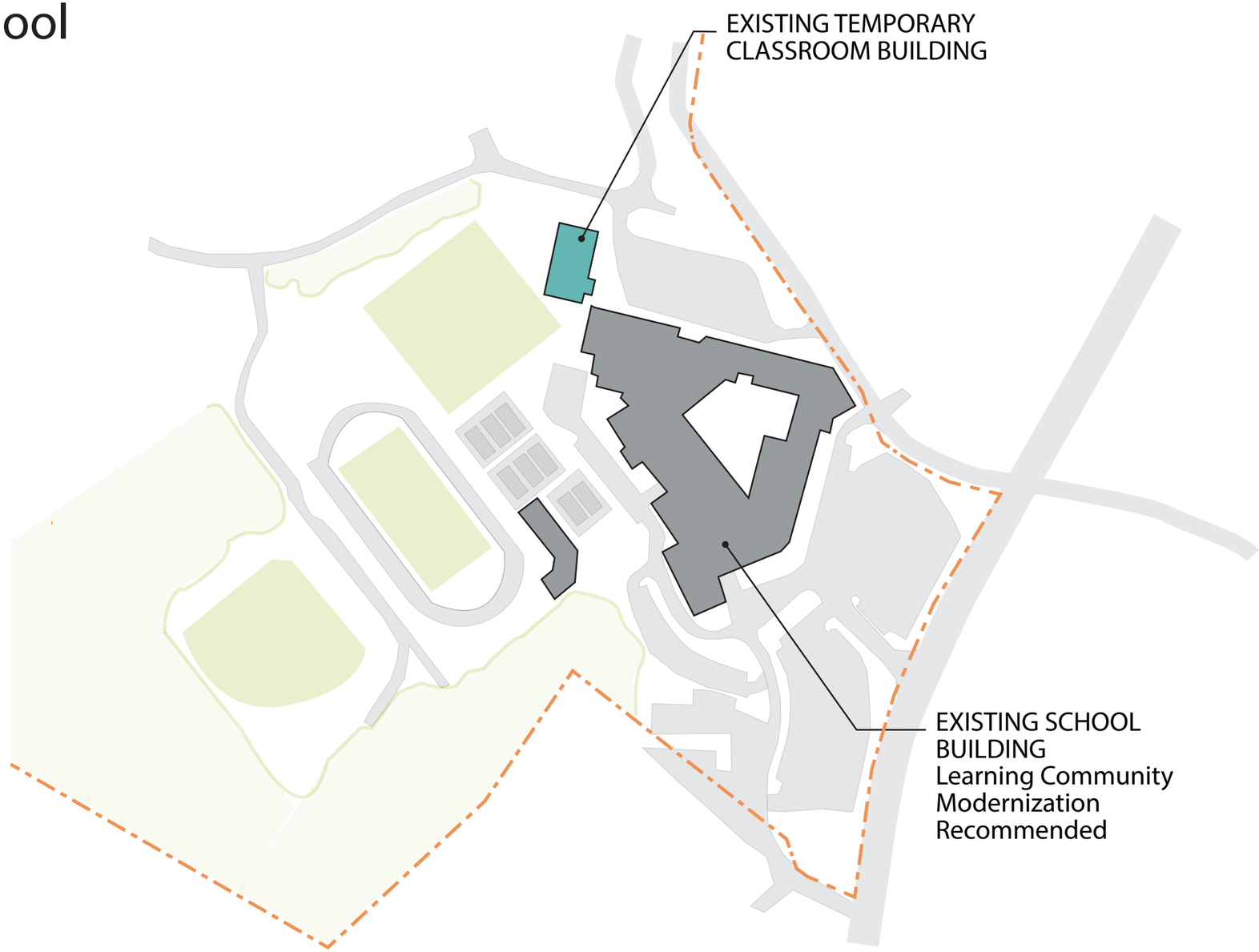
Context

Site Plan | Albemarle High School

Area of the Existing Site
- 47.57 acres (estimated)

Area of the Existing Building Footprint
- 194,000 sf (estimated)

Site Opportunities and Challenges
- Site is centrally located to north urban ring and US 29 Corridor
- Minimal site area is available for building expansion due to adjacencies of property lines and previously constructed site elements.
- The size of the school already exceeds the community's desired school size for a high school student population.
- The shape of the existing building poses challenges for additional classroom expansion because of its triangular shape and 3 corners consisting of Gym, Auditorium, and new Addition.
- The shape of the existing building also poses challenges for contraction of footprint because of its triangular shape - eliminating a leg of the triangle would likely make the remaining building less efficient for circulation and utility infrastructure.



Context

Site Plan | Murray High School

Area of the Existing Site

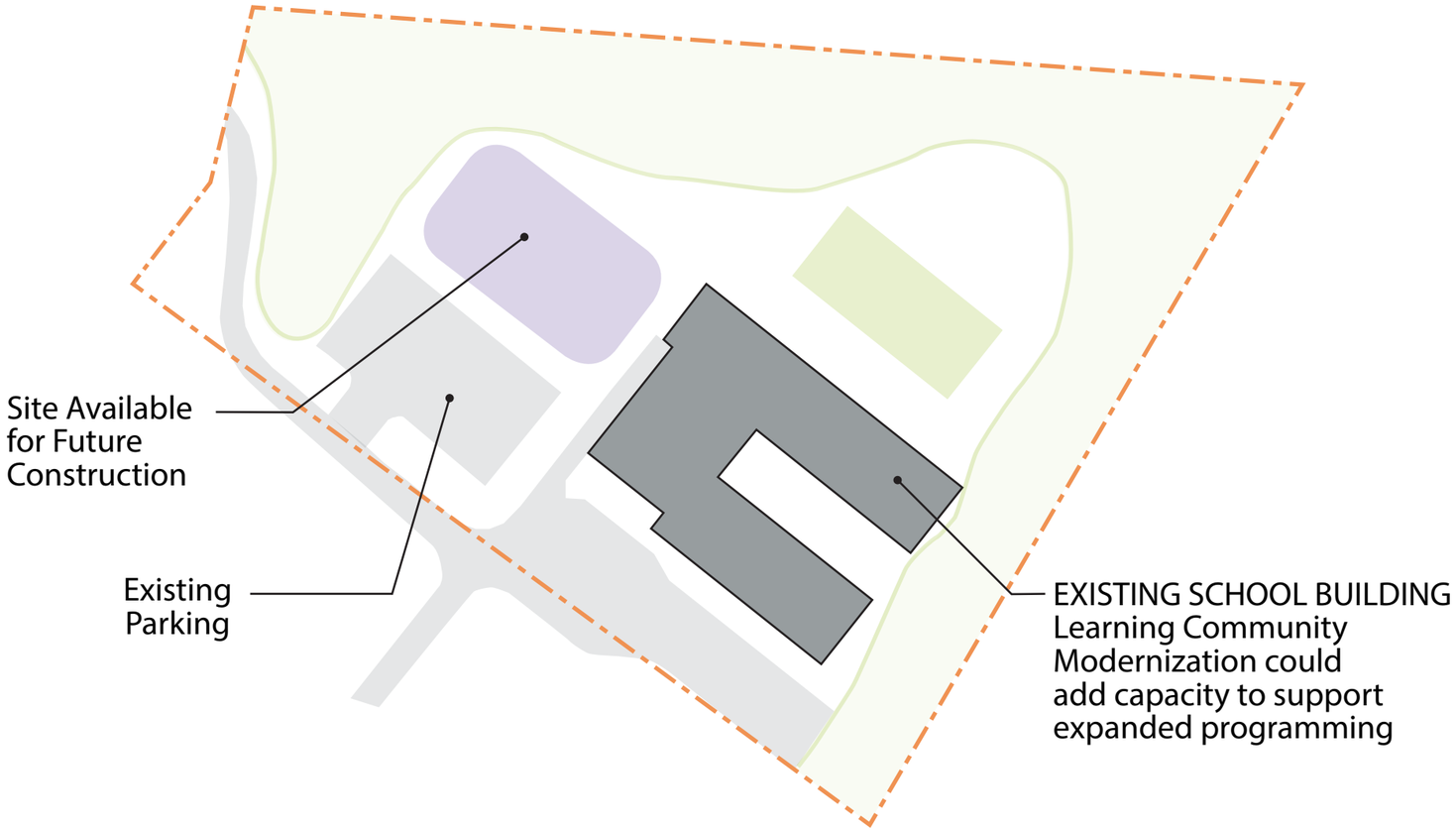
- 6.33 acres (per county estimates) - 7.1 acres (per MUR site 2009.pdf)

Area of the Existing Building Footprint

- 29,200 sf (estimated)

Site Opportunities and Challenges

- Site is centrally located to urban ring
- Site area is available for building expansion



Albemarle County Public Schools

HBA x fni

Context

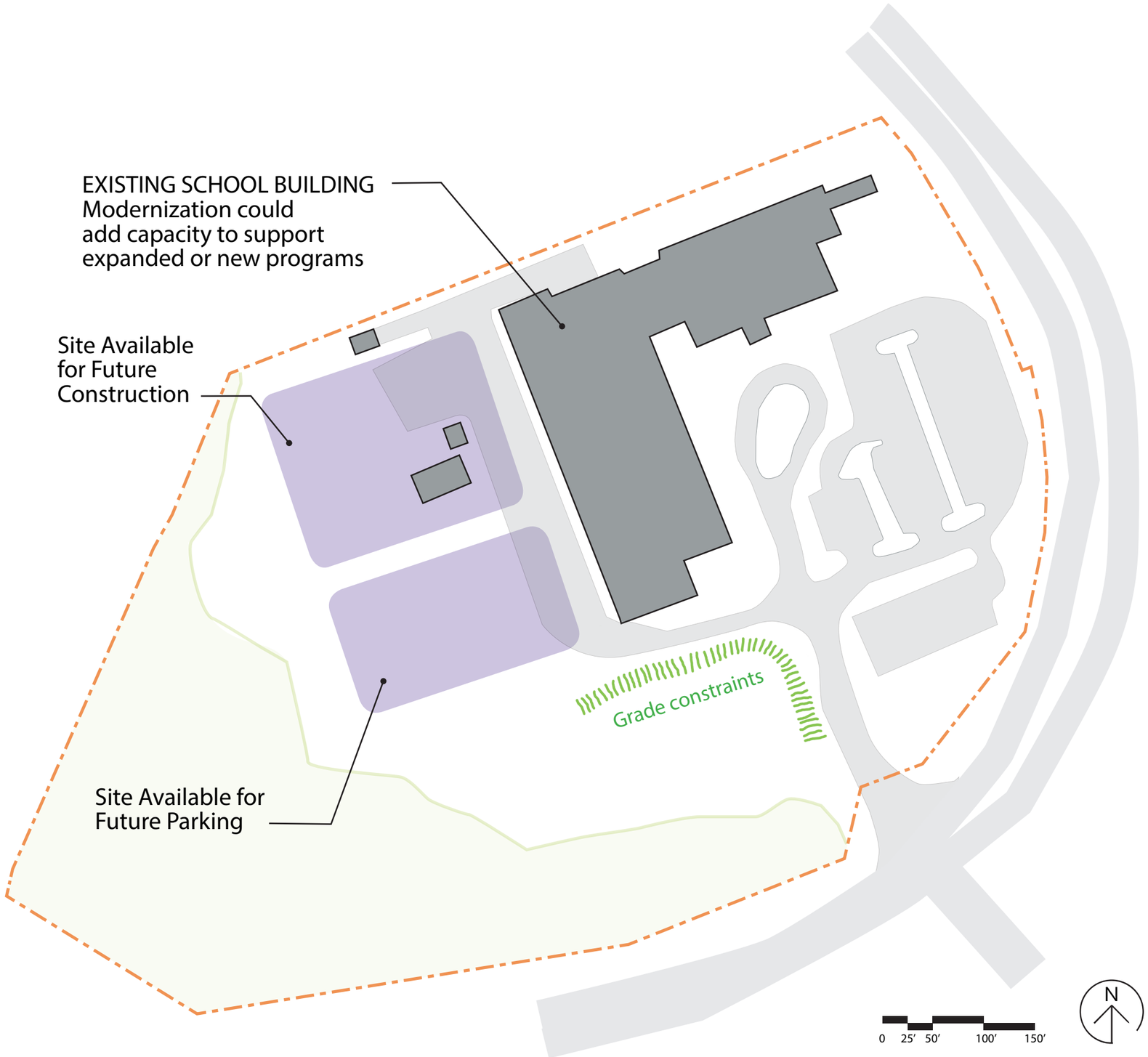
Site Plan | CATEC

Area of the Existing Site
- 13.5 acres (per county estimates)

Area of the Existing Building Footprint
- 58,200 sf (estimated)

Design Options
- Modernize & Reinvigorate Programming
- Relocate current programming and reuse site/ building

Site Opportunities and Challenges
- Site is centrally located to north urban ring and US 29 Corridor
- Site area is available for building expansion



Albemarle County Public Schools

HBA x fni

Question 3

How do we expand opportunity for all?

We looked at the demographic makeup of each high school individually to understand the diversity of the school division.

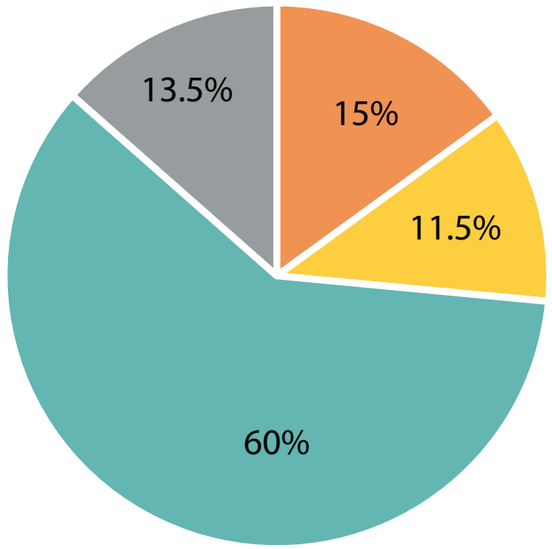
We looked at current student participation rates in specialized programming offered by ACPS and where those participating students live.

An analysis of these data points, along with feedback from community and ACPS staff, made clear the need to strategically expand specialized programming opportunities so that all students may participate.

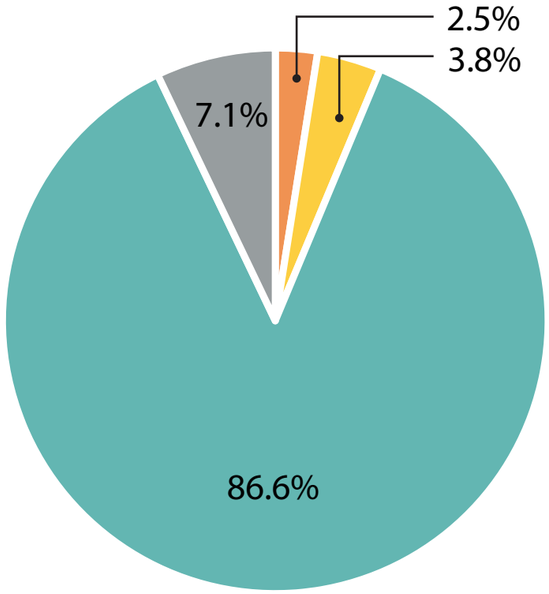
Context

Demographics* | Race & Ethnicity

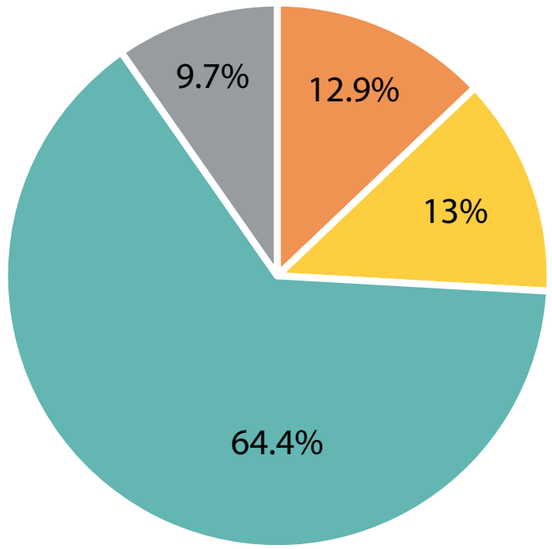
Albemarle



Western Albemarle



Monticello



LEGEND

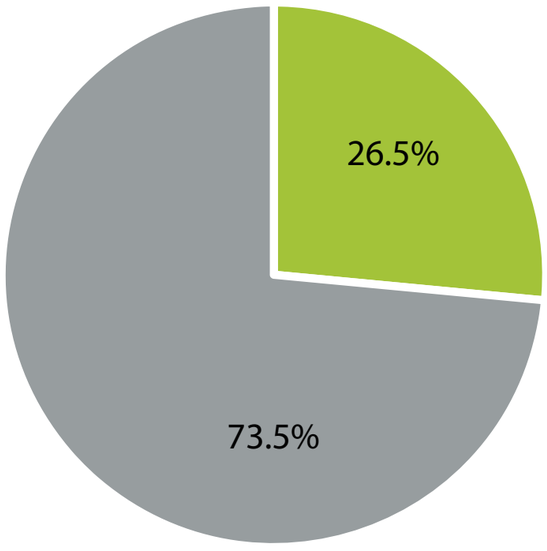
- Black/African American
- Hispanic
- White
- Not Identified

* Demographic statistics sourced from ACPS High School Fact Sheet Websites. Data as of September 30, 2016.

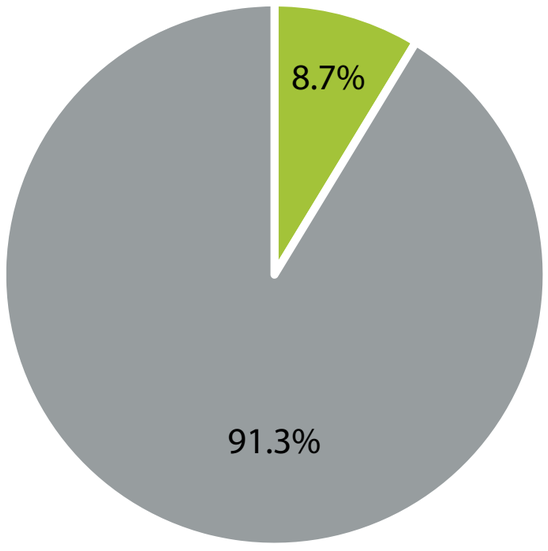
Context

Demographics* | Free & Reduced Price Meals

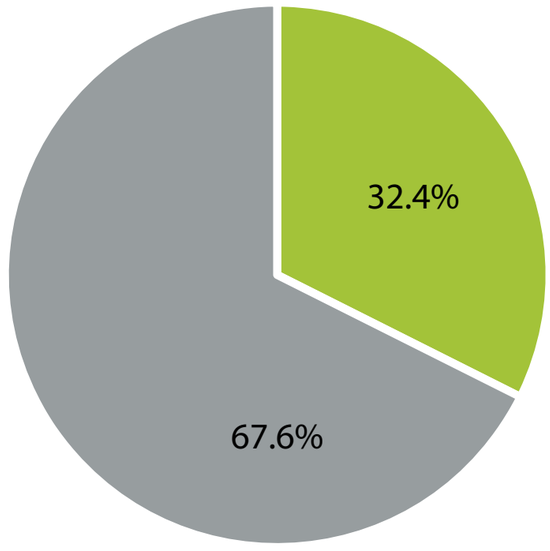
Albemarle



Western Albemarle



Monticello



LEGEND

Disadvantaged
(Free & Reduced Price Meals)

* Demographic statistics sourced from ACPS High School Fact Sheet Websites. Data as of September 30, 2016.

Context

Median Household Income | High School Students

LEGEND

CONCENTRATION OF HIGH SCHOOL STUDENTS (2017/2018)

- Concentration represents counts of students w/in a half-mile radius.
- Concentrations of less than 6 students are excluded.
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; ESRI Cartographer: ZS, October 2017

200 - 240
170 - 190
140 - 160
98 - 130
80 - 97
63 - 79
45 - 62
27 - 44
6 - 26

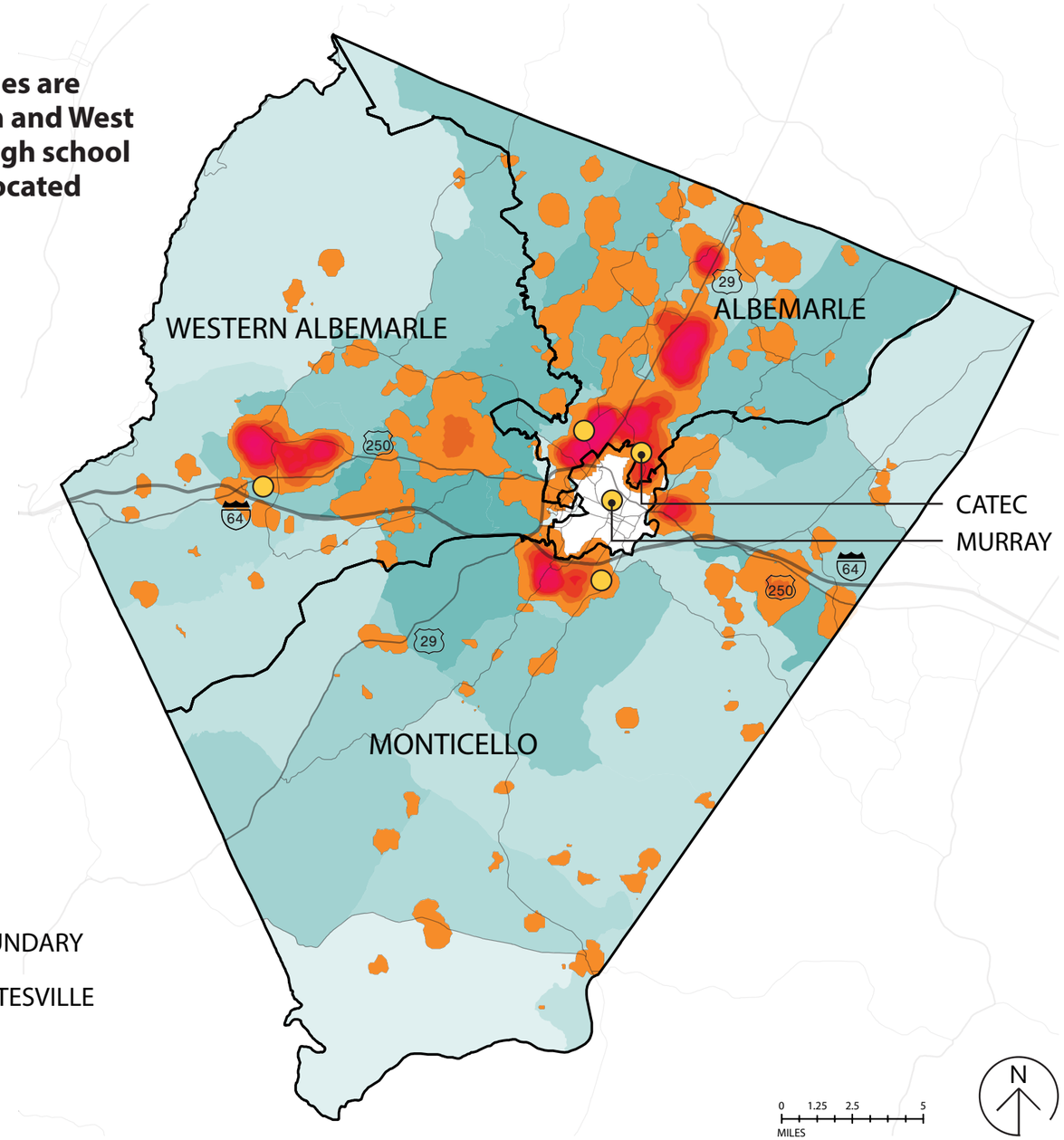
MEDIAN HOUSEHOLD INCOME BY BLOCK GROUP (2017/2018)

- In the past 12 months
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; U.S. Census Bureau, 2015 American Community Survey; ESRI Cartographer: ZS, October 2017

$131,964.01 - $175,682.00
$106,250.01 - $131,964.00
$88,047.01 - $106,250.01
$73,457.01 - $88,047.00
$63,977.01 - $73,457.00
$58,214.01 - $63,977.00
$48,750.01 - $58,214.00
$41,705.01 - $48,750.00
$20,590.01 - $41,705.00
$8,043.00 - $20,590.00

ALBEMARLE COUNTY

Highest household incomes are concentrated in the North and West of Charlottesville while high school student households are located throughout the county.



