



ALEXANDRIA CITY HIGH SCHOOL MINNIE HOWARD CAMPUS

Alexandria City Public Schools
Alexandria, Virginia





Executive Summary

The design of the new Alexandria City High School (ACHS) at Minnie Howard plays a vital and exciting role in transforming the student experience and in realizing Alexandria City Public Schools’ vision of equity and access for all of its students and families. Realizing this vision, this campus is designed to significantly enrich the student experience and strengthen community connections.

With the combined goals of rethinking the way that Alexandria City Public Schools (ACPS) delivers its high school education, solving space issues that come with its growing student body, and supporting the core values of “Welcome, Empowerment, Equity, Innovation and Results” articulated within ACPS’s Equity for All 2025 Strategic Plan, the Connected High School Network promises to help transform ACPS into a better, more equitable, and richer learning environment for all its students. To support these goals, the renewed ACHS campus features interdisciplinary communities (small learning neighborhoods); and distributed science, art and Career and Technical Education (CTE) labs, dining, and administration and counseling services.

By reimagining the student dining experience, a multi-story “creative commons” has become the dynamic heart of the school, encouraging healthy eating, socialization, and direct engagement with the school’s diverse CTE offerings. Celebrating more active and experiential learning opportunities, new and enhanced CTE opportunities can flow out into the Creative Commons, host active partnerships with local industry, and engage students in pathways including renewable energy, aerospace, cyber-security, robotics, pharmacy, and surgical tech.

Helping to ensure that students at ACHS and across the city are ready to learn, city partners operate Teen Wellness and Family Resource Centers on the campus, facilitating access to professional

physical and mental health resources and support. Employing an “access for all” strategy consistent with ACPS’s Equity for All goal, community health and well-being is further fostered by an early childhood center, an aquatics facility, and two gymnasiums. Separate entrances enable each program to operate independent of school hours while also enhancing safety and security.

Designed to create a healthy and high-performing learning environment emphasizing enhanced Indoor Environmental Quality factors including daylight, thermal comfort, acoustics and indoor air quality, the campus is targeting a minimum of LEED Gold and has been designed to target Net Zero Energy in line with Alexandria’s Green Building Policy.

Scope of Work and Budget

Internationally recognized, diverse, and situated at the heart of Alexandria City Public Schools’ education system, Alexandria City High School (ACHS) is a comprehensive high school with a current enrollment of approximately 4,000 students in grades 9-12.

The mission of ACHS is to develop lifelong learning and inspire civic responsibility by ensuring that every student is equipped with the educational resources needed to succeed. The transformed Minnie Howard campus of Alexandria City High School is a key part of the district’s Connected High School Network (CHSN), supporting Alexandria City Public Schools’ vision of equity and a richer experience for its high school students. Located half a mile from the main King Street Campus, Minnie Howard replaces a former elementary school that had been repurposed as the high school’s ninth-grade academy. It features new academies within a dynamic student-centered environment to tailored career pathways that personalize learning, providing specialized curricula and project-based learning opportunities to prepare students for success in college and careers, eliminate achievement gaps, and provide access to real world experiences and mentorship.



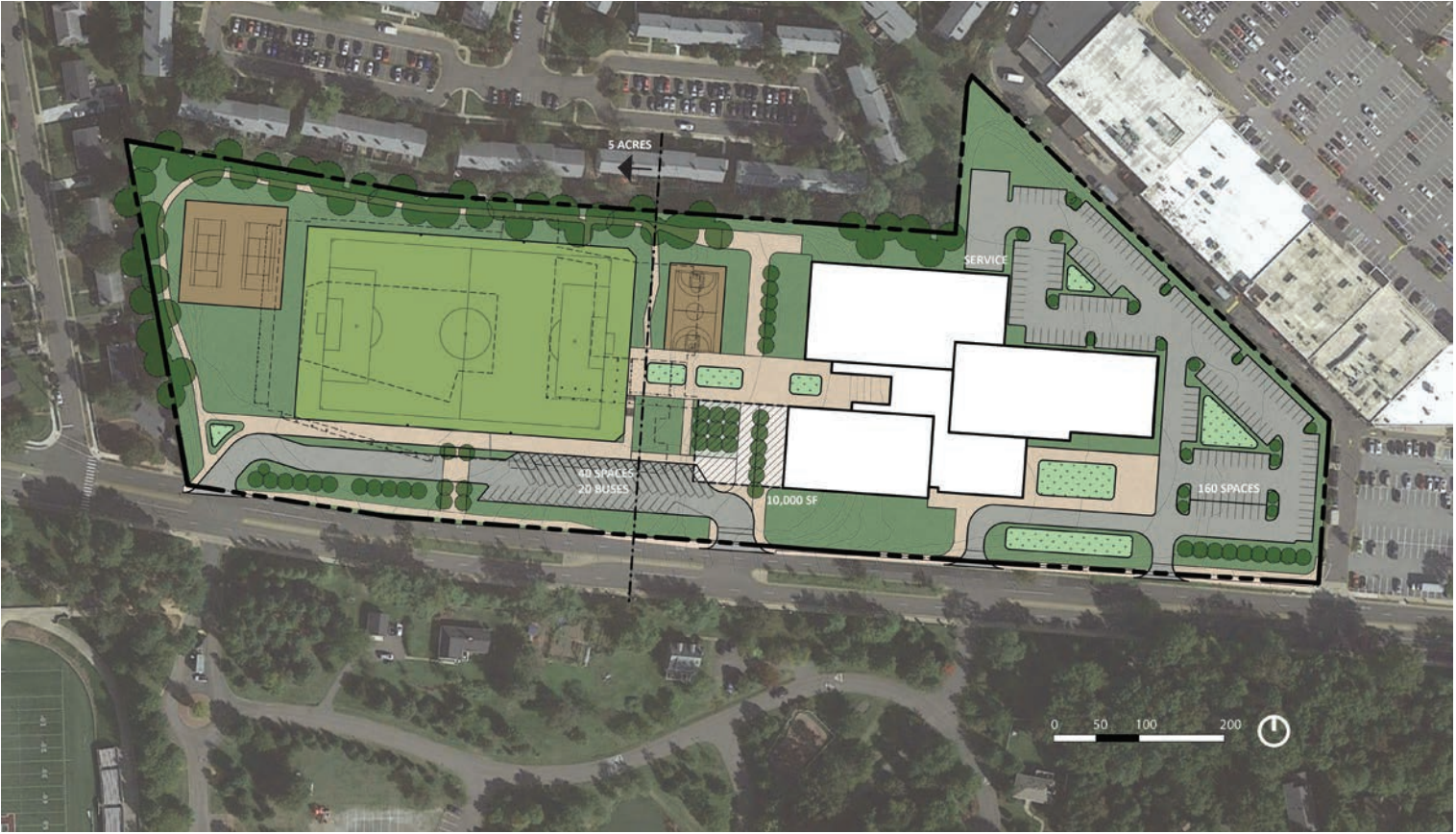
BUDGET
FINAL GMP \$190M,
DELIVERED ON-TIME AND
ON-BUDGET

**DESIGN
ENROLLMENT**
1,600 STUDENTS,
GRADES 9-12

**SITE + BUILDING
AREA**
343,410 SF, 12 ACRES

**CONSTRUCTION
DELIVERY METHOD**
CONSTRUCTION
MANAGER AT RISK

COMPLETION
JULY 2024





Stakeholders were provided with opportunities to provide input at pre-designed points in the process



