



Boothbay-Boothbay Harbor Schools Community Presentation

LAVALLEE | BRENSINGER ARCHITECTS

A SCHOOL is the ultimate community building. COMMUNITY SUPPORT is paramount



• Where We've Been

- Masterplan 2019
- Selected Architect/Design Team via RFQ
- Formed Joint Building Committee
 - Existing Conditions Study by Design Team
 - Third Party Existing Conditions Study
 - Education Visioning and Curriculum
 - Interviews + Programing + Population Study
 - Architectural Visioning
 - Early Conceptual Design Diagrams – several options
 - Narrowed Viable Concepts to Two



• Where We Are

- Refined Current Conceptual Design Plans and Massing
- Sent Concept for Detailed Cost estimating
- **Soliciting Public Input**



• Where We Are Going

- Community Presentations
- Decisions on Direction

Where We've Been: Masterplan 2019



Masterplan 2019



**OPPORTUNITY TO
REDUCE RESOURCES**



**OPPORTUNITY TO
CONSOLIDATE**



**OPPORTUNITY TO
RE-INVENT THE EXPERIENCE**

Masterplan 2019

Guiding Principles From 2019 Masterplan



Community-Based Education

- Off site learning
- On site incubators



Economically Viable

- Return on investment
- Financially balanced



SEL Learning Environments

- Multi-age Connections
- Personalization
- Professional Development
- Support Systems
- Community Connections



Future-Proof Learning Environments

- Sustainable
- Healthy
- Inspiring
- Adaptable



Unique Local Resources

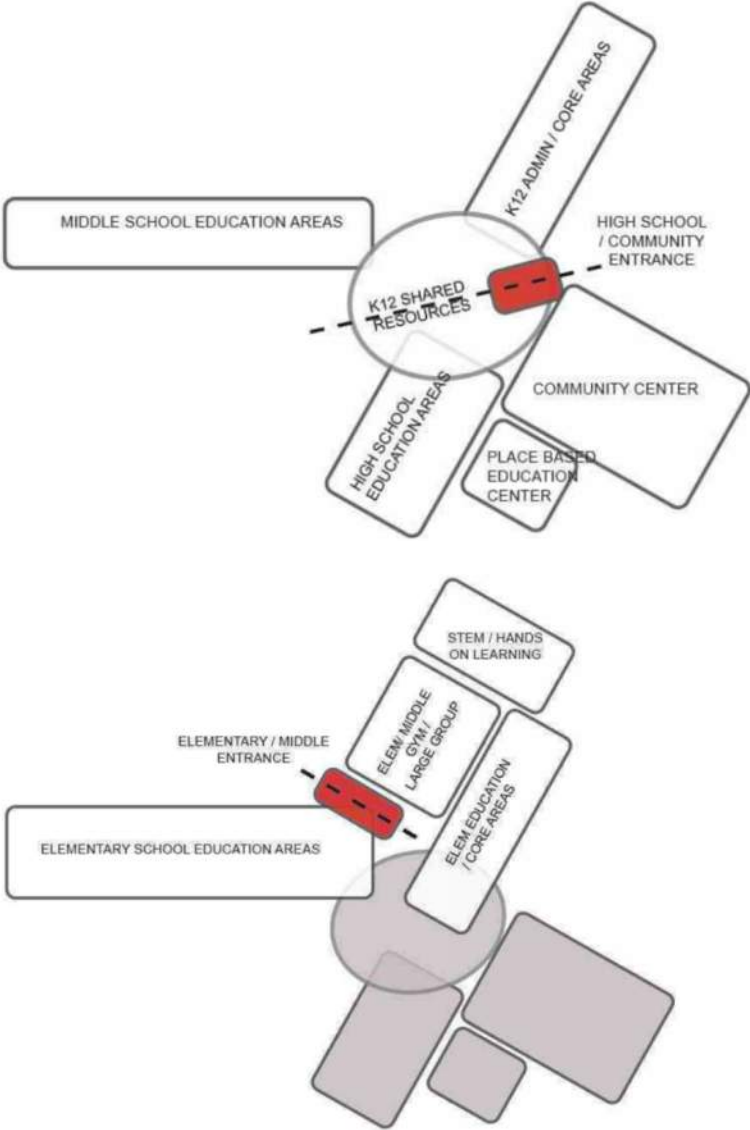
- Biophilic Design
- Local specific programs

