

REIMAGINING FRANKLIN HS







COMMUNITY DESIGN WORKSHOP OCTOBER 26, 2013

AGENDA

PPS INTRODUCTION 9 AM

- WELCOME
- LOGISTICS
- DISTRICT UPDATE
- AGENDA REVIEW

WHAT WE'VE LEARNED 9:15 AM

- Public Process to date
- Due Diligence work
- Review of Historically & Culturally Significant Elements.
- Review of schemes developed at 9/21 Community Design Workshop
 - Common Themes
 - UNIQUE IDEAS

SUSTAINABILITY REVIEW 9:45 AM

- Review of Sustainability Design Workshop
- Sustainability Next Steps

BREAK 10:15 AM

MASTER PLANNING SCHEME REVIEW 10:30 AM

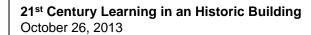
- Presentation of Schemes B, C, D & E
- Station Review
- REPORT BACK & GROUP DISCUSSION

CONCLUSIONS & NEXT STEPS 11:45 AM

- KFY TAKEAWAYS
- NEXT STEPS









PUBLIC PROCESS TO DATE

June 13, 2013 – Design Advisory Group (DAG) Kick-off

July 25, 2013 – DAG Meeting #2

August 8, 2013 – DAG Meeting #3

August 19, 2013 - DAG Meeting #4

September 11, 2013 – DAG Meeting #5

September 21, 2013 – Community Design Workshop

October 2, 2013 – DAG Meeting #6

October 4, 2013 – Sustainability Design Workshop

October 9, 2013 – Latino Parents Presentation

October 9, 2013 – PTSA Presentation

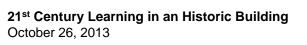










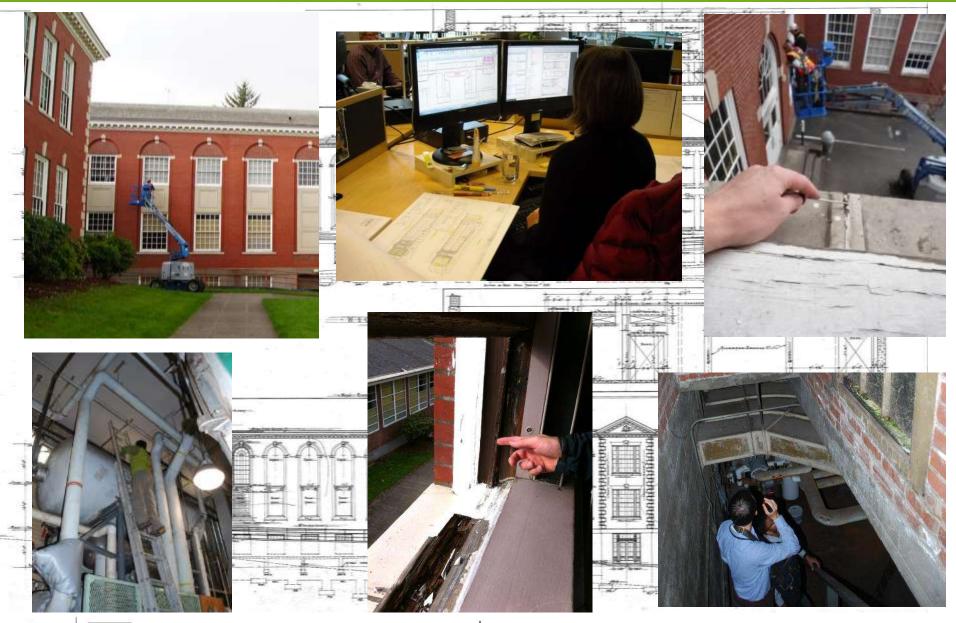








DUE DILIGENCE







SERA

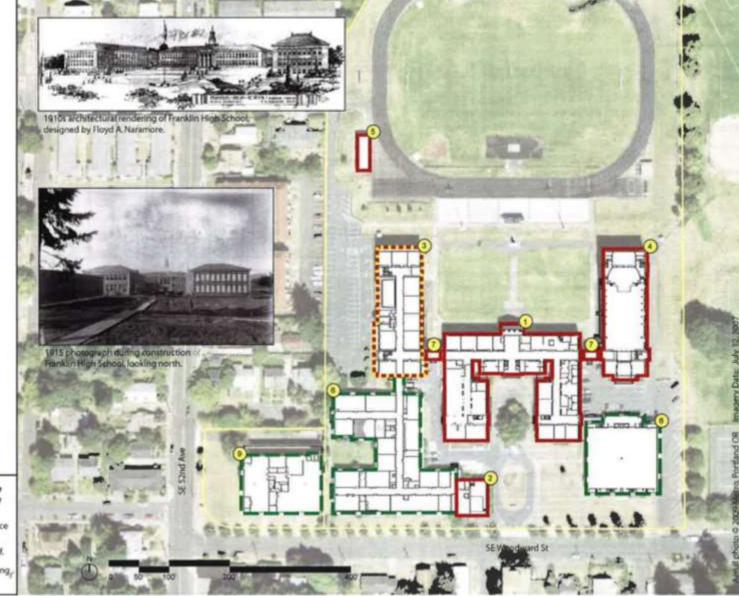
HISTORICALLY & CULTURALLY SIGNIFICANT ELEMENT PRIORITIZATION

Franklin High School 5405 SE Woodward St, Portland OR, 97206

View Site in Google Maps

Building Periods

- 1. Original Building (215A), 1915
- 2. Boiler Building (2150), 1915
- 3. Gymnasium Building (2158), 1916 (remodeled to classrooms in 1986)
- 4. Auditorium Addition (215C), 1924
- 5, Field House, 1950
- 6. Classroom Wing (215D), 1950
- 7. Connecting Addition (215C), 1954
- 8. Gymnasium (215E), 1954
- 9. Shop Building (215F), 1970