Stakeholders were involved throughout the process



A partnership is formed with stakeholders to share in the decision-making process, including development of alternatives and identification of the preferred solution



Stakeholders were provided with opportunities to make decisions for the project





CHALLENGES

Pandemic challenges: Stakeholder and community engagement process during COVID-19 quarantine — virtual meetings ultimately enabled participation from a larger cross-section of the community

Site constraints: Steep grade on tight, urban site

Phased, occupied construction: Occupied, existing school site throughout construction of new building on adjacent, existing athletic fields

Designing adaptable spaces for evolving needs of the CTE programs

ASSETS

Highly engaged community that values diversity and education

Historic Inspiration dating back to school's original namesake and the renowned Remember the Titans story

Diverse student population: Students hail from more than 118 countries and speak 127 languages

Connected High School Network: Opportunity to create a Connected High School Network (CHSN) with strong connections to community assets across all schools

Industry partnerships that foster CTE program and community needs

Planning Process: Community-Centered Design

Community engagement was central to the programming and design of the campus. The campus design emerged through a comprehensive engagement process that began during the COVID-19 pandemic.

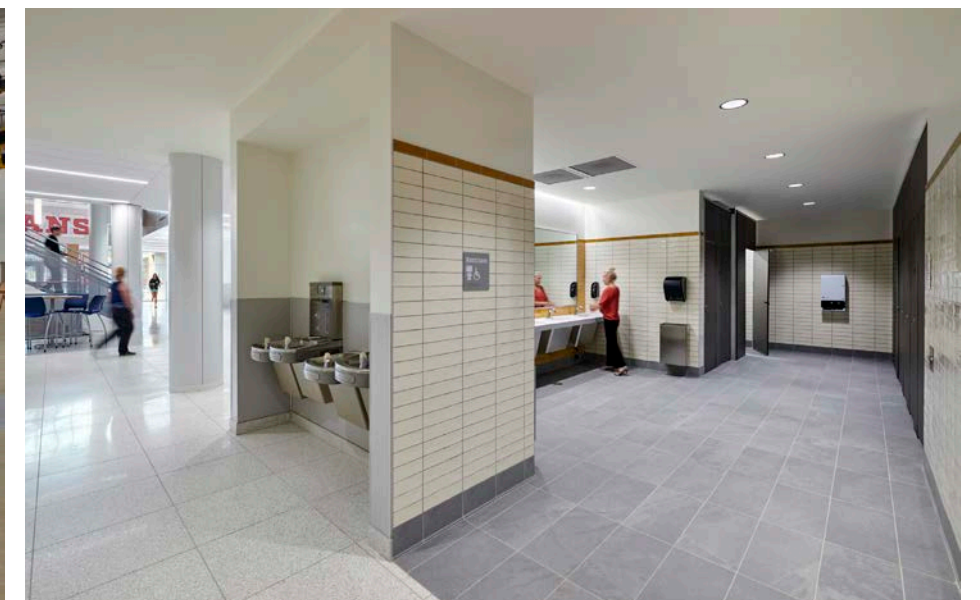
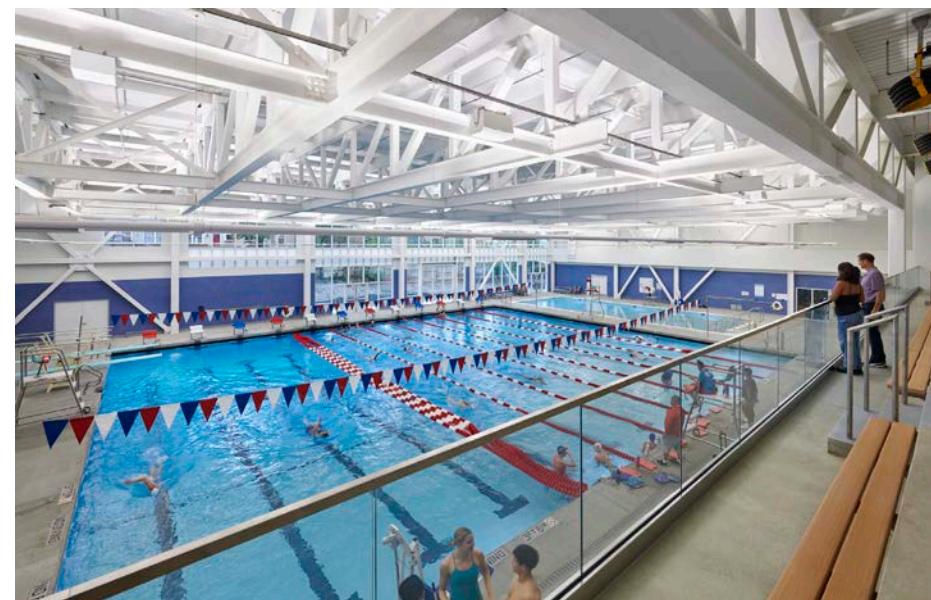
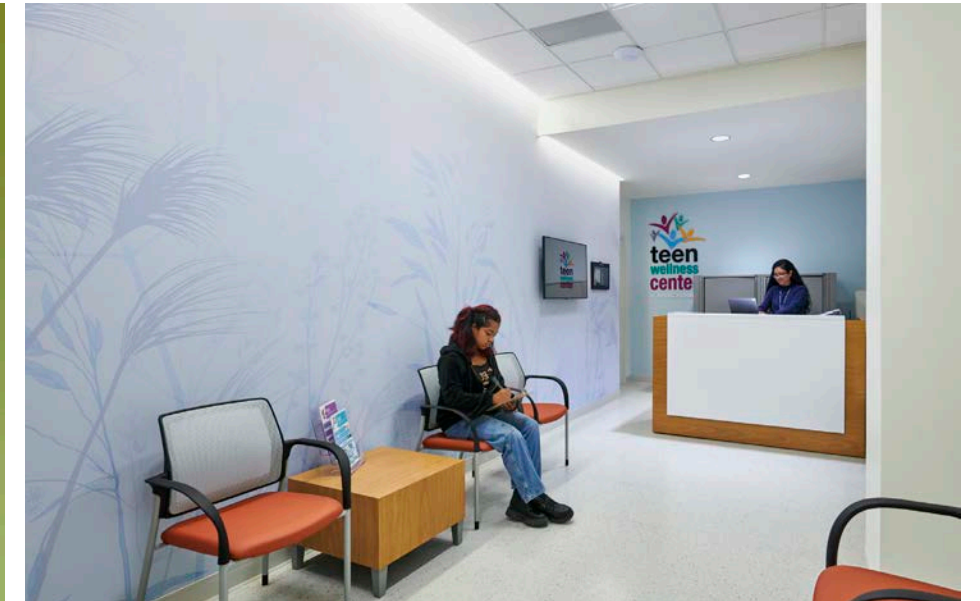
With Alexandria City Public Schools, our team proactively connected with community groups, the school and authorities, employing various virtual platforms to facilitate interactive workshops. This collaborative approach ensured the programming and design were carefully tailored to meet the needs of all its diverse users.