Masterplan 2019

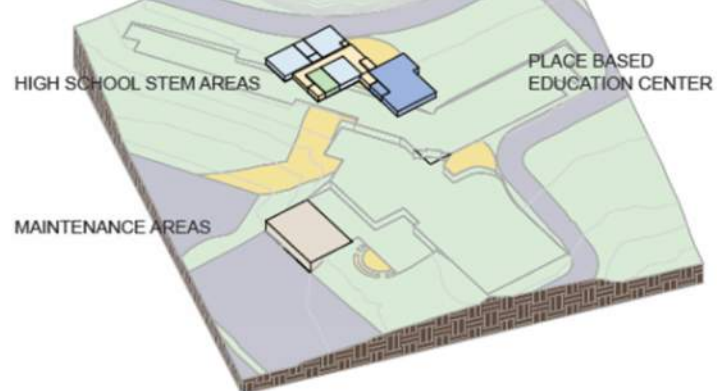
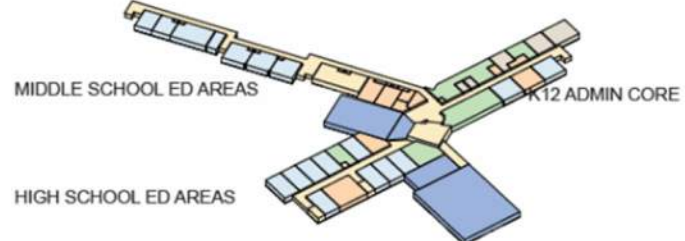
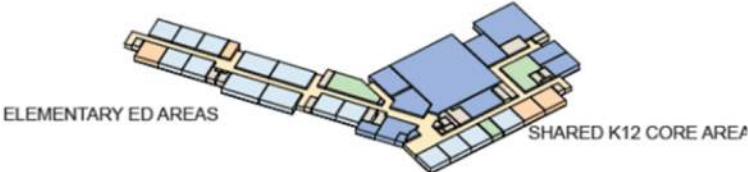


Renovate / Consolidate

- Addresses all items in the “Band Aid” Scenario
- Creates “Like New” facility
- Creates State of the Art Education Areas
- Creates Missing Collaboration Areas
- Allows for Consolidated Kitchen
- Consolidates Administration/Health/Etc.
- Redefines Educational Experience in Boothbay



Masterplan 2019



Where We've Been: Existing Conditions Study



Existing Conditions Study

SCHOOL BUILDING CONDITIONS

School	Condition	Interior	Exterior	Mechanical	Electrical	Plumbing	Structure	Security
BRES	FAIR	FAIR	POOR	EXCELLENT	FAIR	POOR	FAIR	EXCELLENT
BRHS	POOR	FAIR	POOR	POOR	POOR	POOR	FAIR	POOR

-  - EXCELLENT
-  - FAIR
-  - POOR

Existing Conditions Study



BRHS ●

The exterior envelope of the original 1954 building is not properly insulated and is **NOT ENERGY EFFICIENT**.



BRES ●

The exterior envelope of the building is not properly insulated and is **NOT ENERGY EFFICIENT**. There are also several areas where the **ROOF IS LEAKING** and is believed to be happening where the roof flashing has failed.

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Study



INTERIOR
OBSERVATIONS



BRHS ●

Many classrooms and labs are **UNDERSIZED AND ODDLY SHAPED** per the Maine Department of Education standards. The technology and electrical distribution are **POORLY INTEGRATED** within the classrooms.



BRES ●

Gang bathrooms and single user bathrooms are undersized and **DO NOT MEET ADA** standards. Bathroom fixtures vary in age and condition. There are **NO STAFF BATHROOMS** in the school.

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Study



BRHS ●

There are several **STRUCTURAL CRACKS** that have developed in the original CMU walls located in the gymnasium and the stairwells. If left unaddressed, these cracks could worsen and diminish the structural integrity of the CMU wall.



BRES ●

Moisture in the building is collecting on the steel floor decking and other steel structural members causing **RUST** to develop. Rust will deteriorate the steel and diminish the materials structural integrity.

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Study



BRHS ●

There have been some security improvements made to the high school but there are still major gaps in the safety + security aspects of the school. The major one is that there are **NO SECURE ENTRANCES** which reduces the school's ability to safely manage visitors.



BRES ●

Security upgrades have been made to the school and have created a more **SECURE ENTRY** sequence. However, there are still areas where improvement can be made. Impact resistant glazing at all on grade windows as well as an HVAC emergency shut-off to prevent foreign substances from being introduced into the buildings air flow would increase safety.



**SAFETY + SECURITY
OBSERVATIONS**

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Study



ELECTRICAL
OBSERVATIONS



BRHS ●

Transformer vaults and main electrical distribution panels are located within **STUDENT OCCUPIED AREAS**. These should be located in a fire rated room and built to current construction + code requirements.



BRES ●

More than 75% of the power distribution equipment are original and **BEYOND THEIR USEFUL LIFE EXPECTANCY** and should be scheduled to be replaced.

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Study



BRHS ●

Copper distribution system for domestic water, and cast-iron piping system for wastewater, are **FAILING** and should be scheduled to be replaced. Roof drain over administration wing is **UNDERSIZED** and does not provide enough drainage capacity for the roof.



BRES ●

Copper distribution system for domestic water, and cast-iron piping system for wastewater, are **FAILING** and should be scheduled to be replaced.



PLUMBING
OBSERVATIONS

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Study



BRHS ●

Air handler units, boilers, and water heaters are at or near the **END OF THEIR SERVICE LIFE**. The complete mechanical system should be scheduled to be replaced.