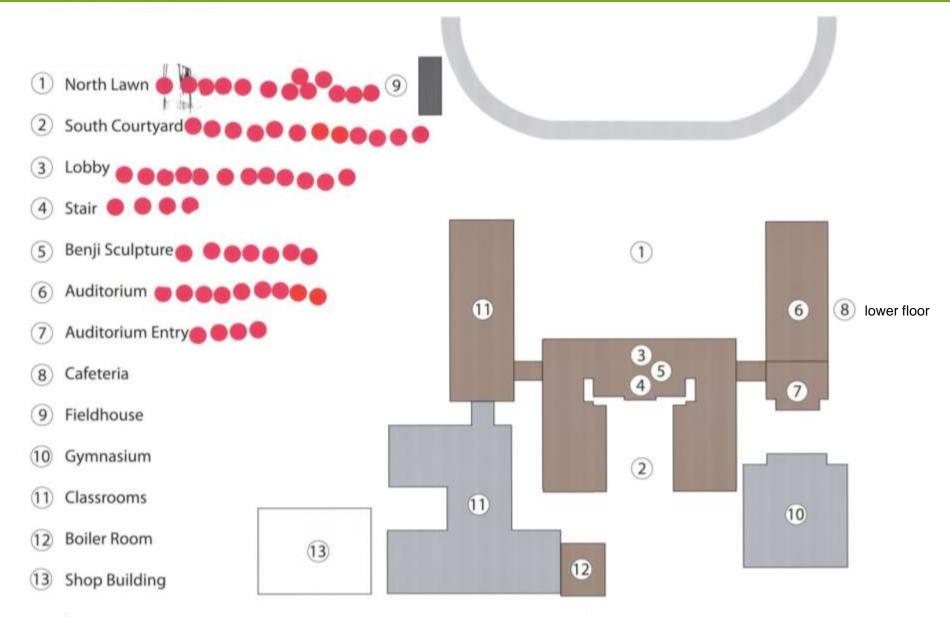






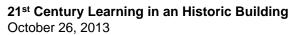


HISTORICALLY & CULTURALLY SIGNIFICANT ELEMENT PRIORITIZATION



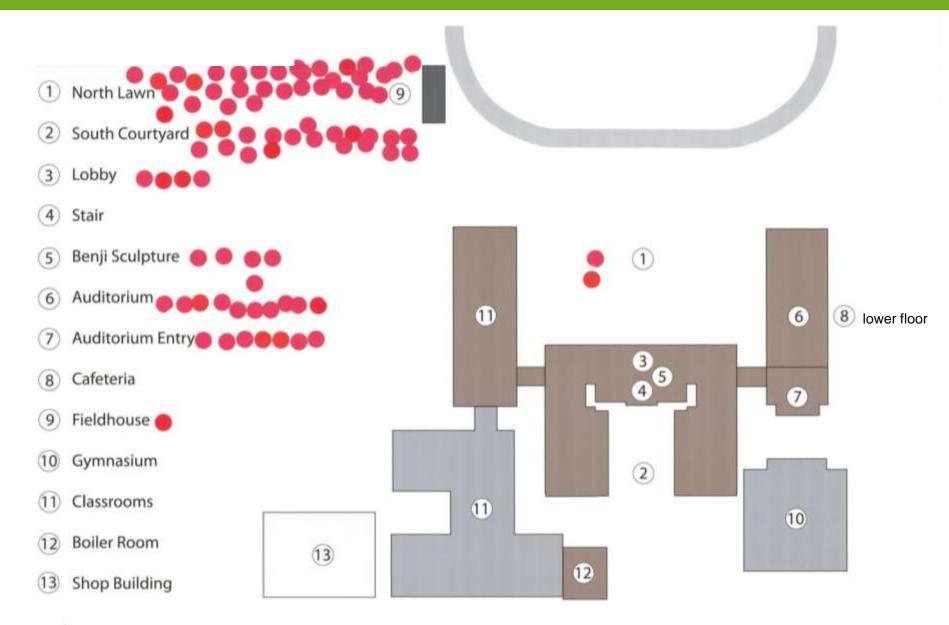






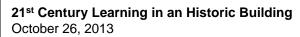


HISTORICALLY & CULTURALLY SIGNIFICANT ELEMENT PRIORITIZATION



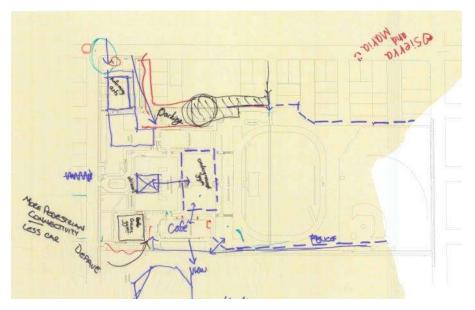


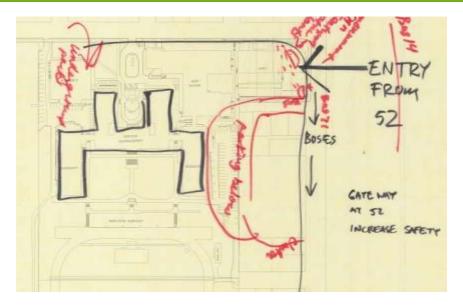


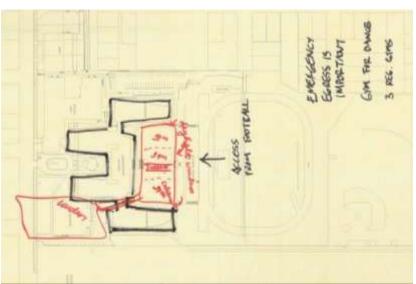


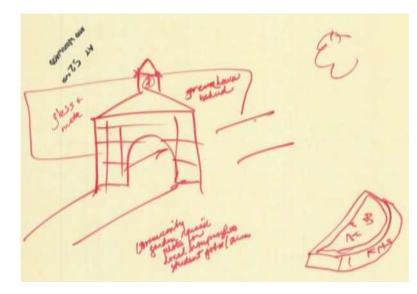


FRANKLIN HS - DAG DESIGN WORKSHOP







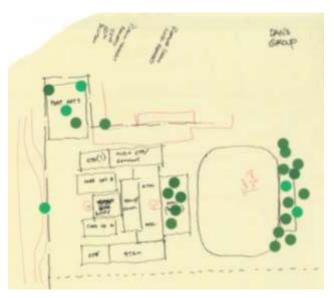


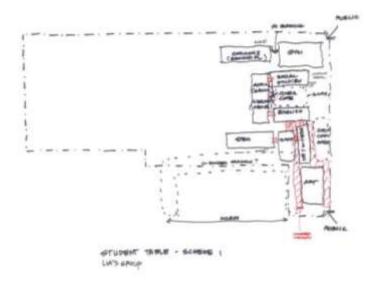




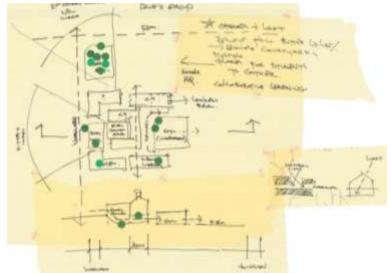
FRANKLIN HS - COMMUNITY DESIGN WORKSHOP

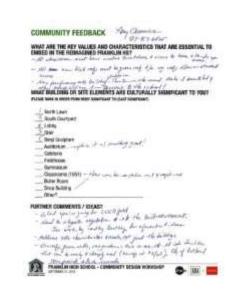
COMMUNITY FEEDBACK WHAT ARE THE KEY VALUES AND CHARACTERISTICS THAT ARE ESSENTIAL TO EMBED IN THE REIMAGINED PRANKLIN HE? - held four access - to be to tourist forthered they will or on about the opening WHAT BUILDING ON SITE SLEMENTS ARE CELTURALLY SIGMFICANT TO YOU? North Livery South Courtwest Low Sery Soulchorn Autories Domenia hedrose Systemacs. Composition (1987) Boller Noon True Europea Deart . PURTHER COMMENTS / MEASY Andre helding on wrong Study Windows A 2) Whole Backers field to Botton fooder in embange by the Work of Californ Food on the fact of Californ Food on the fact of the food of Californ Food on the fact of the fact of the fact of food of food the fact of food of food of food the fact of food TAMELE HER SCHOOL - COMMENTY IN SHIR VOTESTOP





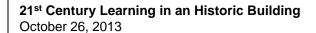






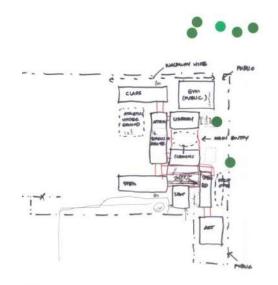


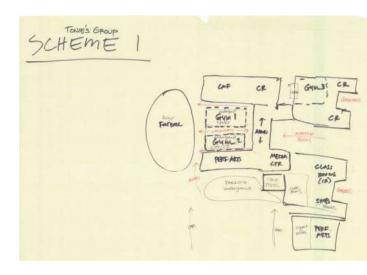


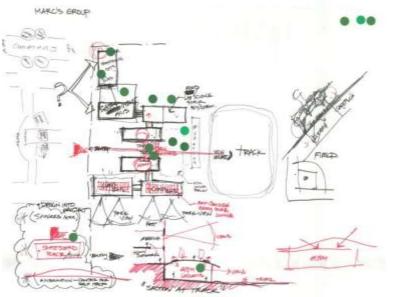


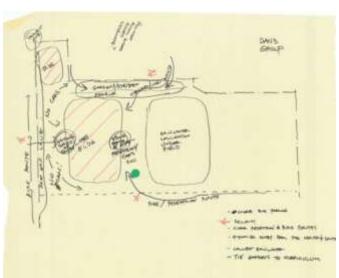
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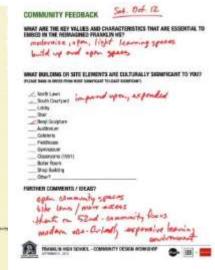