This iterative design process included meaningful and recurring input from:

- Students
- Faculty
- ACHS Educational Design Team
- ACPS administration
- Neighboring residents
- The broader community
- Co-located city partners
- Industry and business partners
- Approving authorities

The community played a large role in reinforcing the goal of the new campus to serve as an intergenerational community hub. To that end, the campus offers a range of public services and programs, including the state-funded Teen Wellness Center clinic, operated by the Alexandria Health Department; a city-run Youth and Family Resource Center, managed by the Department of Community and Human Services; and a 100-student Early Childhood Center featuring a Head Start program. Each program has its own dedicated public entrance, ensuring accessibility while supporting student well-being and the resilience of the greater Alexandria community. Additionally, the school is designed to welcome public use of its aquatic center, gym facilities, and athletic fields during non-school hours through the Department of Recreation, Parks, and Community Activities.

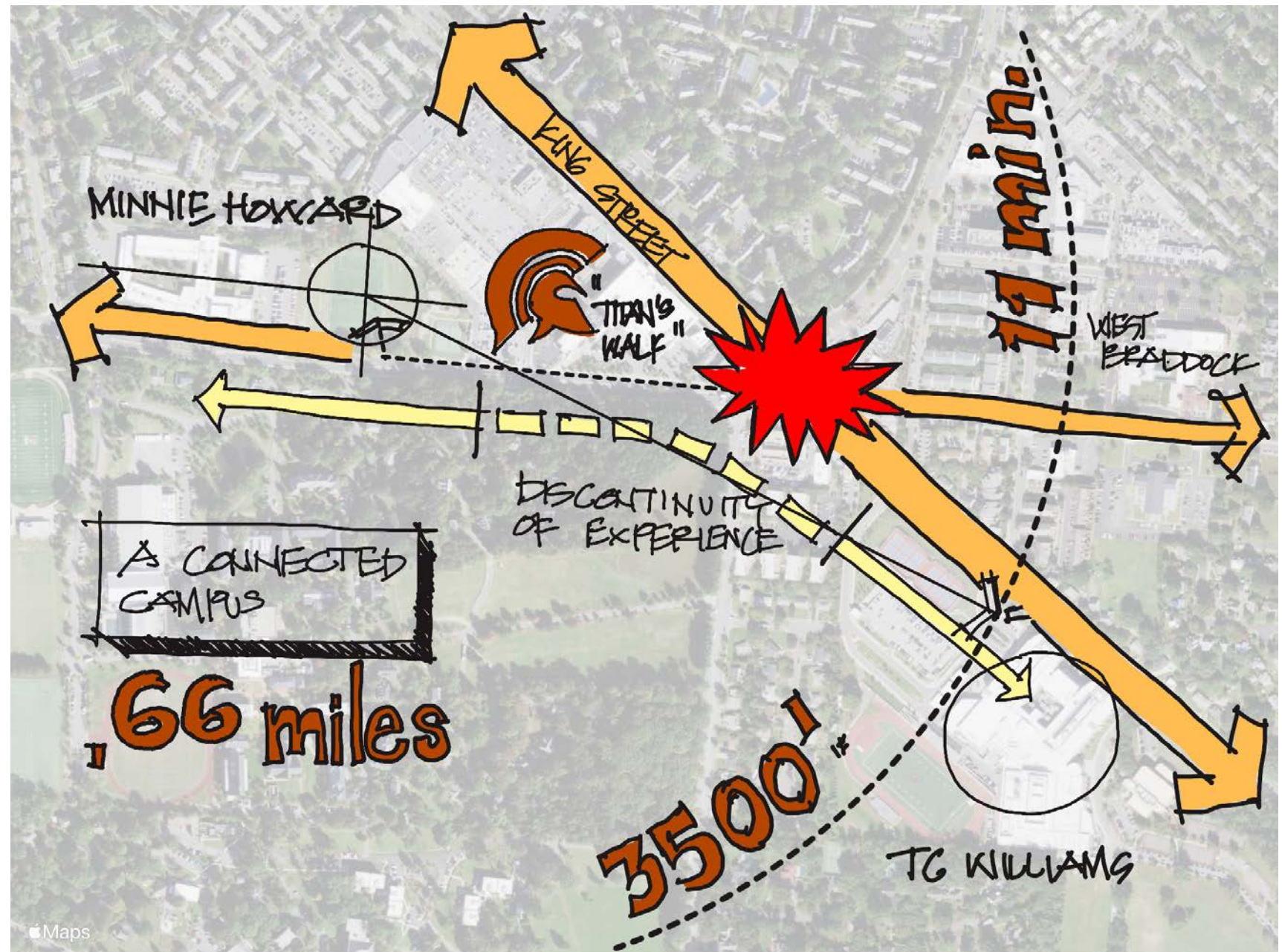
In addition to these community-focused amenities, the design also prioritizes inclusivity through gender-neutral restrooms on every floor, creating safe spaces for all students, including transgender and non-binary individuals.