BRES ●

The full mechanical system at BRES is new and is in **GOOD WORKING ORDER**.



MECHANICAL
OBSERVATIONS

- - EXCELLENT
- - FAIR
- - POOR

Existing Conditions Report Comparison

ELEMENTARY + MIDDLE SCHOOL

Lavallee Brensinger Architects

3rd Party Review

TOTAL = \$10,841,050 → **DIFFERENCE (\$5,889,941)**

TOTAL = \$16,730,891 ←

ESCALATED 20 years = \$14,225,635

ESCALATED 20 years = **To Be Determined**

HIGH SCHOOL

Lavallee Brensinger Architects

3rd Party Review

TOTAL = \$14,184,760 → **DIFFERENCE (\$480,085)**

TOTAL = \$13,704,675 ←

ESCALATED 20 years = \$19,311,076

ESCALATED 20 years = **To Be Determined**

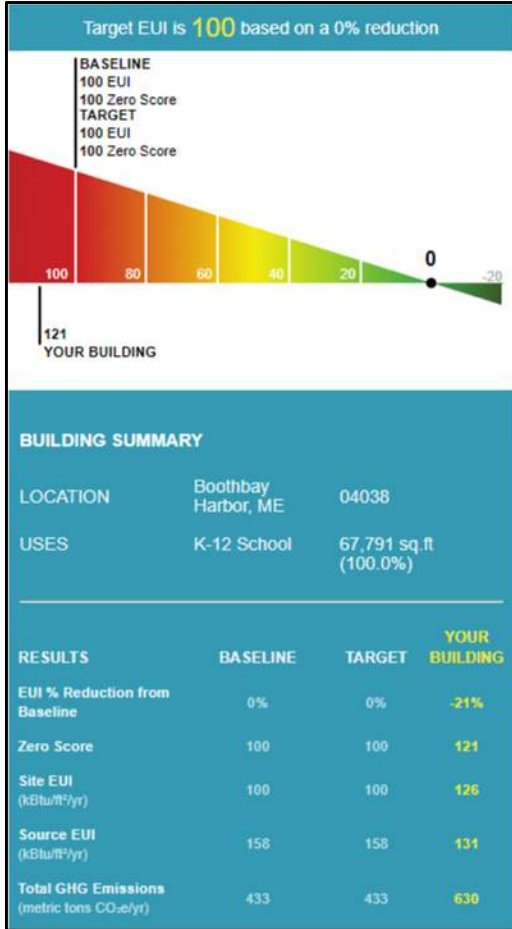
TOTAL FOR BOTH SCHOOLS = \$27,730,687 (IF COMPLETED OVER 2 YEARS)
\$33,536,711 (IF COMPLETED OVER 20 YEARS)

Where We've Been: Sustainability



Ongoing Sustainability Efforts

Existing High School EUI



GHG EMISSIONS: Green House Gasses

Existing = 630 Metric Tons

Baseline = 433 Metric Tons



EUI: Energy Use Intensity (kBtu/SQFT/Year)

Existing = 126 EUI

Baseline = 100 EUI (Based on a modern building of similar size and use)

TARGET = 21 EUI (84% REDUCTION of existing)



Goals

1. EUI Target of 21
2. Future zero-energy goal with on-site energy harvesting (solar panels)
3. Reduce dependency on fossil fuels in the long range

Where We've Been: Educational Visioning + Curriculum



Educational Visioning + Curriculum

Greatest Hopes for BRES and BRHS

When asked to share their Greatest Hopes for a forward-thinking BRES educational program and/or facility, the faculty responded with the following comments, which have been grouped thematically.