Context

Median Household Income | Gifted Education Program Participation

LEGEND

GIFTED EDUCATION PARTICIPATION - # STUDENTS (2017/2018)

- Concentration represents counts of students w/in a half-mile radius.
- Concentrations of less than 6 students are excluded.
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; ESRI Cartographer: ZS, October 2017

- 52 - 60
- 46 - 51
- 41 - 45
- 32 - 40
- 28 - 31
- 23 - 27
- 18 - 22
- 13 - 17
- 6 - 12

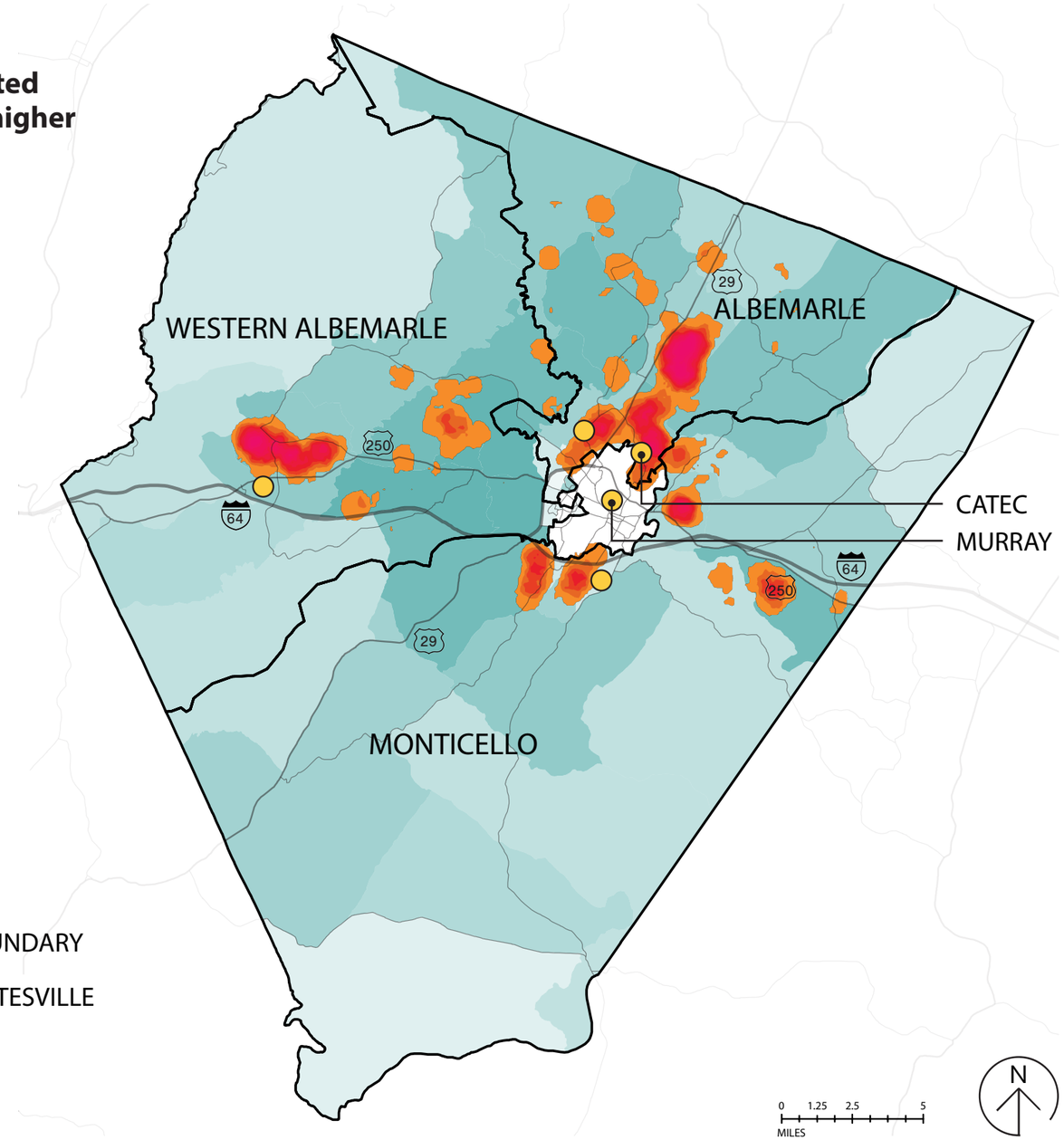
MEDIAN HOUSEHOLD INCOME BY BLOCK GROUP (2017/2018)

- In the past 12 months
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; U.S. Census Bureau, 2015 American Community Survey; ESRI Cartographer: ZS, October 2017

- $131,964.01 - $175,682.00
- $106,250.01 - $131,964.00
- $88,047.01 - $106,250.01
- $73,457.01 - $88,047.00
- $63,977.01 - $73,457.00
- $58,214.01 - $63,977.00
- $48,750.01 - $58,214.00
- $41,705.01 - $48,750.00
- $20,590.01 - $41,705.00
- $8,043.00 - $20,590.00

ALBEMARLE COUNTY

Students identified as gifted live primarily in areas of higher household income.



Context

Median Household Income | Academy Student Participation

LEGEND

ACADEMY PARTICIPATION - # STUDENTS (2017/2018)

- Concentration represents counts of students w/in a half-mile radius.
- Concentrations of less than 6 students are excluded.
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; ESRI Cartographer: ZS, October 2017

- 31 - 33
- 28 - 30
- 25 - 27
- 20 - 24
- 17 - 19
- 15 - 16
- 12 - 14
- 10 - 11
- 6 - 26

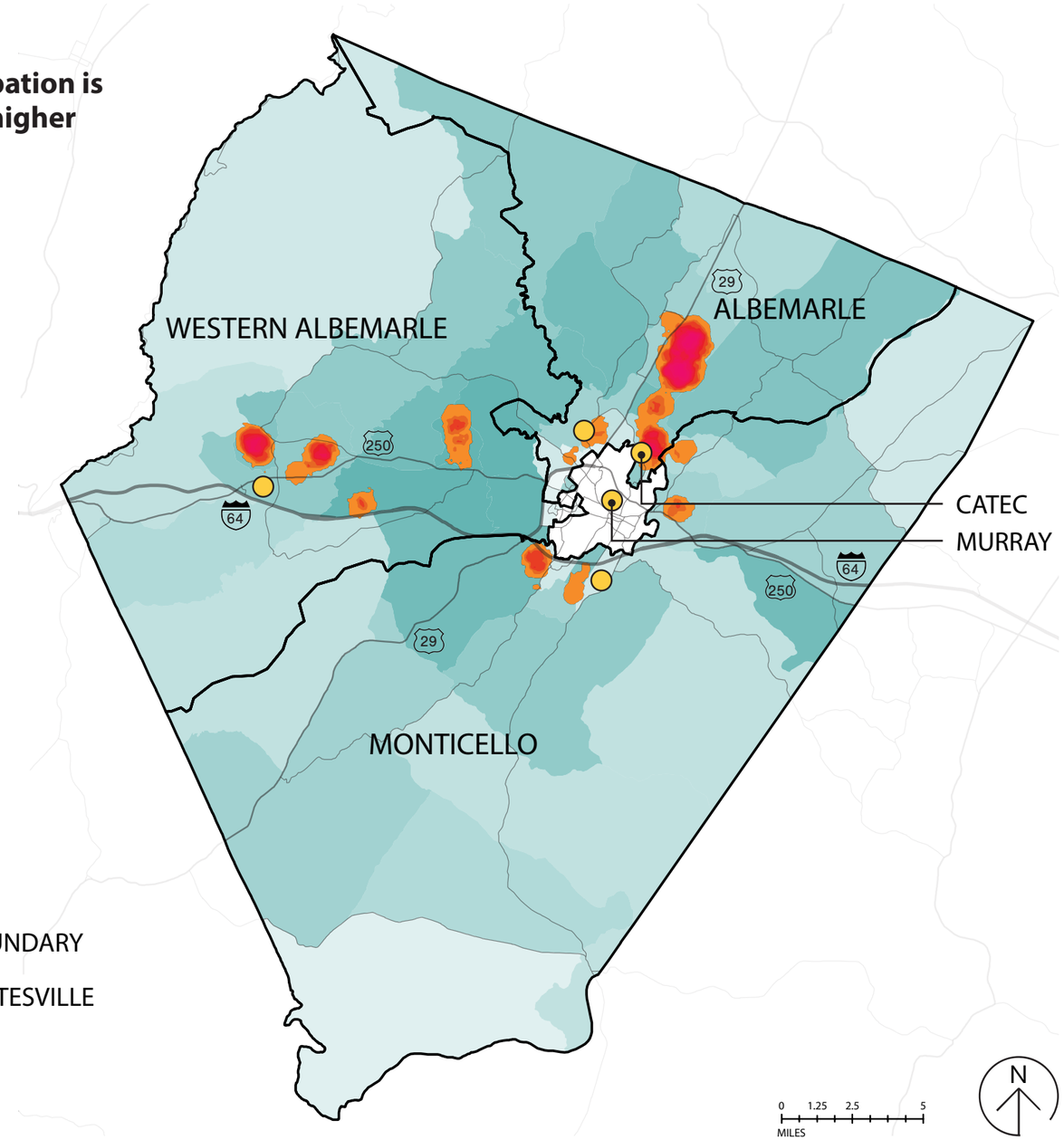
MEDIAN HOUSEHOLD INCOME BY BLOCK GROUP (2017/2018)

- In the past 12 months
- Data Sources: Albemarle CPS; Albemarle Co., VA; City of Charlottesville, VA; U.S. Census Bureau, 2015 American Community Survey; ESRI Cartographer: ZS, October 2017

- $131,964.01 - $175,682.00
- $106,250.01 - $131,964.00
- $88,047.01 - $106,250.01
- $73,457.01 - $88,047.00
- $63,977.01 - $73,457.00
- $58,214.01 - $63,977.00
- $48,750.01 - $58,214.00
- $41,705.01 - $48,750.00
- $20,590.01 - $41,705.00
- $8,043.00 - $20,590.00

ALBEMARLE COUNTY

Academy student participation is concentrated in areas of higher household income.



Albemarle County Public Schools

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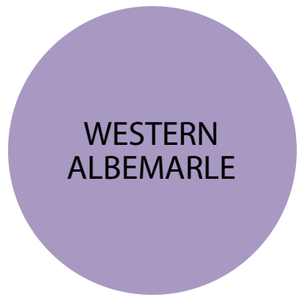
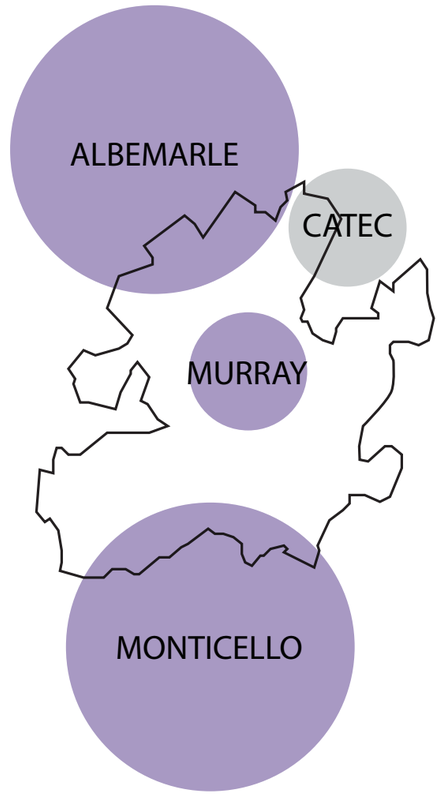
Context

Existing Programs

Existing High School Academic Programs

- Academies
- Pathway Programs
- Advanced Placement (AP)
- Team
- AVID
- Special Education (A Base/B Base)
- Peer Tutoring
- Fusion/Interdisciplinary Courses
- Dual Enrollment
- ESOL
- TPRS World Language
- Career and Technical Education Courses
- PLC
- STEAM
- Library
- Work-based Learning
- GIS
- Design Lab
- Student-design Course Credit
- Industrial Arts
- Multi-use Library-learning Resource Center
- Music Studio
- Broadcast Studio
- Career Connector
- Auto Mech
- Auto Body
- Cosmetology
- Computer Network Design

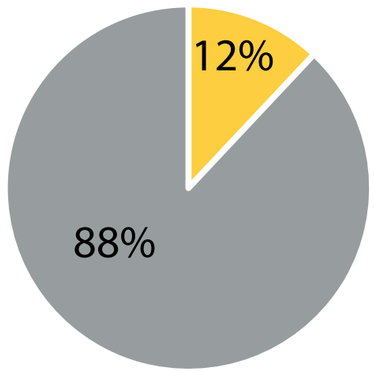




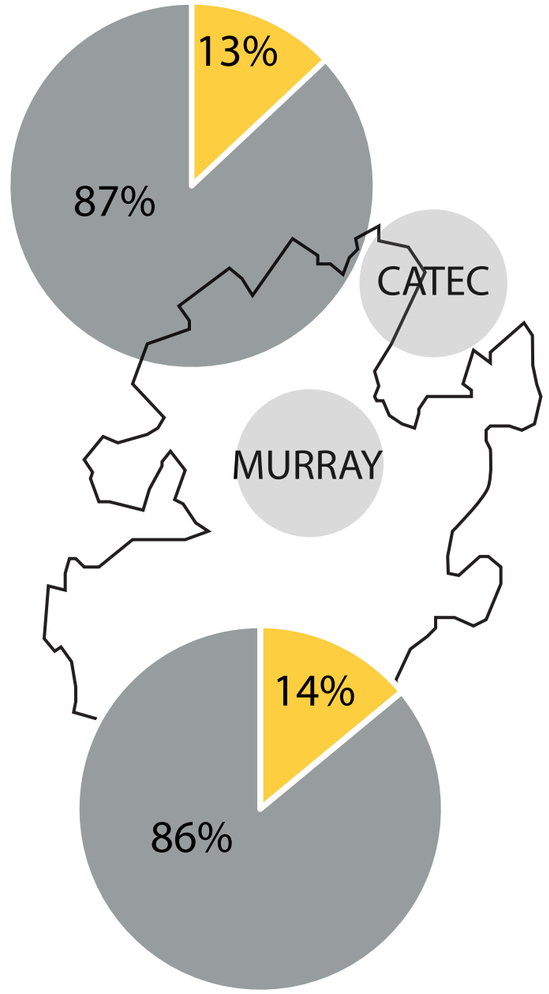
Context

Academy Program Participation Rates*

WESTERN
ALBEMARLE
Environmental Studies (ESA)



ALBEMARLE
Math, Engineering, Science (MESA)



MONTICELLO
Health Medical Sciences (HMSA)

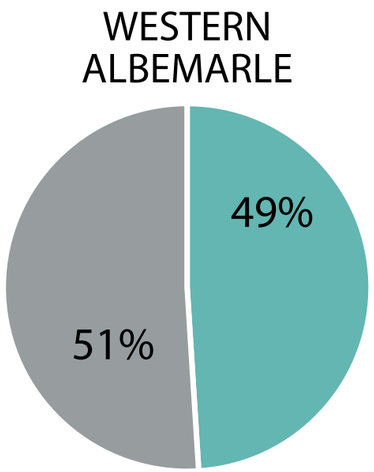
LEGEND

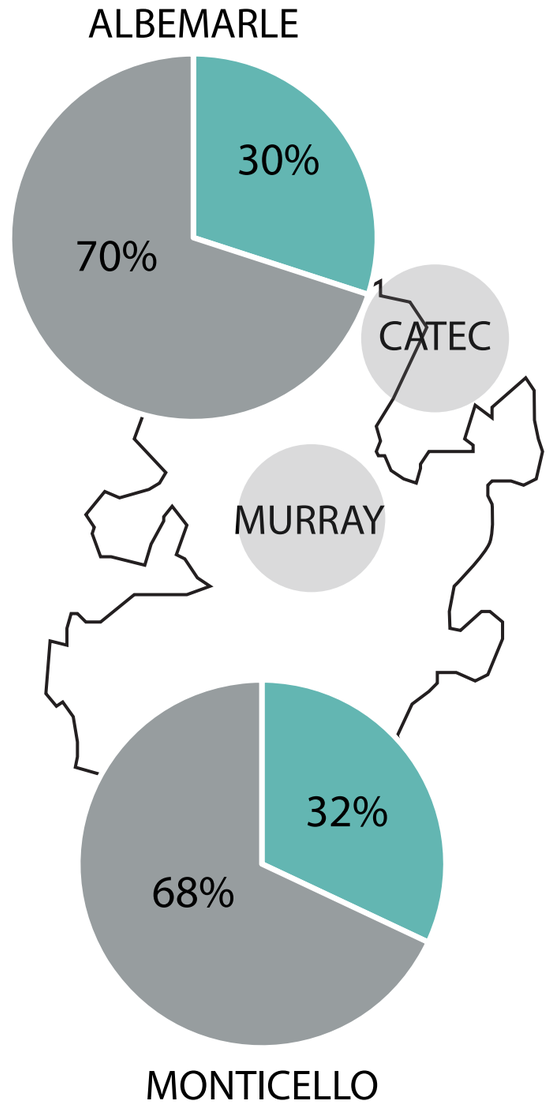
Academy Participation

* Program Participation Rates are calculated from student data provided by ACPS and enrollment numbers for 2017/2018 School Year based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

Context

AP Program Participation Rates*





LEGEND

AP Participation

* Program Participation Rates are calculated from student database information (2017/2018) and enrollment numbers for 2017/2018 School Year based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

3 Opportunities

3a Design Principles
3b Modernization

Question 4

How do we use space as a catalyst for High School 2022?

With an understanding of facility condition, quality and projected enrollment, we studied how to better align capacity with enrollment, and the quality of space with the learning goals of High School 2022.

The following section outlines opportunities for modernizing each high school facility to foster the learning experiences envisioned in High School 2022, and how the location and type of space in existing school buildings, and even out of school buildings, might be optimized to better support student pathways.

3a Design Principles

The Design Team developed the Design Principles for learning as a summary of the beliefs and values about learning at the core of High School 2022 that we came to understand through our engagement with ACPS staff and community. These principles guided all proposals for the planning and organization of high school, and the criteria for assessing any proposal that became a recommendation. As these principles were socialized with ACPS staff and community, "Accessible to All," or equity, rose to the top as the most important guiding principle for any recommendation.

Each Design Principle completes the following statement:

Great learning is...

- **Accessible to All (Equity)**
- Student-Designed
- Interdisciplinary
- Community Oriented
- Fostering Life/Career & Citizen Success
- Mentored
- Authentic
- Transparent

Opportunities | Design Principles

Great Learning Is...

ACCESSIBLE TO ALL (EQUITY)

Systems designed for great learning remove barriers to accessing specialty programs, unique resources, and professionals for every learner, within and beyond the immediate school community, and allow each learner to pursue their evolving passions, projects and personal development.

INTERDISCIPLINARY

Great learning occurs when learners are immersed in authentic contexts that allow them to create meaning by making connections across traditional discipline boundaries.

STUDENT-DESIGNED

Great learning is, as much as possible, designed and led by the learner.

COMMUNITY ORIENTED

We believe learning is a social process enriched and expanded through interactions in our communities. Great learning happens in communities within and outside of schools.

Opportunities | Design Principles

Great Learning Is...

FOSTERING LIFE/ CAREER & CITIZEN

We believe that the high school experience must prepare students to be successful in life as learners, in career, and as citizens in their communities. Therefore, programs, curricula, assessments and pedagogy are designed to develop in our students, life-long competencies including the skills to be collaborative, creative, logical, analytical, effectual, and entrepreneurial. Great learning happens when we prepare our students by empowering them to develop the social and emotional strengths necessary to question, inquire, persevere and find success.

AUTHENTIC

We believe the real world is the most relevant context in which to learn. Great learning happens when learners apply passion, knowledge and skills to challenges that impact their immediate and broader communities. Authentic contexts provide the learner with a greater sense of meaning and purpose to their learning.

MENTORED

Great learning happens when students are connected and supported by adults and peers (teachers, community experts, leaders) who serve as mentors in academic pursuits and character development.

TRANSPARENT

We believe great learning happens when learning and work are visible, and serve as an inspiration to others to inquire and join.

Albemarle County Public Schools

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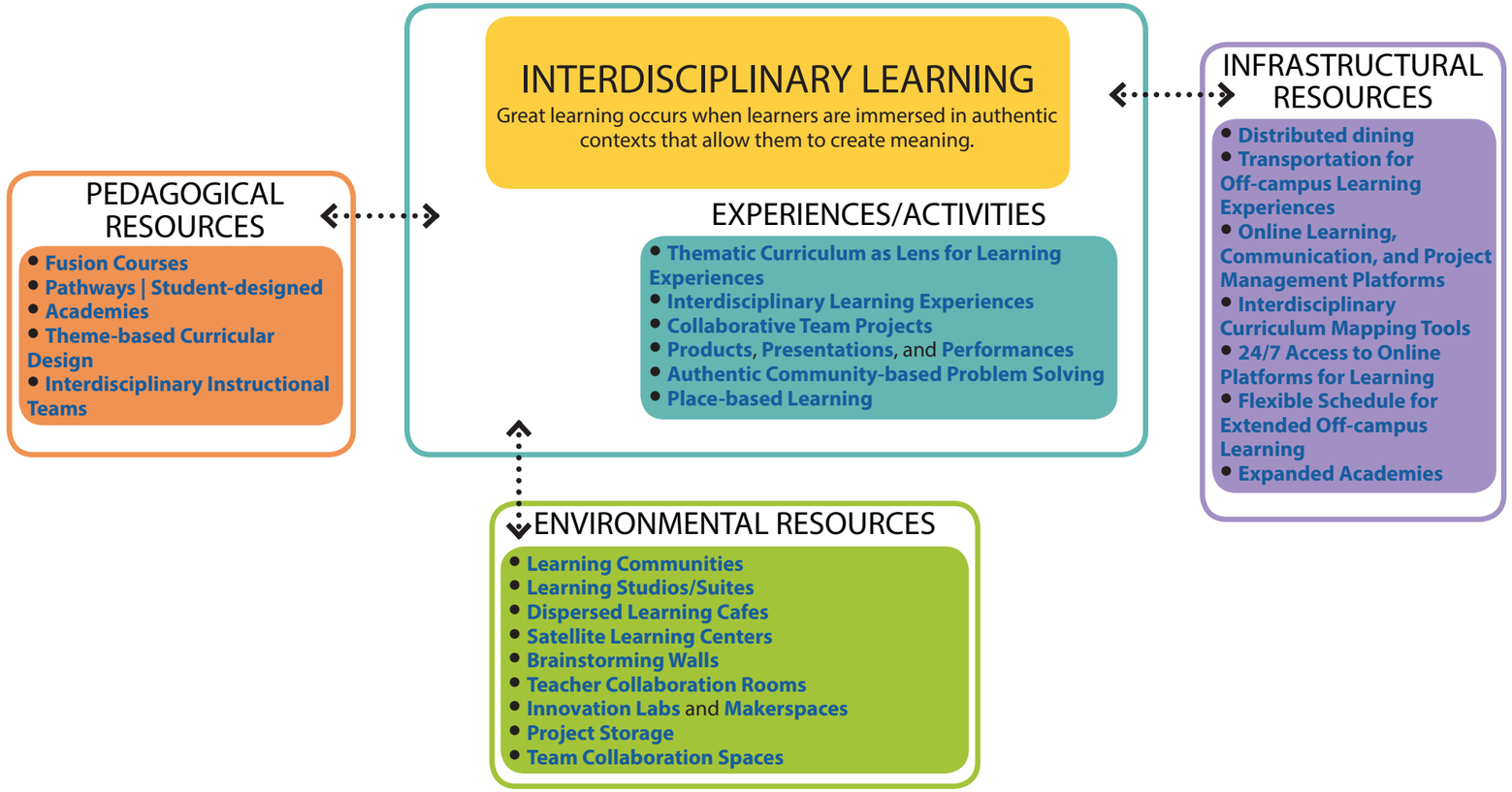
Learning Resource Specifications | A Network Wide Approach

PURPOSE

The approach to the Learning Resource Specifications prepared as part of this report are generative in nature, recognizing that the interrelationship of environment, pedagogy, infrastructure, and personal experience lies at the core of any successful educational model. Through compiling resources within these categories, focused around a series of learning design principles, the future of the high school experience can be comprehensively visualized through this document.

The specifications illustrated acknowledge that relationships between resources are constantly shifting and influencing one another. By exploring them as a dynamic and living system, it is undeniable that the physical environment is key to allowing for educational success.