Design for Equitable Communities

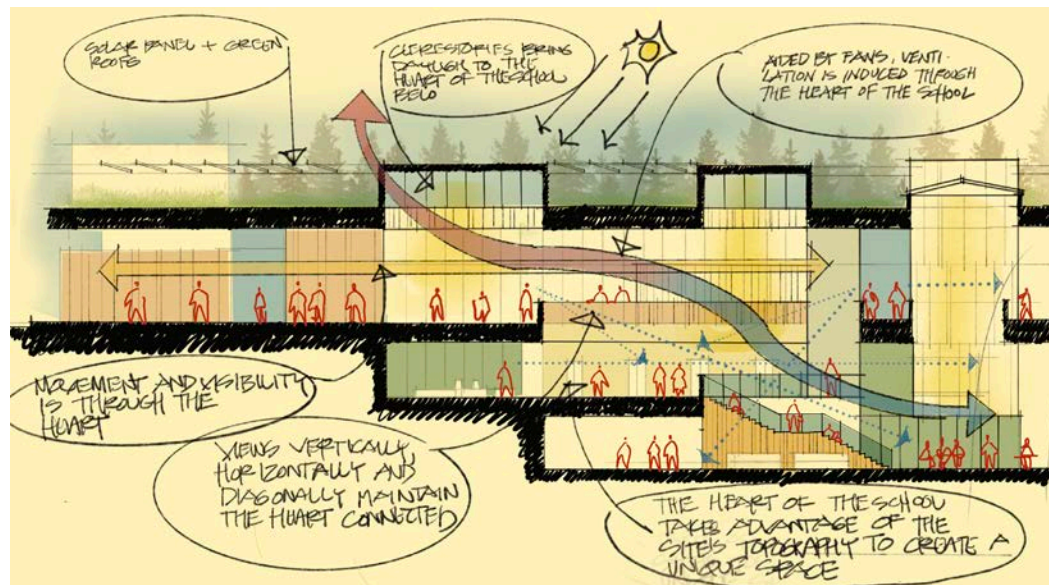
Social, economic, and environmental justice and equity are at the heart of this project, and in the very DNA of the school, as illustrated in the 2000 movie *Remember the Titans*. As the high school's enrollment was recently projected to reach 5,000, the district had to decide how to enhance teaching and learning, offer more diverse and engaging opportunities, and best serve all the city's students.

The conventional solution would have been to create a second high school. But after considerable analysis, community engagement, and deliberation over a period of more than a year, ACPS and the community decided that every student would continue to become a Titan. Rather than creating potentially segregated high schools, this innovative Connected High School Network model ensures that every high school student across the city has access to the same rich array of educational opportunities and resources provided by ACPS for their education. The renewed Minnie Howard campus expands those opportunities and enables ACPS to realize their vision and mission.

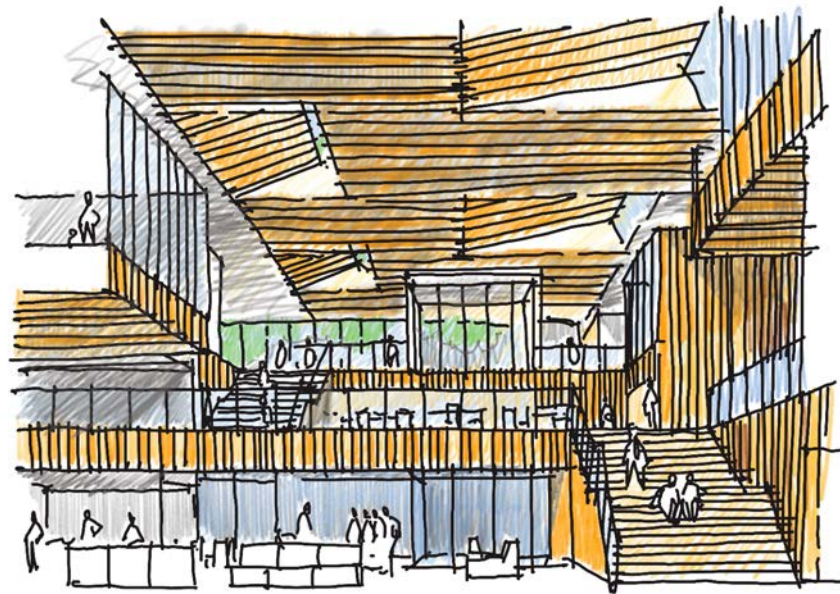


Enhancing Student Experience through the Creative Commons

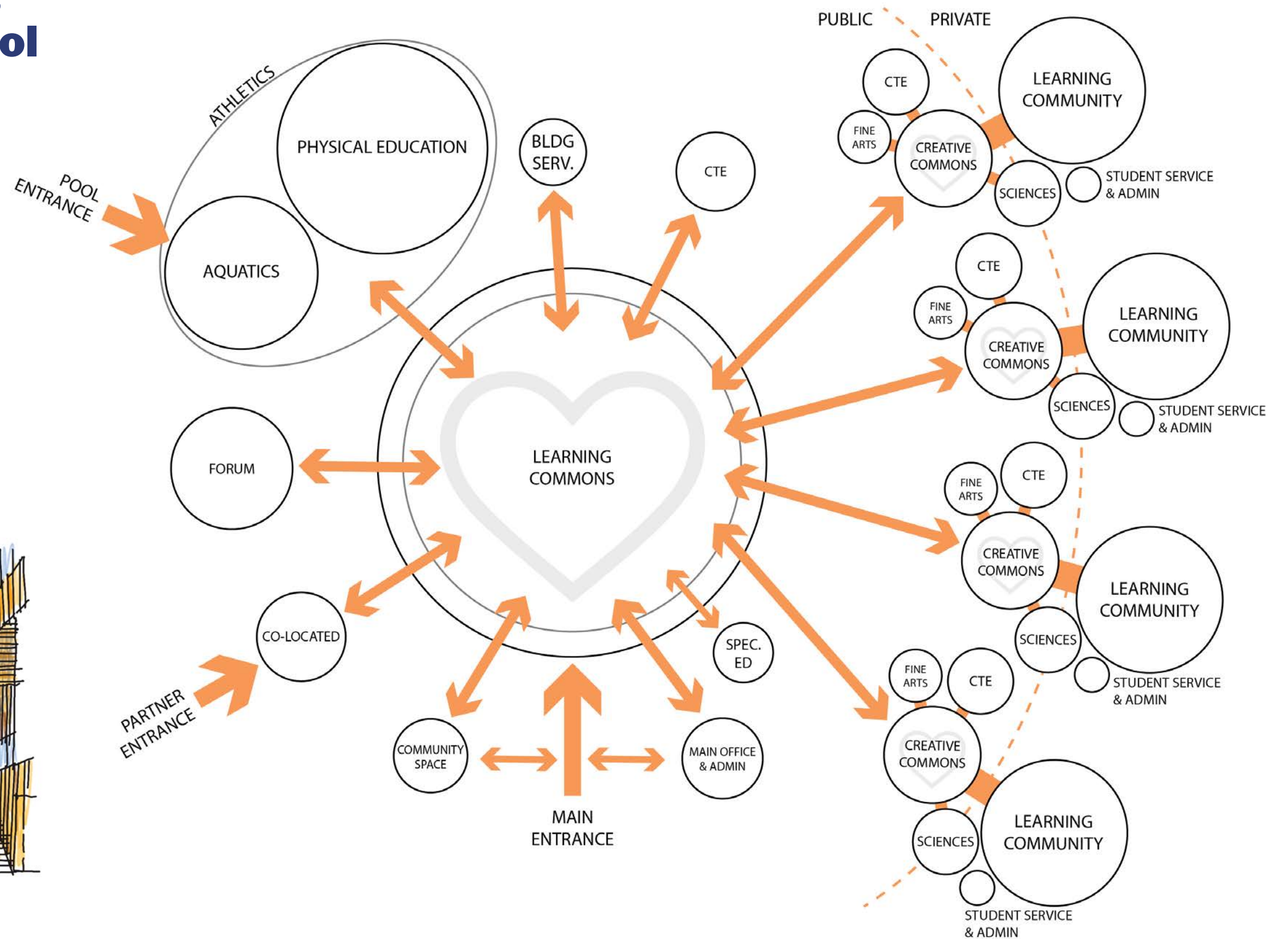
At the heart of this school for 1,600 students is the visionary multi-level “Creative Commons,” a dynamic crossroads that blends Career and Technical Education (CTE) and specialty labs with social areas and dining services, creating the centerpiece of a new student experience. By re-imagining the traditional large institutional cafeteria, smaller, more welcoming dining areas and serveries have been distributed across every level of the building, creating more inviting, restorative spaces for students to gather and socialize during meals. After mealtimes, dining becomes extended learning environments, enabling surrounding Career and Technical Education (CTE) and specialty labs to open directly out into the space. This innovative approach not only enhances student engagement but also ensures that every square foot of the building remains active throughout the day.