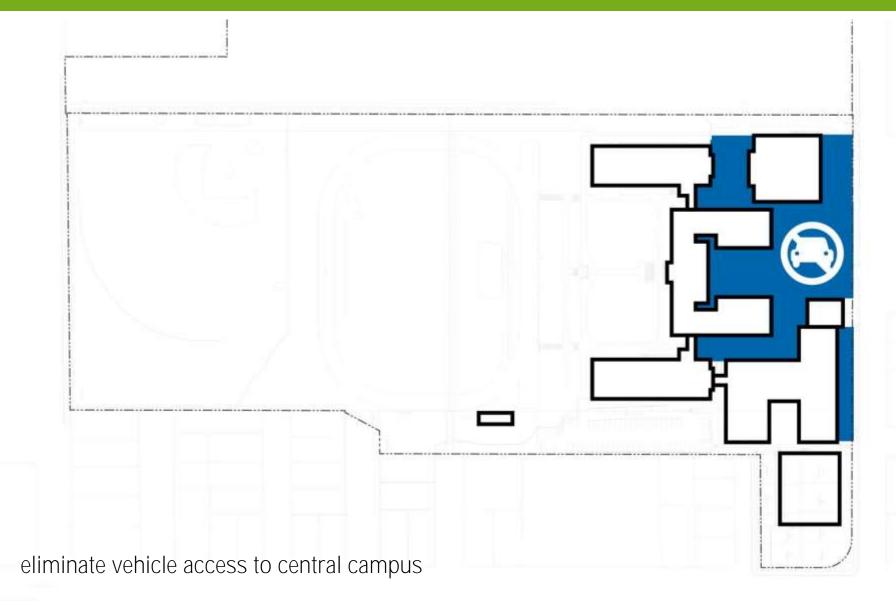




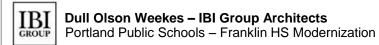


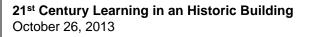




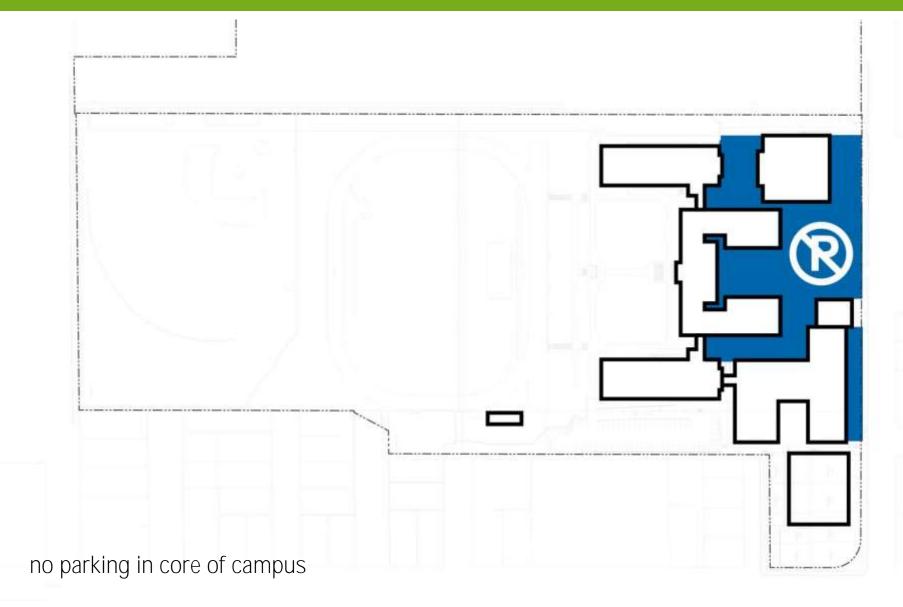




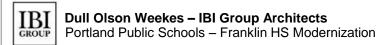


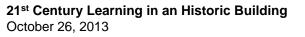




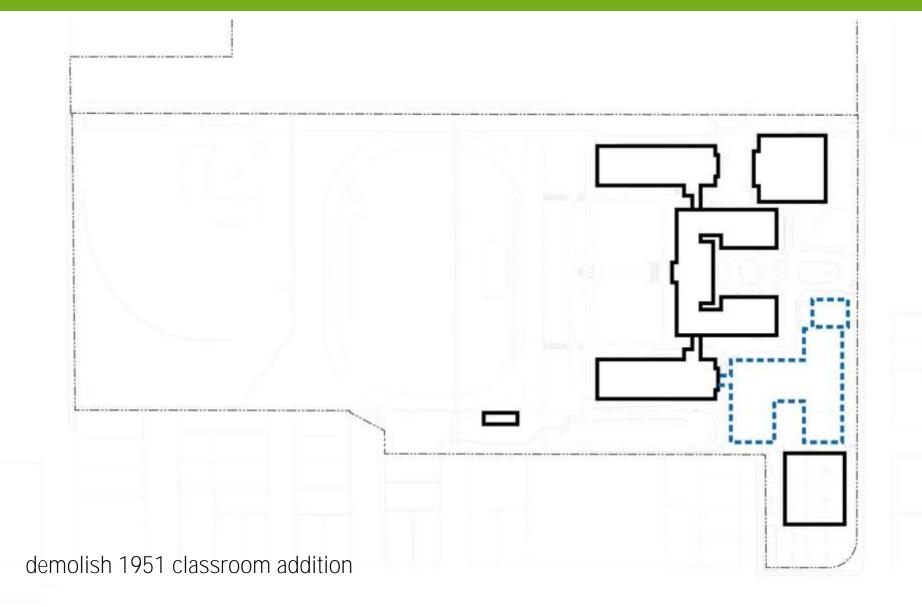










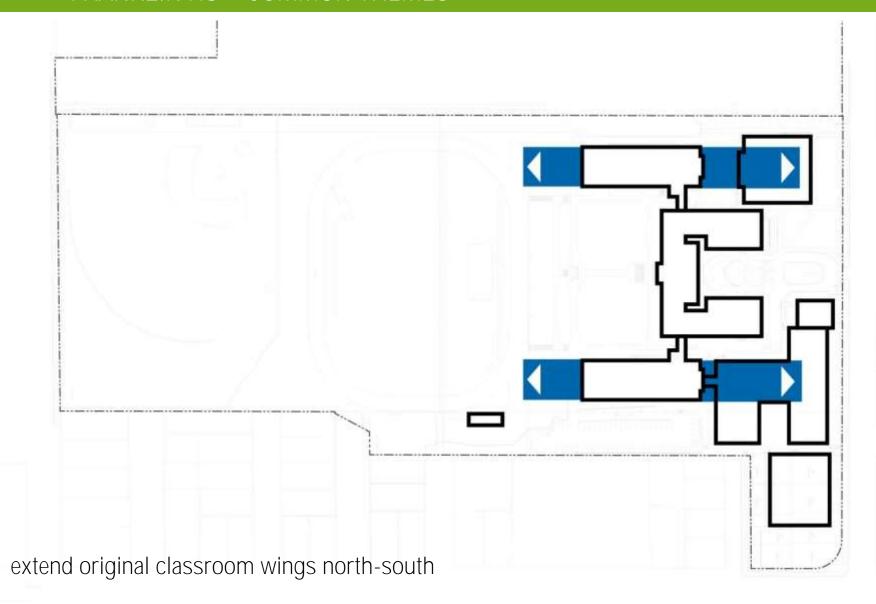






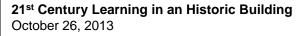




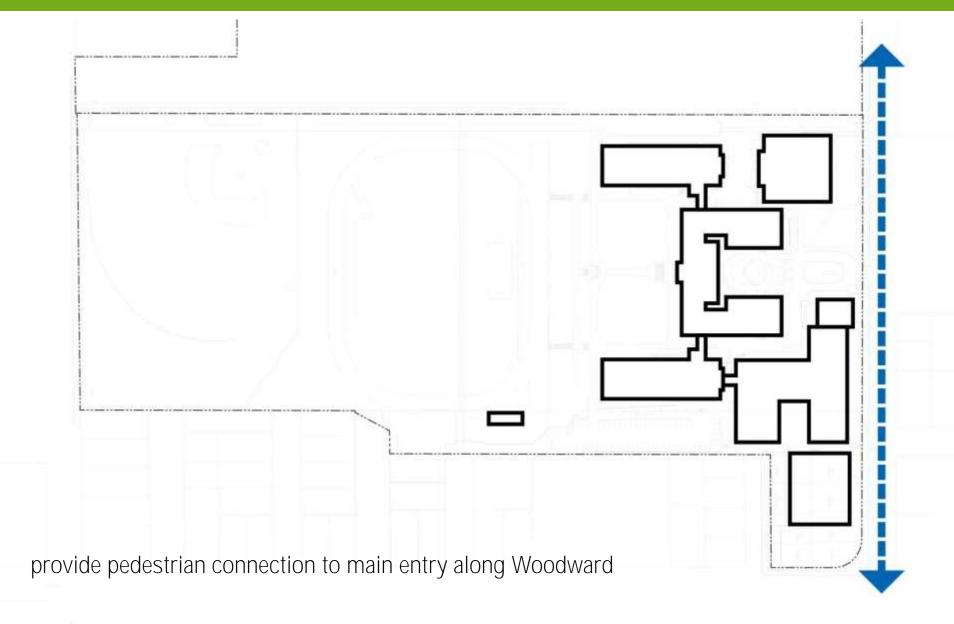






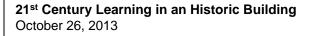




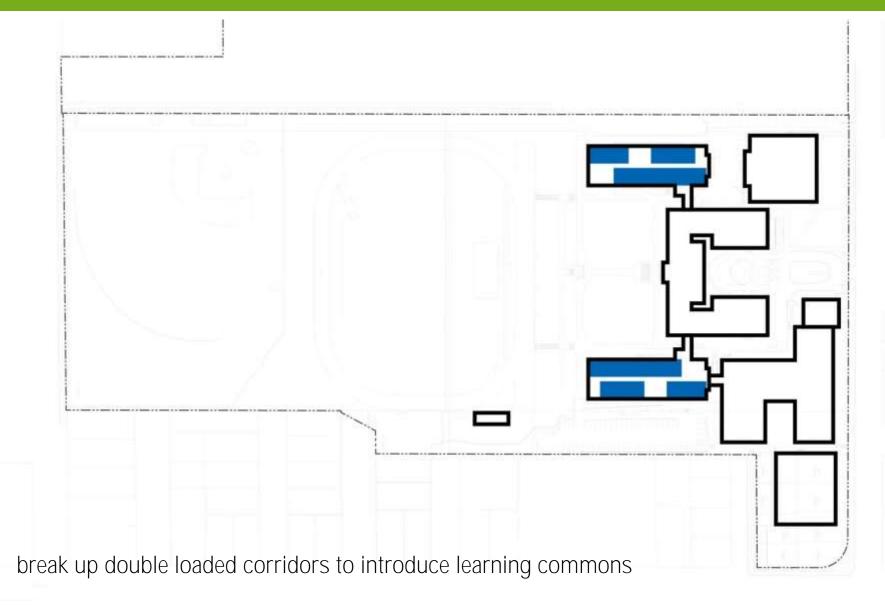








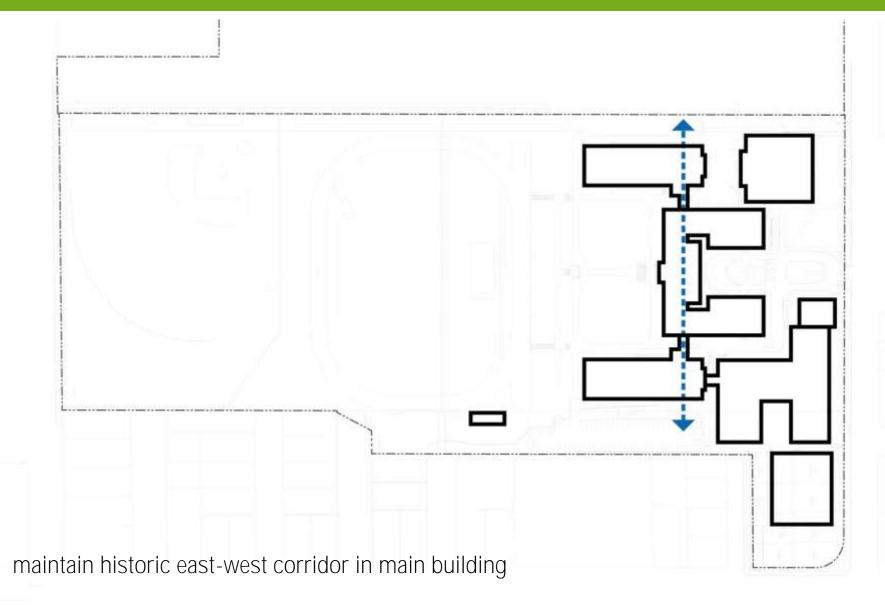








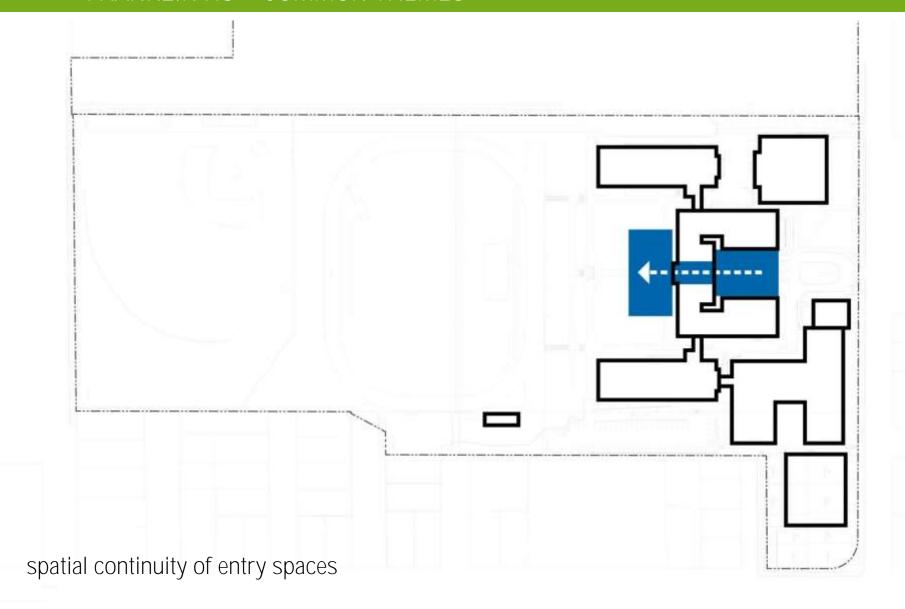








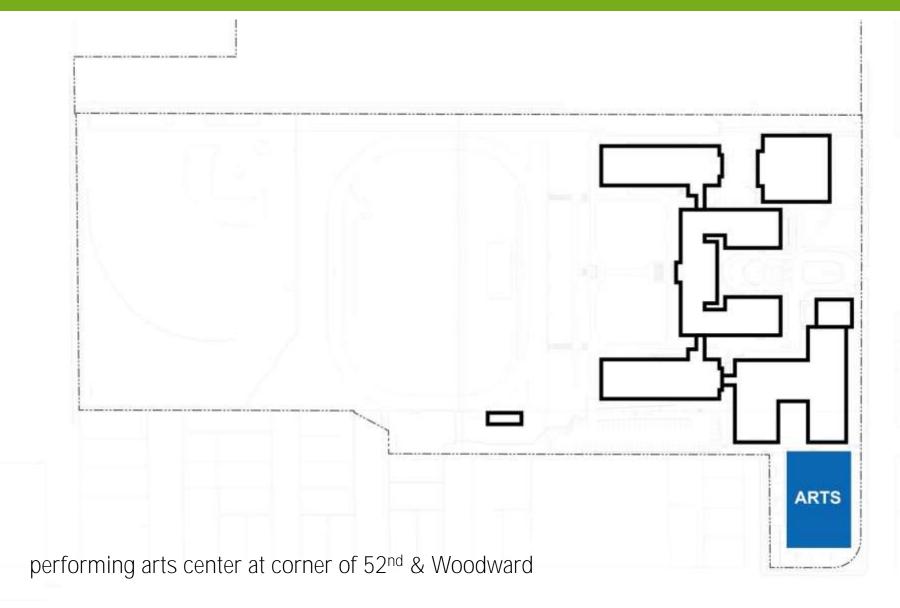




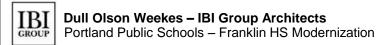


