



Ayer Shirley Regional High School

*Transforming a
Late Modern American
High School
Ayer, MA*

A4LE 2016 Exhibition of School
Planning and Architecture
Category of Entry: Renovation

Transform

Verb: *trans-fawrm*

1. to change in form, appearance, or structure; metamorphose

Community & Environment

Planning for the Future:

The towns of Ayer and Shirley on Massachusetts's northern boarder faced precipitous student enrollment declines with the closure of Fort Devens army base ten years ago. The two towns came together to form a new district and share resources and to maintain a critical mass of students. Many students have used alternative school choice options to attend out of district schools, so a simple face-lift renovation would do little to change the current educational culture. Where the original 1960 building once housed over 1,000 students the new grade 9-12 population is planned for 460 students.

We conducted over 50 Meetings in both communities – reaching out to various stake holders particularly as a new vision emerged for Ayer Shirley Regional High School



View of service court from parking lot

Transform

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Community & Environment

Challenging the notion to simply renovate a 50 year old building, the design team asked, “how can we remake schools from another era to inspire teachers, engage students, and embrace the two communities?”

Inspiring Teachers:

Program integration and collaboration that was previously unattainable will now be a daily element in teacher and student life.

Engaging the Student:

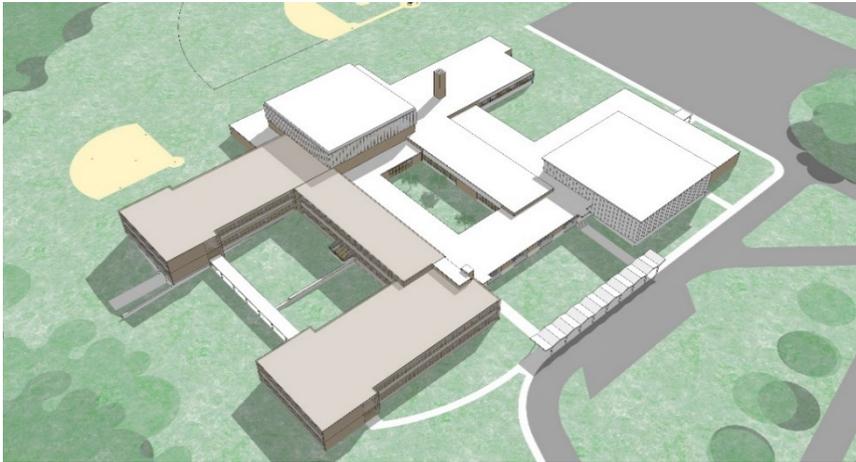
- Visibility to all learning spaces
- New connections:
 - Art : Media
 - TV Studio : Commons/Auditorium
 - LGI : Sciences and Humanities
 - Music : SPED

Embracing the Community:

A new district: By treating the site as a campus, open pathways and connections are formed from early education through grade 12.



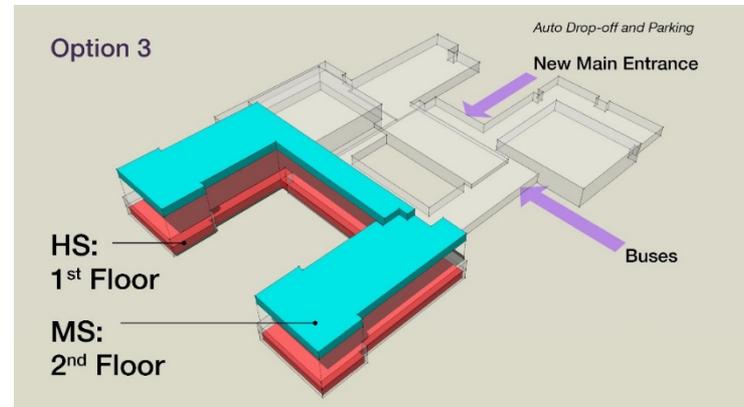
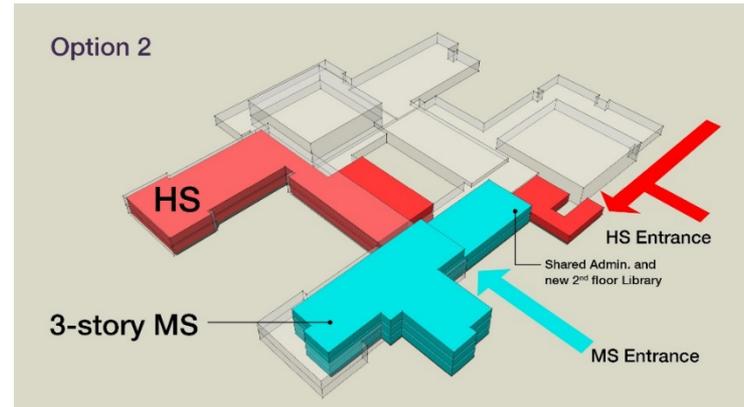
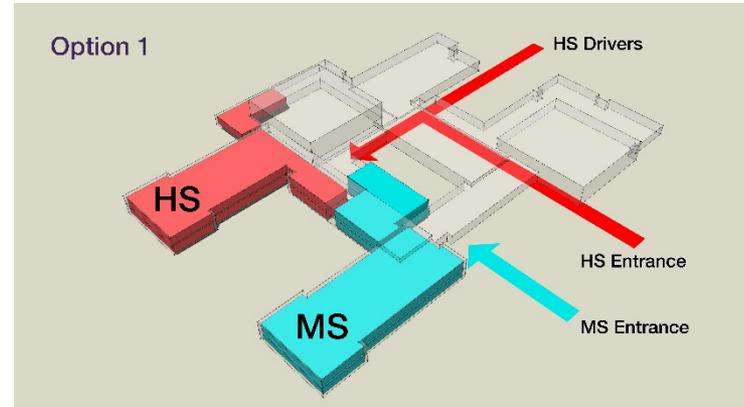
New entrance court facing the redesigned parking lot and Page Hilltop Elementary School