Please refer to Appendix D | Learning Resource Specifications for the full Specification document.



Taken from Appendix D | Learning Resource Specifications

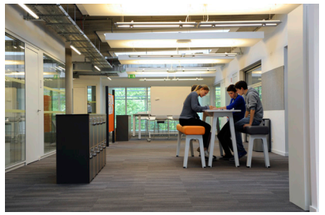
Opportunities | Design Principles

Learning Resource Specifications | Resources

EXAMPLE

The image to the right is an example page from the Learning Resource Specifications. Each category of resource identified; environmental, pedagogical and infrastructural, is populated with a series of supporting elements. Each element includes a description, imagery and resource links where applicable, and a reference to the supporting Design Principle(s).

Please refer to Appendix D | Learning Resource Specifications for the full Specification document.



International School of Brussels

Advisory Stations

With a greater emphasis on student-led learning, students will form close relationships with their mentors and advisors. Advisory Stations can be distributed throughout the school community to serve not only as educator workstations, but to encourage informal interaction between students and teachers.

Supporting Design Principles: **Life/Career Success**, **Mentored**

Spatial Qualities

Integrated power
Centrally located
Distributed

Typ. size: 300-400 SF

Anne Frank Inspire Academy

Brainstorming Walls

A Brainstorming Wall can be any easily accessible whiteboard, glass, or similar vertical surface meant for students and teachers to draw notes and write comments on. Ideally located near **Soft Seating** in student-directed learning areas, these can promote active and passive collaboration.

Supporting Design Principles: **Accessible to All**, **Interdisciplinary**, **Transparent**

Spatial Qualities

Easily accessible
Collaborative furniture
Writing instruments

Typ. size: Varies based on location/intended use

Poughkeepsie Day School

Cave Spaces

In addition to spaces that support large and small groups, it is important to offer more intimate spaces where an individual or pair can work without distraction. Cave Spaces are designed specifically for individual study, reflection, quiet reading, and creative flow.

Supporting Design Principles: **Student-Designed**, **Mentored**

Spatial Qualities

Intimate
Comfortable
Quiet
Enclosed on 2-3 sides

Typ. size: 10-15 SF

Taken from Appendix D | Learning Resource Specifications

3b Modernization

The modernization of academic spaces in all of the existing high school facilities in Albemarle County is a key component of every scenario and recommendation offered by the Design Team.

The building block for modernization is the Learning Community, a variety of learning spaces designed to support the vision of High School 2022.

Each of the Design Principles is evident in the Learning Community and can be used to guide the operation of the Community every day.

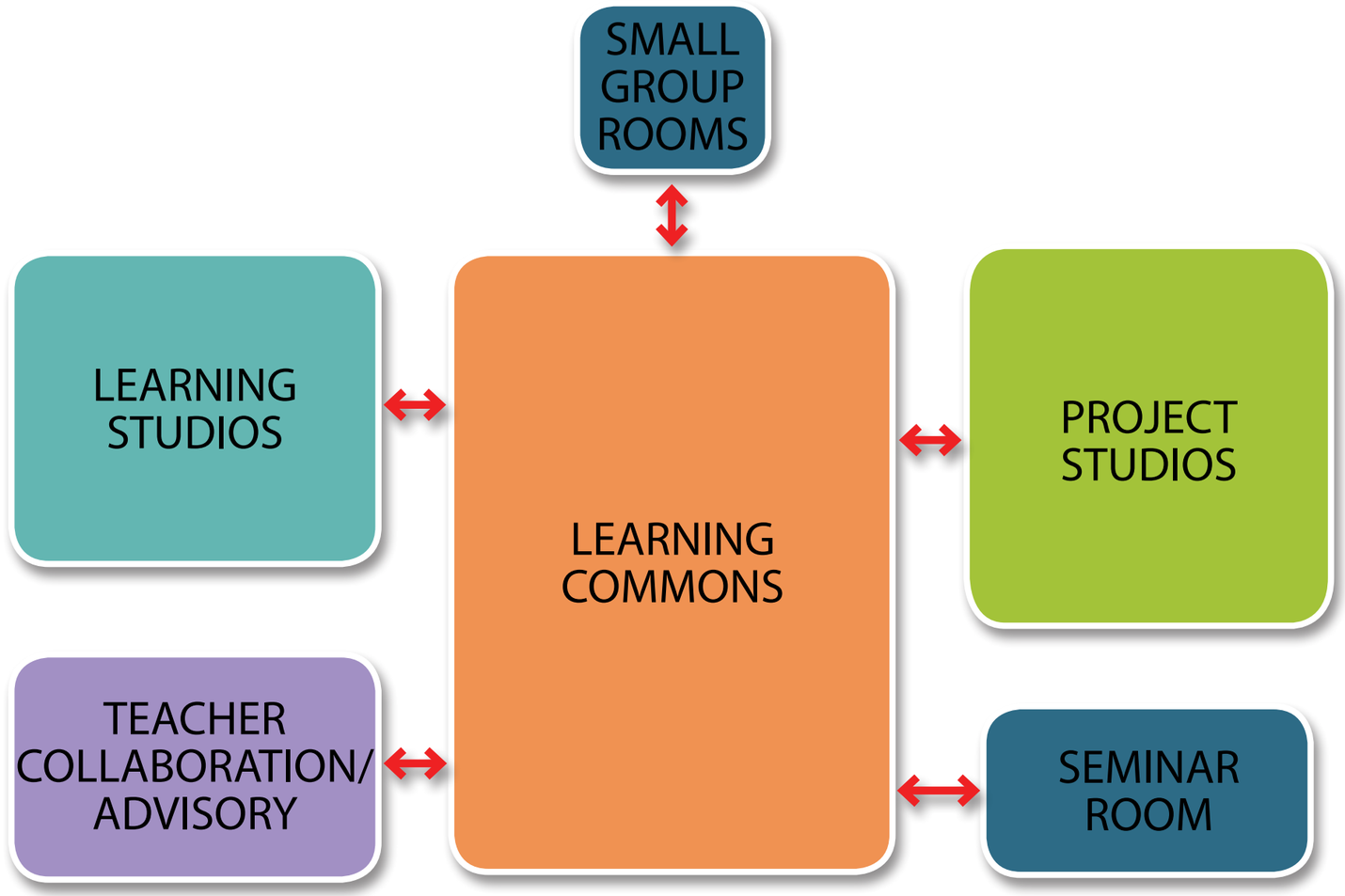
Opportunities | Modernization

Learning in Community

When students operate in communities of approximately 150 members, they form stronger and more meaningful relationships with their peers, and have a greater sense of belonging. Learning Communities comprise a variety of spaces such as Teacher Collaboration Rooms, Small Group Rooms, Seminar Rooms, Learning Studios, Project Studios, Makerspaces, and other learning spaces.

These spaces are united by a central Learning Commons, together forming a flexible environment in which teachers can work with students independently, in small groups, or in large classes throughout the day. This Commons provides a space for students to come together both academically and socially as a Community.

Fisher STEAM School



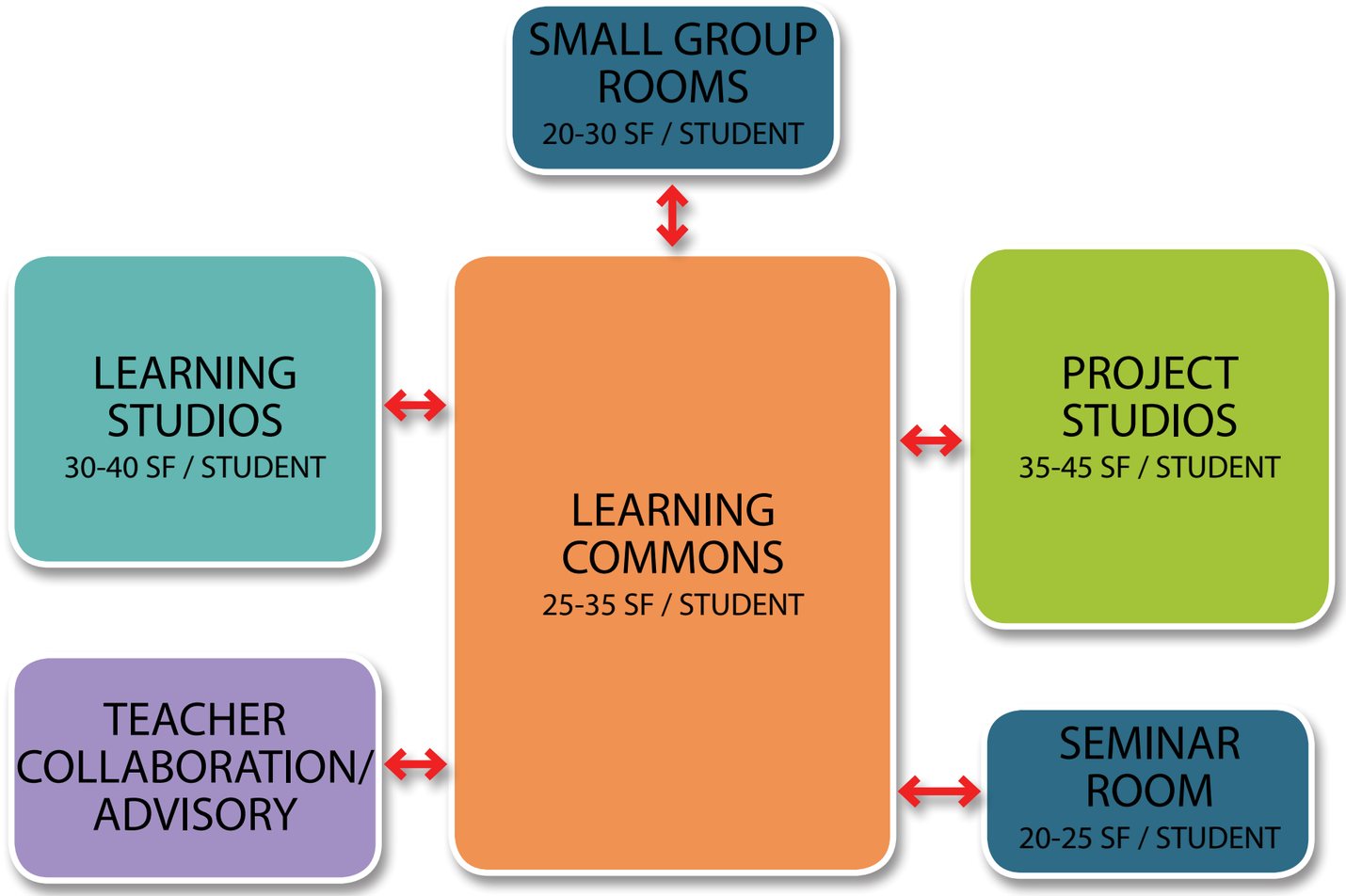
Learning in Community | Capacity Calculation

Planning Capacity within a Learning Community is calculated based on square footage per student rather than by individual teaching stations.

The Square Footage per Student for each space type is based on the furniture and activities envisioned for that space.

Taking into consideration the flexibility required for the success of this model, the following ranges have been used to calculate capacity for the Learning Community Patterns on the following pages:

Learning Studio:	30-40 SF per student
Project Studio:	35-45 SF per student
Small Group Room:	20-30 SF per student
Seminar Room:	20-30 SF per student
Learning Commons:	25-35 SF per student
	(+15% for circulation)



Opportunities | Modernization

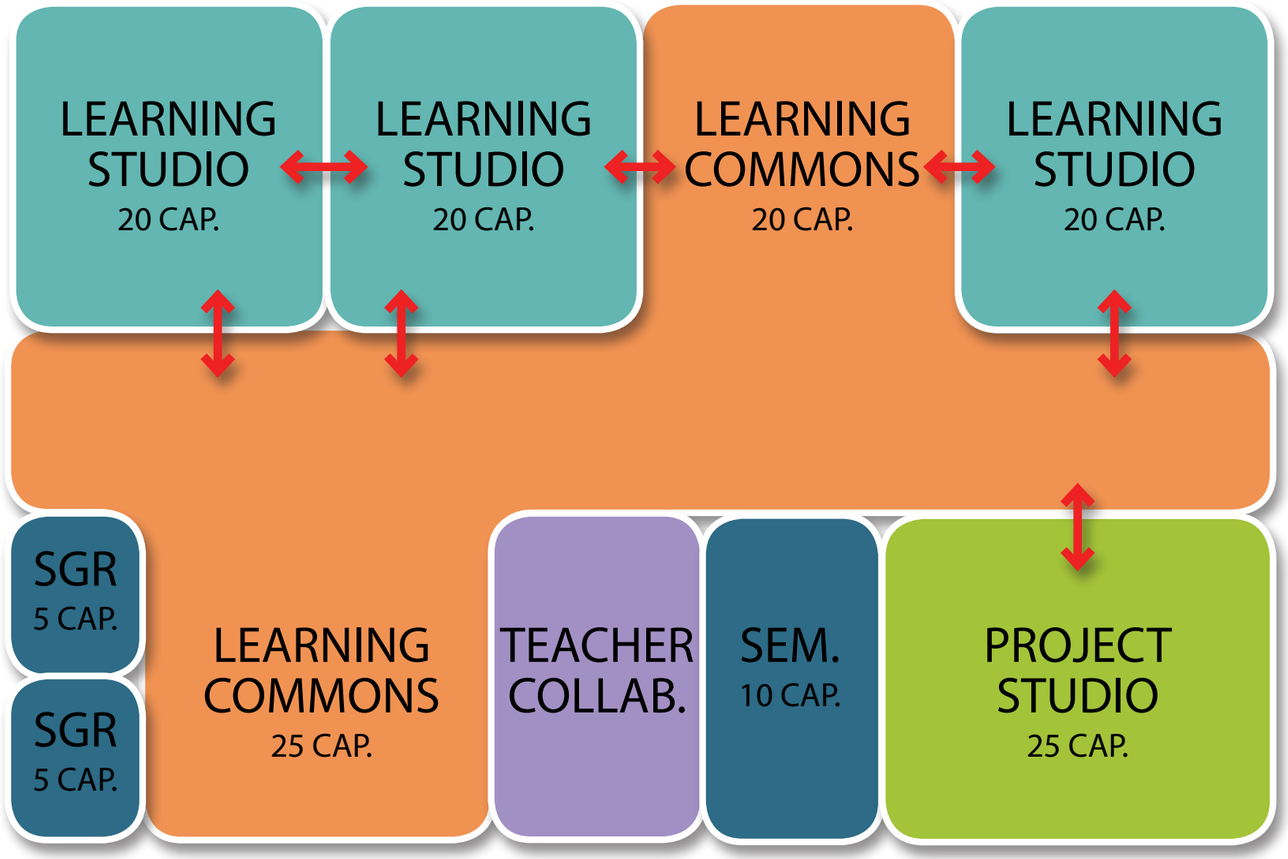
Learning Community Patterns | Interdisciplinary | Grade 9-10

Description

With a greater focus on Interdisciplinary Learning, Communities can be more all-inclusive, with a teaching staff comprised of educators from every department. This model allows for stronger peer and mentor relationships to develop as student-teacher groupings interact throughout the day at all levels of learning, rather than solely through specified course material.

Typical Areas

Learning Commons	700 SF
Learning Commons	850 SF
Learning Studio	750 SF
Learning Studio	750 SF
Learning Studio	750 SF
Project Studio	1000 SF
Seminar Room	225 SF
Small Group Room	100 SF
Small Group Room	100 SF
Teacher Collaboration	450 SF
Total Net Area	5,675 SF
Estimated Gross Area (x1.25)	7,090 SF



Capacity

- Planning Capacity Total = 150 Students

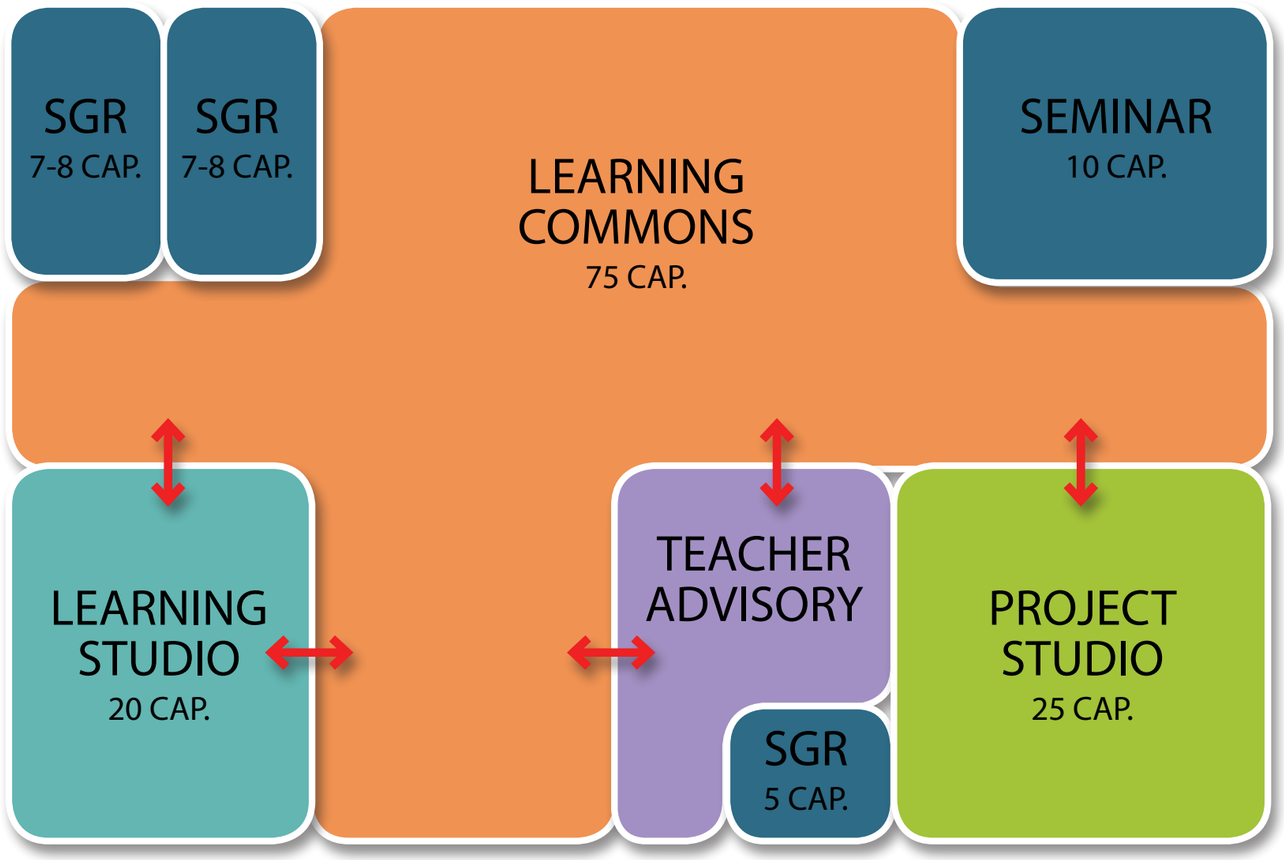
Learning Community Patterns | Advisory Pattern | Grade 11-12

Description

Allowing for greater autonomy, the Advisory pattern allows students to develop their own learning pathways with guidance from a core team of teachers. Due to this, the larger common area often becomes more personalized, housing individual workstations where students can self-direct their own studies.

Typical Areas

Learning Commons	2250 SF
Learning Studio	750 SF
Project Studio	1000 SF
Seminar Room	225 SF
Small Group Room	150 SF
Small Group Room	150 SF
Small Group Room	100 SF
Teacher Advisory Station	500 SF
Total Net Area	5,125 SF
Estimated Gross Area (x1.25)	6,400 SF



Capacity

- Planning Capacity Total = 150 Students

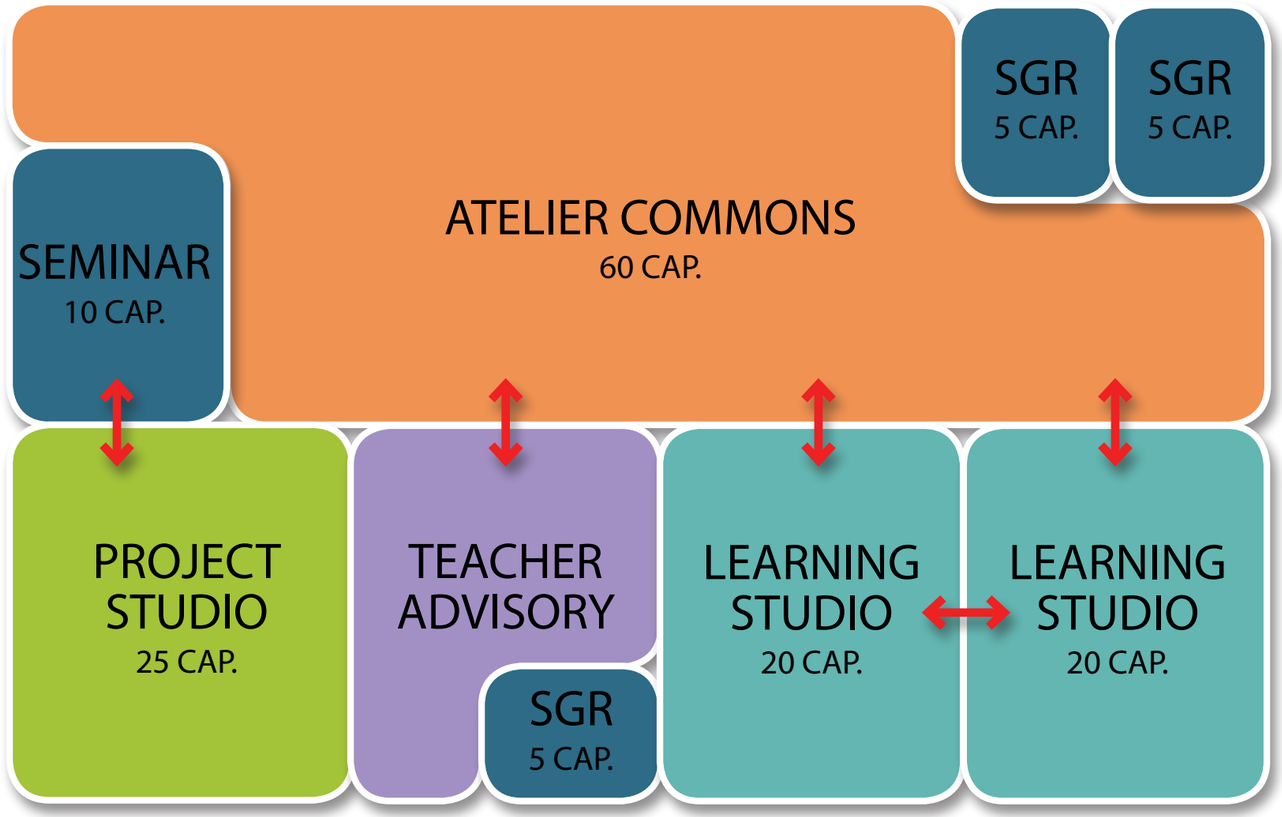
Learning Community Patterns | Advisory (Atelier) Pattern | Grade 11-12

Description

The Atelier model provides the greatest individualization of study material. As such, teachers still play advisory roles and teach core course content, but students have access to an Atelier space with single workstations where they can focus on their own path.