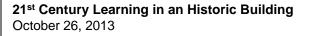




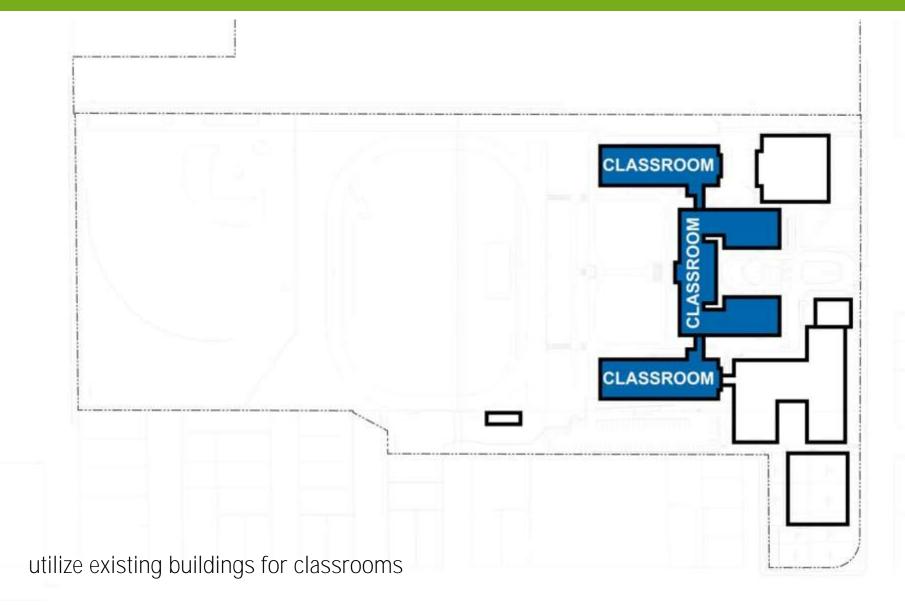








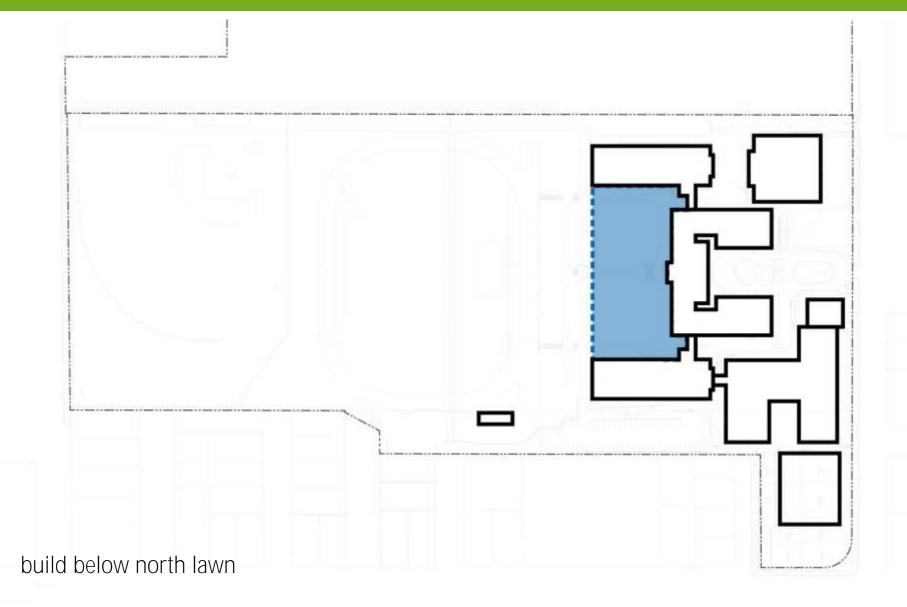






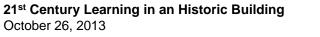




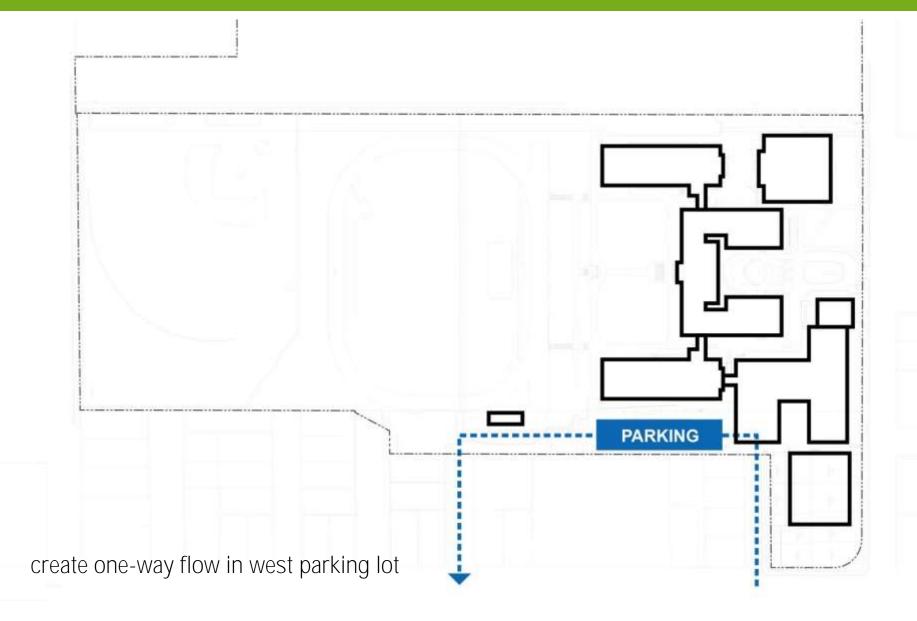






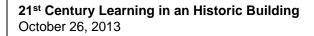




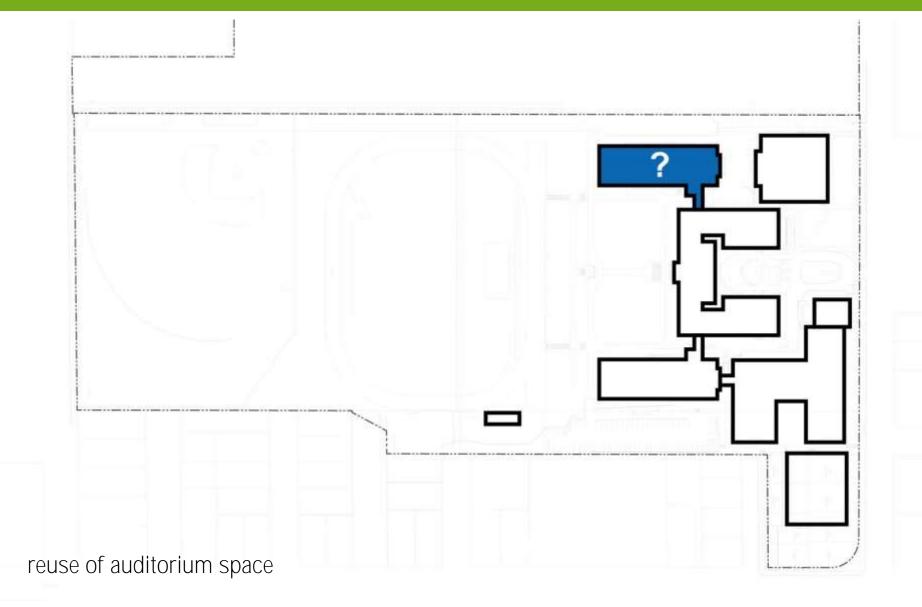




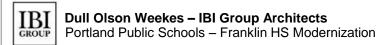


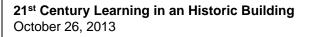




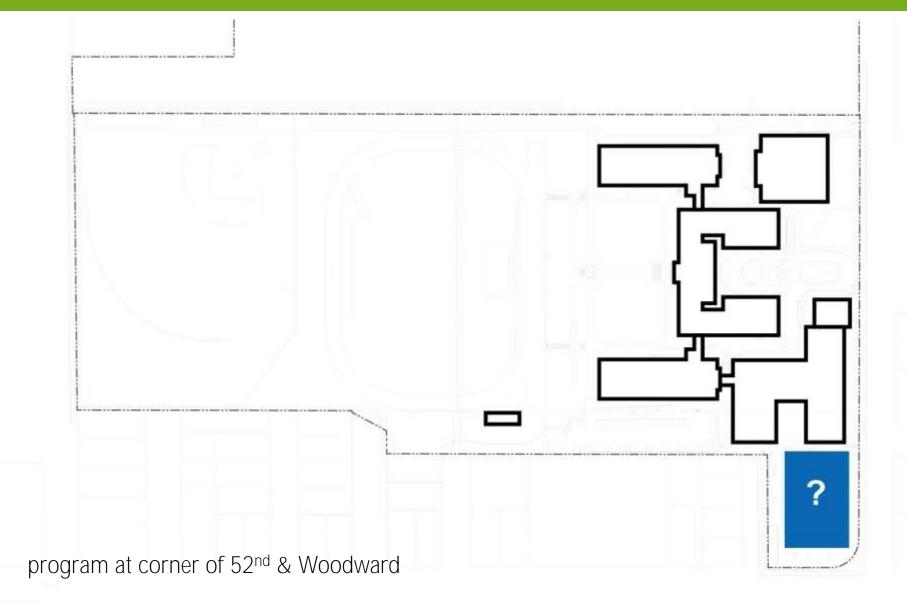






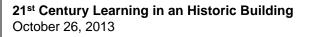




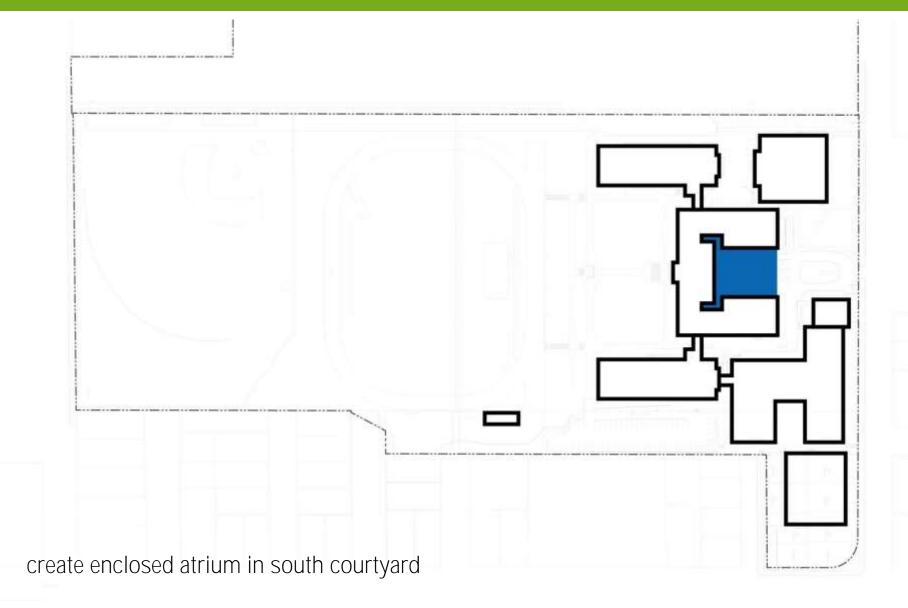






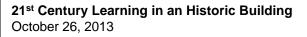




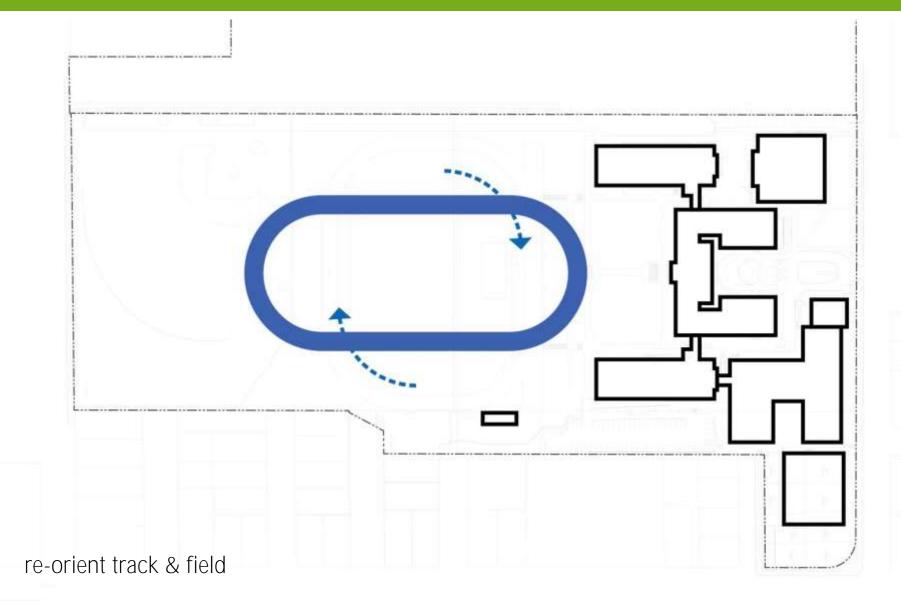






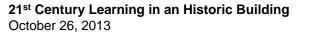




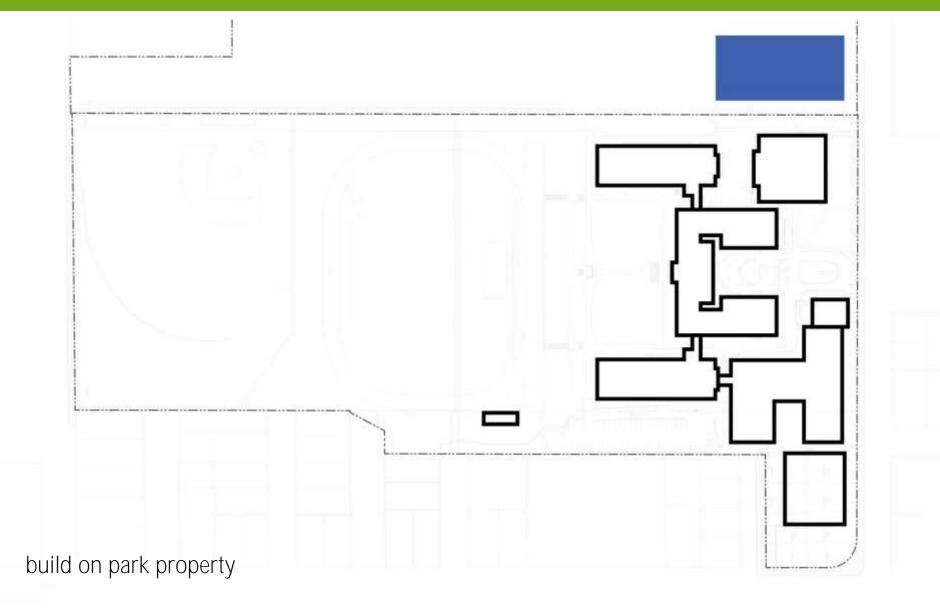