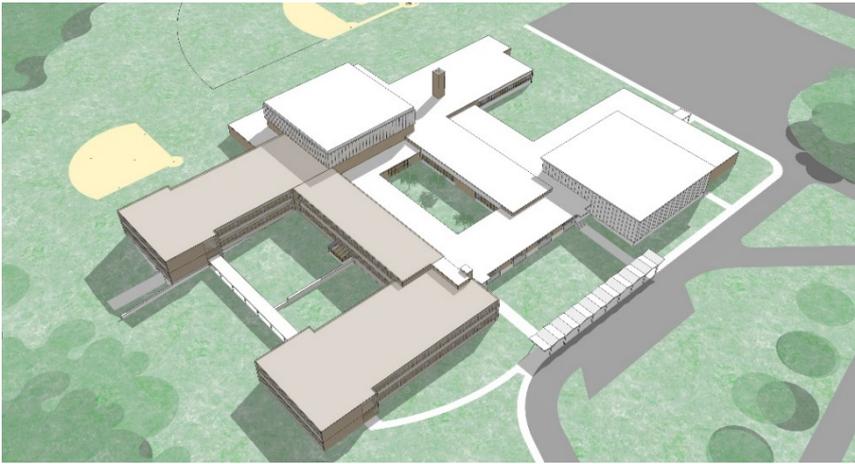


Existing

The Planning Process and Community Engagement:

The state's school building authority had prescribed a combined middle and high school to increase the building's total population. Through an intense but detailed parallel master plan, we convinced the communities to rethink the logic of this assumption. By thoroughly analyzing the physical attributes of the buildings and then stepping back and reviewing the District's entire portfolio of schools, it was determined each town would have one K-5 Elementary School, Shirley would maintain the more recent grade 6-8 team teaching Middle School, and Ayer would house the High School.





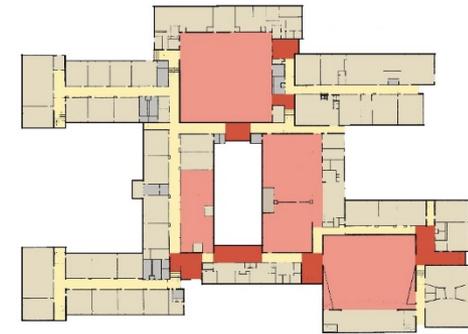
Existing

The Planning Process and Community Engagement:

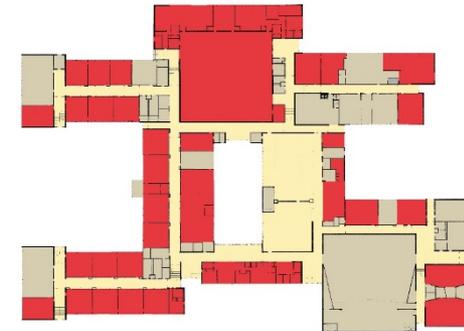
Understanding the building's physical attributes and their potential impacts on learning was a key to creating a true 21st Century plan concept

- Assembly Spaces: scattered across various levels and each with their undersized lobby and entrance
- Undersized Spaces: the 1950's era school's general academic spaces as analyzed relative to the MSBA space criteria
- High Bay Spaces: low slung 1950's buildings are often hard to integrate modern systems. Locating and evaluating taller structural rooms is important for addition/renovation studies

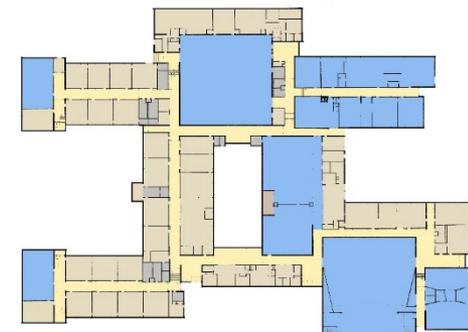
The result saved the state and communities over \$20 million while allowing for a transformative & comprehensive solution