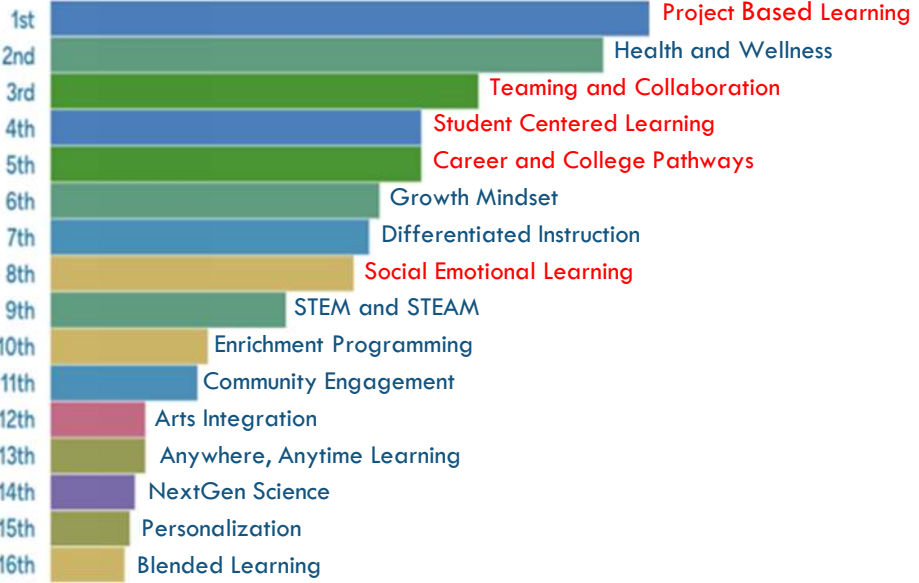


1. **Safe, Welcoming, and Community Focused**
2. **A Flexible** School for Now and **Future**
3. Meeting Student Needs + Robust **Technology**
4. **Comfort:** Natural Lighting, Ventilation, Acoustics
5. Hands-on and **STEM/STEAM** Learning
6. **Real World** Learning
7. School Pride and Inspiration
8. **Inclusive** and **Collaborative** Learning Spaces
9. Integrate Special Education Resources and Services
10. **Outdoor** Learning Spaces
11. Focus on **Arts, Performance, and Science**

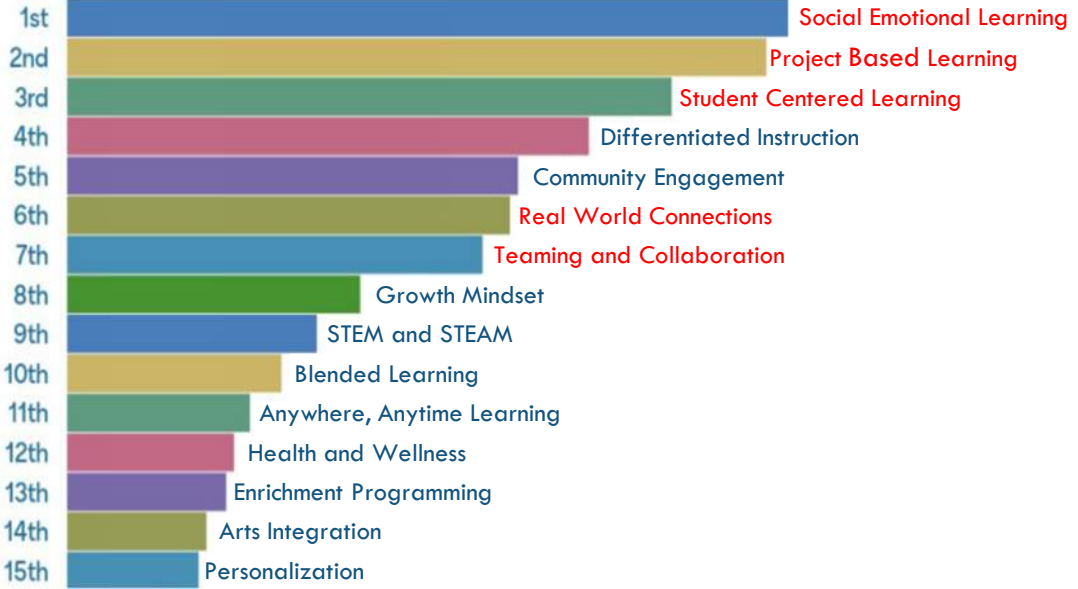
Educational Visioning + Curriculum

Teaching and Learning Priorities for BRES and BRHS

BRHS



BRES



Where We've Been: Interviews / Programming / Population



Interviews + Programming + Population

STUDENT INTERVIEWS: Likes and dislikes from character study



Interviews + Programming + Population

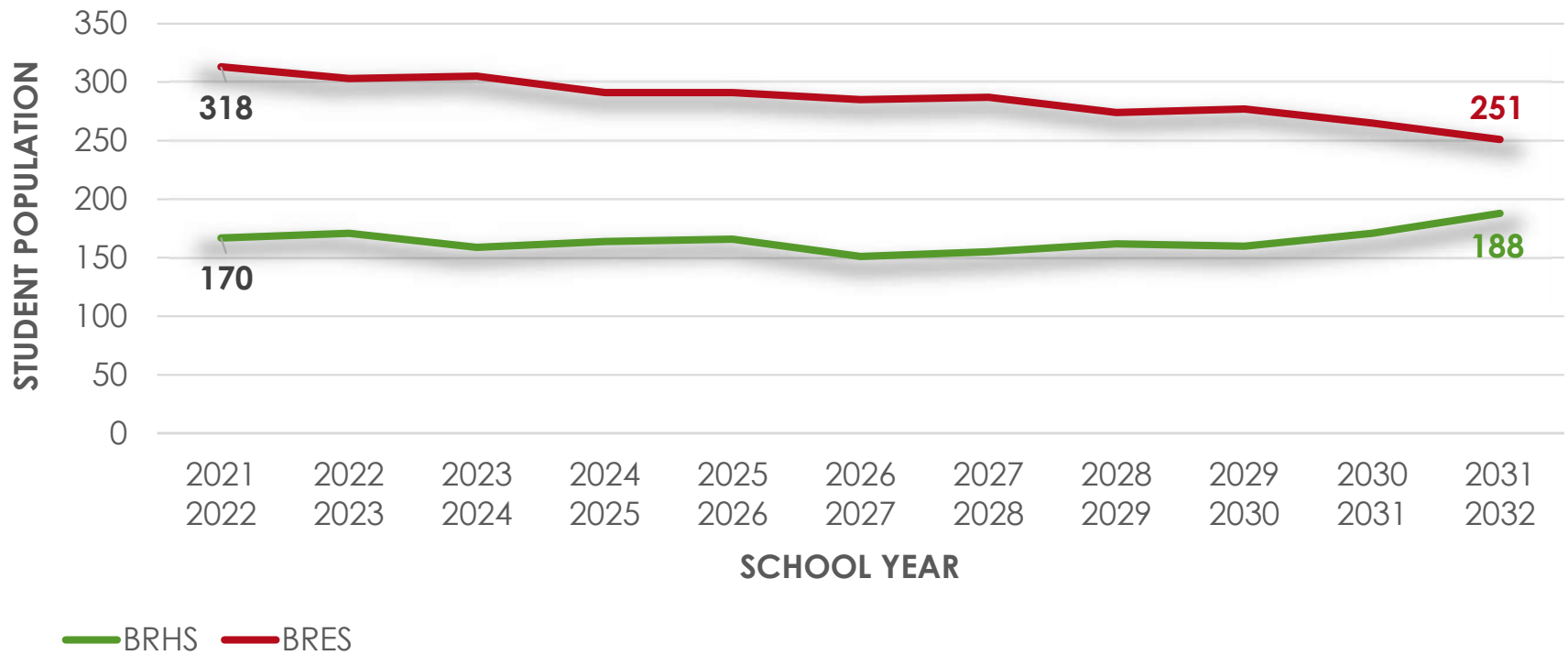
TEACHER INTERVIEWS: Common Threads from BRES and BRHS staff and admin