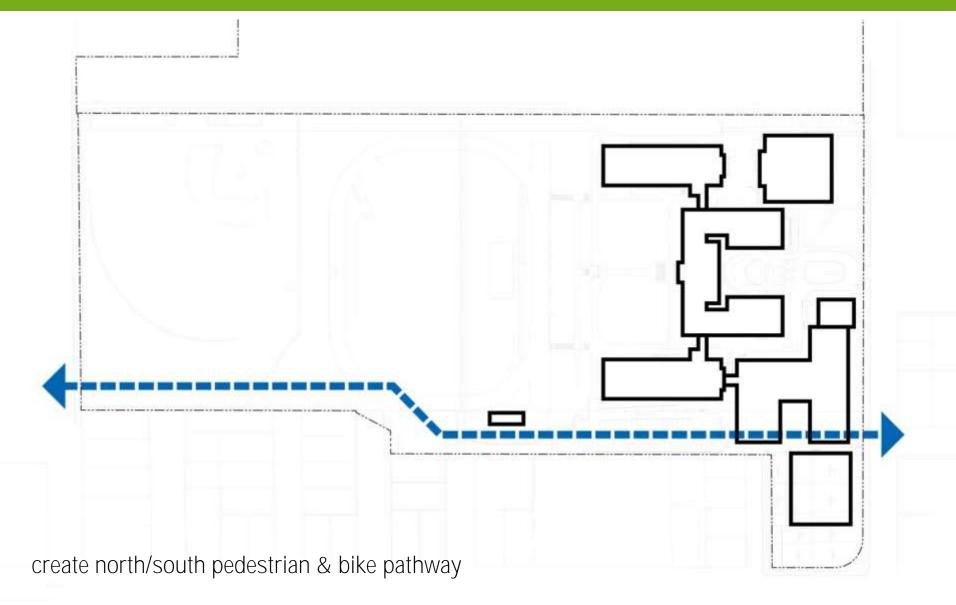






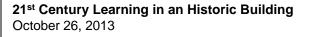




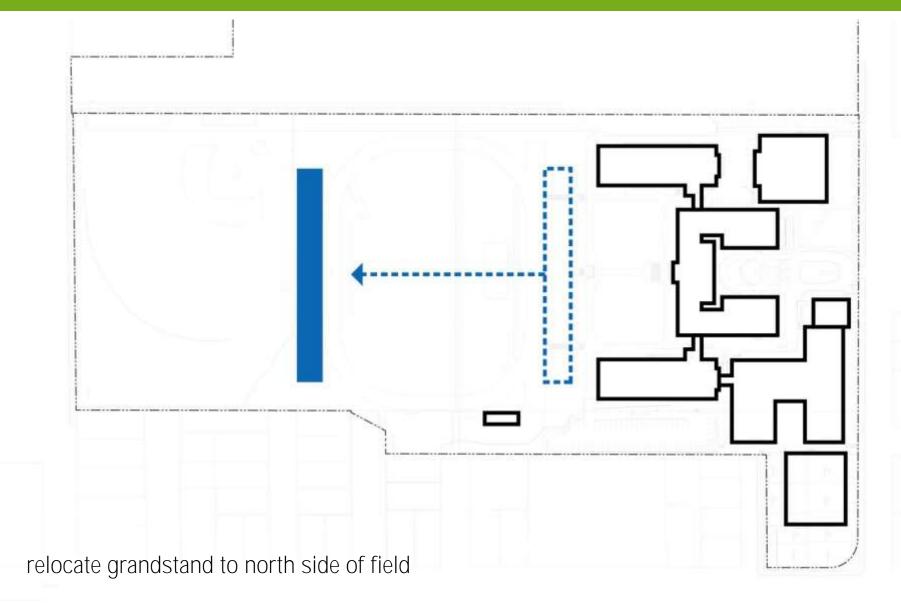






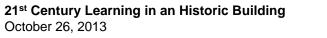




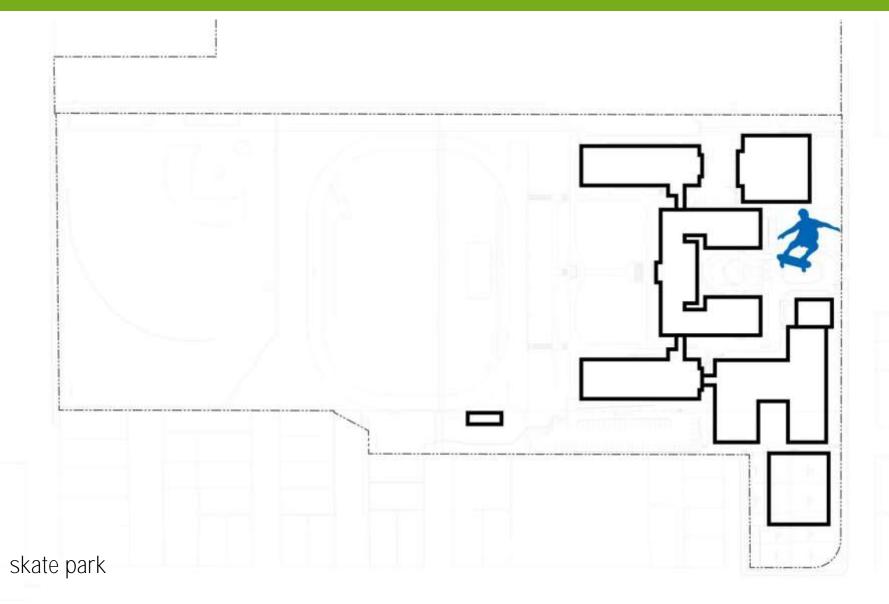






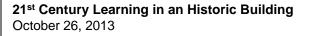




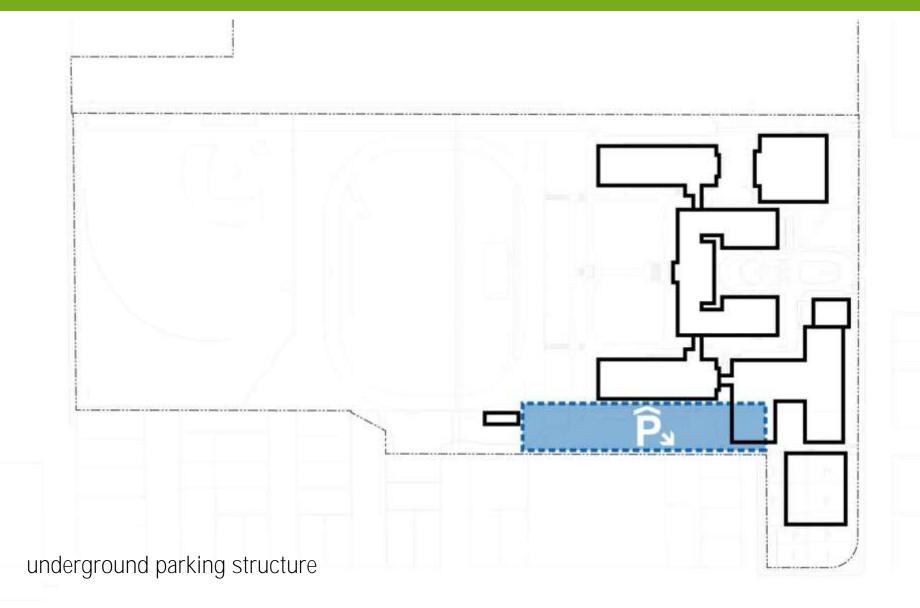






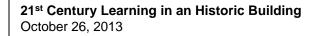




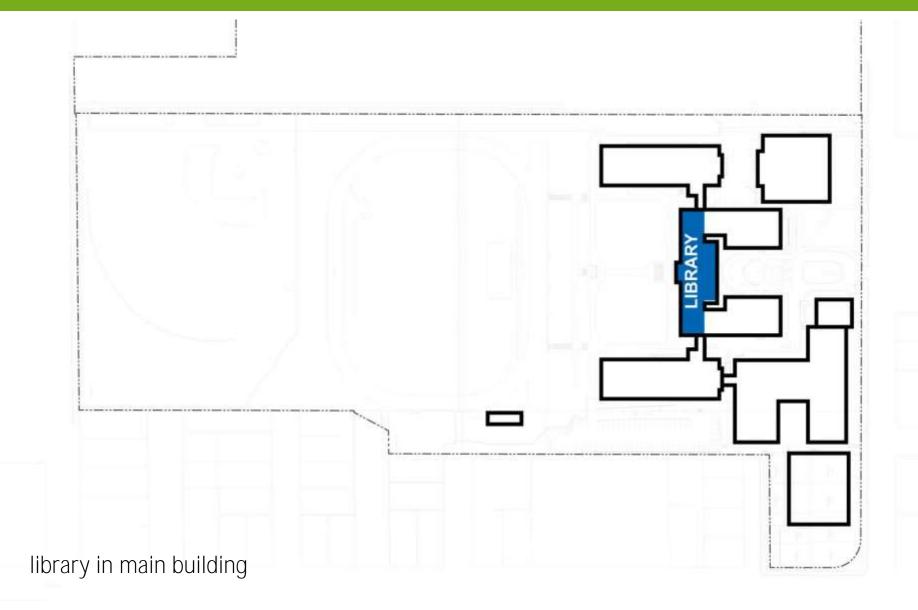




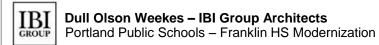


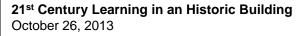






















EVALUATION CRITERIA

Operations and maintenance / durability

Operations and maintenance / cost over time

Wise use of bond resources to deliver goals

Resource efficiency (energy, water, etc.)