Learning Commons is the Heart of the School



THE HEART OF THE SCHOOL



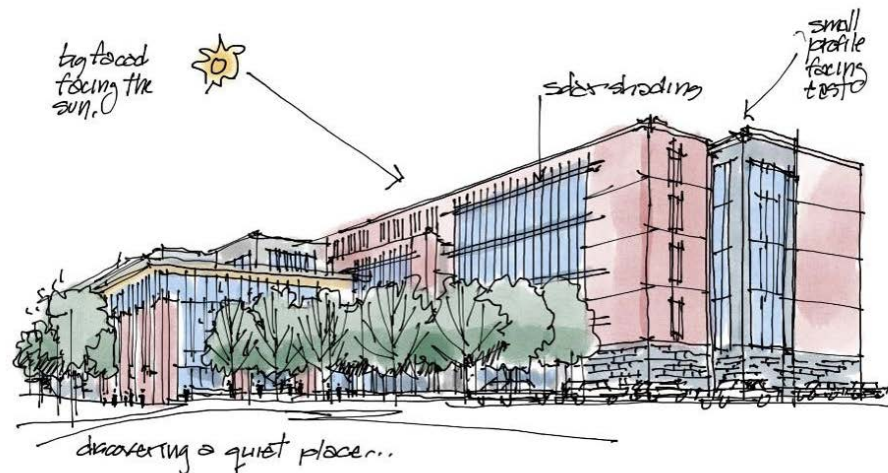
PHYSICAL ENVIRONMENT

Indoor Environmental Quality: Achieving Net Positive Education

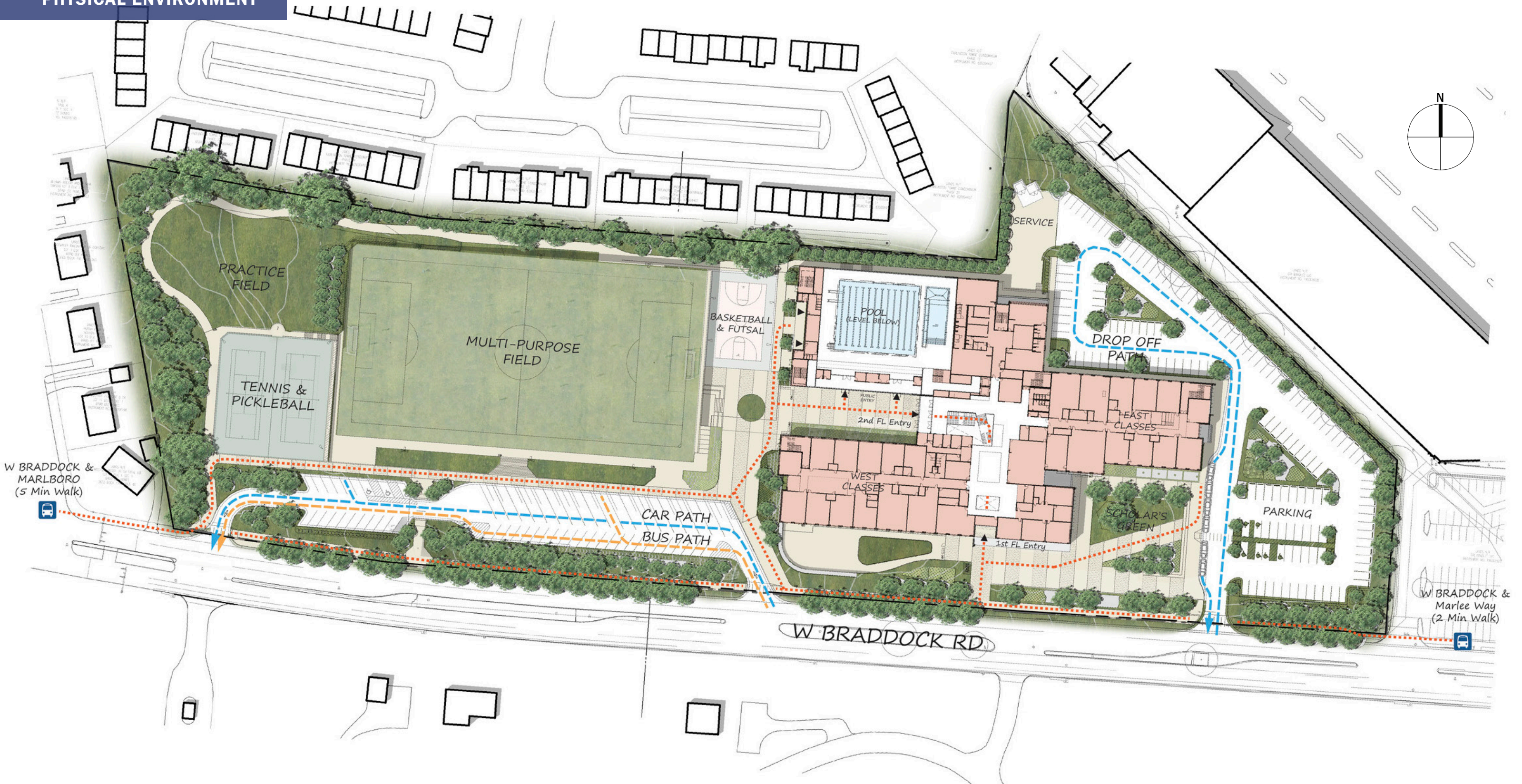
The building design prioritizes both physical and mental well-being, creating an environment that supports enhanced student outcomes and long-lasting success. What we have defined as “Net Positive Education.”

From the very beginning of the process, the building was oriented to optimize daylight and reduce heat gain and glare. This was complemented by daylight modeling that derived a window-to-wall ratio of 24%. This window-to-wall ratio factored into the design and construction of a high-performance building envelope that enhances thermal comfort through continuous insulation, dramatically reduced infiltration, and by eliminating thermal bridges. Indoor air quality has been optimized with MERV 13 filtration and a demand-controlled ventilation system that increases airflow when CO2 levels rise.