Typical Areas

Atelier Commons	1500 SF
Learning Studio	750 SF
Learning Studio	750 SF
Project Studio	1000 SF
Seminar Room	225 SF
Small Group Room	100 SF
Small Group Room	100 SF
Small Group Room	100 SF
Teacher Advisory Station	500 SF
Total Net Area	5,025 SF
Estimated Gross Area (x1.25)	6,280 SF



Capacity

- Planning Capacity Total = 150 Students

Learning Community Modernization | Monticello High School

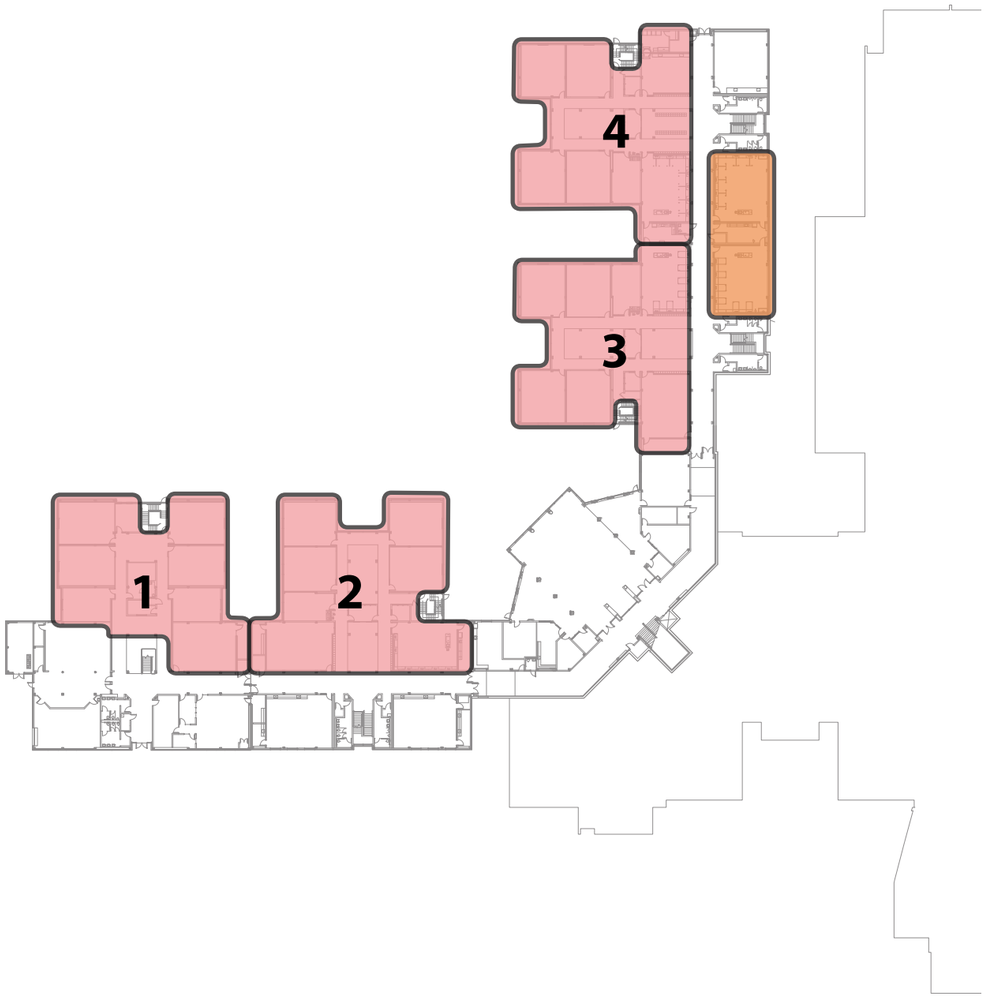
Gross Square Footage by Learning Community

1	–	7,688 SF
2	–	9,466 SF
3	–	8,915 SF
4	–	8,992 SF

TOTAL LEVEL 1	**35,061 SF**

TOTAL LEVEL 1	35,061 SF
TOTAL LEVEL 2	34,491 SF
TOTAL COMBINED	**69,552 SF**

- Learning Community Locations
- Additional Learning Spaces Available Due to Transition to Learning Community Model. Refer to the Capacity | Learning Community Modernization chart on p. 56.



LEVEL 1

0 20 100
10 50 FEET

Learning Community Modernization | Monticello High School

Gross Square Footage by Learning Community

5	–	8,238 SF
6	–	8,854 SF
7	–	8,661 SF
8	–	8,738 SF

TOTAL LEVEL 2	**34,491 SF**

TOTAL LEVEL 1	35,061 SF
TOTAL LEVEL 2	34,491 SF
TOTAL COMBINED	**69,552 SF**

Learning Community Locations

Additional Learning Spaces Available Due to Transition to Learning Community Model. Refer to the Capacity | Learning Community Modernization chart on p. 56.

LEVEL 2

Opportunities | Modernization

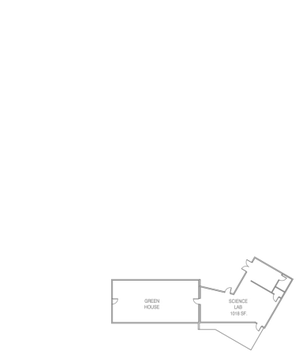
Learning Community Modernization | Western Albemarle High School

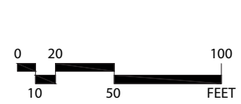
Gross Square Footage by Learning Community

1	–	6,969 SF
TOTAL LEVEL 1		**6,969 SF**
2	–	6,448 SF
3	–	7,453 SF
4	–	7,268 SF
5	–	7,269 SF
TOTAL LEVEL 2		**28,438 SF**

TOTAL LEVEL 1	6,969 SF
TOTAL LEVEL 2	28,438 SF
TOTAL COMBINED	**35,407 SF**

- Learning Community Locations
- Planned Renovation by VMDO Architects
- Planned Addition by VMDO Architects



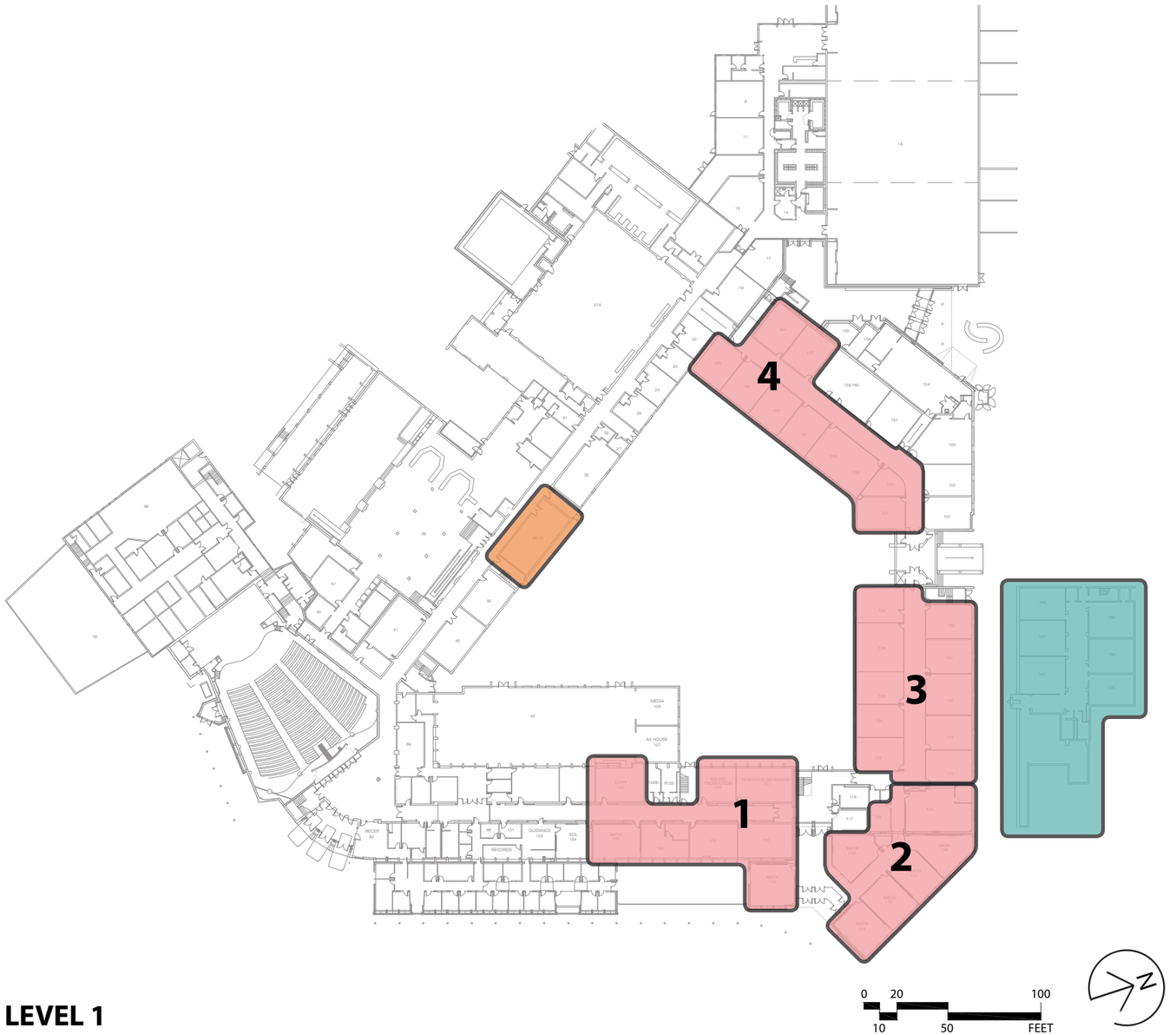


Learning Community Modernization | Albemarle High School

Gross Square Footage by Learning Community

1	7,912 SF
2	6,825 SF
3	9,148 SF
4	8,846 SF
TOTAL LEVEL 1	**32,731 SF**
TOTAL LEVEL 1	32,731 SF
TOTAL LEVEL 2	52,135 SF
TOTAL COMBINED	**84,866 SF**

- Learning Community Locations
- Basement Spaces to be Decommissioned for Alternate Uses
- Additional Learning Spaces Available Due to Transition to Learning Community Model. Refer to the Capacity | Learning Community Modernization chart on p. 56.



LEVEL 1

Opportunities | Modernization

Learning Community Modernization | Albemarle High School

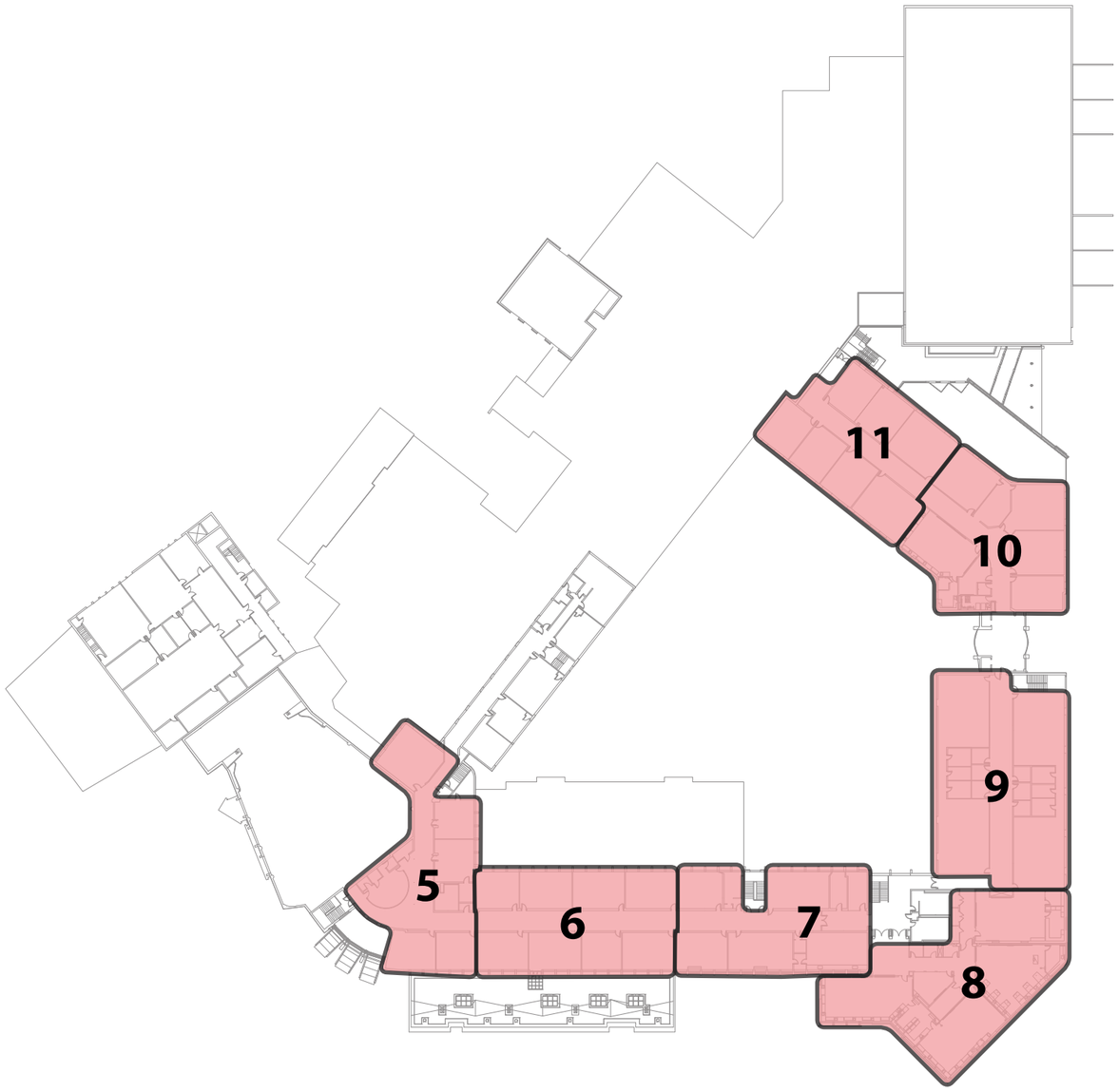
Gross Square Footage by Learning Community

5	–	6,585 SF
6	–	7,059 SF
7	–	6,446 SF
8	–	8,987 SF
9	–	9,148 SF
10	–	7,122 SF
11	–	6,788 SF

TOTAL LEVEL 2 **52,135 SF**

TOTAL LEVEL 1	32,731 SF
TOTAL LEVEL 2	52,135 SF
TOTAL COMBINED	**84,866 SF**

Learning Community Locations



LEVEL 2

Opportunities | Modernization

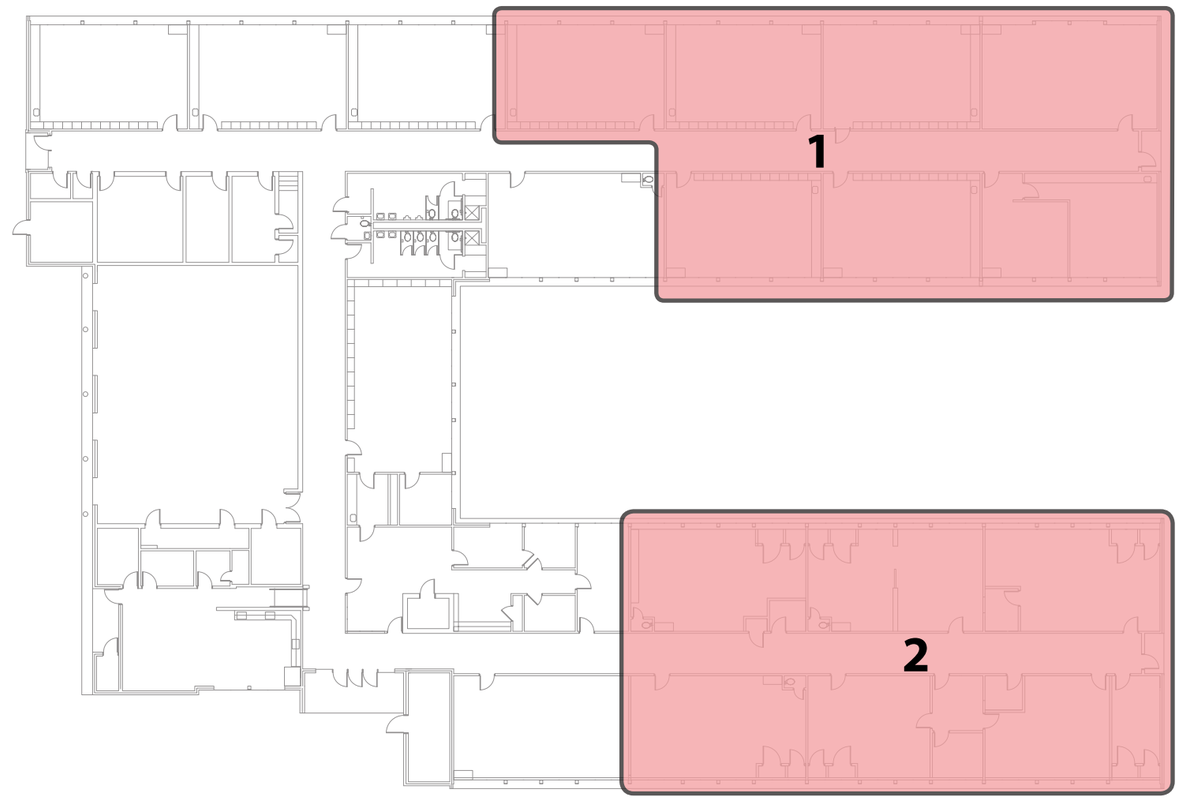
Learning Community Modernization | Murray High School

Gross Square Footage by Learning Community

1 – 7,050 SF
2 – 6,412 SF

TOTAL COMBINED 13,462 SF

Learning Community Locations



LEVEL 1

0 10 50
5 25 FEET

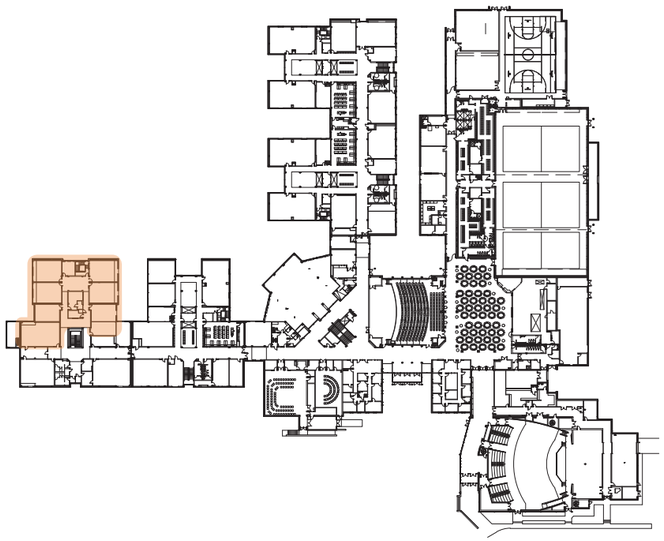
Opportunities | Modernization

Learning Community Modernization | Monticello High School | Interdisciplinary Pattern

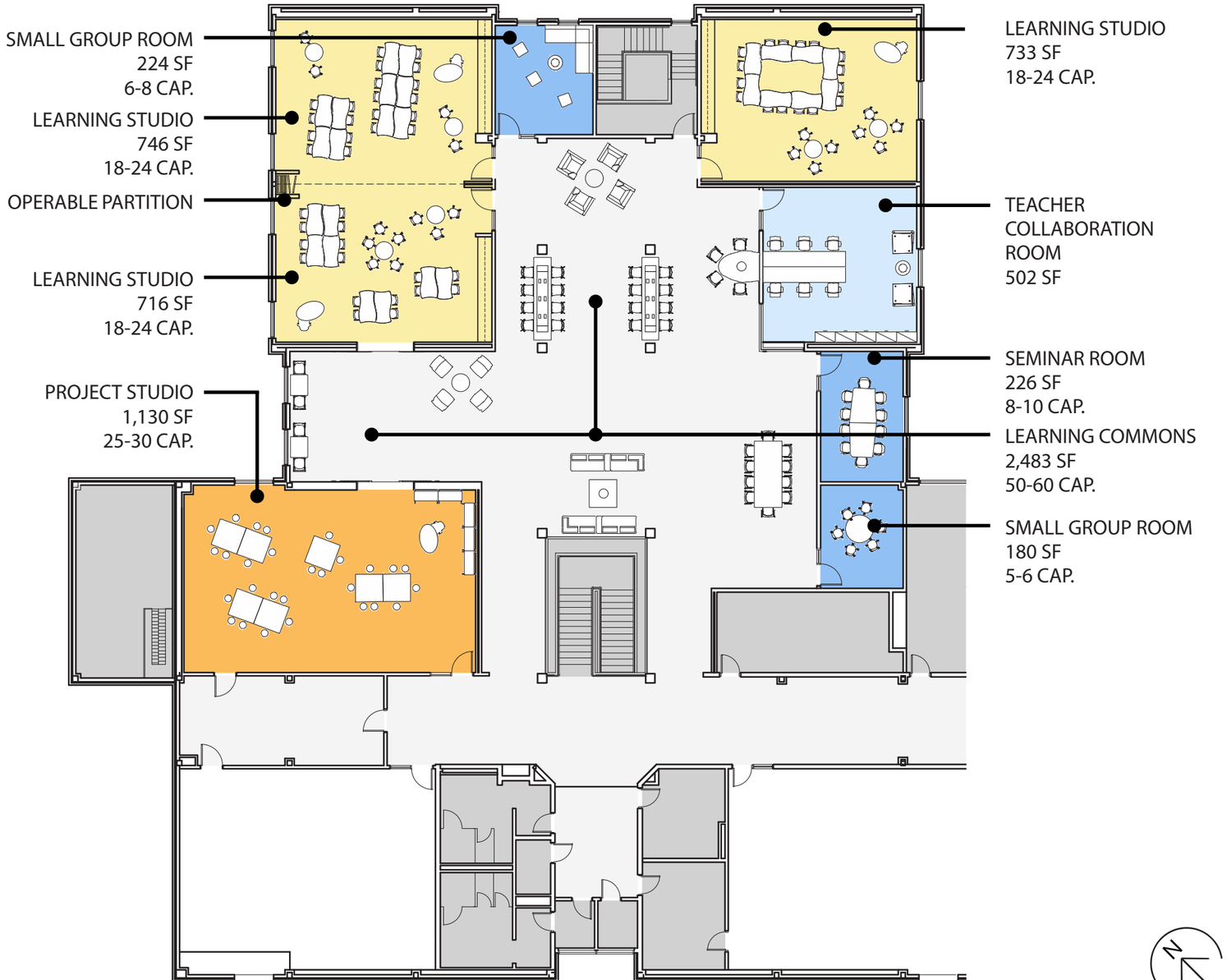
This layout test-fits an Interdisciplinary Learning Community Pattern into the existing conditions at Monticello. Each "House" within the school would ideally target an average capacity of 150 students to function properly, even though the square footage available suggests a higher potential capacity.

Notes:

- 8,238 SF of Renovation (Gross)
- Planning Capacity of 150 students
- Best supports interdisciplinary teaching teams collaborating on course content for the entire Learning Community
- Teachers share available spaces, teaching in teams, meeting with small groups, or advising individuals



Existing 2nd Floorplan and Area of Transformation



Albemarle County Public Schools

HBA x fni

Opportunities | Modernization

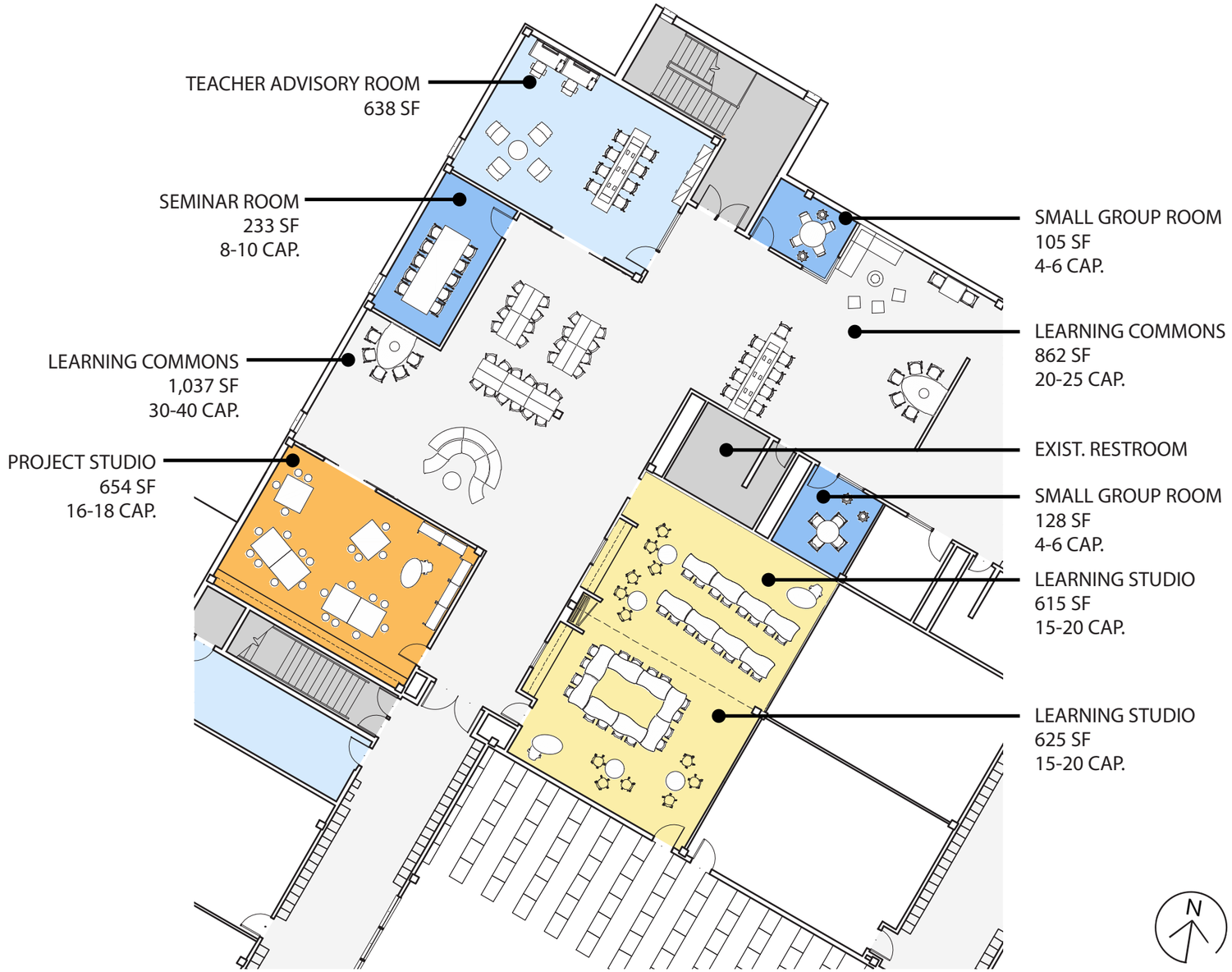
Learning Community Modernization | Western Albemarle High School | Advisory Pattern

This layout test-fits an Advisory Learning Community Pattern into the existing conditions at Western Albemarle. Gross square footage analysis (p. 48) indicates this community would be the smallest proposed for development, and therefore targets a less than average student capacity per community than the school as a whole would be able to achieve.