Assembly Spaces and Lobbies



Undersized Spaces

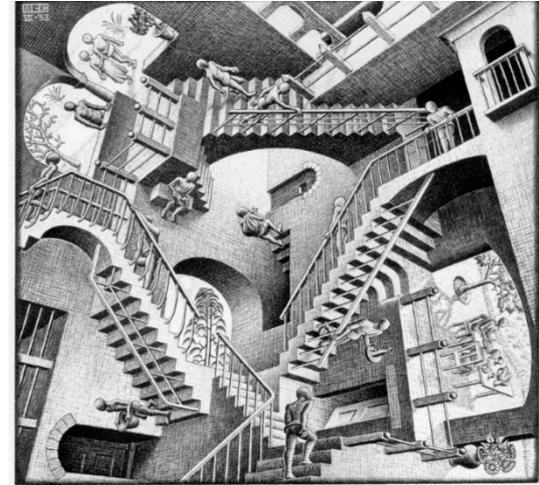


High Bay Spaces

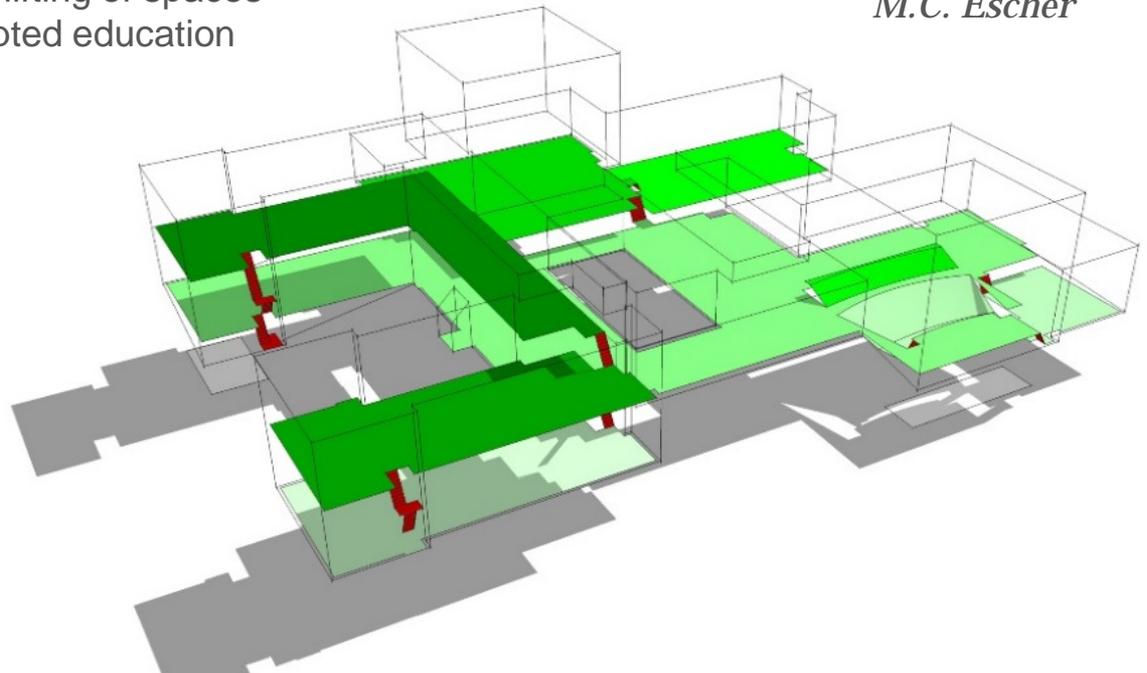
Physical Environment

Small undersized spaces on eight distinct levels, separated by narrow corridors and an underutilized open air courtyard with isolated community use spaces and tiny lobbies divided the student body and after hours public uses, making the building hard to navigate and supervise. The poor condition and environment has led to over 100 students choosing alternative out of district school options

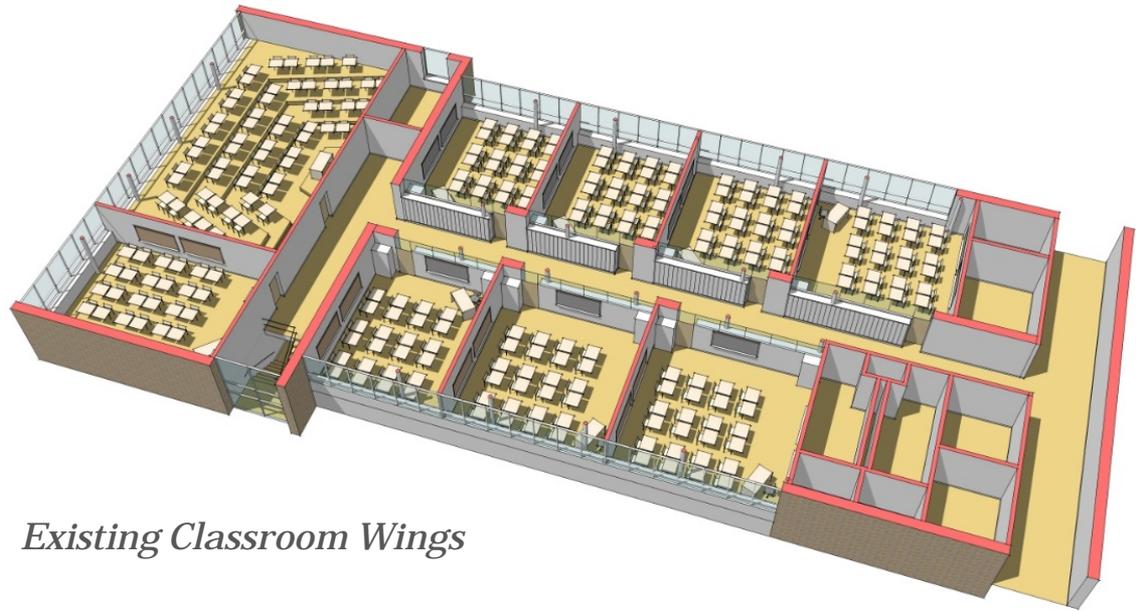
The building remained occupied during construction, requiring careful shifting of spaces to allow for seamless, uninterrupted education



M.C. Escher

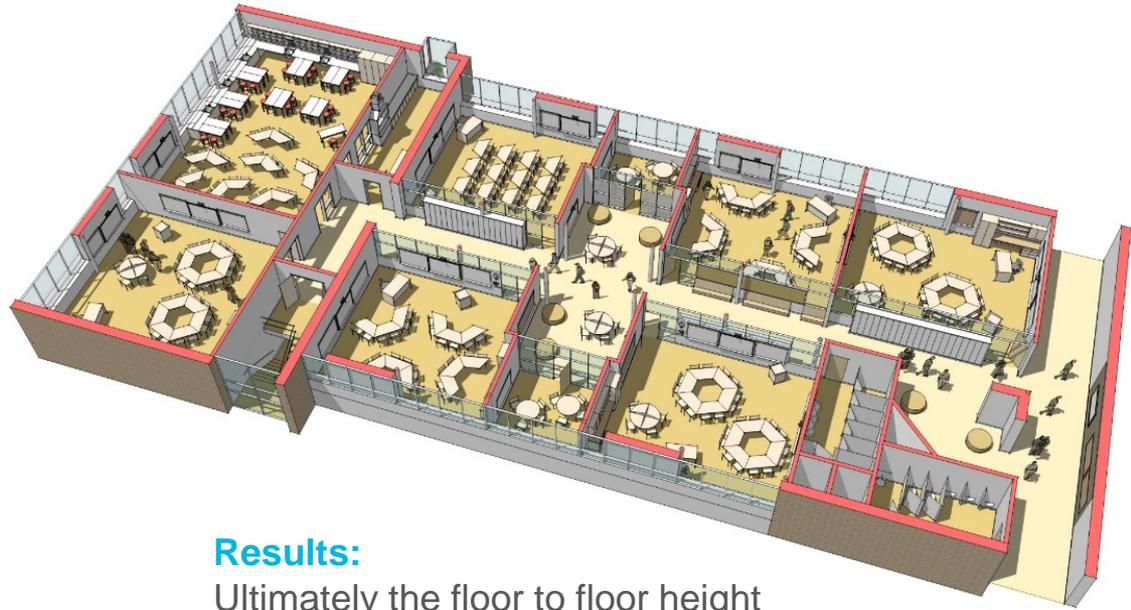


Learning Environment: 20th Century Spaces



Existing Classroom Wings

Learning Environment: 21st Century Spaces



Goals:

Create Opportunities:

Multiple spaces for pupil and adult interactions. Corridor learning commons, Teacher planning centers, Small group rooms and larger Flexible classrooms with four Teaching surfaces, Flexible, mobile furniture systems

Results:

Ultimately the floor to floor height and other physical building conditions limited the ability to create dynamic disciplinary adjacencies and led to the demolition of the classroom wings.