1. Needs Small Group / Meeting Areas
2. Staff Area (collaboration, break)
3. Adequate number of restrooms
4. Natural Light – for all learning areas
5. Modern PA/Phone Systems
6. Increased outlets
7. Thermal Comfort
8. Improve Acoustics
9. Flexible Classrooms
10. Safer Drop-Off and Vehicular Routes
11. 3 distinct identities: HS/MS/ES



Population Study: Correction

Projected population for 2032



Where We've Been: Architectural Visioning



Architectural Visioning

Priorities and Considerations



Educational Priorities

- Increased Enrollment
- Place-Based Learning
- Hands-On Learning
- Future Forward Curriculum
- Professional Development



Architectural Priorities

- Welcoming and Accessible
- Sustainable
- Community Pride
- Indoor / Outdoor Connections
- Social Emotional Learning and Support Spaces
- Athletic, Art, Music, and Performance spaces



Community Priorities

- Community Use and Access
- Community Partnerships
- Display and Exhibition
- Library
- Art, Music, and Performance Spaces
- Emergency Use

Architectural Visioning

Guiding Principles

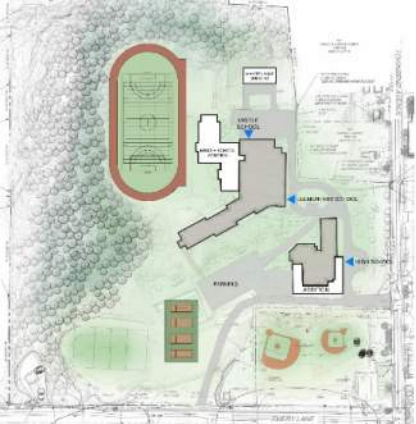


Where We've Been: Early Conceptual Design Diagrams

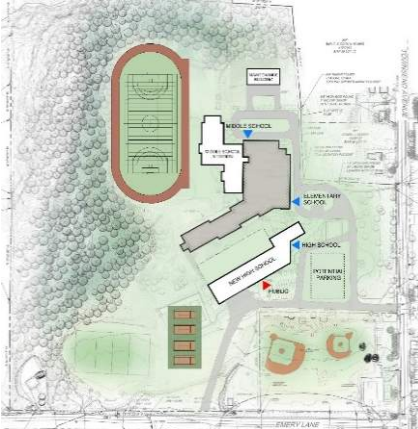


Early Conceptual Design Diagrams

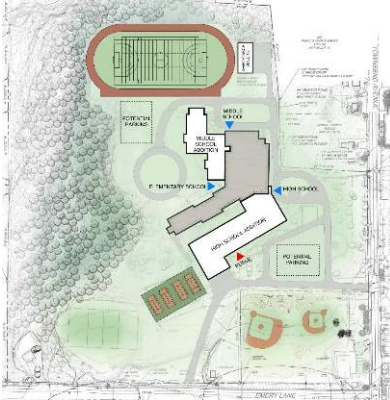
CONCEPT #1



CONCEPT #2



CONCEPT #3



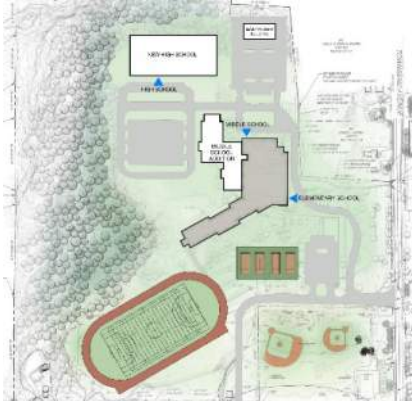
CONCEPT #4



CONCEPT #5



CONCEPT #6



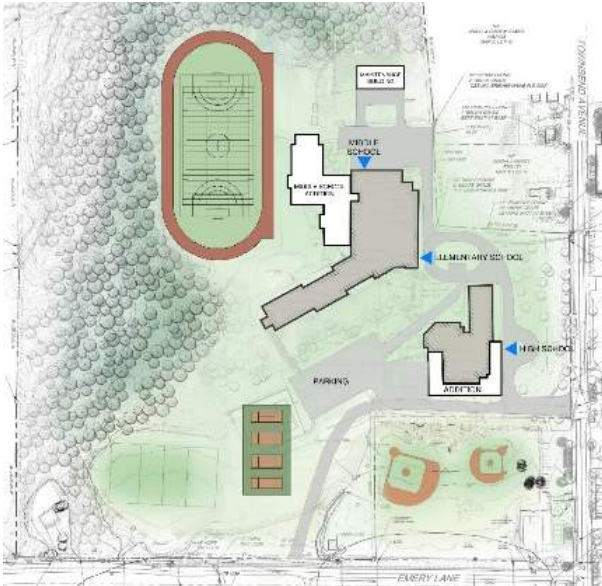
Early Conceptual Design Diagrams



RENOVATE / ADDITION

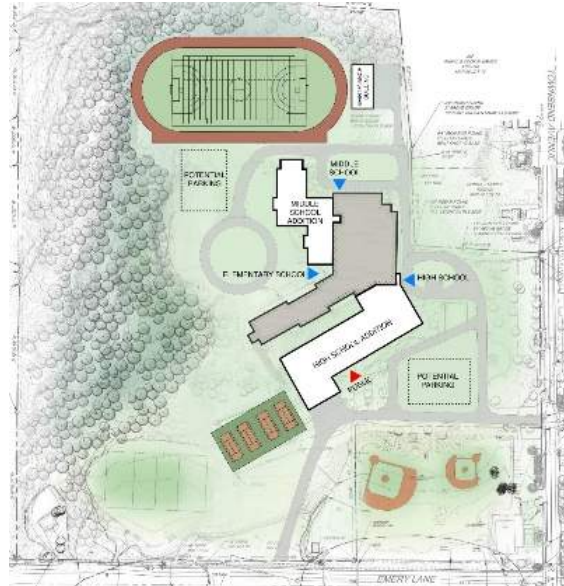
CONCEPT #1

BRES: RENO + ADDITION
BRHS: RENO + ADDITION



CONCEPT #3

BRES: RENO + ADDITION
BRHS: ADDITION TO BRES



CONCEPT #4

BRES: RENO + ADDITION
BRHS: RENO + ADDITION



Early Conceptual Design Diagrams

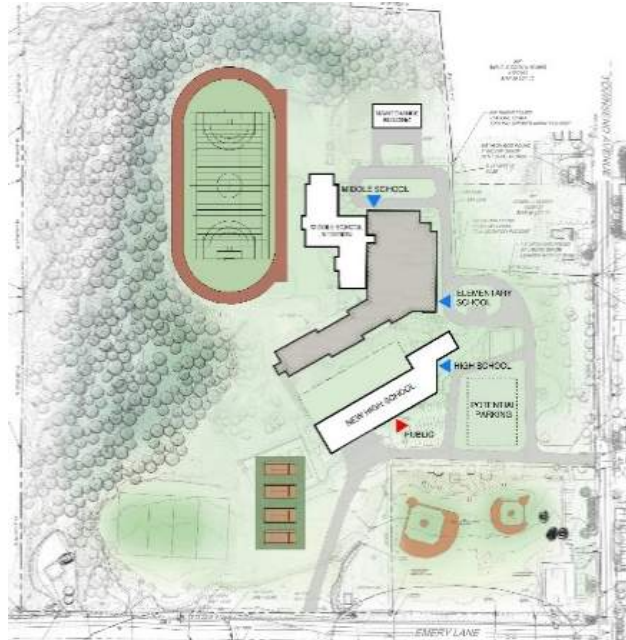


BUILD NEW

CONCEPT #2

BRES: RENO + ADDITION

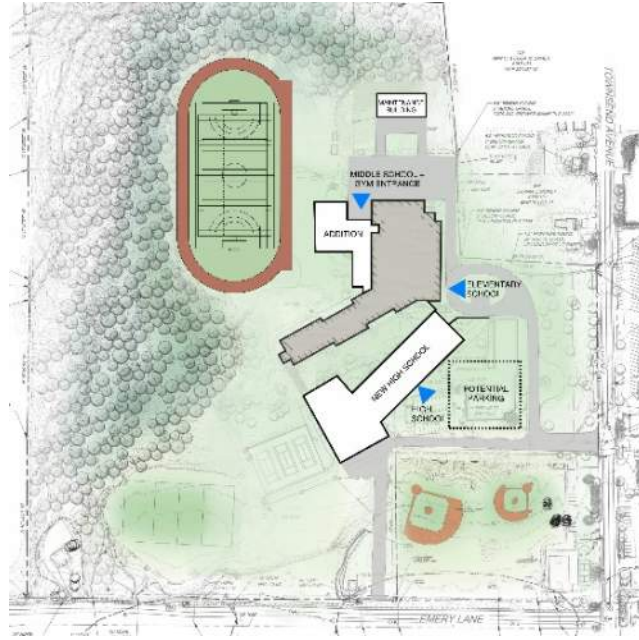