How systems contribute as 21st century teaching and learning tools

Human health and comfort

Preserving existing historic building asset

Acoustics

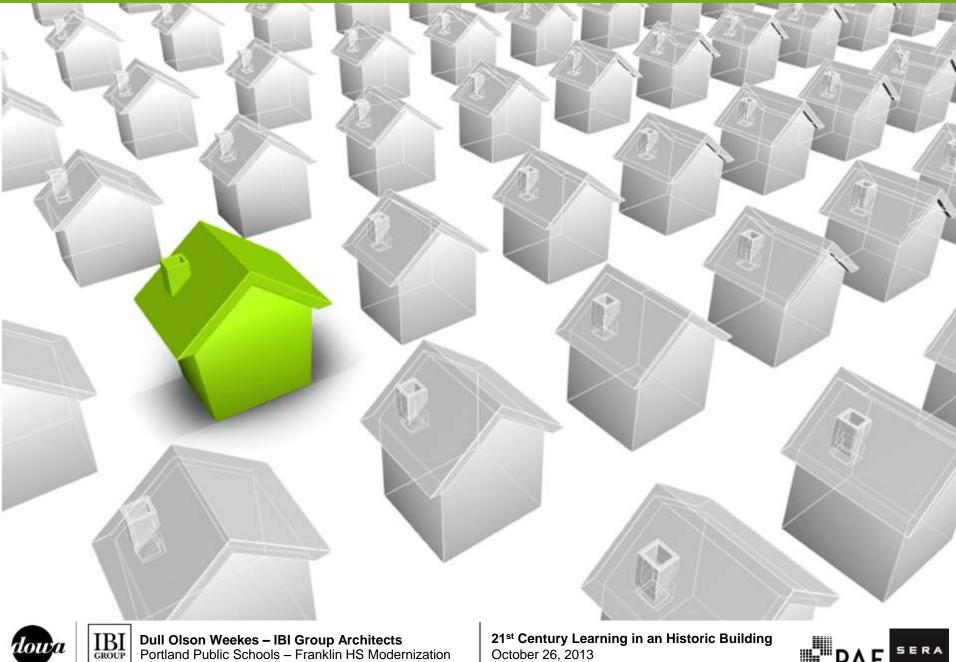
Aesthetics (general)







WHY BUILDINGS?







21st Century Learning in an Historic Building October 26, 2013





In the U.S. alone, buildings account for:



38% of all CO_2 emissions



40% of raw materials use



30% of waste output



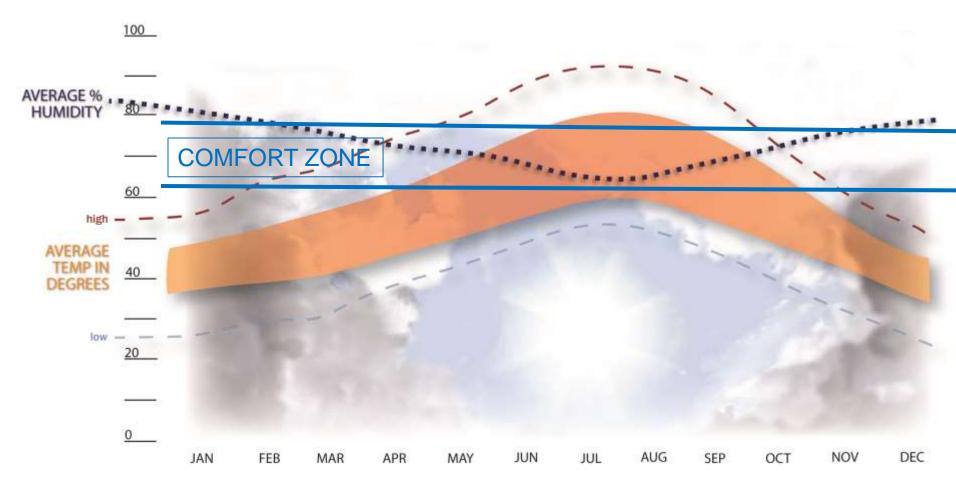
14% of potable water consumption

Source: U.S. Green Building Council





CLIMATE - PORTLAND TEMPERATURES



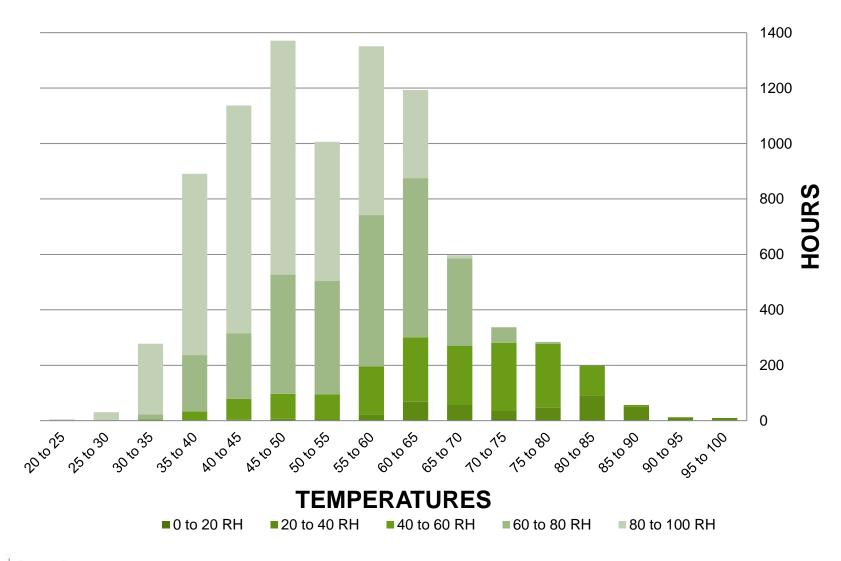
Data Source: TMY3 726980 WM0 Station Number Location: Portland Intl. Airport







TEMPERATURE AND HUMIDITY PLOT - ALL HOURS

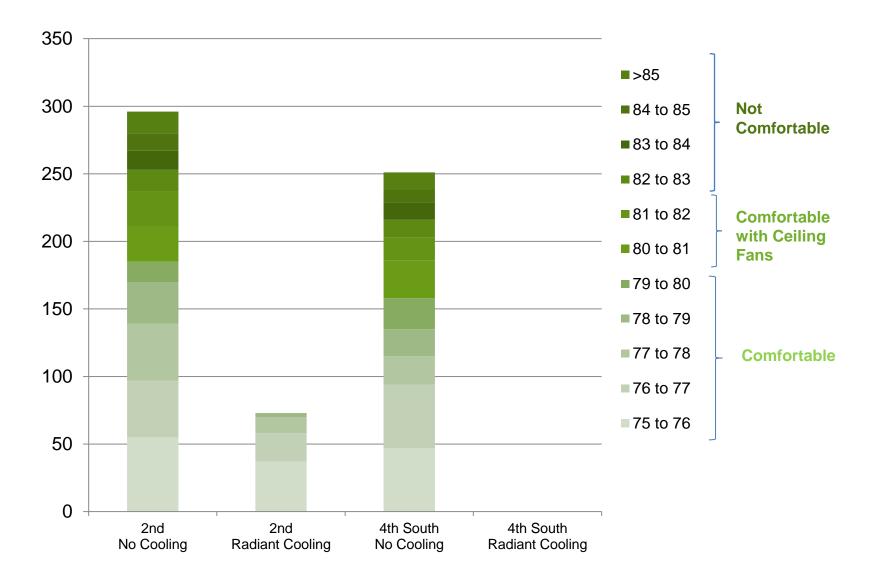








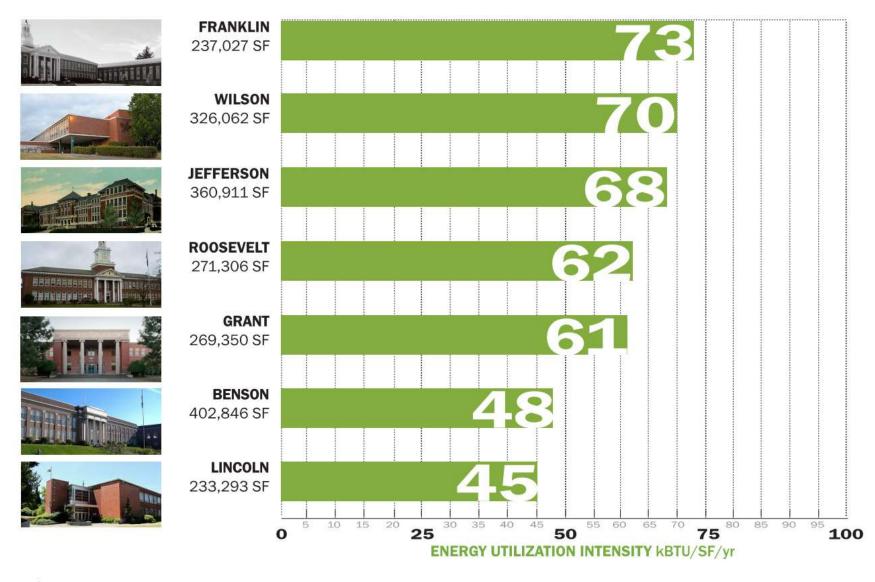
BULLITT CENTER - NATURAL VENTILATION EVALUATION







PPS HIGH SCHOOLS - 3-YEAR AVERAGE ENERGY USE INDEX







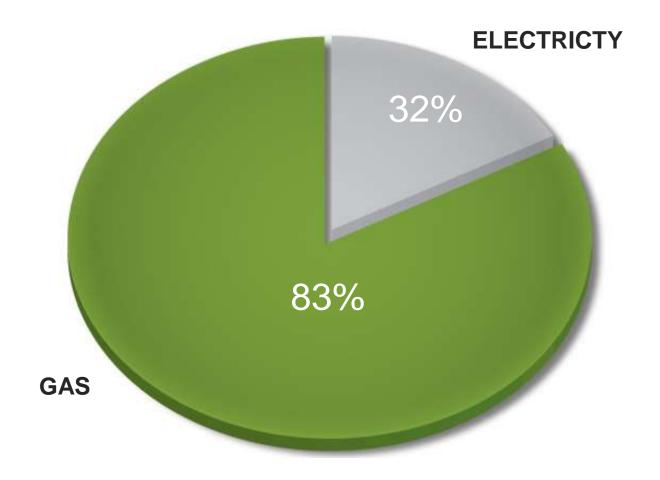
ENERGY USE GOAL SETTING AND SOLAR RESOURCE