These studies provided guidance and direction for the eventual new classroom pod plan concept later developed with educators and staff.

Physical Environment

Sustainability:

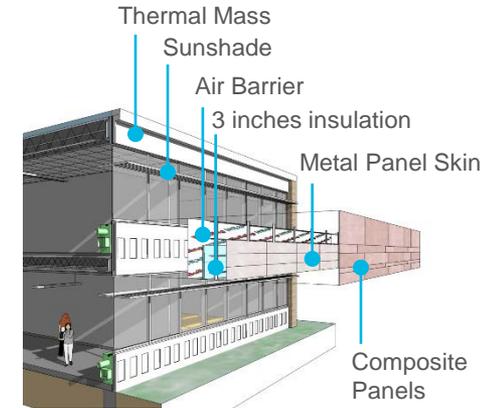
Building Systems and Envelope:

The most sustainable building is a renovated building - provided its environmental and energy consumption characteristics are improved!

- Recladding most of the façade provided a better than code performing skin & LEED Silver targets are anticipated
- Replacing antiquated thru-wall air ventilation systems with roof top 100% fresh air systems have improved air quality, temperature control, and energy performance



Before



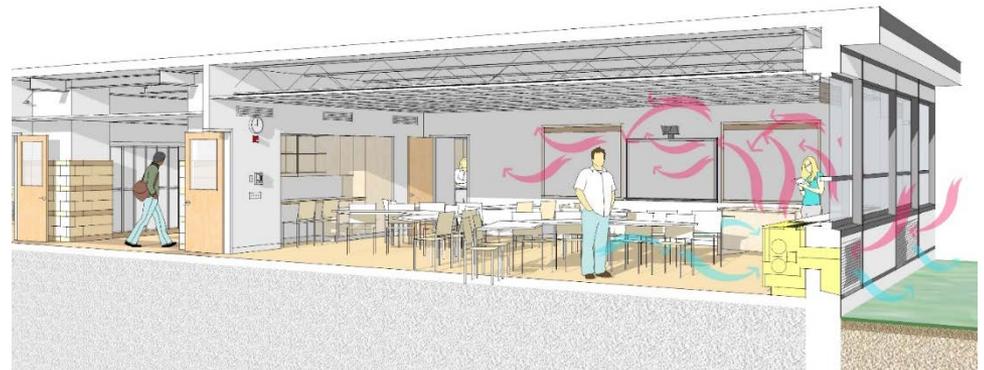
After



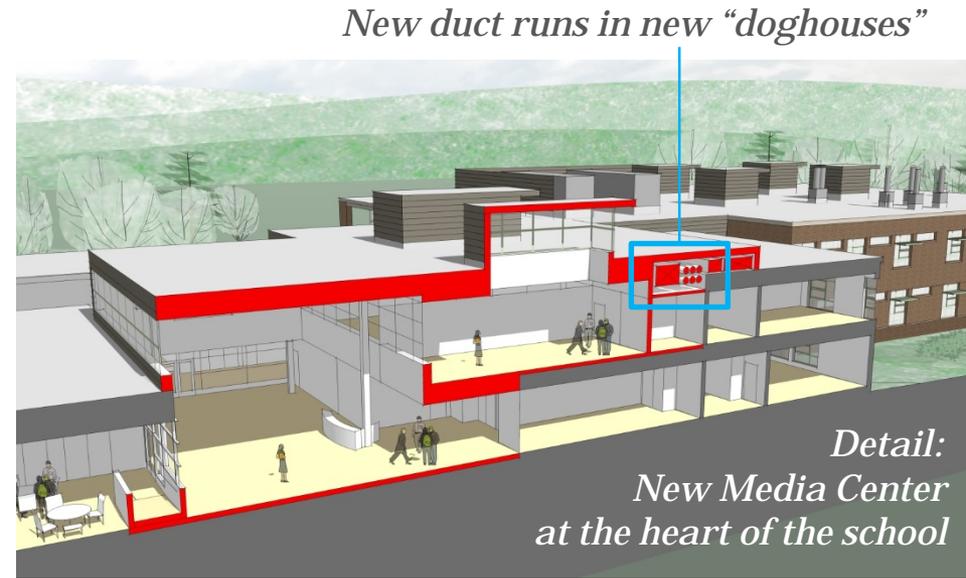
Physical Environment



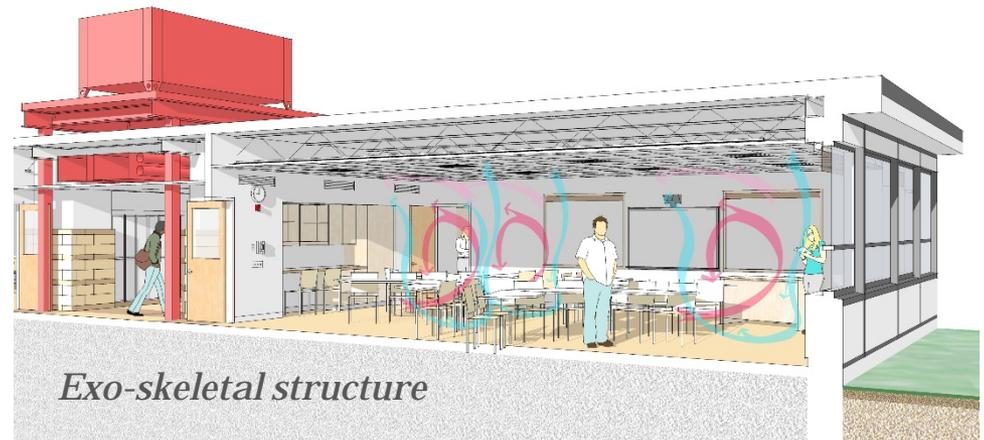
11'-10" floor to floor height with no plenum space



Physical Environment



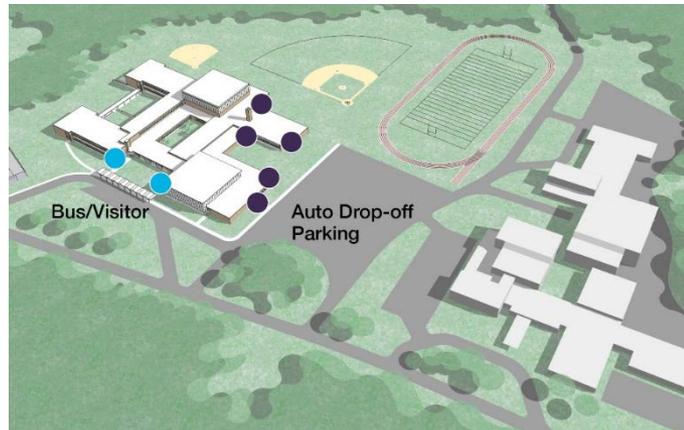
Relocating the main entrance to a western exposure and infilling the open air courtyard have all been responsive to New England’s harsh winter climate, security concerns, and improving the school’s visual image within the communities.