Notes:

- 6,448 SF of Renovation (Gross)
- Planning Capacity of 125 students
- Best supports individualized and small group learning while providing a common core curriculum
- Teachers collaborate on common curriculum while serving as advisors to individual students and groups

Existing 2nd Floorplan and Area of Transformation



Albemarle County Public Schools

HBA x fni

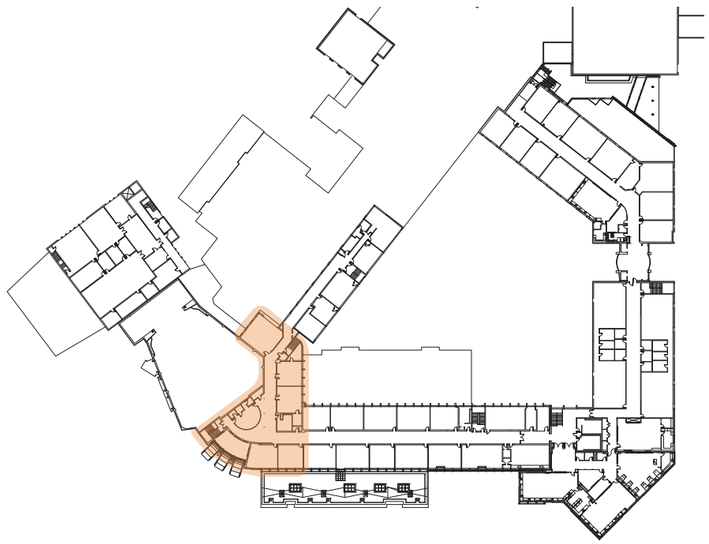
Opportunities | Modernization

Learning Community Modernization | Albemarle High School | Advisory (Atelier) Pattern

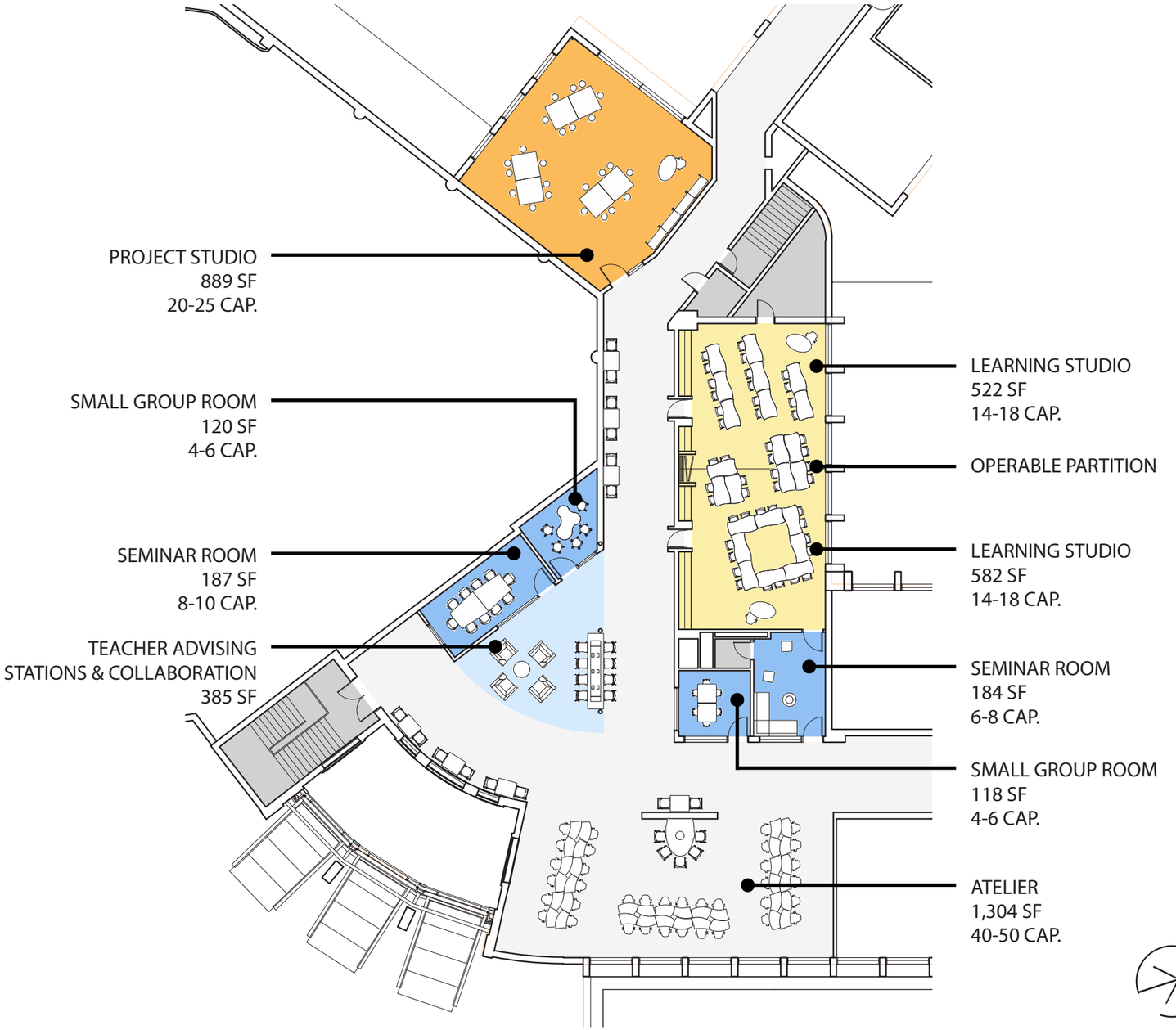
This layout test-fits an Atelier Learning Community Pattern into the existing conditions at Albemarle. Gross square footage analysis (p. 50) indicates this community would be one of the smallest proposed for development, and therefore targets a less than average student capacity per community than the school as a whole would be able to achieve.

Notes:

- 6,585 SF of Renovation (Gross)
- Planning Capacity of 125 students
- Best supports individualized learning where students design their own educational paths
- Teachers serve primarily as individual and group advisors while sharing studio teaching spaces



Existing 2nd Floorplan and Area of Transformation



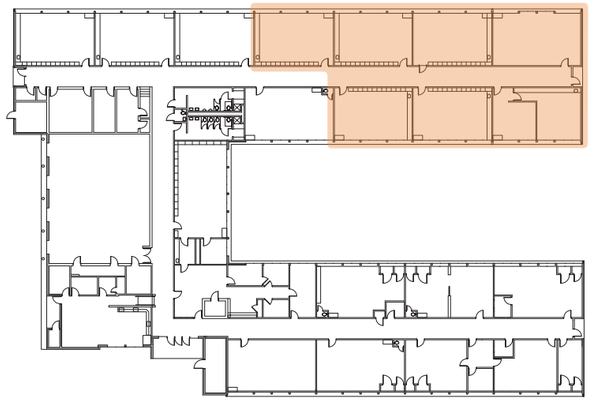
Opportunities | Modernization

Learning Community Modernization | Murray High School | Interdisciplinary Pattern

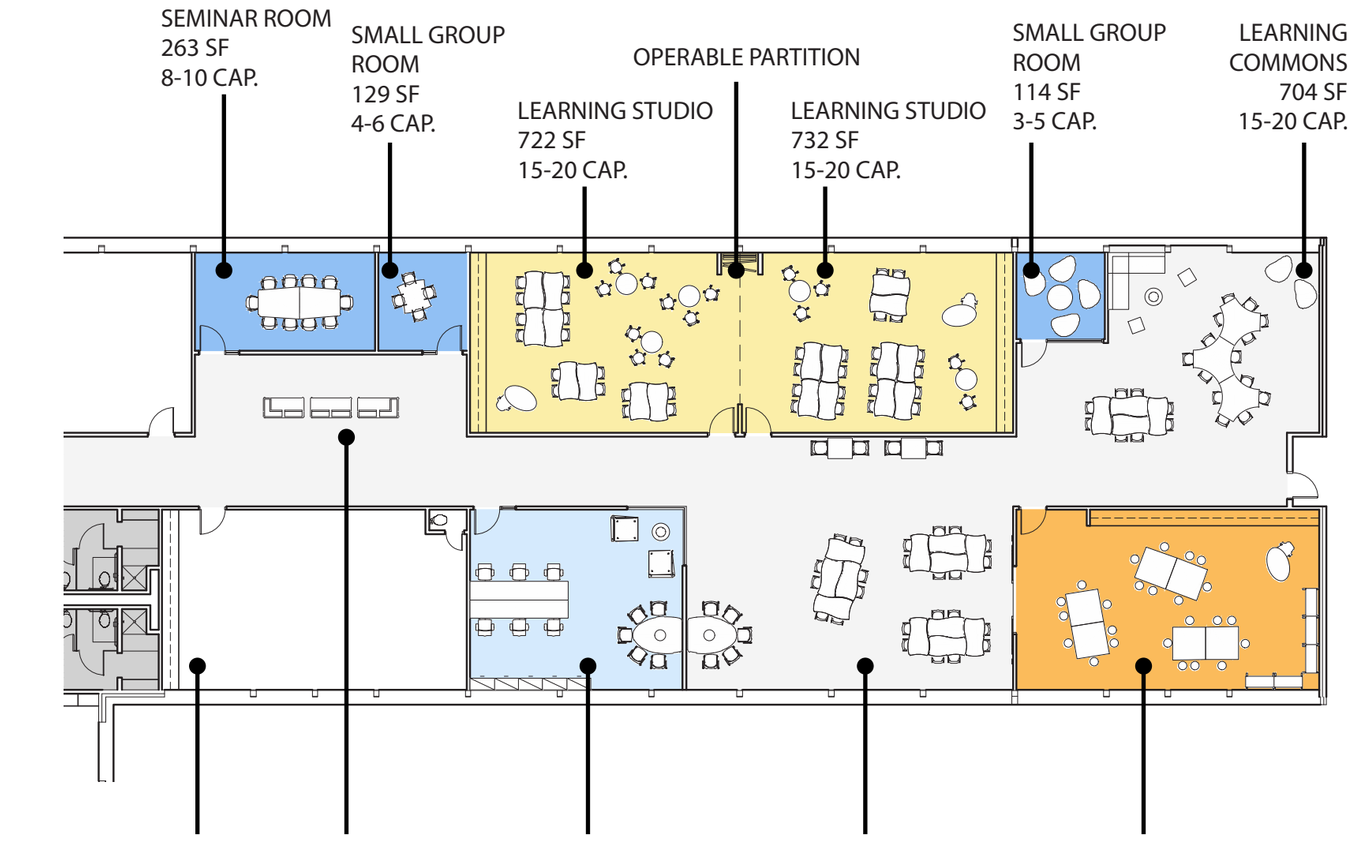
This layout test-fits an Interdisciplinary Learning Community Pattern into the existing conditions at Murray. Each wing of the school would ideally target an average capacity of 100 students to function properly, even though the square footage available suggests a higher potential capacity.

Notes:

- 7,050 SF of Renovation (Gross)
- Planning Capacity of 100 students
- Best supports an interdisciplinary teaching team collaborating on course content for the entire Learning Community
- Teachers share available spaces, teaching in teams, meeting with small groups, or advising individuals



Existing Floorplan and Area of Transformation



Opportunities | Modernization

Capacity | Learning Community Modernization*

NOTES

* Learning Community Modernization Capacity as calculated for renovations to academic areas to support High School 2022. See adjacent table and diagrams in the Modernization subsection of Chapter 3 Opportunities.

Division: **Albemarle County Public Schools**
Date: December 2017

	Albemarle High School					Monticello High School					Western Albemarle High School					Murray High School				
	No. of Teaching Stations		Multiplier		Capacity	No. of Teaching Stations		Multiplier		Capacity	No. of Teaching Stations		Multiplier		Capacity	No. of Teaching Stations		Multiplier		Capacity
Spaces that contribute towards Capacity																				
LEARNING COMMUNITIES (Note 1)	**11**	**x**	**150**	**=**	**1650**	**8**	**x**	**150**	**=**	**1200**	**5**	**x**	**150**	**=**	**750**	**2**	**x**	**100**	**=**	**200**
6 Modernized Science Labs (2019) @ WAHS											6	x	22	=	132					
4 New Science Labs (2019) + ESA Lab @ WAHS											5	x	22	=	110					
Additional Learning Space Available after LC Configurations						4	x	22	=	88										
Arts Education Classrooms / Labs	3	x	22	=	66	3	x	22	=	66	3	x	22	=	66	2	x	15	=	30
Music Labs	2	x	30	=	60	2	x	30	=	60	2	x	30	=	60	0	x	15	=	0
Drama Classroom	1	x	22	=	22	1	x	22	=	22	1	x	22	=	22	0	x	15	=	0
Career & Tech. Education Classrooms / Labs	5	x	20	=	100	4	x	20	=	80	4	x	20	=	80	0	x	15	=	0
Subtotal Academic Classrooms	88					70					50					16				
Self-Contained Special Education Classrooms	3	x	8	=	24	1	x	8	=	8	1	x	8	=	8	0	x	8	=	0
Main Gym (Counts as 2 Teaching Stations)	2	x	30	=	60	2	x	30	=	60	2	x	30	=	60	1	x	20	=	20
Auxiliary Gym	1	x	25	=	25	1	x	25	=	25	1	x	25	=	25	0	x	20	=	0
Subtotal Capacity Teaching Stations	94					74					54					17				
Spaces that do not contribute towards Capacity																				
Resource Rooms (Pull-Out Programs)	6					6.5					3					2				
Health Classroom	3					4					2					0				
Fitness Center	1					0					0					1				
Weight Room	1					1					1					0				
WrestlingRoom	1					1					1					0				
Video/Sound Production Lab	3					2					2					0				
Maker Space (Unscheduled)	1					1					1					0				
Community Rooms	0					0					0					2				
Subtotal Non-Capacity Teaching Stations	16					15.5					10					5				
	Teaching Stations				Maximum Capacity	Teaching Stations				Maximum Capacity	Teaching Stations				Maximum Capacity	Teaching Stations				Maximum Capacity
	110				2007	89.5				1609	64				1313	22				250
					Program Capacity					**Program Capacity**					**Program Capacity**					**Program Capacity**
	Utilization Factor		87.5%		**1756**	Utilization Factor		87.5%		**1408**	Utilization Factor		87.5%		**1149**	Utilization Factor		87.5%		**219**
					Additional Capacity					Additional Capacity					Additional Capacity					Additional Capacity
Relocatable Classrooms on Site	8	x	22	=	176	0	x	22	=	0	0	x	22	=	0	0	x	22	=	0

Note 1 : Please see **Section 4b Modernization** of the Final Report for explanation on proposed methodology for calculating Learning Community Capacities. Each Learning Community is assumed to include an average of seven (7) "Teaching Stations"

													Division-wide
Maximum Enrollment Projection	2023/24	2175		2024/25	1171		2024/25	1335		4681
Current Program Capacity		1756			1408			1149		4313
Under / **(Over)** Capacity at Peak Enrollment Year		**(419)**			**237**			**(186)**		**(368)**
Building Area [Square Feet]		291,900			252,460			208,806		753,166
Area per Student		**166**			**179**			**182**		**175**

4 Scenarios Studied

Scenarios Studied

Scope | Spectrum

All scenarios studied propose the renovation of all 3 existing comprehensive schools and Murray to support interdisciplinary learning communities. The difference between them lies in the way they expand capacity to manage enrollment demand, distribute resources, and transform the student experience.

A spectrum framework was created to illustrate and organize the range of scenarios imagined.

The following page shows a workflow to illustrate the breadth of scenarios studied along with input we received from ACPS, the School Board and the community. The feedback noted captures the key points that lead us to explore the various options.

School - Based → **Network - Based**

- **Multiple individual, self sustaining and comprehensive high schools handle the capacity needs for the Division.**

- **New Division resources in the form of High School Centers are added to ACPS to support specialized programming and increase capacity. The number, location and operation of these facilities might vary but are always accessible to all students.**

Scenarios Studied

Scope | Workflow

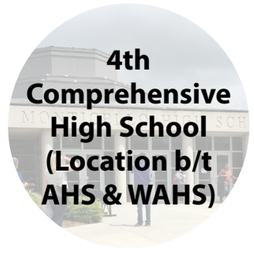
A financial analysis was developed for Scenarios 1, 2 and 3. Please refer to Chapter 6 | Financial Analysis for additional information and a comparative analysis between these Scenarios and the final Recommendation.

School - Based

Scenario 1

- Redistricting required
- Location addresses growth & development in the North, not in the West
- Lack of equity of access to new facilities for all students in ACPS

- Decommissioning AHS is a non-starter for the community
- Redistricting not required
- Creates a disproportionately large number of students at AHS compared to WAHS & MHS
- Lack of equity of access to new facilities for all students in ACPS



- Redistricting required
- Difficult to find logical location that relieves enrollment pressure at AHS & WAHS based on local roads

Network - Based

Scenario 2

- Multiple small scale, thematic learning centers scattered throughout County
- Operationally complex and difficult to implement

- (2) 400 Student interdisciplinary High School Centers strategically placed in County
- Operational challenges but more manageable than Network
- Partial day program

Scenario 3

- (1) 800 Student interdisciplinary High School Center with open enrollment policy
- Full day program
- Most implementable of Network - Based models

5 Recommendation

5a Scope

The recommendation to the ACPS Division is to build multiple High School Centers, phased over time, to comprehensively address enrollment capacity and equity of access to specialized programs across the school division. Each Center would be a resource for the whole Division, strategically placed to provide access to specialized programming, and act as an interface between the school, community, and professional organizations that provide out-of-building learning experiences. Transportation to the High School Centers would be provided by the Division to ensure equity of opportunity to every student. In addition, it is recommended that the four ACPS high schools be modernized to support the learning envisioned through High School 2022.

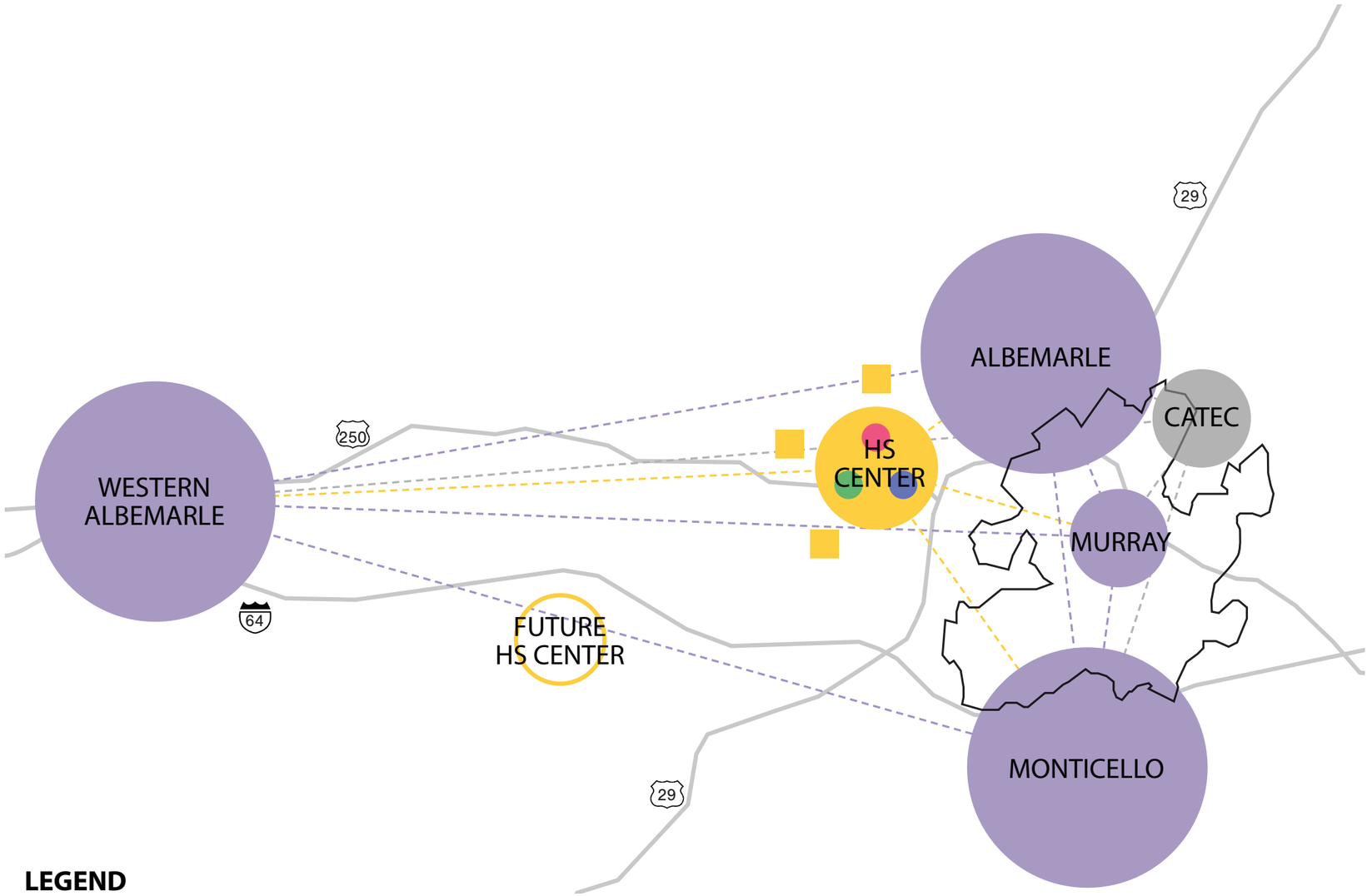
Beginning with one Center and modernization, Phase I addresses pressing capacity needs and provides the Division a framework for nimble growth in the future. In Phase 2 additional centers are built either from the ground up, or renovated in leased space to respond to enrollment and programming demand.

Recommendation | Scope

Concept

NOTES

- No Redistricting Required
- New High School Center with a capacity of 600 reduces enrollment pressure on Albemarle, but will be open to all students.
- High School Center might be strategically located near 250 and 29 for ease of access for as many students as possible, and connections to business and institutional partners.
- All High Schools are modernized. In some cases modernization increases capacity through a more efficient layout for learning.
- A Transportation network provides access to the new High School Centers and all High Schools.