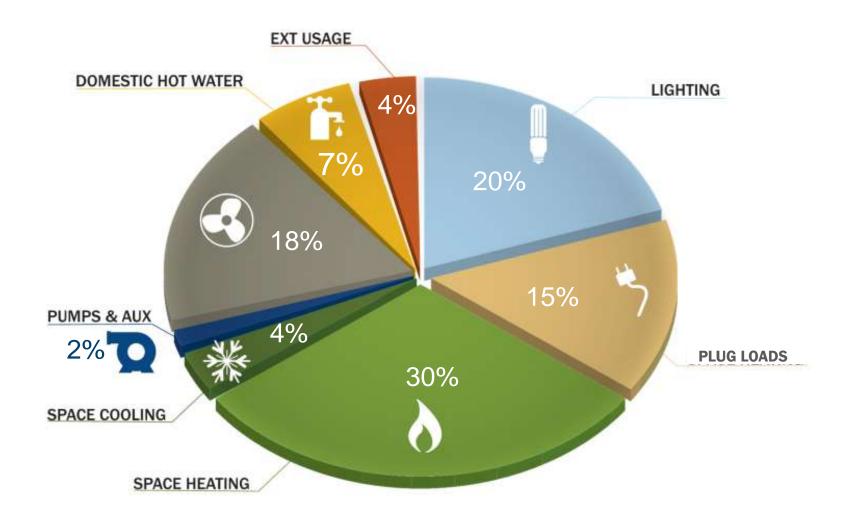








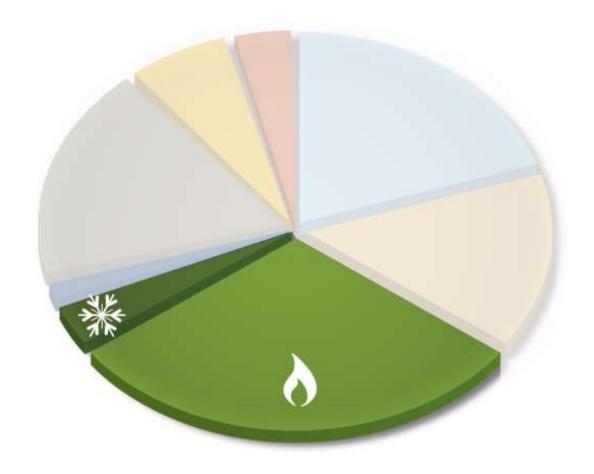
ENERGY USE BREAKDOWN







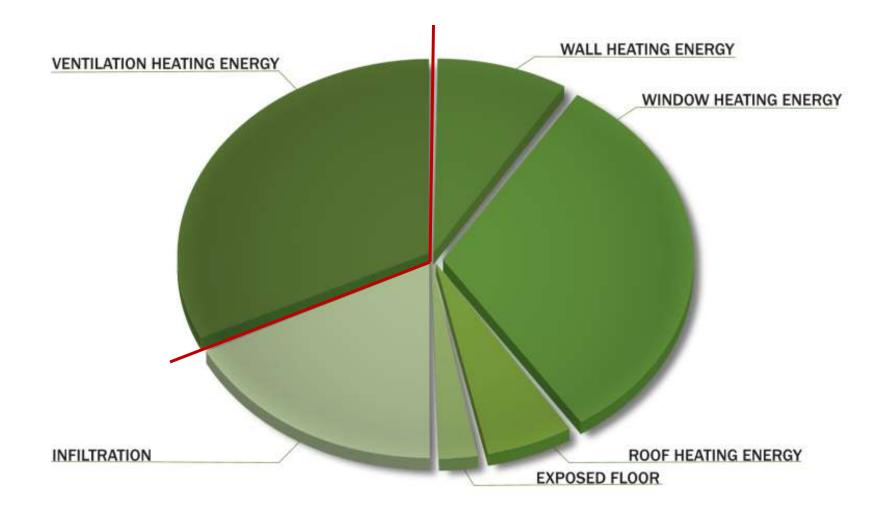








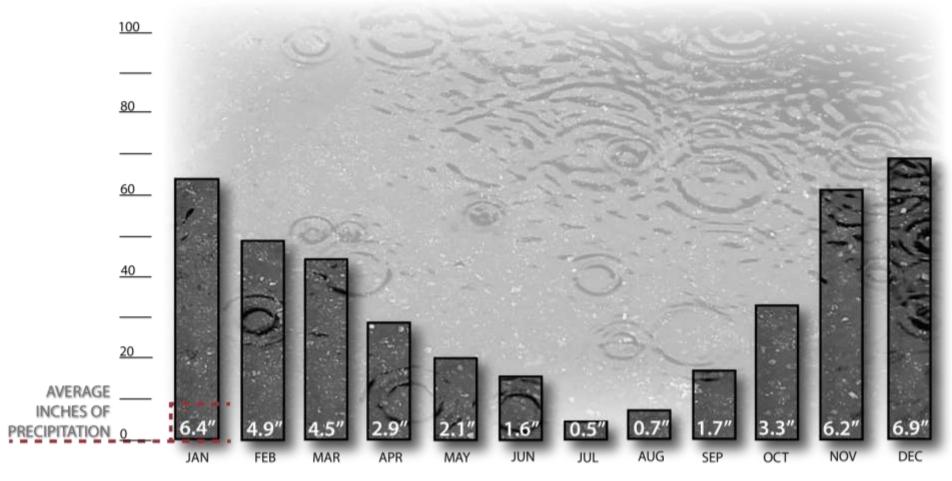
HEATING ENERGY BREAKDOWN







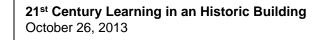




Data Source: TMY3 726980 WMO Station Number Location: Portland Intl. Airport

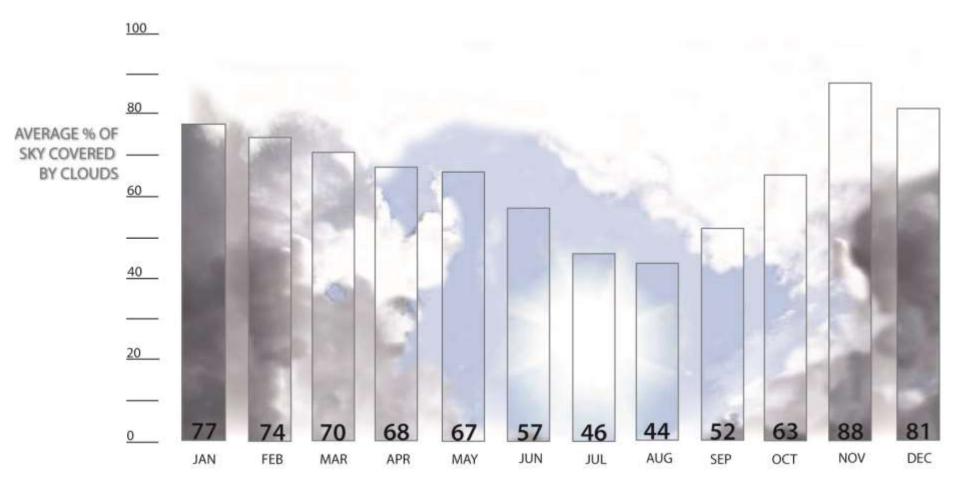








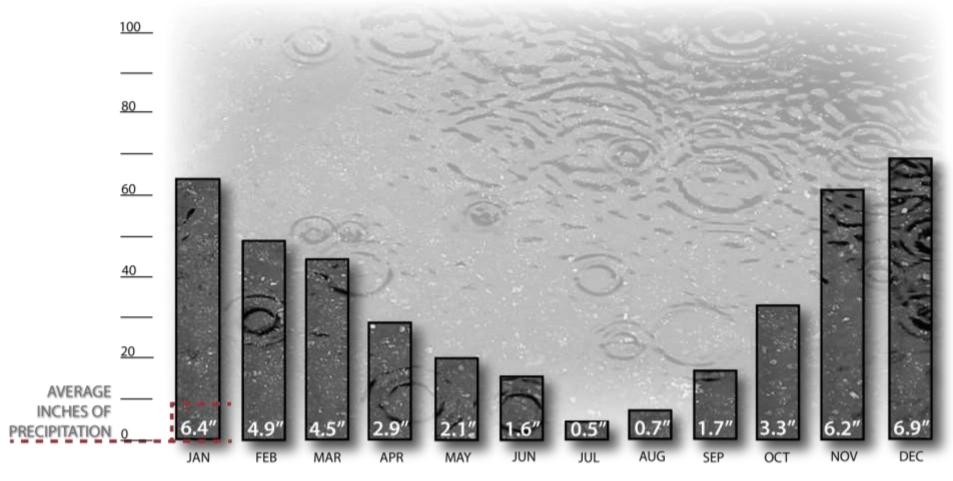
CLIMATE - PORTLAND CLOUD COVER



Data Source: TMY3 726980 WMO Station Number Location: Portland Intl. Airport





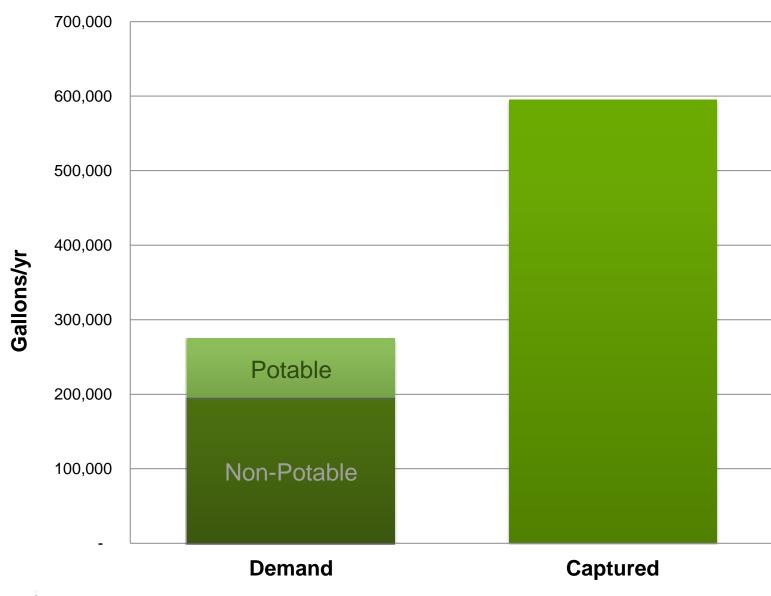


Data Source: TMY3 726980 WMO Station Number Location: Portland Intl. Airport





WATER RESOURCE ANALYSIS







21st Century Learning in an Historic Building October 26, 2013



EVALUATION CRITERIA

Operations and maintenance / durability

Operations and maintenance / cost over time

Wise use of bond resources to deliver goals

Resource efficiency (energy, water, etc.)

How systems contribute as 21st century teaching and learning tools

Human health and comfort

Preserving existing historic building asset

Acoustics

Aesthetics (general)







WINDOW ALTERNATIVES - HISTORIC BUILDINGS

	historic character / divided lights	durability & maint.	thermal insulation	solar control	overall energy use	cost
A repair & repaint existing windows	best / original	min. acceptable	min. acceptable	interior VB	min. acceptable	\$
B repair & repaint existing windows + interior storm w/ single pane glazing	best / original	min. acceptable	good	cavity VB	good	\$\$
C repair & repaint existing windows + interior storm w/ double pane glazing	best / original	min. acceptable	best	cavity VB	better	\$\$\$
D repair & repaint existing windows + exterior storm w/ single pane glazing	good / original behind storm	good	good	cavity VB + low-e glass	good	\$\$
E replace windows with historic replicas in aluminum w/ double glazing	good / aluminum replica	best	better	interior VB + low-e glass	best	\$\$\$\$
F replace windows with historic replicas in high perf wood w/ double glazing	good / wood replica	good	better	interior VB + low-e glass	best	\$\$\$\$
G replace windows with hybrid windows: single pane historic replicas in alum at ext. + double pane wood int.	good / aluminum replica	best	best	cavity VB + low-e glass	best +	\$\$\$\$\$

NOTES

- 1 existing windows: double-hung, single-pane, wood windows with 12 over 12 divided lights
- 2 all storm windows would be permanent and operable
- 3 repair includes operability where beneficial and improved air tightness
- 4 thermal insulation of windows provided in part by low-e glazing for all alternatives
- **VB** venetian blinds





WINDOW ALTERNATIVES – NEW BUILDINGS

	durability & maint.	thermal insulation	solar control	overall energy use	cost
A code min. aluminum windows, operable	best	good	low-e glass	good	\$
B improved aluminum windows, operable	best	better	low e glass + fixed ext shading at S, E, W	better	\$\$
C advanced aluminum windows, operable	best	best	low e glass + fixed ext shading at S, E, W	best	\$\$\$
hybrid operable windows; single pane in aluminum at ext. + double pane wood at interior	best	best	low e glass + operable VB in cavity	best +	\$\$\$\$

NOTES

1 thermal insulation of windows provided in part by low-e glazing for all alternatives