Site Plan

● New Main Entrance

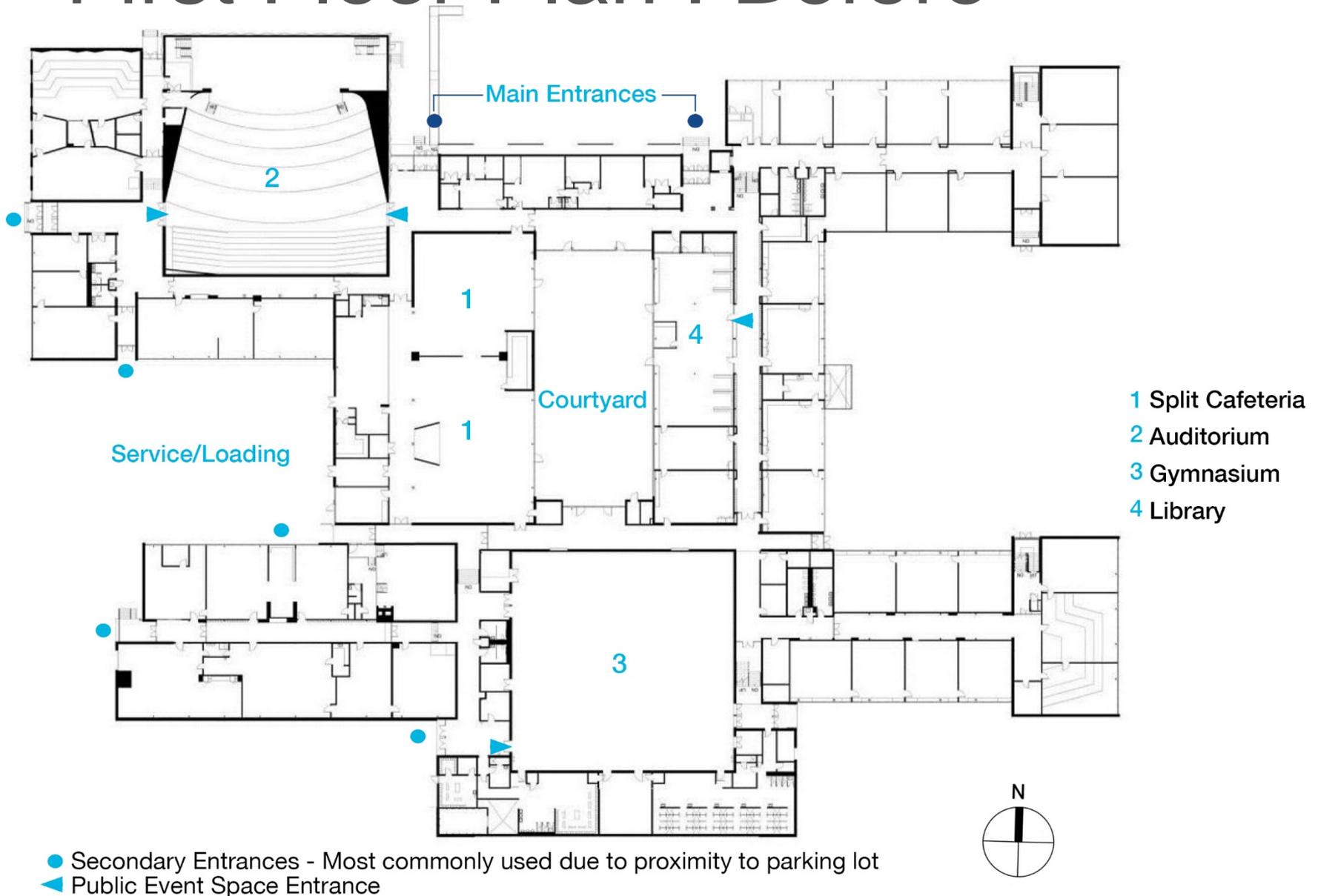
1. New multi-discipline classroom pod replaced two dead-end double loaded corridor wings
2. Courtyard infill Media Center and Arts at heart of School
3. Addition – Performing arts program closely aligned with academic wing – fully realigned STEAM environment
4. New Commons connects Auditorium, Gymnasium, and Media Center – the new social heart of school
5. Outdoor classroom
6. Page Hilltop Elementary School