In addition to daylight, thermal comfort, and air quality, acoustic performance was carefully considered to optimize the learning environment for all users. Enhanced acoustics are particularly critical to support students with the school’s English Language Learners. Strategies included limiting HVAC background noise to below 40 dBA and incorporating sound-absorbing surfaces to improve speech intelligibility in classrooms. Material health was also a top priority. To reduce exposure to VOCs and minimize environmental impact, rubber flooring was chosen over vinyl, and low-VOC finishes, paints, and adhesives were used throughout the school.



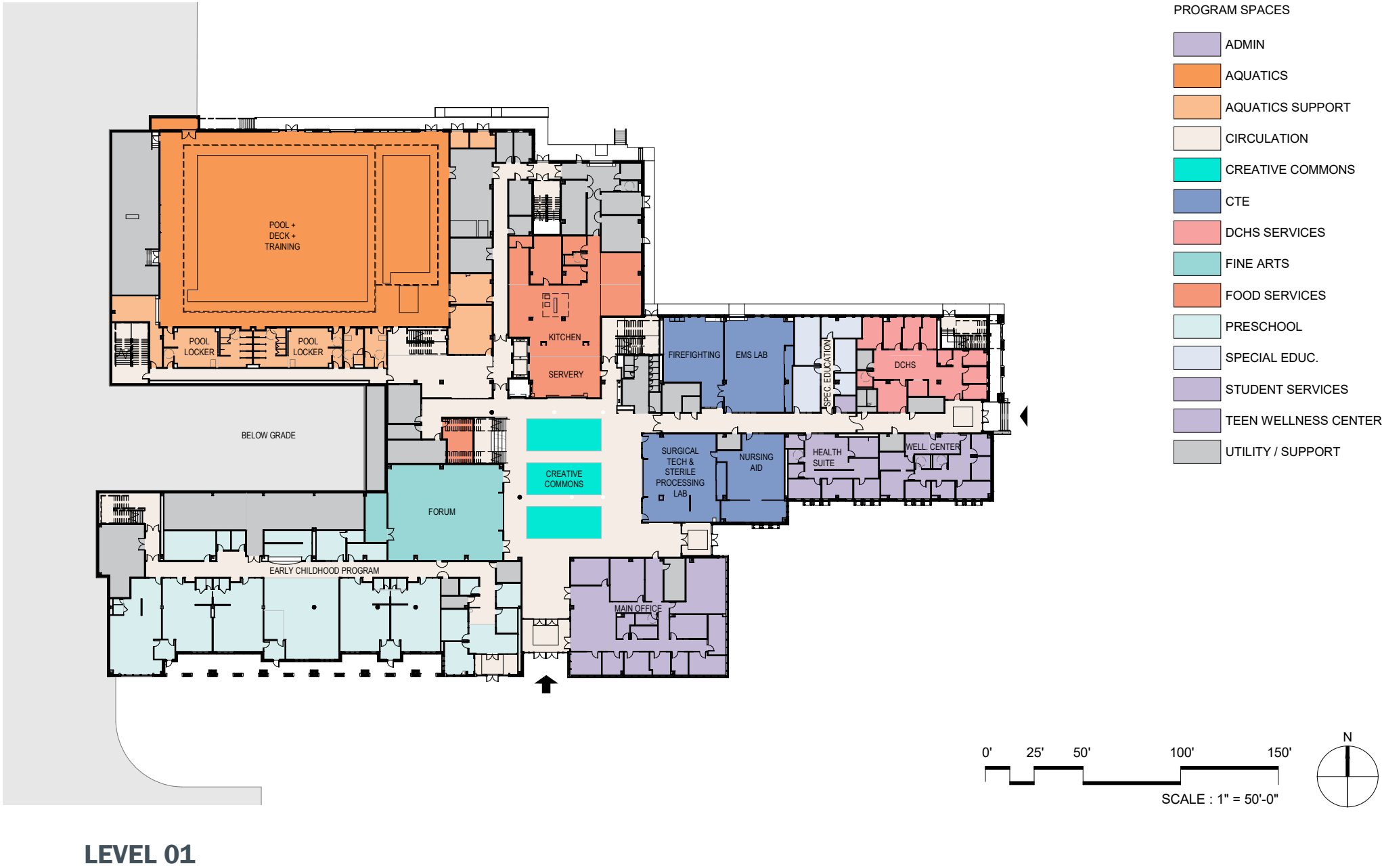
PHYSICAL ENVIRONMENT



Site Plan

The new building replaces a former elementary school that had been repurposed as the high school's nine-grade academy. The renewed campus expands opportunities for students across the Connected High School Network (CHSN).

Floor Plans

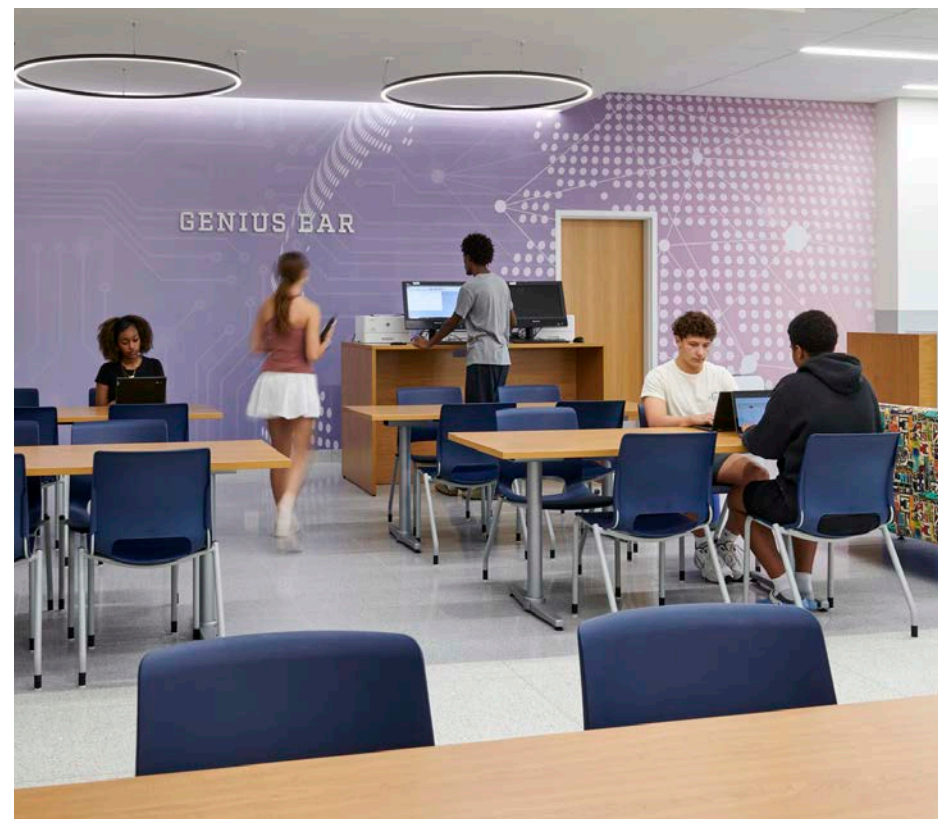


Active, Flexible, Experiential

For several years, ACPS has been committed to developing a more active and experiential curriculum and pedagogy for the high school to enhance students' opportunity, experience, and retention. ACPS' Educational Design Team (EDT), comprised of forward-thinking members of the school and district leadership, worked hand in hand with the design team to create an environment that would allow for continued evolution and innovation over time.