LEGEND

- SPECIALIZED PROGRAMMING/CENTER
- HIGH SCHOOL CENTER
- LOCAL BUSINESS/COMMUNITY PARTNER
- TRANSPORTATION CONNECTION

Recommendation | Scope

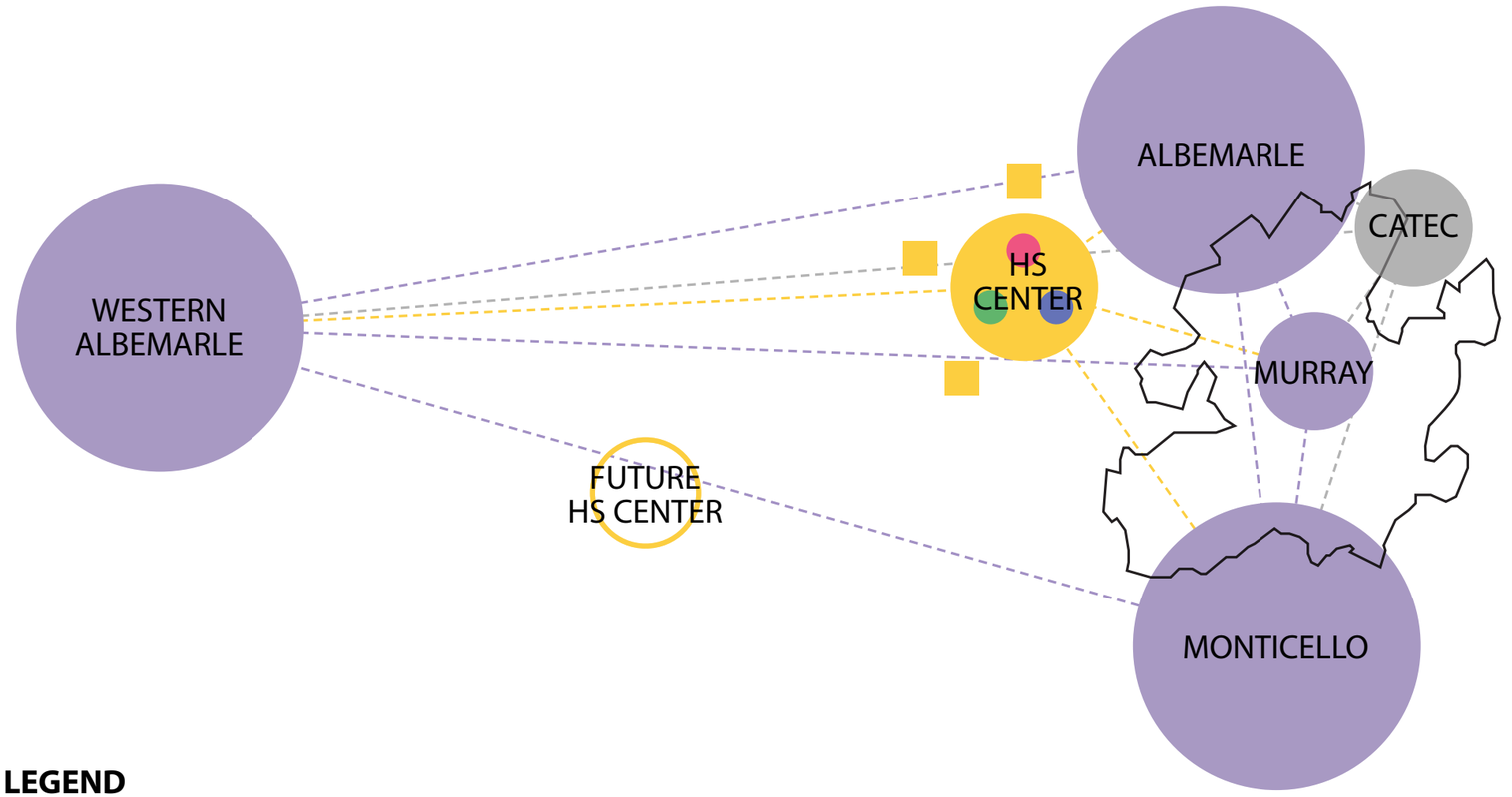
Impact & Needs

IMPACT

- Guaranteed authentic P-based learning in a community setting for all students
- High percentage of teachers engaged in innovative program and learning design, leading practices, leadership and community building
- Integration of community experts and advisors to students and teachers
- Stronger connection to leading-edge business practices, technologies
- Strong programmatic linkages to UVA, Piedmont Valley Community College, and other institutions of higher education.
- Students are exposed to and can cross collaborate with multiple Pathway programs in one High School Center

NEEDS

- Creating a new Division-wide ecosystem to support Pathway learning and High School Center professional experiences for 11/12th grade students
- Supporting teachers transitioning from isolated practitioners to members of multidisciplinary teams at High School Centers and home base high school learning communities.
- Revising graduation requirements and transcript to fully account for Pathways, community-based learning experiences, and Life-long skills development
- Transportation systems to move students to and from home high school and Super Hubs
- Teachers developing new methodologies for Student-designed and P-based learning.
- Preparing teachers to support High School Center model and maintaining culture and practices across home base high schools, and high school centers.



Recommendation | Scope

Enrollment* (7-Year Peak) | Capacity** (Learning Community Modernization)

NOTES

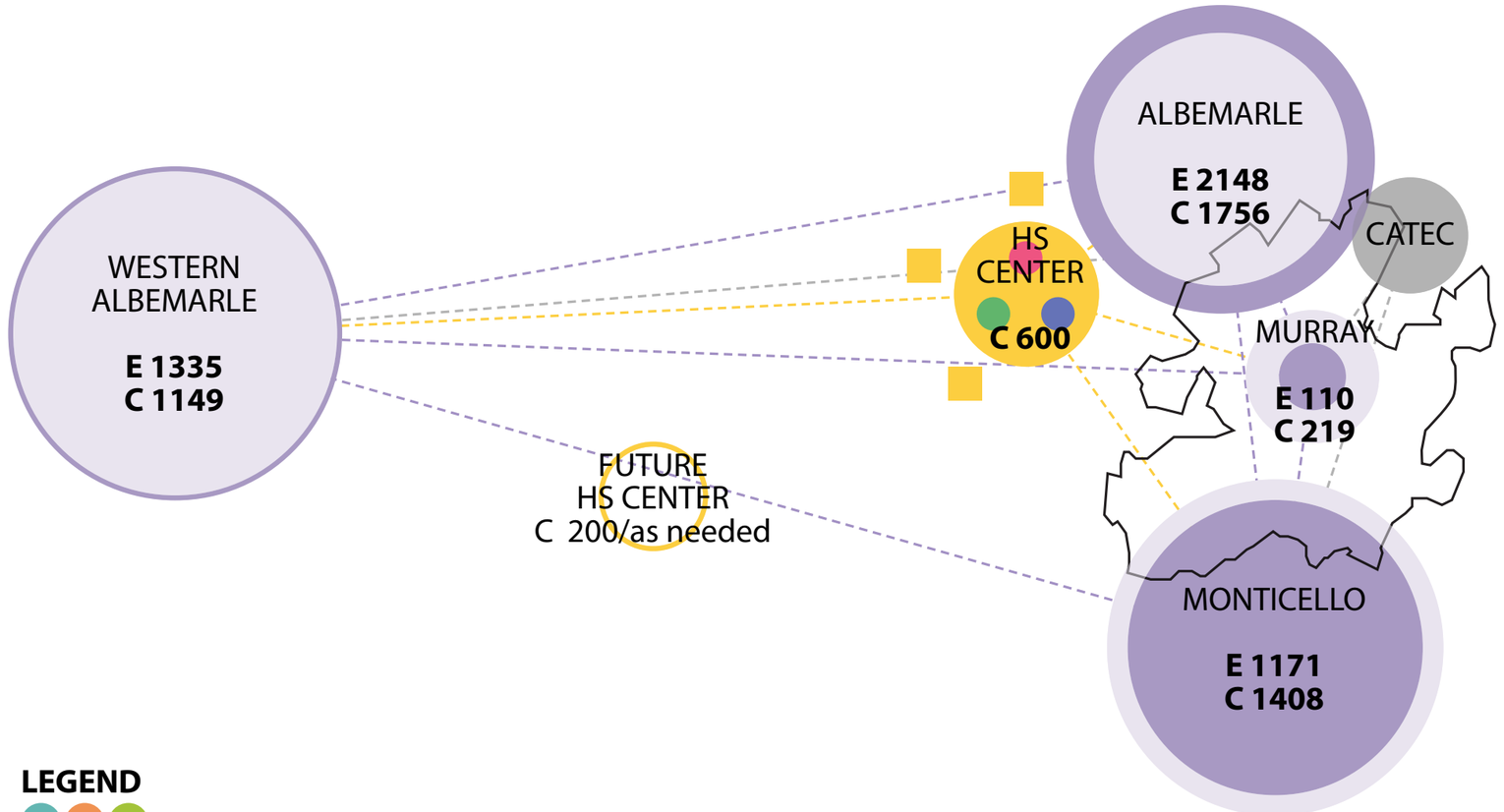
- No Redistricting Required

* Enrollment numbers for 2024/2025 School Year (peak enrollment) based on Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028.

** Learning Community Modernization Capacity as calculated for renovations to academic areas to support High School 2022. See diagrams in Modernization section.

Enrollment (E)

Capacity (C)



5b High School Center [Prototype]

Recommendation | High School Center [Prototype]

Concept | Site Plan

KEY CONCEPTS

- The Prototype is designed to a capacity of 600 students at approximately 150 sf/student.
- The minimum acreage needed, including parking and drop-off, is 9.3 acres.
- The Prototype can be flexibly arranged for a variety of site conditions

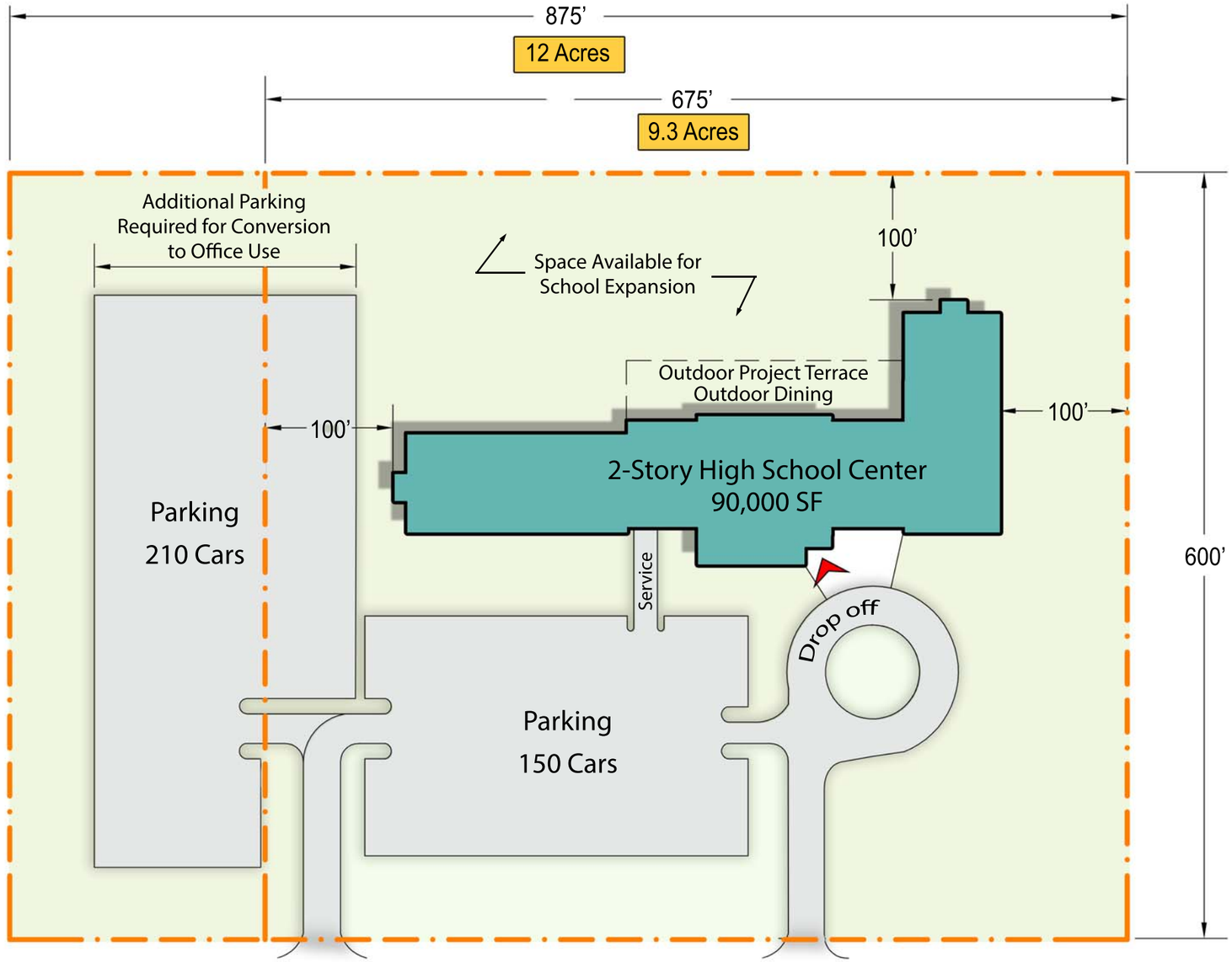
ASSUMPTIONS

- 90,000 sf, 2-Story Building
- Parking Recommendation for School Use*
  - 100 spaces for students
  - 25 spaces for teachers
  - 25 spaces for visitors
  - 150 spaces recommended
  - Parking Growth Calculation: 120 parking spaces/acre (350 SF/space)

  * No defined requirement in zoning ordinance

- Parking Requirements for Possible Future Conversion to Office Use **
  - 90,000 sf x 80/200 = 360 parking spaces

  ** to retain marketability value of property

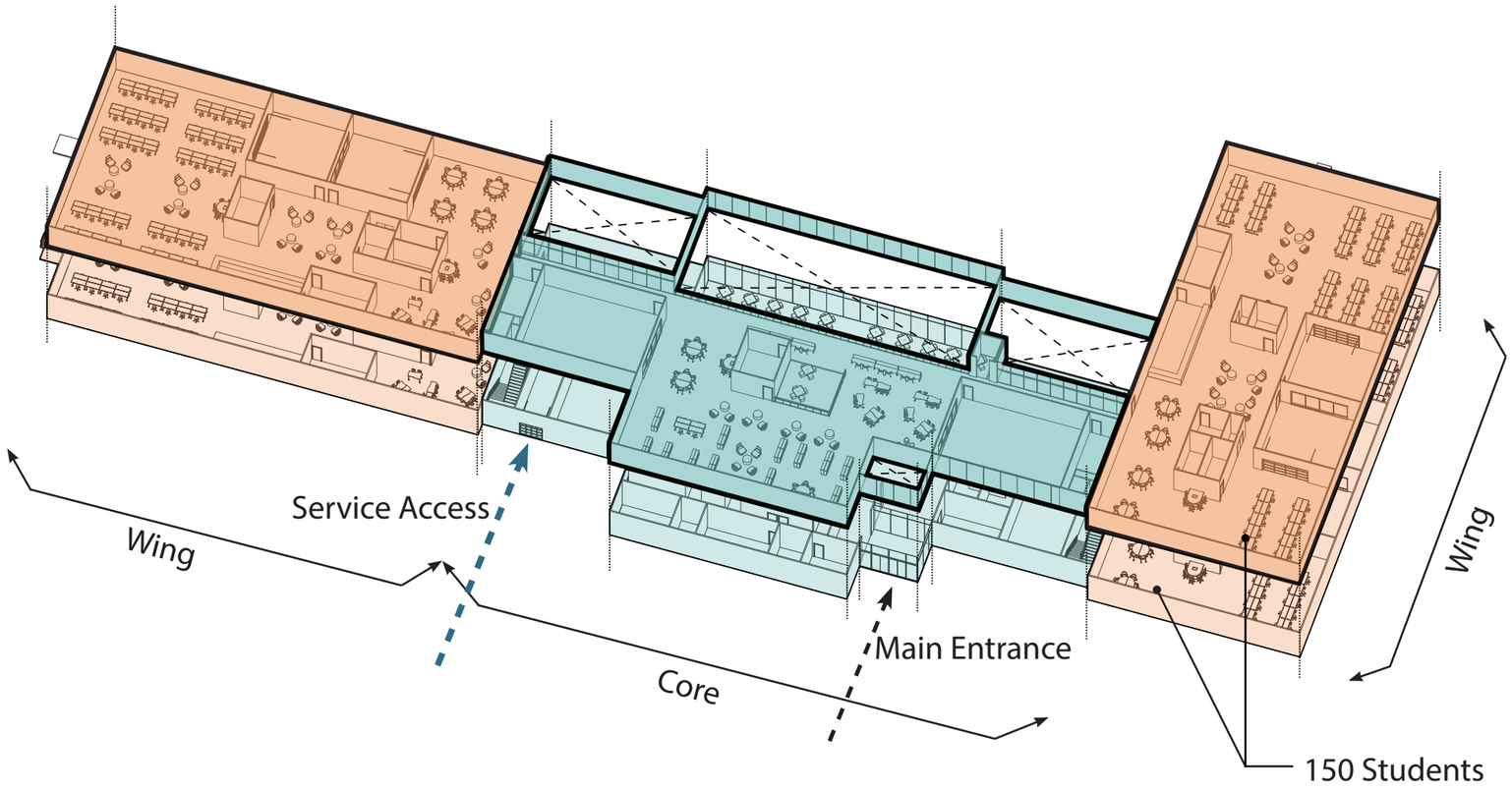


Recommendation | High School Center [Prototype]

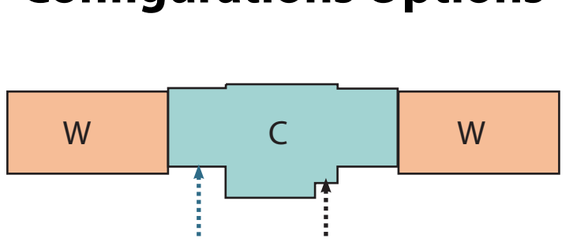
Concept | Center

KEY CONCEPTS

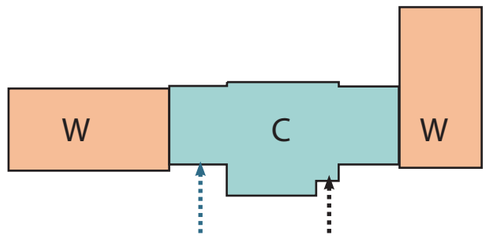
- The Prototype concept has three flexible components: (2) Academic Wings, and (1) Innovation Core.
- The Academic Wings can connect to the Core in a variety of configurations to maximize flexibility and work with different site conditions.
- The Prototype is designed to a capacity of 600 students.
- Each Academic Wing is two levels, with a capacity of 150 students per level.
- Academic Wings are conducive for **student-designed work**, where students can work within a variety of space types for a 21st century workflow.
- The "Innovation Core" provides space for **Authentic and Interdisciplinary work**, and could stay open during non-school hours while the wings stay locked, to operate as a **community oriented** space.
- Presentation areas, Project Studios, and collaborative zones all provide opportunity for students to **connect with community experts and leaders** in both the Core and Wings.



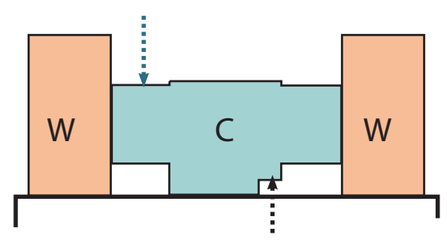
Configurations Options



Condition - Long Narrow Site



Condition - Corner Site



Condition - Compact or Infill Site

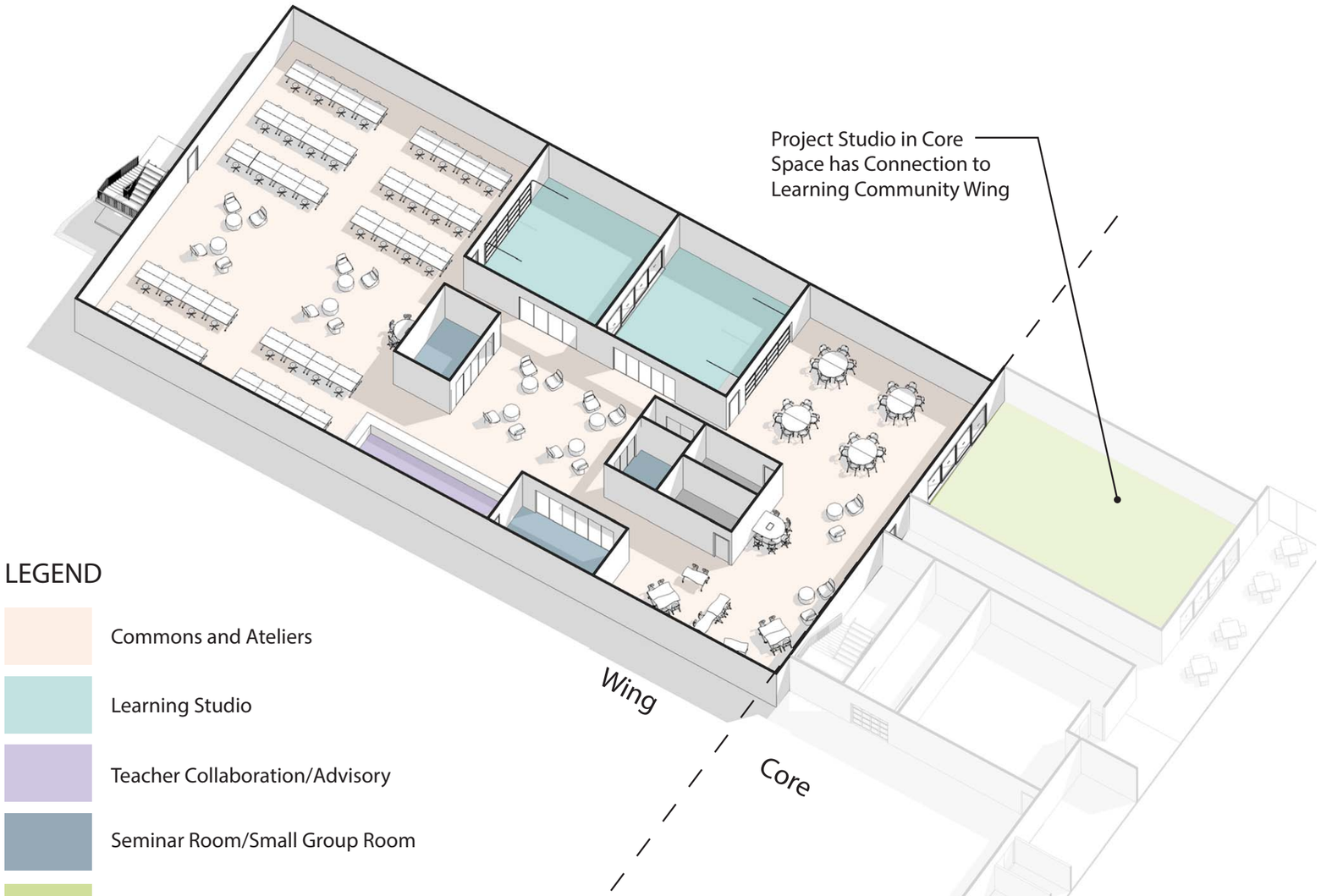
Recommendation | High School Center [Prototype]

Concept | Wing

NOTES

Each Wing of the Prototype is arranged to provide flexibility in program and **student-designed** projects. The variety of space types allow for student agency within **authentic** contexts.

- The variety of space includes Ateliers, Project Commons, Digital Display Areas, a Small Group Room, Seminar Rooms, and Learning Studios.
- The two Learning Studios can open into one larger Active Learning Suite.
- Teacher Collaboration zones open into the Learning Community for direct access to students.
- Teacher Collaboration Rooms connect directly to a Seminar or Team Room, allowing teachers to guide students in an Advisory Model.