New

Existing

First Floor Plan : Before



New First Floor Plan

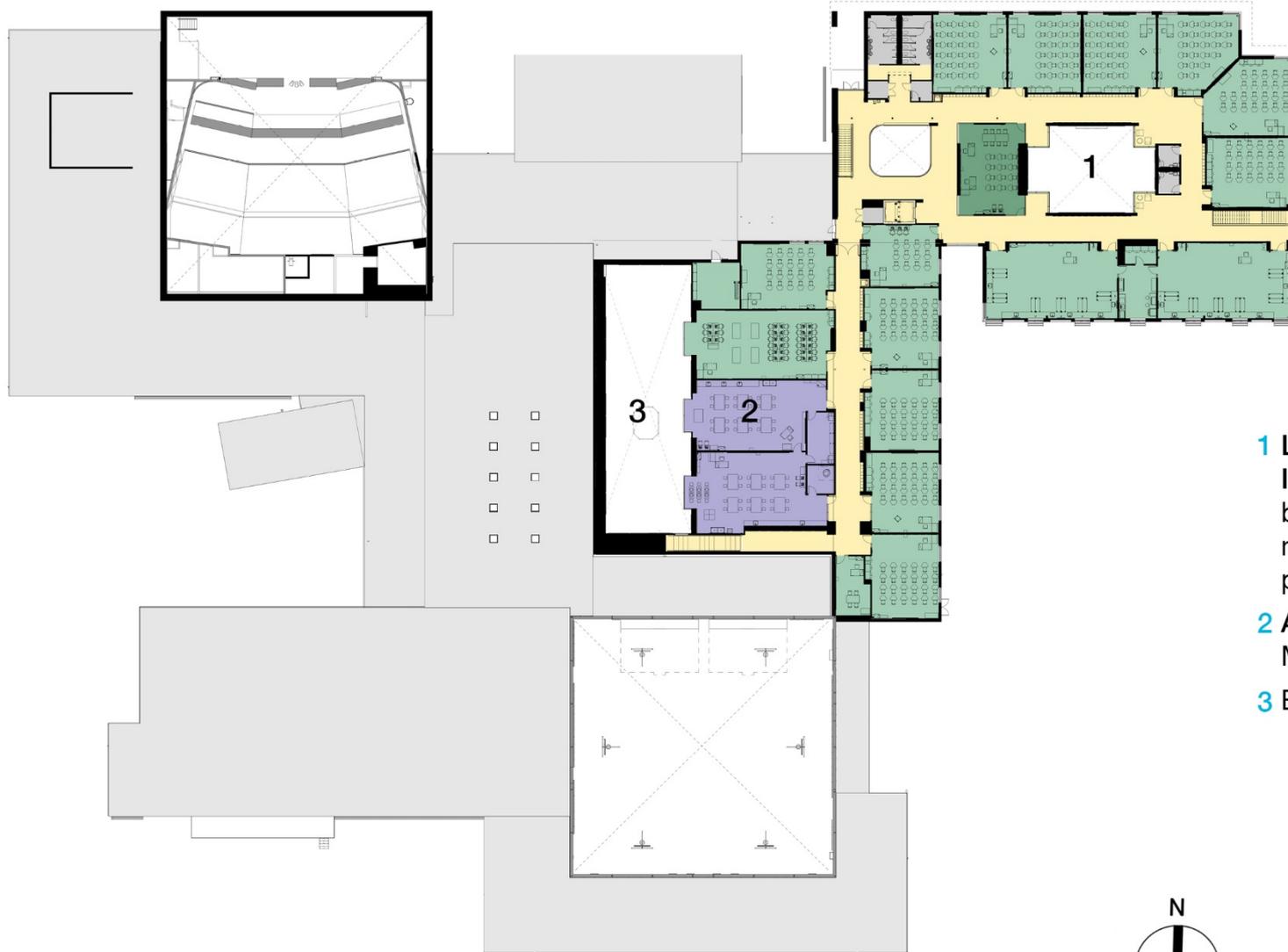


- 1 Dining Commons
- 2 Auditorium
- 3 Gymnasium
- 4 Media Center

- New Main Entrance
- ▲ Public Event Space Entrance



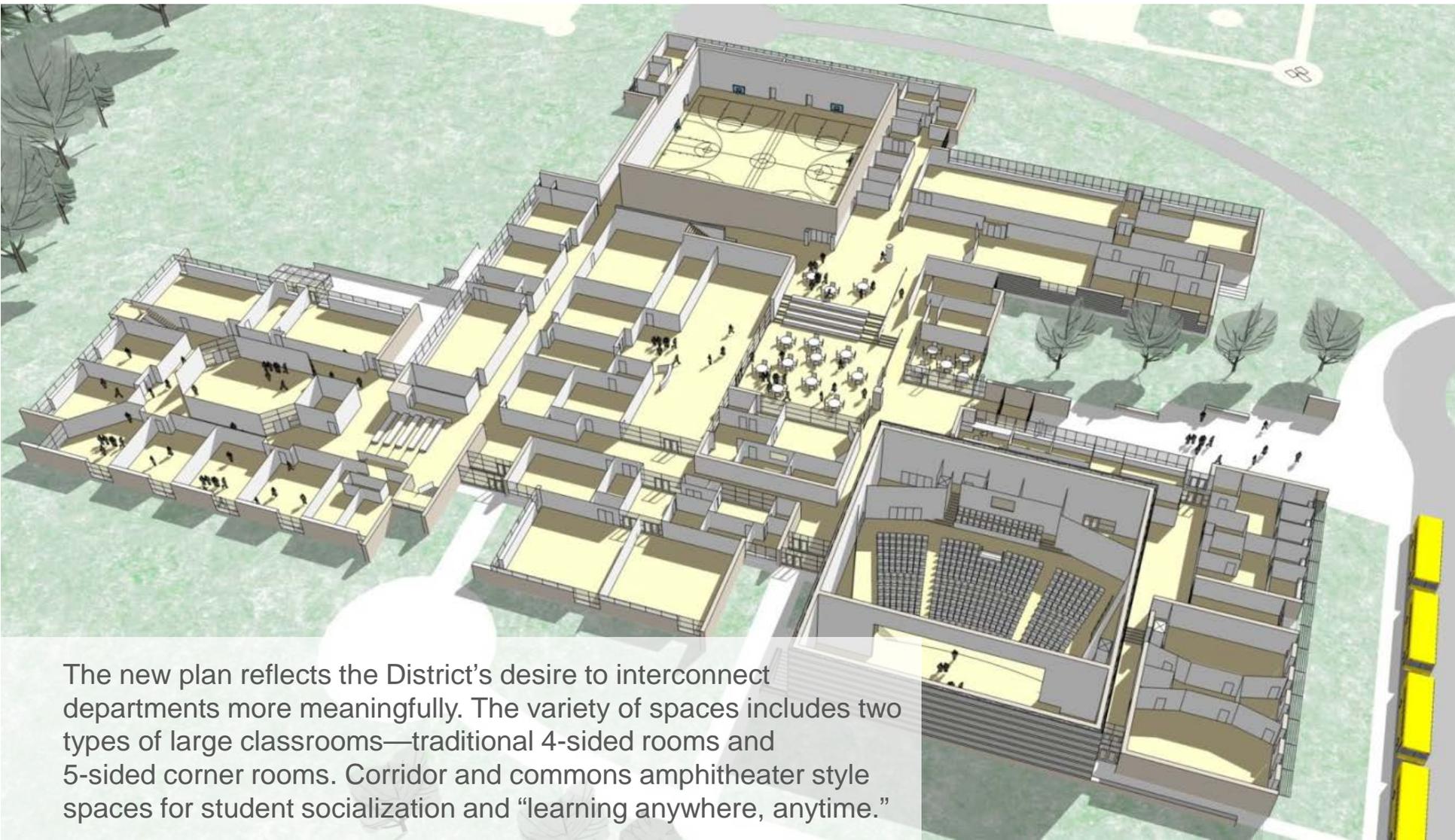
New Second Floor Plan



- 1** Large Group Instruction Space – below centered on multi-disciplinary STEAM pod
- 2** Art Suite – overlooking Media Center
- 3** Below