A diversity of spaces — seminar, classrooms, large class labs, and an array of adaptable science, art and CTE spaces — provide for multiple modes of learning. Distributed administrators and counselors also allow for a variety of organizational strategies over time.

Extended learning spaces allow for every square foot of the building to be activated as educational space.



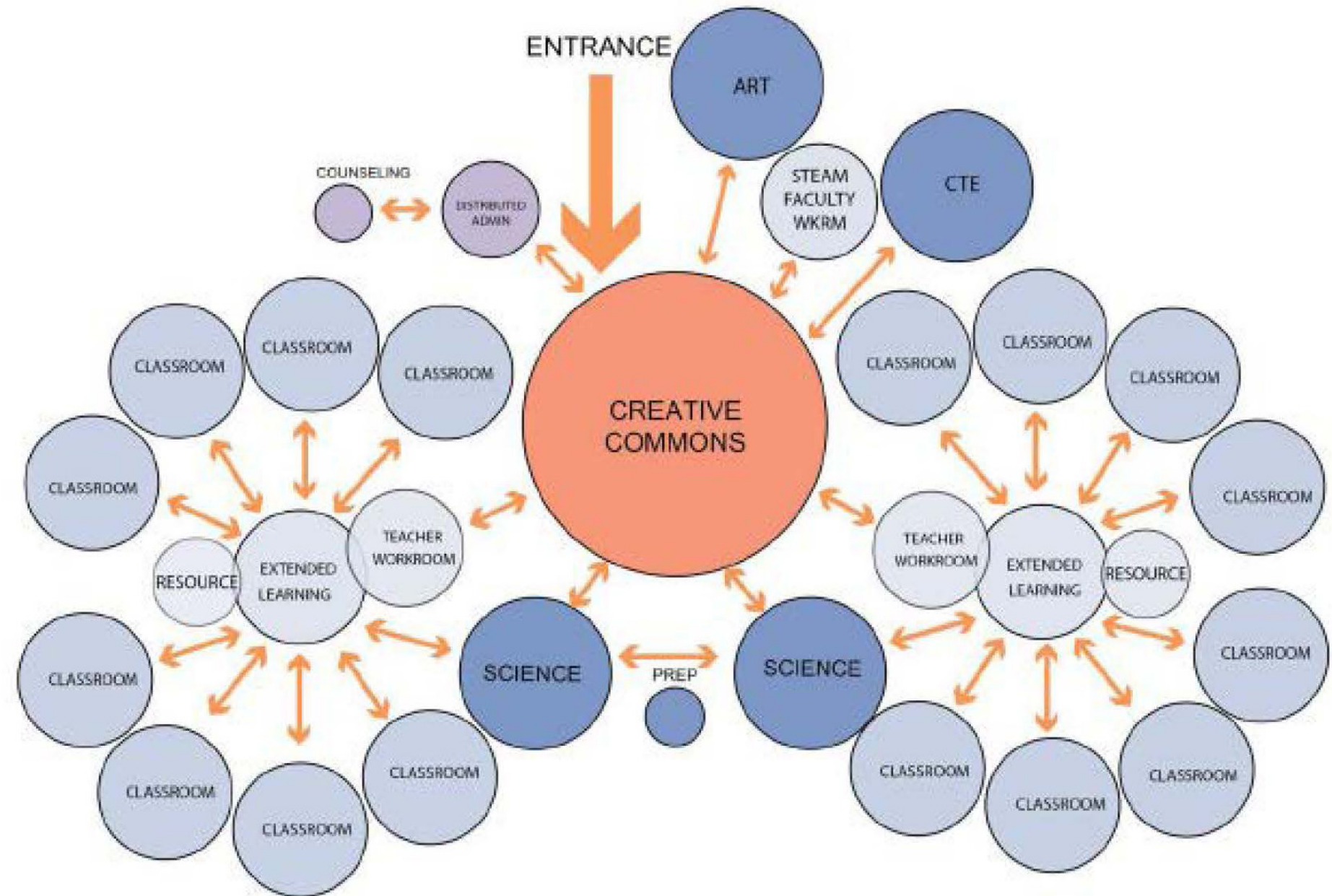
Small Learning Communities

Two 200-student classroom neighborhoods, featuring:

- Flexible classrooms
- Resource classrooms
- Extended learning space
- Faculty collaboration / office space
- Small group conference room

A “Creative Commons” featuring:

- Distributed dining with server
- A CTE lab
- An art studio
- Science labs
- Faculty collaboration / office space
- LC administration and distributed counselor offices



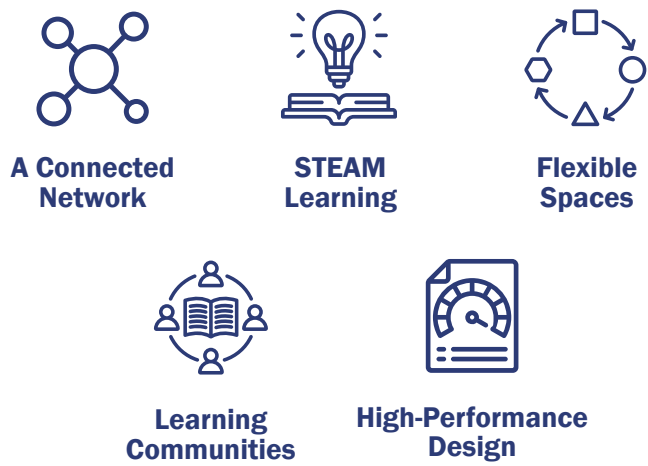
Providing New Pathways to Career & Technical Education

As part of the Connected High School Network (CHSN) concept, ACHS' Minnie Howard campus realizes this vision by providing both additional capacity and programmatic resources to expand the possibilities for all high school students across the city. In addition to classrooms for traditional academic curriculum, the school design celebrates enhanced Career and Technical Education (CTE) pathways, with links to local industries in fields like renewable energy, aerospace, cyber-security and surgical tech, as well as expanded physical and mental health student support services provided by the schools and the city. Unlike in the past, when CTE programs were often relegated to an obscure location such as the back of a school, this design places CTE programs right in the heart of the school in studios and labs that visually and physically open up in the "Creative Commons." Students who may not have considered CTE offerings may be intrigued by seeing a drone flying overhead, mock surgeries, first responders, and robots. The design encourages students to engage in meaningful learning and enhance students' learning experiences.