LEGEND

- Commons and Ateliers
- Learning Studio
- Teacher Collaboration/Advisory
- Seminar Room/Small Group Room
- Project Studio
- Support/Service

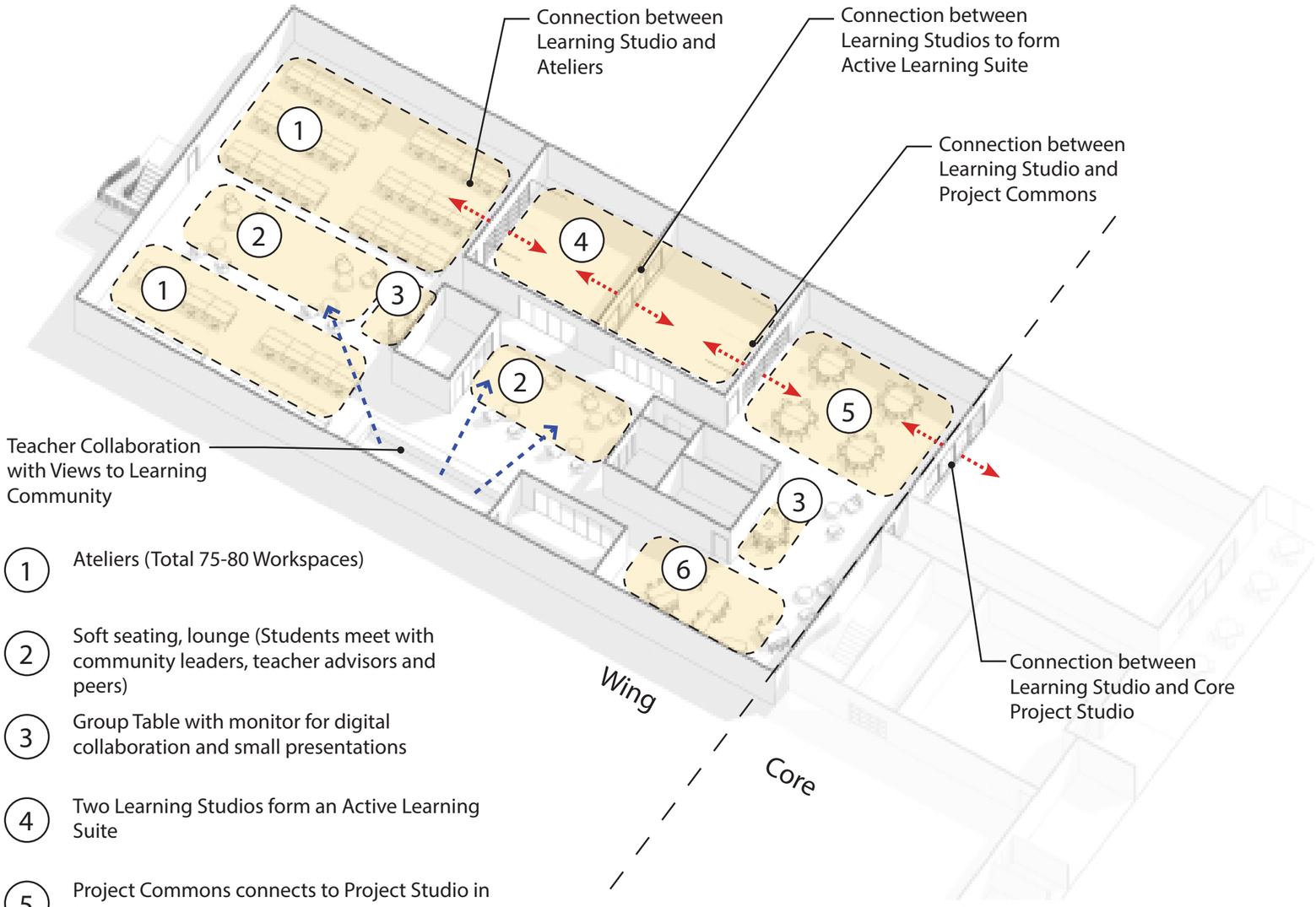
Recommendation | High School Center [Prototype]

Concept | Wing

PRECEDENT IMAGERY

Hip Hop High, Minnesota, FNI
Specialized Space / Variety of Space

Youth Republic Office, Istanbul, Turkey, KONTRA
Co-Working Space



1. Ateliers (Total 75-80 Workspaces)
2. Soft seating, lounge (Students meet with community leaders, teacher advisors and peers)
3. Group Table with monitor for digital collaboration and small presentations
4. Two Learning Studios form an Active Learning Suite
5. Project Commons connects to Project Studio in Core
6. Commons for small group collaboration and brainstorming

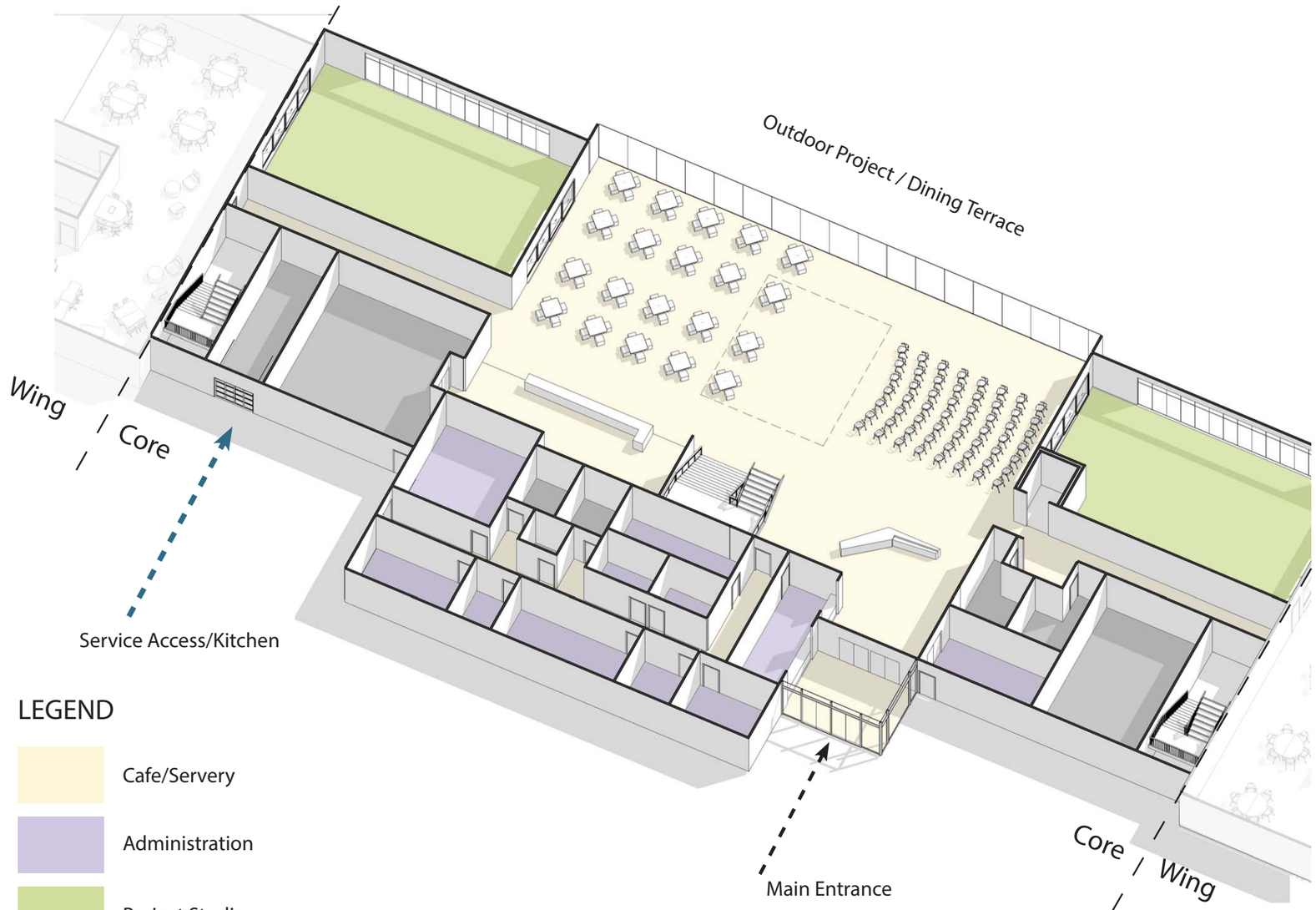
Recommendation | High School Center [Prototype]

Concept | Core 1st Floor

NOTES

Level 1 and Level 2 of the Prototype form the Innovation Core and the heart of the High School Center. The variety of space and resources provide students to work on **Authentic** projects within an **Interdisciplinary** environment.

- Level 1 of the Innovation Core includes two Project Studios which connect to a large central flexible space.
- The flexible space is primarily used as a cafe, but can also serve multiple functions including an assembly area, break out space for the labs, and indoor fitness.
- The Project Studios and the Cafe have direct connections to an outdoor terrace for project work and outdoor dining.
- Project Studios on Level 1 and Level 2 can be designed for different academy types and focuses (e.g. Science Labs, Making, Robotics, Media Production, Business and Entrepreneurship).
- The Project Studios on Level 1 are double height spaces catering to the activities that need more vertical space.



LEGEND

- Cafe/Servery
- Administration
- Project Studio
- Support/Service/Kitchen

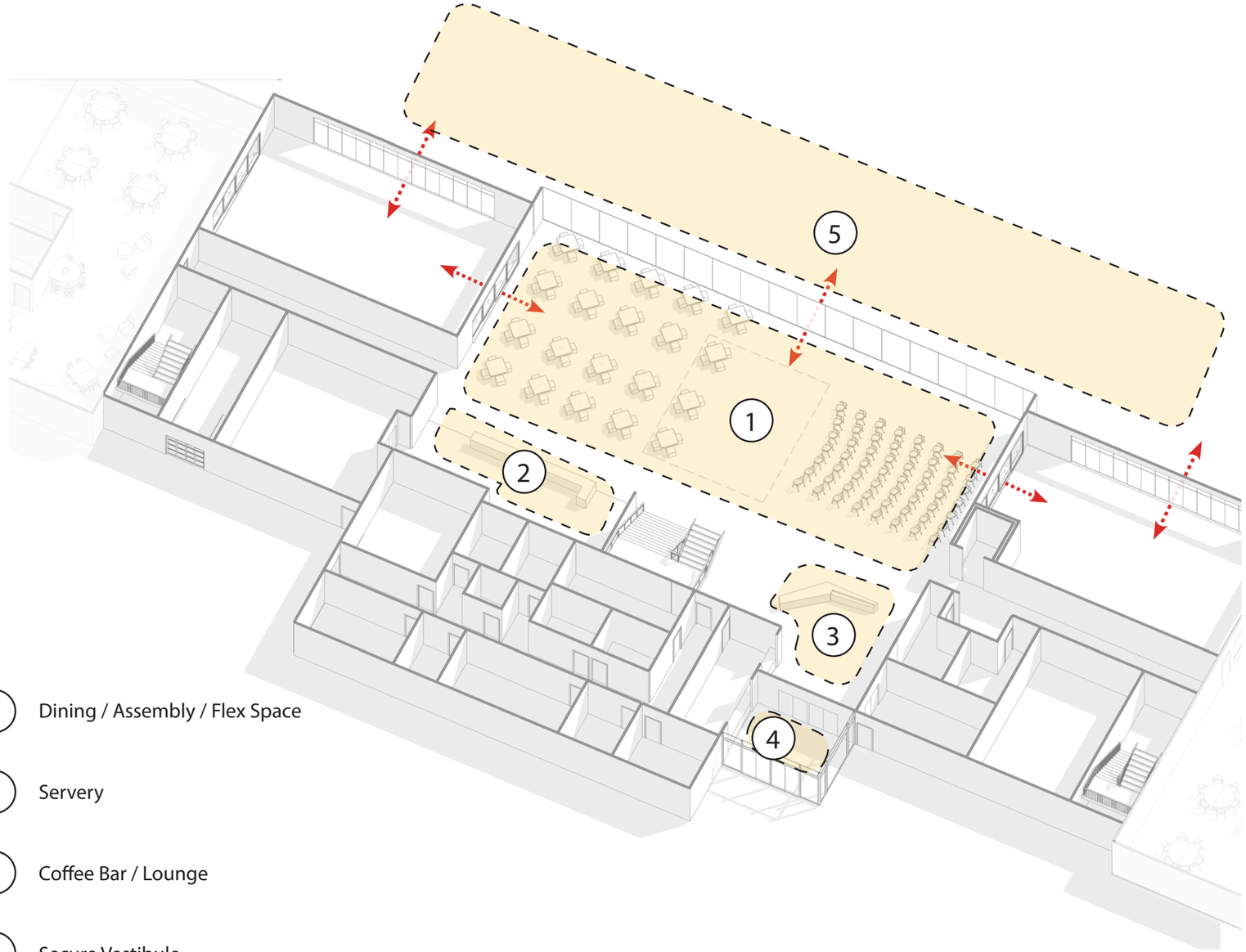
Recommendation | High School Center [Prototype]

Concept | Core 1st Floor

PRECEDENT IMAGERY

MIT Media Lab, Cambridge, MA, Maki and Associates
Transparency and Making

Facebook Headquarters, Silicon Valley, CA, Frank Gehry
Non-Precious Space



1. Dining / Assembly / Flex Space
2. Servery
3. Coffee Bar / Lounge
4. Secure Vestibule
5. Outdoor Project Terrace

Albemarle County Public Schools

HBA x fni

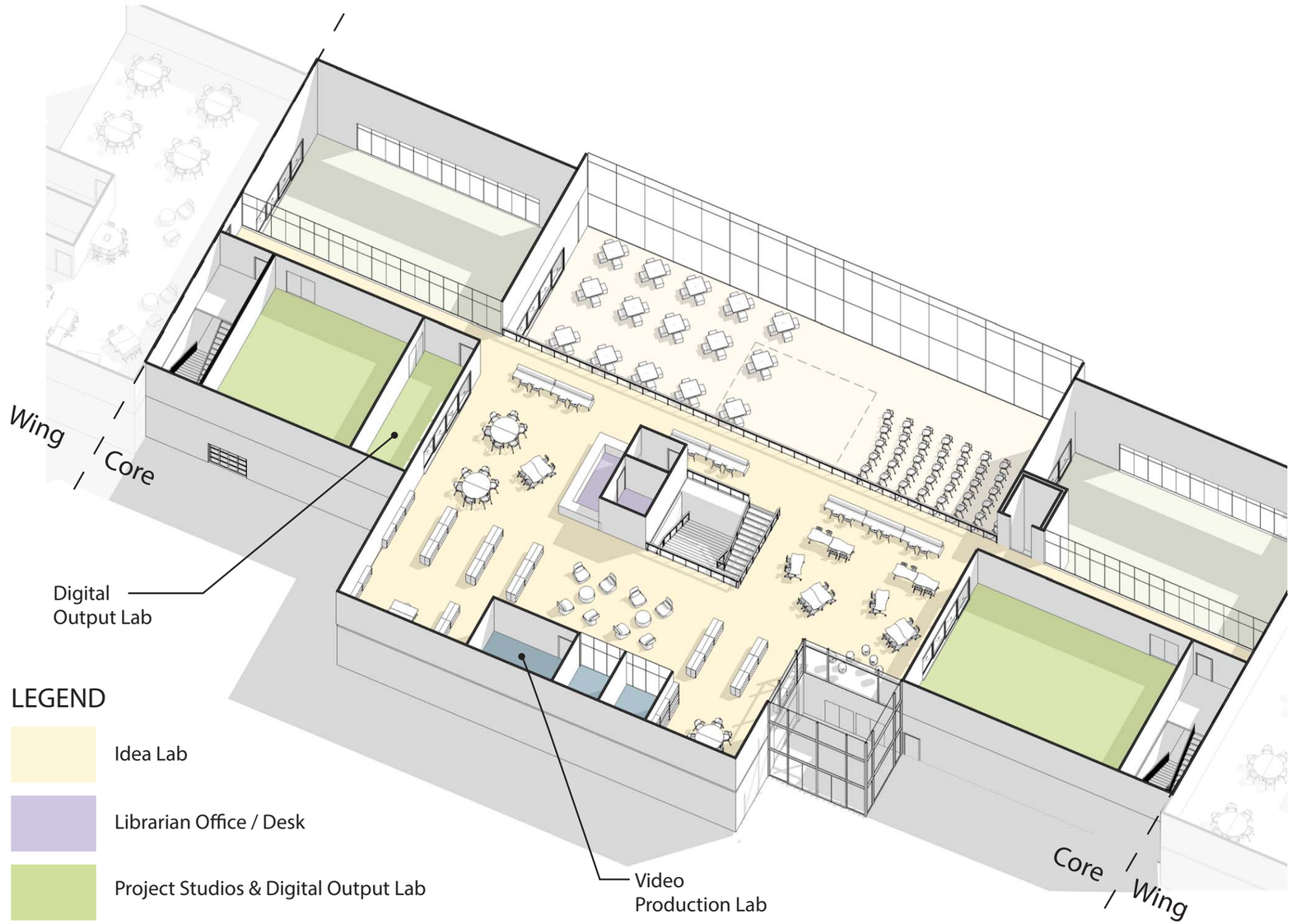
Recommendation | High School Center [Prototype]

Concept | Core 2nd Floor

NOTES

Level 1 and Level 2 of the Innovation Core provides an environment where students can develop the skills to work collaboratively, creatively, logically, analytically and effectually, **fostering life/career, & citizen success**.

- Level 2 of the Innovation Core includes the Idea Lab which overlooks the Cafe/Assembly space, and which has connections to two Project Studios and a Digital Output Lab.
- The Idea Lab inspires innovation, and allows students access to digital and print resources, while providing a variety of spaces to work individually and collaboratively.
- The 2nd level overlooks two double height Project Studios, providing vertical **transparency** to learning.



LEGEND

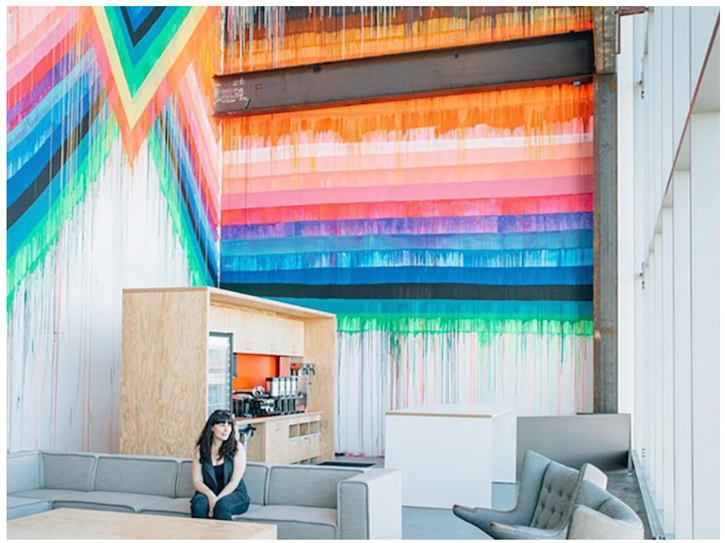
- Idea Lab
- Librarian Office / Desk
- Project Studios & Digital Output Lab
- Small Group Rooms & Video Production Lab

Recommendation | High School Center [Prototype]

Concept | Core 2nd Floor

PRECEDENT IMAGERY

We Work - Corsham St, London, UK
Co-Working Space



Facebook Headquarters, Silicon Valley, CA, Frank Gehry
Non-Precious Space

1. Research and Inquiry zone
2. Collaborative Work Area / Break Out Space from Project Studio and Digital Output Lab
3. Media Bar
4. Double Height Cafe/Assembly Space
5. Double Height Project Studios

Albemarle County Public Schools

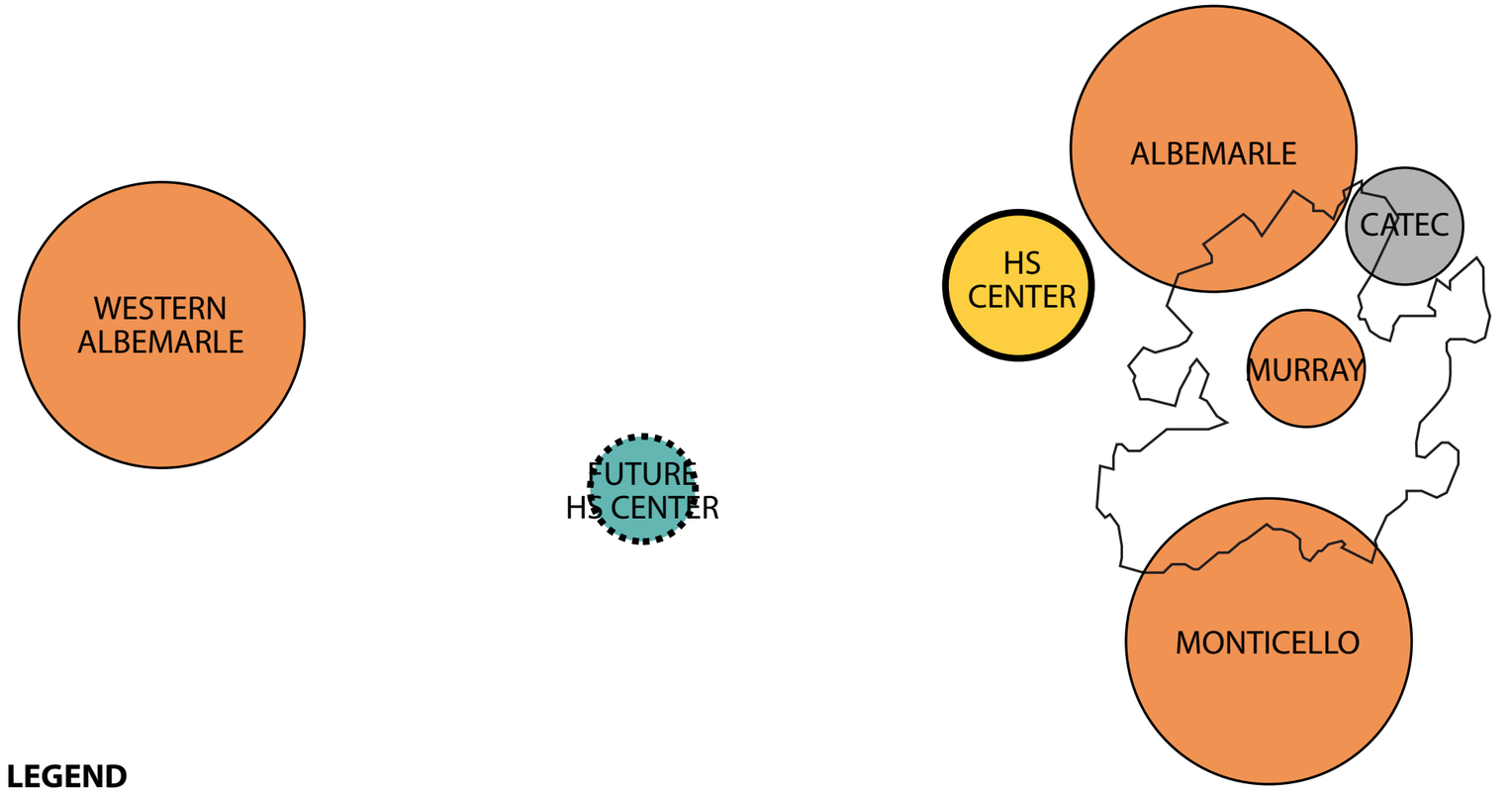
HBA x fni

5c Phasing

Implementation Concept

NOTES

- Building and occupying a High School Center frees space at the three comprehensive high schools to allow for modernization.
- A smaller High School Center could be leased space and put into practice in advance of PHASE I.
- For details on how phases could be implemented refer to the Implementation Timeline on p. 78.



Recommendation | Phasing

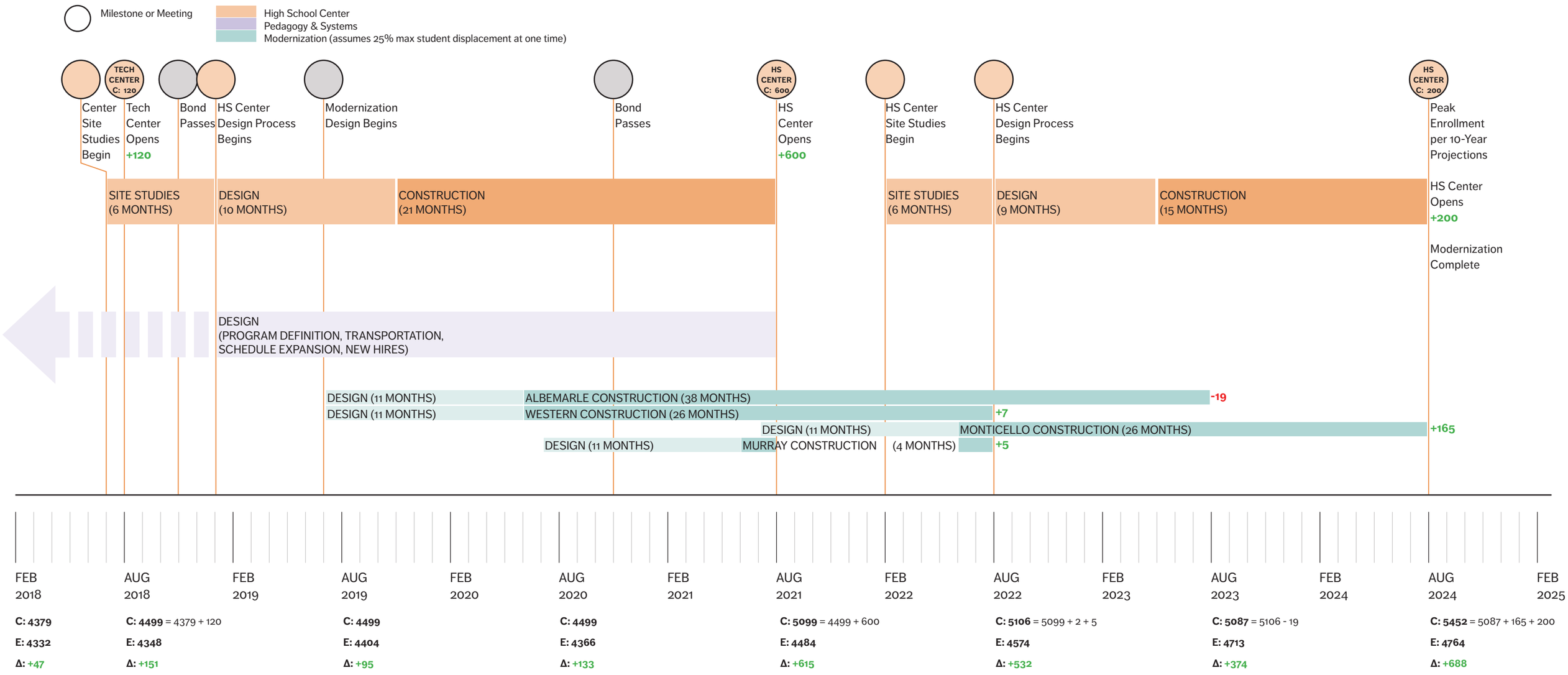
Implementation Timeline

LEGEND

C: TOTAL CAPACITY IN DIVISION (Includes capacity for Albemarle, Western Albemarle, Monticello and Murray High Schools in addition to High School Centers and the addition/subtraction of capacity due to modernization.)