Learning Environment

The Plan Transformed



The new plan reflects the District's desire to interconnect departments more meaningfully. The variety of spaces includes two types of large classrooms—traditional 4-sided rooms and 5-sided corner rooms. Corridor and commons amphitheater style spaces for student socialization and “learning anywhere, anytime.”

Learning Environment

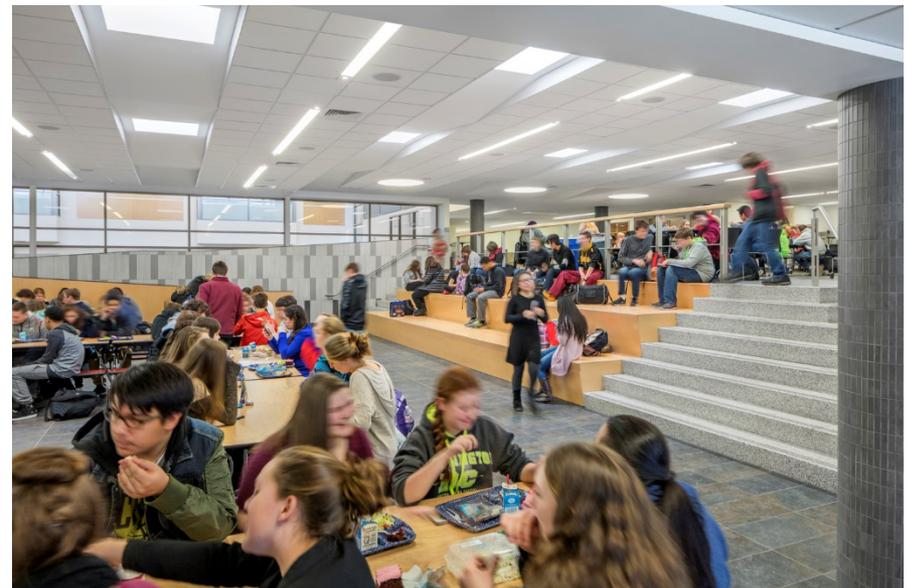
Student Commons



Flexible small group learning centers are combined with an open forum amphitheater

Learning Environment

Student Commons



Physical Environment

Dining Commons

Before:

*Static and isolated
“cafeteria” with
inflexible seating*



After:

*Commons Space and
comfortable flexible
furniture now engage the
three major community
gathering spaces:
Auditorium, Gymnasium,
and Media Center*