Lunching & Learning Everywhere

Aligning with ACPS recommendations and best practices in Next Generation school design, the Minnie Howard Campus Design Patterns shaped its development under 5 key themes:



A key design solution that came from the Design Patterns: The Creative Commons supports the new “Community Lunch and Learn” (CLL) block, allowing students to eat, socialize, and access support services. As the heart of the school, it reimagines cafeteria space into an active learning hub, maximizing every square foot for collaboration, engagement, and extended learning throughout the day.

FIFTH FLOOR

FOURTH FLOOR

THIRD FLOOR

SECOND FLOOR

FIRST FLOOR



Central to the design is the Creative Commons—an atrium that rises through every level. This layout transforms the traditional style cafeteria by offering dining across all five floors while underscoring the school’s commitment to more active and experiential learning.

Achieving Educational Goals

The new 343,410 GSF Minnie Howard Campus is a direct embodiment of the ACPS 2020–2025 Strategic Plan: Equity for All, which seeks to deliver a personalized, equitable, and future-ready educational experience for all students.

Guided by the ACPS Educational Design Team (EDT), the project reflects a bold reimagining of the high school experience through the following core priorities:

- **Personalized Learning through Smaller Learning Communities**

The school is structured around academy and pathway models, enabling students to pursue coursework aligned with their interests and aspirations. This approach fosters engagement, ownership of learning, and a strong sense of community.

- **Integration of 21st-Century Skills**

The curriculum emphasizes the development of critical thinking, creativity, collaboration, and communication—skills essential for success in college, careers, and civic life.

- **Flexible and Interdisciplinary Learning Environments**

Interdisciplinary and project-based learning are supported by adaptable spaces that mirror real-world settings and encourage experiential learning.

- **Equity and Inclusion**

Central to the EDT's mission is ensuring every student, regardless of background, has access to high-quality, inclusive educational opportunities.

These priorities are fully realized in the new Minnie Howard Campus, which advances educational goals through its intentional design and programming:

- **Academy Model Implementation**

The campus supports newly established academies that allow students to engage deeply in specialized pathways aligned with their passions and future plans.

- **Innovative Learning Spaces**

State-of-the-art, flexible classrooms and collaborative environments support active, hands-on, and interdisciplinary learning experiences.

- **Enhanced Capacity and Resources**

With a capacity of up to 1,600 students, the facility includes CTE labs, an aquatics center, and other specialized resources that broaden access to academic and enrichment opportunities.

- **Sustainability and Wellness Focus**

Designed to achieve Net Zero Energy performance, the campus reinforces ACPS's commitment to sustainability, promotes student wellness, and functions as a living laboratory for environmental education.





Achieving District Goals

The new campus advances the broader objectives of the Connected High School Network (CHSN), a district-wide initiative to rethink how ACPS delivers high school education. In doing so, it addresses overcrowding, supports a growing student population, and reflects the district's core values—Welcome, Empowerment, Equity, Innovation, and Results—as articulated in the Equity for All 2025 Strategic Plan. Together, these efforts promise a more integrated, equitable, and future-ready high school experience.

Achieving Community Goals

Beyond academic excellence, the new Minnie Howard Campus serves as a hub for student and community well-being. Through partnerships with the Alexandria Health Department, Department of Community Health Services, and the Department of Recreation, Parks & Cultural Activities, the campus provides access to health, wellness, and recreational services. These resources ensure students are ready to learn and the broader community has space to connect, heal, and thrive.

Unintended Results and Achievements

As the new facility completes its first year in operation, the work of the EDT continues. They have:

- Developed a team of progressive faculty to explore, define, and model how to best leverage the affordances—engagement, transparency, adjacency, collaboration—of the building's academic neighborhoods.
- Continued to refine the schedule across the academic schedule to further integrate the campuses and enhance the students experience
- Redefined the academies to build upon the opportunities presented by the new building

The Senior Campus Administrator has shared that behavior has been enhanced by the new building since people engage more actively in the building and the transparency has enabled people to see and be seen throughout. The Director of Career and Technical Education has also reported that enrollment in pathways, like nursing, have greatly increased. These and other impacts will be further explored in a Post-Occupancy Evaluation.



Value and Good Stewardship

As a public school, the design considers upfront costs against long-term operating costs. For example, by balancing economic considerations through investment in a high-performance building envelope and geothermal and photovoltaic systems, the life-cycle operational cost is reduced while creating a high-performance learning environment. Analysis demonstrated that the geothermal system achieved the lowest life cycle cost, even before the incentives of the Inflation Reduction Act. The design team performed energy modeling during design to better understand which strategies would most effectively reduce energy use.

Originally the team had anticipated highly insulated walls to achieve net zero energy goals, but this analysis showed that an effective R-24 wall assembly was sufficient to minimize energy use. The modelling demonstrated that exceeding this level of performance would adversely increase first cost and embodied carbon, without significantly enhancing energy conservation. Finally, durable materials and the simple HVAC systems—geothermal heat pumps—were selected to facilitate maintenance and reduce the life-cycle operational cost.



Sustainability + Wellness

Achieving net zero energy (NZE) and creating a healthy, high-performance learning environment were synergistic goals throughout the process.

To meet NZE, the design team set an ambitious energy budget for the campus which was made even more ambitious by the large aquatic facility. No indoor aquatic center had achieved NZE due to the energy intensive systems required. From the very first sketch, the design has been optimized to reduce energy by ensuring proper solar orientation, maximizing natural daylight while minimizing heat gain and glare. As the design developed, a high-performance building envelope, a conservative window-to-wall ratio and exterior shading systems that incorporate photovoltaic arrays continued to optimize the building's performance. Additionally, the site's existing renewable geothermal system was significantly expanded to reduce reliance on mechanical heating and cooling.

Energy and daylight analysis was conducted throughout the process to optimize natural light while minimizing energy consumption. Careful consideration was given to balancing window-to-wall ratio, glazing properties, shading strategies, and overall envelope performance.

Most importantly, in conjunction with a focus on enhanced acoustics, ventilation, and thermal comfort, these strategies all contributed to significantly enhanced Indoor Environmental Quality, creating a powerful synergy between NZE and Net Positive Education.

All of these measures result in a learning environment that promotes health, well-being, and lifelong learners!





“As I stand here my heart is full, knowing that this building is not just a structure, but a symbol of our commitment to ensuring the equitable access to the best education for every student in Alexandria. It’s a place where dreams will be nurtured, talents will be cultivated, and opportunities will abound for years to come.”

ALICIA HART
ACPS CHIEF OPERATING OFFICER