E: PROJECTED ENROLLMENT per Albemarle County Public Schools Enrollment Projections FY 2018/2019 to FY 2027/2028

Δ: DELTA between TOTAL CAPACITY and PROJECTED ENROLLMENT to highlight surplus/negative capacity in Division



6 Financial Analysis

Financial Analysis

Summary | Capital Project Budgets

FINANCIAL ANALYSIS for HIGH SCHOOL FACILITIES SCENARIOS

December 2017

ESTIMATED CAPITAL PROJECT BUDGETS

	Scenario 1 School - Based 4 Comprehensive HS New 1200 Student HS @ Brookhill Site Repurpose Part of AHS	**Scenario 2 Center - Based** 3 Home Base HS One 800 Student High School Center @ Brookhill Site	**Scenario 3 Village - Based** 3 Home Base HS 2 High School Centers @ 400	**Recommendation** 3 Home Base HS 1 High School Center @ 600 1 High School Center @ 200
Albemarle HS - Learning Community Modernization	14,015,475	19,203,525	19,203,525	19,203,525
25 Temporary Portable Classrooms needed to facilitate LC Mod	[Note 1]	3,117,500	3,117,500	3,117,500
Albemarle HS - Reprogram/Repurpose Partial 2nd Floor Space	5,188,050	0	0	0
Monticello HS - Learning Community Modernization	7,824,600	7,824,600	7,824,600	7,824,600
15 Temporary Portable Classrooms needed to facilitate LC Modernization	[Note 1]	1,618,500	1,618,500	1,618,500
W Albemarle HS - Learning Community Modernization	10,027,388	10,027,388	10,027,388	10,027,388
17 Temporary Portable Classrooms needed to facilitate LC Modernization	[Note 1]	1,834,300	1,834,300	1,834,300
Murray HS - Learning Community Modernization	3,281,363	3,281,363	3,281,363	3,281,363
New Comprehensive HS - 1200 Students	90,000,000			
High School Center - 800 Students (New Construction)		51,800,000		
Brookhill Site Mass Grading / Rock Removal Allowance	4,000,000	4,000,000		
High School Center - 600 Students (New Construction)				31,500,000
High School Center - 400 Students x 2 (New Construction)			38,080,000	
High School Center - 200 Students (New Construction or Lease Space)				9,520,000
Total Estimated Capital Project Budgets [2020 Dollars]	**134,336,875**	**102,707,175**	**84,987,175**	**87,927,175**

Cost Model Assumptions [2020 Dollars]:	Construction Cost	Soft Cost @ .25	Total Project Cost
Comprehensive HS - New Construction	$ 300.00	$ 75.00	$ 375.00
High School Center - New Construction	$ 280.00	$ 70.00	$ 350.00
Major Modernization - AHS [60% of New CC]	$ 180.00	$ 45.00	$ 225.00
Major Modernization - WAHS & MuHS [65% of New CC]	$ 195.00	$ 48.75	$ 243.75
Moderate Modernization - MHS [30% of New CC]	$ 90.00	$ 22.50	$ 112.50

[Note 1: Swing Space for relocating students during LS Modernizations will be freed up by rezoning students to the new Comprehensive High School if new HS constructed first.]

Financial Analysis

High School Facilities Planning Study

FINANCIAL ANALYSIS for HIGH SCHOOL FACILITIES SCENARIOS

December 2017

	Current Capital Renewal Only	21c Learning Modernizations Only Current w/ LC Model	Scenario 1 School - Based 4 Comprehensive HS New 1200 Student HS @ Brookhill Site Repurpose Part of AHS	Scenario 2 Center - Based 3 Home Base HS One 800 Student High School Center @ Brookhill Site	Scenario 3 Village - Based 3 Home Base HS 2 High School Centers @ 400	Recommendation 3 Home Base HS 1 High School Center @ 600 1 High School Center @ 200
CAPITAL PROJECT BUDGETING						
Total Estimated Capital Project Budgets	$ -	$ 46,907,175	$ 134,336,875	$ 102,707,175	$ 84,987,175	$ 87,927,175
[Note: All Estimates are shown in 2020 Dollars]						
Total Estimated Capital Renewal Budgets	$ 63,276,954	$ 41,553,879	$ 39,584,819	$ 41,553,879	$ 41,553,879	$ 41,553,879
[Note: Estimated Capital Renewal Expenditures are over 20 to 25 years and are based on the Facilities Conditions Assessments conducted as part of this study]						
Total Estimated Land Acquisition Costs	$ -	$ -	$ -	$ -	$ 960,000	$ 960,000
[Land Acquisition Assumptions: Value - $60,000/Acre; Scenario 3 - two ~8 Acre Sites; Recommendation Scenario - one ~12 Acre Site and one ~4 Acre Site]						
Total Estimated Capital Budgets	$ 63,276,954	$ 88,461,054	$ 173,921,694	$ 144,261,054	$ 127,501,054	$ 130,441,054
Total Estimated Capital Budget Deltas **[Above Expected Capital Renewal Only Budgets]**	$ -	$ 25,184,100	$ 110,644,740	$ 80,984,100	$ 64,224,100	$ 67,164,100
OPERATIONAL BUDGETING						
Total Estimated 20-YR Energy Usage Costs Delta [2020 Dollars]	$ -	$ -	$ 5,280,000	$ 3,256,000	$ 2,393,600	$ 2,578,400
Total Estimated 20-YR Staffing Cost Deltas [2020 Dollars]	$ -	$ -	$ 53,540,000	$ 22,200,000	$ 24,100,000	$ 24,100,000
[Note: This Financial Model assumes that the number of Teachers remains constant over all Scenarios and is a factor of the number of the students and not the number of facilities]						
Total Estimated 20-YR Transportation Cost Deltas [2020 Dollars]	$ -	$ -	$ -	$ 6,327,780	$ 8,135,700	$ 7,231,740
[Note: These Transportation Cost Delta Estimates are based on similar scenarios produced by ACPS Staff]						
Total Estimated 20-YR Operational Cost Deltas	$ -	$ -	$ 58,820,000	$ 31,783,780	$ 34,629,300	$ 33,910,140
TOTAL BUDGET DELTAS [Above Capital Renewals Only]	$ -	$ 25,184,100	$ 169,464,740	$ 112,767,880	$ 98,853,400	$ 101,074,240
[Note :: All Estimates are shown in 2020 Dollars]						

Financial Analysis

High School Facilities Planning Study

STUDENT CAPACITIES	Current Capital Renewal Only Optimal Building Capacity @ 87.5% Utilization	21c Learning Modernizations Only Current w/ LC Model Optimal Building Capacity @ 87.5% Utilization	Scenario 1 School - Based 4 Comprehensive HS New 1200 Student HS @ Brookhill Site Repurpose Part of AHS Optimal Building Capacity @ 87.5% Utilization	Scenario 2 Center - Based 3 Home Base HS One 800 Student High School Center @ Brookhill Site Optimal Building Capacity @ 87.5% Utilization	Scenario 3 Village - Based 3 Home Base HS 2 High School Centers @ 400 Optimal Building Capacity @ 87.5% Utilization	Recommendation 3 Home Base HS 1 High School Center @ 600 1 High School Center @ 200 Optimal Building Capacity @ 87.5% Utilization
Albemarle HS	1775	1756	1250	1756	1756	1756
Monticello HS	1243	1408	1408	1408	1408	1408
W Albemarle HS [Note 1]	1147	1149	1149	1149	1149	1149
Murray HS	214	219	219	219	219	219
New Comprehensive HS - 1200 Students			1200			
High School Center - 800 Students (New Construction)				800		
High School Center - 600 Students (New Construction)						600
High School Center - 400 Students x 2 (New Construction)					800	
High School Center - 200 Students (New Construction or Lease Space)						200
Student Capacity	4379	4532	5226	5332	5332	5332
2024/25 HS Enrollment Projection (Peak year for 10 year projections)	4764	4764	4764	4764	4764	4764
Over / (Under)	(385)	(232)	462	568	568	568

[Note 1: Includes 10,000 SF Science Lab Addition scheduled for Occupancy in August of 2019

TOTAL GROSS BUILDING AREAS

	Current	21c Modernization	Scenario 1	Scenario 2	Scenario 3	Recommendation
Albemarle HS	291,900	291,900	291,900	291,900	291,900	291,900
Monticello HS	252,460	252,460	252,460	252,460	252,460	252,460
W Albemarle HS [Note 1]	208,806	208,806	208,806	208,806	208,806	208,806
Murray HS	29,102	29,102	29,102	29,102	29,102	29,102
New Comprehensive HS - 1200 Students			240,000			
High School Center - 800 Students (New Construction)				148,000		
High School Center - 600 Students (New Construction)						90,000
High School Center - 400 Students x 2 (New Construction)					108,800	
High School Center - 200 Students (New Construction or Lease Space)						27,200
Total Gross Building Area	782,268	782,268	1,022,268	930,268	891,068	899,468

Building Area per # Student Assumptions:	
New Comprehensive HS - 1200 Students	200
High School Center - 800 Students	185
High School Center - 600 Students	150
High School Center - 200 to 400 Students	136

ReProgram / RePurpose 23,058 SF of AHS

[Note 1: Includes 10,000 SF Science Lab Addition scheduled for Occupancy in August of 2019

Financial Analysis

High School Facilities Planning Study

LEARNING ENVIRONMENT MODERNIZATION AREAS for LEARNING COMMUNITY MODEL

	Current	21c Modernization	Scenario 1	Scenario 2	Scenario 3	Recommendation
Albemarle HS - Gross Area	291,900	291,900	291,900	291,900	291,900	291,900
Major Modernization Area (Learning Communities) [Note 1]		63,652	40,594	63,652	63,652	63,652
Major Modernization Area (Other Learning Spaces)		21,697	21,697	21,697	21,697	21,697
Moderate Modernization Area (Reprogram/Repurpose Area)			23,058			
Capital Renewal Area (Gross SF - Modernization SF) [Note 3]		185,337	162,279	185,337	185,337	185,337
Monticello HS - Gross Area	252,460	252,460	252,460	252,460	252,460	252,460
Major Modernization Area (Learning Communities) [Note 1]		69,552	69,552	69,552	69,552	69,552
Capital Renewal Area (Gross SF - Modernization SF) [Note 3]		182,908	182,908	182,908	182,908	182,908
W Albemarle HS - Gross Area	208,806	208,806	208,806	208,806	208,806	208,806
Major Modernization Area (Learning Communities) [Note 2]		35,407	35,407	35,407	35,407	35,407
Major Modernization Area (Other Learning Spaces)		5,731	5,731	5,731	5,731	5,731
Capital Renewal Area (Gross SF - Modernization SF) [Note 3]		138,884	138,884	138,884	138,884	138,884
Murray HS - Gross Area	29,102	29,102	29,102	29,102	29,102	29,102
Major Modernization Area (Learning Communities) [Note 2]		13,462	13,462	13,462	13,462	13,462
Capital Renewal Area (Gross SF - Modernization SF) [Note 3]		13,640	13,640	13,640	13,640	13,640

[Note 1: AHS LC Modernization Area does not include building areas scheduled for Major Modernizations during Summer of 2018 - BCWH Project
[Note 2: WAHS LC Modernization Area does not include building areas scheduled for Major Modernizations during Summer of 2019 - VMDO Project
[Note 3: Capital Renewal Areas do not include building areas recently constructed or renovated, those areas scheduled for Major Modernizations during Summers of 201819, nor those areas indicated to receive Major Modernization as part of this study

ESTIMATED CAPITAL PROJECT BUDGETS

	Current	21c Modernization	Scenario 1	Scenario 2	Scenario 3	Recommendation
Albemarle HS - Learning Community Modernization	0	19,203,525	14,015,475	19,203,525	19,203,525	19,203,525
25 Temporary Portable Classrooms needed to facilitate LC Modernization		3,117,500	[Note 1]	3,117,500	3,117,500	3,117,500
Albemarle HS - Reprogram/Repurpose Partial 2nd Floor Space	0	0	5,188,050	0	0	0
Monticello HS - Learning Community Modernization	0	7,824,600	7,824,600	7,824,600	7,824,600	7,824,600
15 Temporary Portable Classrooms needed to facilitate LC Modernization		1,618,500	[Note 1]	1,618,500	1,618,500	1,618,500
W Albemarle HS - Learning Community Modernization	0	10,027,388	10,027,388	10,027,388	10,027,388	10,027,388
17 Temporary Portable Classrooms needed to facilitate LC Modernization		1,834,300	[Note 1]	1,834,300	1,834,300	1,834,300
Murray HS - Learning Community Modernization	0	3,281,363	3,281,363	3,281,363	3,281,363	3,281,363
New Comprehensive HS - 1200 Students			90,000,000			
High School Center - 800 Students (New Construction)				51,800,000		
Brookhill Site Mass Grading / Rock Removal Allowance			4,000,000	4,000,000		
High School Center - 600 Students (New Construction)						31,500,000
High School Center - 400 Students x 2 (New Construction)					38,080,000	
High School Center - 200 Students (New Construction or Lease Space)						9,520,000
Total Estimated Capital Project Budgets [2020 Dollars]	**0**	**46,907,175**	**134,336,875**	**102,707,175**	**84,987,175**	**87,927,175**

Cost Model Assumptions [2020 Dollars]:	Construction Cost	Soft Cost @ .25	Total Project Cost
Comprehensive HS - New Construction	$ 300.00	$ 75.00	$ 375.00
High School Center - New Construction	$ 280.00	$ 70.00	$ 350.00
Major Modernization - AHS [60% of New CC]	$ 180.00	$ 45.00	$ 225.00
Major Modernization - WAHS & MuHS [65% of New CC]	$ 195.00	$ 48.75	$ 243.75
Moderate Modernization - MHS [30% of New CC]	$ 90.00	$ 22.50	$ 112.50

[Note 1: Swing Space for relocating students during LC Modernizations will be freed up by rezoning students to the new Comprehensive High School if new HS constructed first.

Financial Analysis

High School Facilities Planning Study

ESTIMATED CAPITAL RENEWAL BUDGETS for 20 YEAR TERM

	Current	21c Modernization	Scenario 1	Scenario 2	Scenario 3	Recommendation
Albemarle HS (for areas not Modernized)	24,927,080	15,827,031	13,857,971	15,827,031	15,827,031	15,827,031
Monticello HS (for areas not Modernized)	13,986,925	10,133,568	10,133,568	10,133,568	10,133,568	10,133,568
W Albemarle HS (for areas not Modernized)	21,250,778	14,134,618	14,134,618	14,134,618	14,134,618	14,134,618
Murray HS (Capital Renewal included in Mod. Cost)	3,112,171	1,458,663	1,458,663	1,458,663	1,458,663	1,458,663
New Comprehensive HS - 1200 Students		0	0	0	0	0
High School Center - 800 Students (New Construction)		0	0	0	0	0
High School Center - 600 Students (New Construction)		0	0	0	0	0
High School Center - 400 Students x 2 (New Construction)		0	0	0	0	0
High School Center - 200 Students (New Construction or Lease Space)		0	0	0	0	0
Total Estimated Capital Renewal Budgets [2020 Dollars]	**63,276,954**	**41,553,879**	**39,584,819**	**41,553,879**	**41,553,879**	**41,553,879**

Capital Renewal Projections for 20 Years [2020 Dollars]:	Total Projects Cost	Cost/SF
Albemarle HS	$ 24,927,080	$ 85.40
Monticello HS	$ 13,986,925	$ 55.40
Western Albemarle HS	$ 21,250,778	$ 101.77
Murray HS	$ 3,112,171	$ 106.94

[Note: Estimated Capital Renewal Expenditures are based on our Facilities Conditions Assessments and represent a 25% to 50% increase in the current level of funding for the ACPS Maintenance/Replacement Program]

ESTIMATED CAPITAL REPLACEMENT BUDGETS + CAPITAL RENEWAL BUDGETS for 20 YEAR TERM

	Current	21c Modernization	Scenario 1	Scenario 2	Scenario 3	Recommendation
Total Estimated Capital Budgets [2020 Dollars]	**63,276,954**	**88,461,054**	**173,921,694**	**144,261,054**	**126,541,054**	**129,481,054**

[Not Including Estimated Cost of Land Acquisition]

ESTIMATED ENERGY USAGE COSTS for 20 YEAR TERM

	Current	21c Modernization	Scenario 1	Scenario 2	Scenario 3	Recommendation
Albemarle HS	5,458,530	5,458,530	5,458,530	5,458,530	5,458,530	5,458,530
Monticello HS	6,442,779	6,442,779	6,442,779	6,442,779	6,442,779	6,442,779
W Albemarle HS	5,925,914	5,925,914	5,925,914	5,925,914	5,925,914	5,925,914
Murray HS	614,634	614,634	614,634	614,634	614,634	614,634
New Comprehensive HS - 1200 Students		0	5,280,000	0	0	0
High School Center - 800 Students (New Construction)		0	0	3,256,000	0	0
High School Center - 600 Students (New Construction)		0	0	0	0	1,980,000
High School Center - 400 Students x 2 (New Construction)		0	0	0	2,393,600	0
High School Center - 200 Students (New Construction or Lease Space)		0	0	0	0	598,400
Total Estimated 20-YR Energy Usage Costs [2020 Dollars]	**18,441,858**	**18,441,858**	**23,721,858**	**21,697,858**	**20,835,458**	**21,020,258**
Total Estimated 20-YR Energy Usage Costs Delta	**0**	**0**	**5,280,000**	**3,256,000**	**2,393,600**	**2,578,400**

[Above Expected 20-YR Energy Costs]

Energy Usage Cost Model [2020 Dollars]:	Avg. Annual Cost/SF ['15-'16]	20 Year Cost/SF*1.1
Albemarle HS	$ 0.85	$ 18.70
Monticello HS	$ 1.16	$ 25.52
Western Albemarle HS	$ 1.29	$ 28.38
Murray HS	$ 0.96	$ 21.12
New Comprehensive HS	$ 1.00	$ 22.00
High School Center	$ 1.00	$ 22.00

Financial Analysis

High School Facilities Planning Study

ESTIMATED OPERATIONAL STAFFING COSTS DELTAS for 20 YEAR TERM

[Note :: This Financial Model assumes that the number of Teachers remains constant over all Scenarios and is a factor of the number of the students and not the number of facilities]

	Current		21c Modernization		Scenario 1		Scenario 2		Scenario 3		Recommendation	
Total Estimated 20-YR Staffing Cost Deltas [2020 Dollars]	**0**		**0**		**53,540,000**		**22,200,000**		**24,100,000**		**24,100,000**	
Total Estimated Annual Staffing Cost Deltas [2020 Dollars]	**0**		**0**		**2,677,000**		**1,110,000**		**1,205,000**		**1,205,000**	
Principal High School	0	0	0	0	1.0	170,000	1.0	170,000	0.0	0	0.0	0
Assistant Principal High School	0	0	0	0	1.0	120,000	1.0	120,000	2.0	240,000	2.0	240,000
Director of Professional and Community Relations						0	1.0	100,000	2.0	200,000	2.0	200,000
Database Administrator	0	0	0	0	1.0	86,000	1.0	86,000	1.0	86,000	1.0	86,000
Management Analyst I	0	0	0	0	1.0	80,000	1.0	80,000	1.0	80,000	1.0	80,000
Office Associate II	0	0	0	0	1.0	43,000	2.0	86,000	2.0	86,000	2.0	86,000
Office Associate III	0	0	0	0	1.0	46,000	2.0	92,000	2.0	92,000	2.0	92,000
Office Associate V	0	0	0	0	1.0	61,000	1.0	61,000	1.0	61,000	1.0	61,000
Director of School Counseling	0	0	0	0	1.0	132,000	0.0	0	0.0	0	0.0	0
Guidance Counselor	0	0	0	0	1.0	81,000	0.0	0	0.0	0	0.0	0
Office Associate III	0	0	0	0	1.0	46,000	0.0	0	0.0	0	0.0	0
Office Associate IV	0	0	0	0	1.0	54,000	0.0	0	0.0	0	0.0	0
Truancy Officer/Homebound Coordinator	0	0	0	0	1.0	82,000	0.0	0	0.0	0	0.0	0
Library Media Specialist	0	0	0	0	2.0	172,000	0.0	0	0.0	0	0.0	0
Library Media Assistant	0	0	0	0	1.0	17,000	0.0	0	0.0	0	0.0	0
Athletic Director High School	0	0	0	0	1.0	154,000	0.0	0	0.0	0	0.0	0
Office Associate V	0	0	0	0	1.0	62,000	0.0	0	0.0	0	0.0	0
Gifted Teacher	0	0	0	0	1.0	75,000	0.0	0	0.0	0	0.0	0
Supervising Registered Nurse	0	0	0	0	1.0	70,000	0.0	0	0.0	0	0.0	0
School Improvement Specialist	0	0	0	0	1.0	78,000	0.0	0	0.0	0	0.0	0
Lead Client Service Specialist	0	0	0	0	1.0	100,000	0.0	0	0.0	0	0.0	0
Client Service Specialist	0	0	0	0	1.0	69,000	0.0	0	0.0	0	0.0	0
Admin Technology	0	0	0	0	0.5	31,000	1.0	62,000	1.0	62,000	1.0	62,000
Technology Instruction Support	0	0	0	0	0.5	31,000	1.0	62,000	1.0	62,000	1.0	62,000
Food Service Manager IV	0	0	0	0	1.0	57,000	0.0	0	0.0	0	0.0	0
Food Service Assistant Manager	0	0	0	0	1.0	36,000	0.0	0	0.0	0	0.0	0
Food Service Associate	0	0	0	0	6.0	132,000	0.0	0	0.0	0	0.0	0
Custodial Building Manager	0	0	0	0	1.0	86,000	0.0	0	0.0	0	0.0	0
Custodial Supervisor I	0	0	0	0	1.0	56,000	1.0	56,000	1.0	56,000	1.0	56,000
Custodian	0	0	0	0	10	450,000	3.0	135,000	4.0	180,000	4.0	180,000

Assumes that Assistant Principals and Guidance Counselors are redistributed with students

ESTIMATED TRANSPORTATION COSTS DELTAS for 20 YEAR TERM

	Current	21c Modernization	Scenario 1	[Note 1] Scenario 2	[Note 1] Scenario 3	[Note 2] Recommendation
Total Estimated 20-YR Transportation Cost Deltas [2020 Dollars]	**0**	**0**	**0**	**6,327,780**	**8,135,700**	**7,231,740**
One-time Capital Cost	0	0	0	700000	900000	
Year 1 Operating Cost	0	0	0	315969	406245	
Subsequent 19 Years Operating Costs per Year	0	0	0	279569	359445	
x 19 Years =	0	0	0	5311811	6829455	

[Note 1: These Transportation Cost Delta Estimates are based on similar scenarios produced by ACPS Staff]

[Note 2: ACPS has not yet run a Transportation Cost Delta Estimate for the Recommendation - However, we believe that it is approximately between the cost of Scenarios 2 and 3, so we have input the average here.