BRHS: NEW BUILDING (South Site)



CONCEPT #5

BRES: RENO + ADDITION

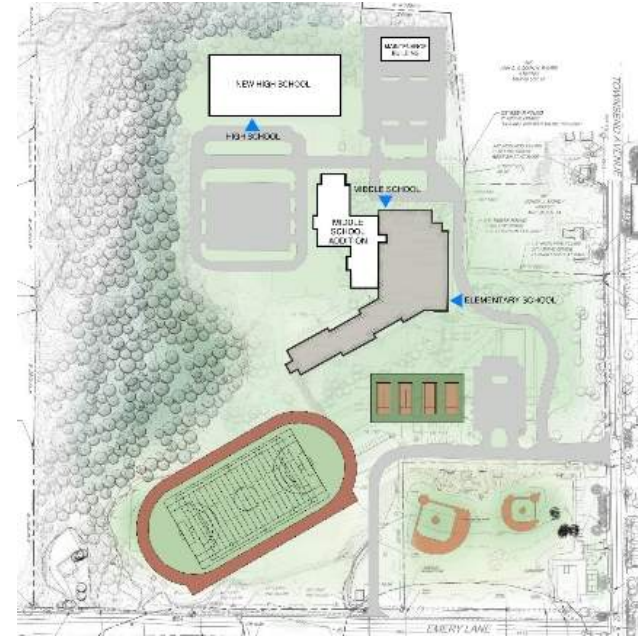
BRHS: NEW BUILDING (South Site)



CONCEPT #6

BRES: RENO + ADDITION

BRHS: NEW BUILDING (North Site)



Early Conceptual Design Diagrams

Order of Magnitude Cost



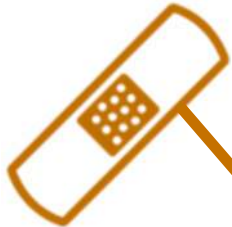
BUILD NEW

\$100,000,000 +



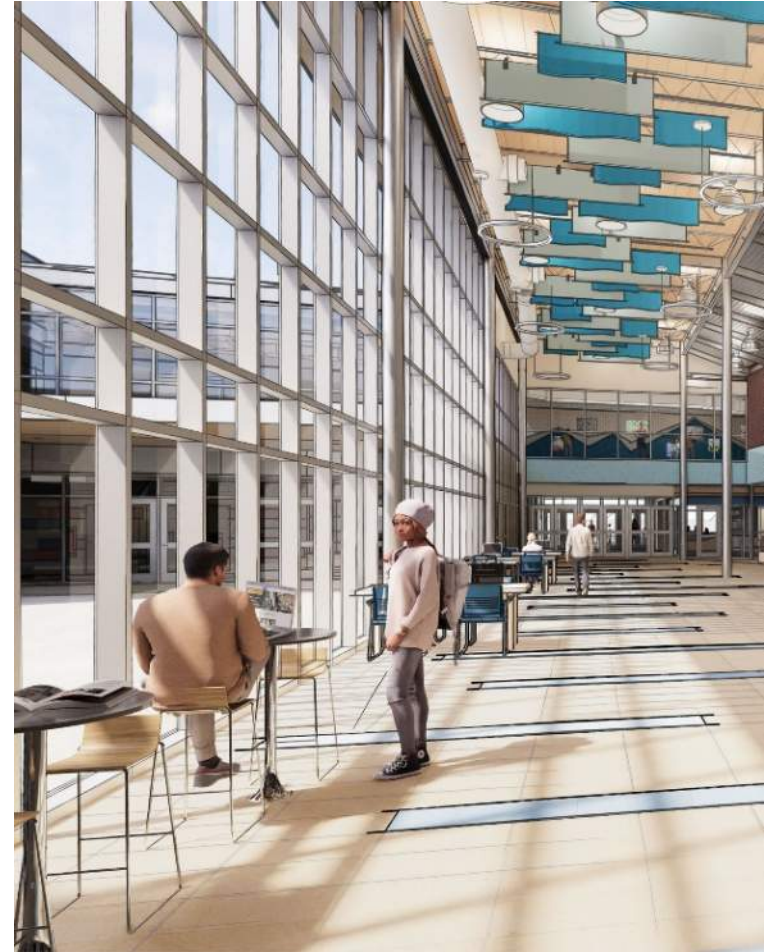
RENOVATE / ADDITION

\$66-76,000,000



BAND-AID THE EXISTING SCHOOLS

\$35-40,000,000



Early Conceptual Design Diagrams



BAND-AID THE EXISTING SCHOOLS

COSTS OF DOING NOTHING = \$35M+

Approximate based on concept assumptions and escalation over 20 years

Replacement of Aging Systems



Replacement of Aging Systems

- Replace mechanical system (BRHS)
- Upgrade electrical system (BRHS + BRES)
- Replace copper pipe distribution (BRHS + BRES)
- Replace plumbing fixtures (BRHS + BRES)
- Classroom technology upgrades (BRHS + BRES)