Physical Environment

Inspire the Community

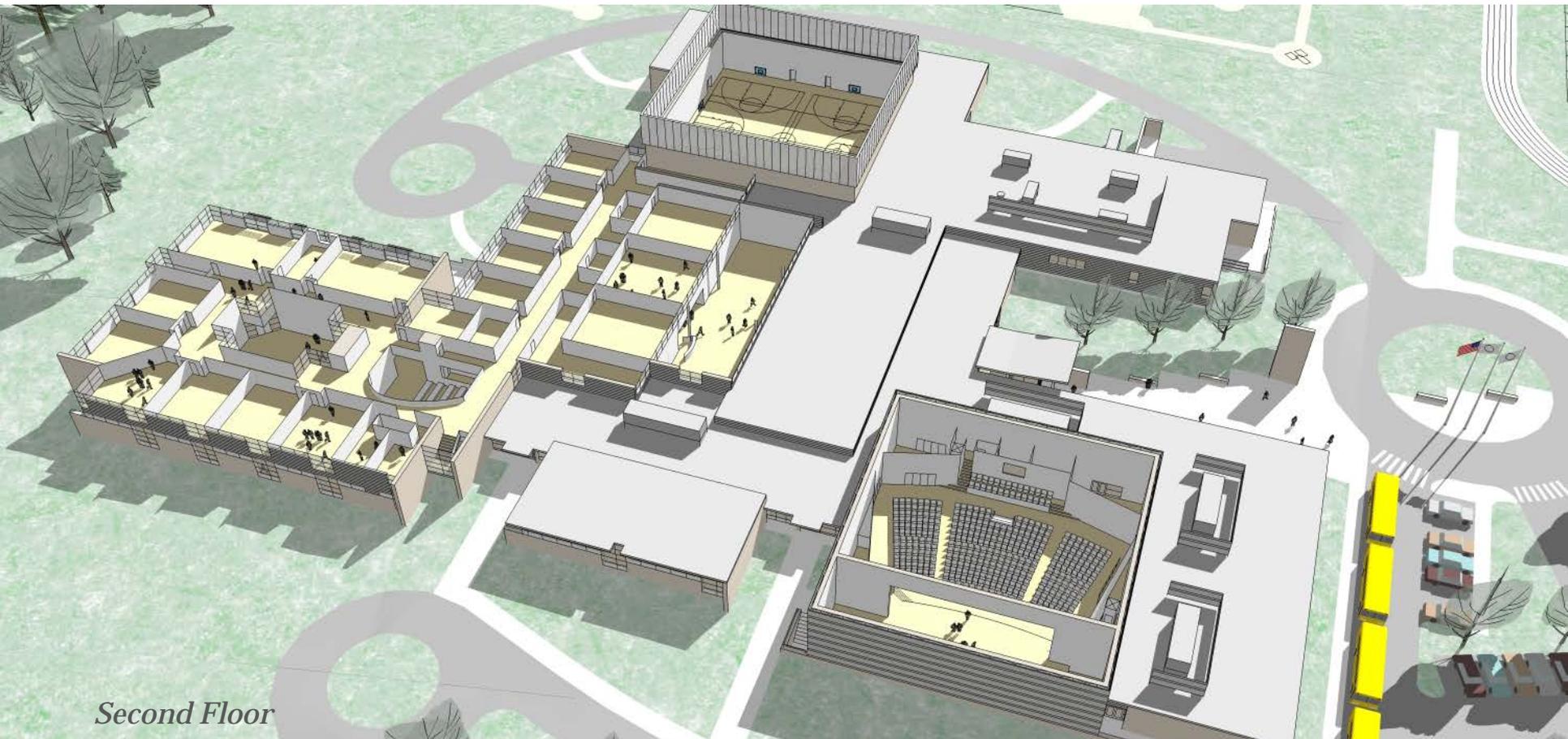


Learning Environments

Engage and Inspire Teachers and Students

A small school population and the ability to shift program areas has allowed for a fully interconnected educational courses of study centered on advantage of changes in topography corridors now a large group instructional space and media center.

STEAM is now a possibility by adding in music, T.V. Studio, humanities classrooms, and by taking advantage of changes in topography corridors now have expansive student gathering opportunities.



Second Floor

Physical Environment

Inspire the Community

The new main entrance - once the former loading dock and service court now faces west—an environmental improvement allowing for a campus-like relationship with the Page Hilltop Elementary School. The entry court creates a comfortable gathering spot for students to have lunch or gather before and after events.

A sculpture court also allows for students to artistically express themselves. The entrance connects to the public activity space including the community TV studio—with windows and LCD monitors to communicate school and worldwide events - taped or in real time.



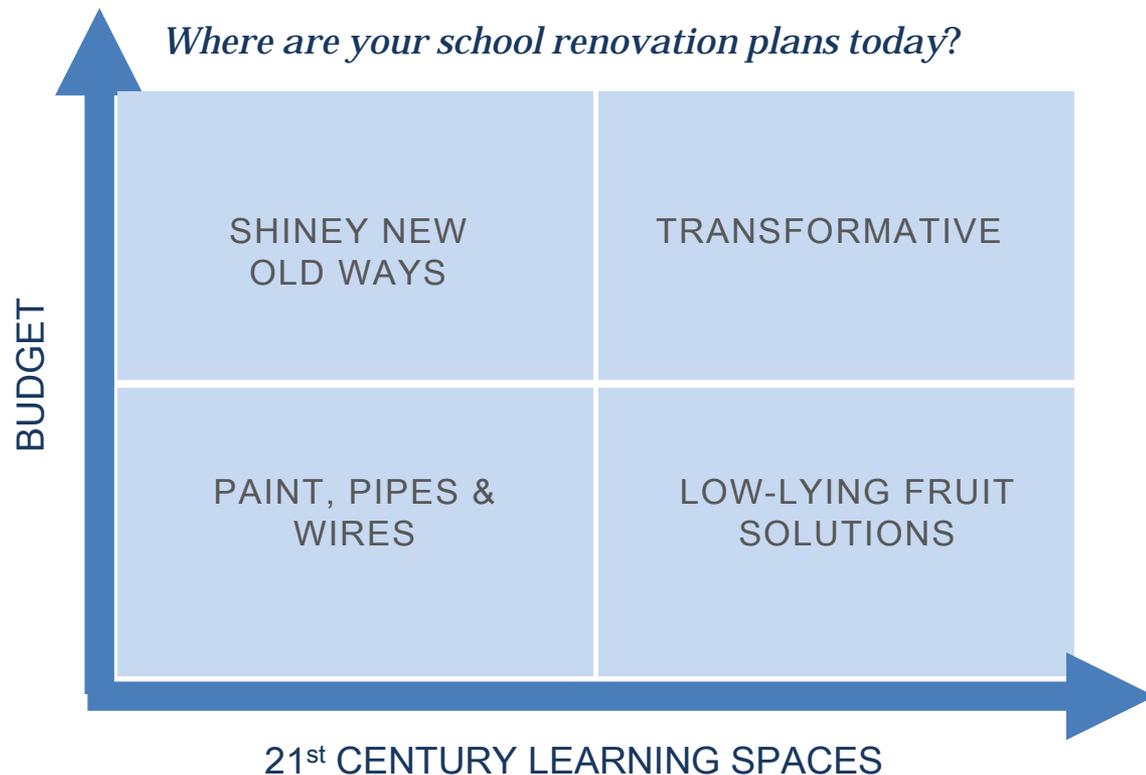
How Did We Do?

Goals:

Ayer Shirley is now through construction – each phase brought new revelations and the communities celebrated each transition. When we started the design process our clients assumed we would be in one of two quadrants – Where do you think they feel they ended up?

Planning Team & Process:

Educators, administrators and citizens from both communities began planning early in 2012, after changing to a high school only option communication and community votes took six months, after the successful funding appropriation design took approximately one year



Project Data

Submitting Firm :	Symmes Maini & McKee Associates
Project Role	Architect/Engineering Firm
Project Contact	Alex C. Pitkin, AIA, LEED AP
Title	Principal, Senior Vice President
Address	1000 Massachusetts Ave
City, State or Province, Country	Cambridge, MA 02138
Phone	617.547.5400
Joint Partner Firm:	Not Applicable
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	
Other Firm:	Not Applicable
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	
Construction Firm:	Consigli Construction Inc.
Project Role	CM At Risk
Project Contact	Christian Riordan
Title	Project Executive
Address	72 Summer Street
City, State or Province, Country	Milford, MA 01757
Phone	508.458.0375

Project Data

Project Name	Ayer Shirley Regional High School
City	Ayer
State	MA
District Name	Ayer Shirley
Supt/President	Dr. Mary Malone
Occupancy Date	September 2015
Grades Housed	9 to 12
Capacity(Students)	495
Site Size (acres)	63 for campus, 13 acres construction only
Gross Area (sq. ft.)	144,072
Per Occupant(pupil)	291
gross/net please indicate	1.52
Design and Build?	Yes, CM@Risk
If yes, Total Cost:	56, 543, 765
Includes:	Comprehensive
If no,	
Site Development:	
Building Construction:	44, 372, 576
Fixed Equipment:	1, 796, 833
Other:	
Total:	56, 543, 765