Exterior Envelope

- Replace roof (BRHS)
- Repair roof leaks (BRES)
- Replace doors and windows (BRHS + BRES)
- Brick repair (BRHS + BRES)



Interior Finishes

- Flooring (BRHS + BRES)
- Ceilings (BRHS + BRES)
- Paint (BRHS + BRES)
- Bathroom renovations (BRHS + BRES)



Safety and Security

- Secure main entrance (BRHS)
- Video surveillance upgrades (BRHS + BRES)
- Secure glazing upgrades (BRHS + BRES)

Does Not Include Educational Benefits



Site Improvements

- Difficult bus / parent drop-off circulation remains
- Inefficient parking layout remains
- No new athletic fields and outdoor track



Educational Improvements

- Undersized and irregular classroom sizes remain
- Student occupied areas with no natural light remain
- Art, performing arts, kitchen, and CPU lab at BRHS remain undersized
- No Middle School identity
- No added community space



Energy Efficiency Improvements

- Exterior walls at BRHS and BRES will remain non-insulated and inefficient



Code + Life Safety Improvements

- Emergency egress limitations remain at BRES gymnasium
- Multiple floor level changes remain at BRHS

Early Conceptual Design Diagrams

Order of Magnitude Cost



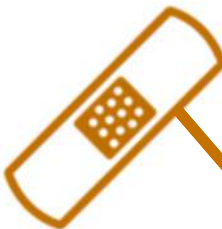
~~BUILD NEW~~

~~\$100,000,000~~



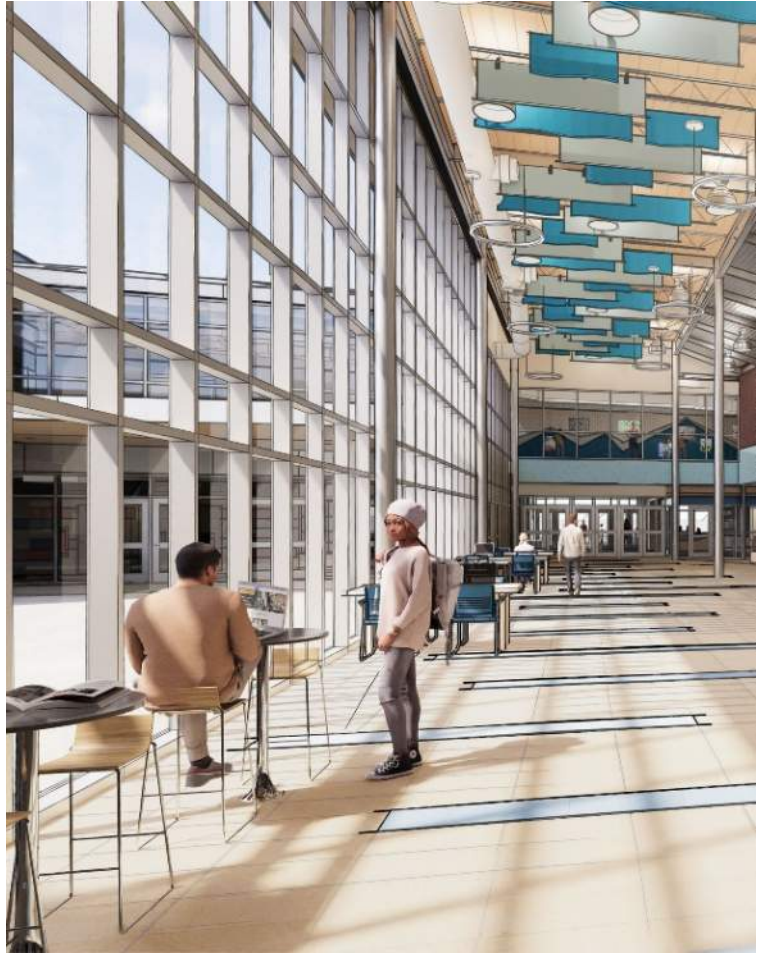
RENOVATE / ADDITION

\$66-76,000,000



BAND-AID THE EXISTING SCHOOLS

\$35-40,000,000



UNDERSTAND it is human need to PARTICIPATE
in the decisions that effect our lives

Optional High School Tour



“ THIS PROJECT WILL BE A SUCCESS IF.....”