VB venetian blinds







ROOF INSULATION ALTERNATIVES – HISTORIC BUILDINGS

	total ceiling thermal c insulation	air infiltration control	thermal comfort	overall energy use	cost
A no added insulation - patch and paint only	R-5	poor	poor	min. acceptable	\$
B add R-38 blown-in insulation above ceiling, reduce air infiltration	R-43	better	better	better	\$\$
C add R-38 SPF to underside of roof sheating and rafters, reduce air infiltration	R-43	best	better	better +	\$\$\$
D add R-50 blown-in insulation above ceiling, reduce air infiltration	R-55	best	best	best	\$\$\$







ROOF INSULATION ALTERNATIVES – NEW BUILDINGS

	total ceiling thermal air insulation	r infiltration control	thermal comfort	overall energy use	cost	
A code minimum: R-38 batt insulation above ceiling, attic ventilated to exterior	R-43	good	good	good	\$	
B code minimum: R-40 rigid insulation above roof sheathing, attic (if any) ventilated to interior	R-45	better	better	better	\$\$	
C R-50 rigid insulation above roof sheathing, attic (if any) ventilated to interior	R-55	best	best	best	\$\$\$	







EXTERIOR WALL INSULATION ALTERNATIVES – HISTORIC BUILDINGS

	total wall thermal insulation	space implications	air infiltration control	thermal comfort	overall energy use	cost
A no insulation - patch and paint only	R-3	existing	poor	poor	min. acceptable	\$
B remove interior finish, add R-14 insulation + gyp.bd	R-17	lose 4" at exterior	better	better	better	\$\$
C remove interior finish, add R-40 insulation + gyp.bd	R-43	lose 8" at exterior	best	best	best	\$\$\$







EXTERIOR WALL INSULATION ALTERNATIVES – NEW BUILDINGS

	total wall thermal insulation	space implications	air infiltration control	thermal comfort	overall energy use	cost
A code min: R-13 wall insulation in wall cavity + R-7.5 continuous exterior insulation over sheathing	R-1 <i>7</i>	n/a	good	good	good	\$
B R-13 wall insulation in wall cavity + R- 20 continuous exterior insulation over sheathing	R-30	n/a	better	better	better	\$\$
C R-13 wall insulation in wall cavity + R- 30 continuous exterior insulation over sheathing	R-40	n/a	best	best	best	\$\$\$





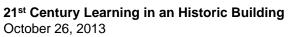


FRANKLIN HS – SUSTAINABILITY REVIEW







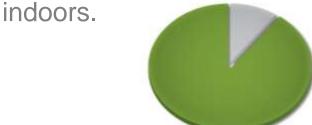




HOW CAN BUILDINGS IMPACT HUMAN HEALTH?



People spend 90% of their time indoors



Indoor pollutant levels may be2–5 times higher than outdoor levels.

Source: U.S. EPA





HOW CAN BUILDINGS IMPACT HUMAN HEALTH?



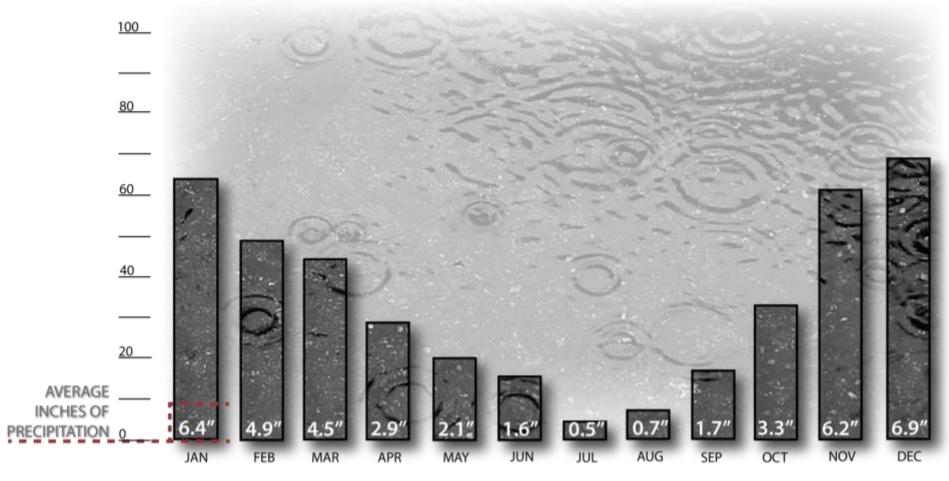
Poor indoor air quality is one of the top 5 environmental risks to public health in the U.S. today.

Source: U.S. EPA





CLIMATE - PORTLAND RAINFALL

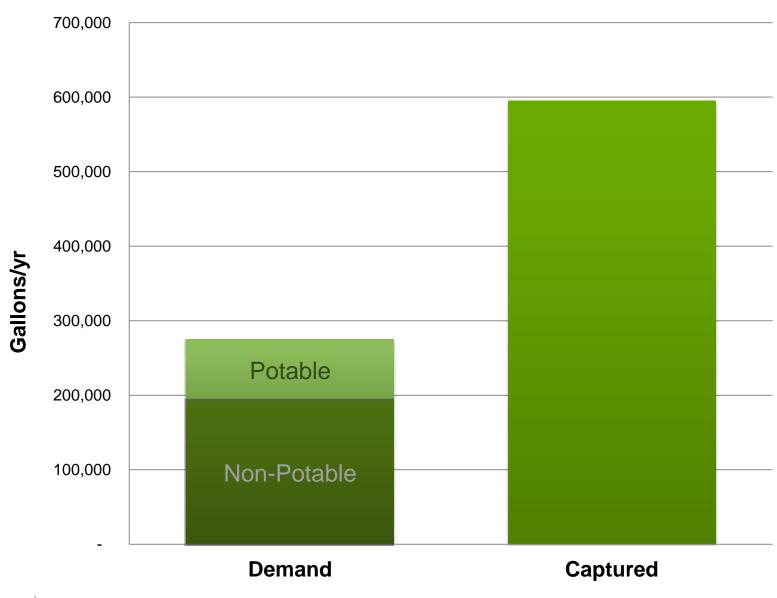


Data Source: TMY3 726980 WM0 Station Number Location: Portland Intl. Airport





WATER RESOURCE ANALYSIS



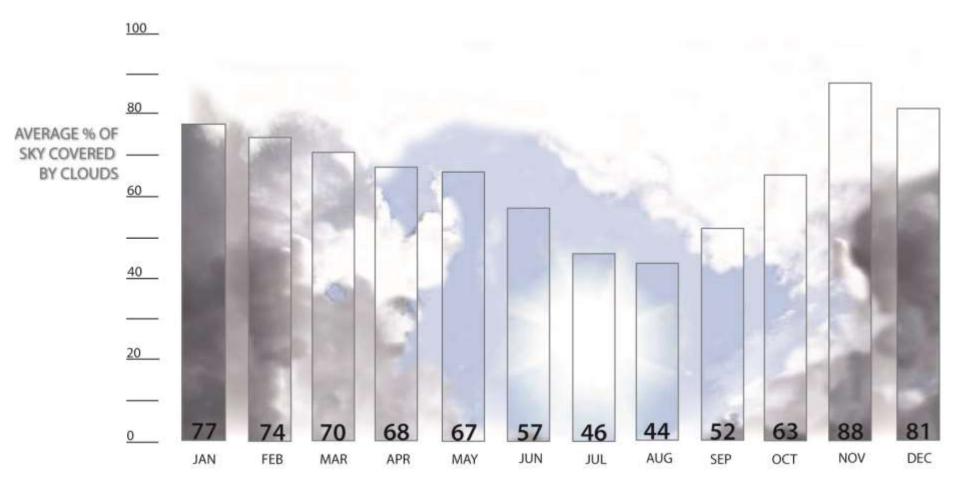




21st Century Learning in an Historic Building October 26, 2013



CLIMATE - PORTLAND CLOUD COVER

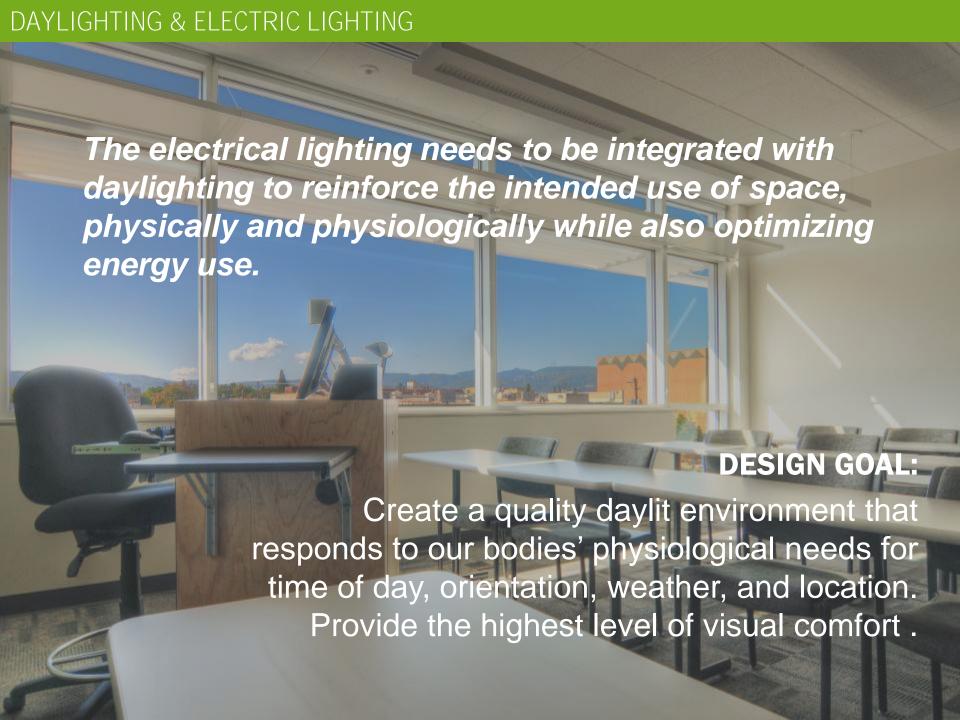


Data Source: TMY3 726980 WM0 Station Number Location: Portland Intl. Airport









DAYLIGHTING & ELECTRIC LIGHTING



Reducing students exposure to both outdoor and indoor pollutants improves their health and productivity.

DESIGN GOAL:

Provide exceptional indoor air quality by minimizing occupant's exposure to pollutants, ventilating occupied spaces with quality air, and ensuring fresh air is delivered to all occupants.

INDOOR AIR QUALITY

KEY COMPONENTS

- Healthy Materials Selection
- Mitigate VOCs
- Air Filtration
- Current Best Practices:
 - Optimize Ventilation Rates and Control
 - High Quality Filtration
 - Pollutant Source Control
 - Managing Construction Practices









The building and its systems needs to best support occupants' thermal comfort.

DESIGN GOAL:

Enhance perceived thermal comfort by maintaining the proper combination of operative temperature, air speed, and humidity in all occupied spaces while allowing occupants to control their environments.

HVAC SYSTEM (THERMAL COMFORT) **KEY COMPONENTS to CONSIDER** Efficiency Longevity Access **Energy Conservation Automation / Controls** Maintenance Passive or Low Energy

We need to provide proper areas for conversation and interaction while balancing the need for peace and quiet.

DESIGN GOAL:

In the school, acoustical conditions should provide opportunities for conversations where appropriate, while also optimizing for concentration and focus.

ACOUSTICS

KEY COMPONENTS

- Avoid unpleasant levels of noise using absorption and isolation
- Accommodate speech privacy
- Enhance speech intelligibility
- Control HVAC noise
- Zoning of building so spaces with different acoustic
 criteria are not near each other
- Voice amplification
- Outside noise / operable windows
- Balance of hard and soft materials and maintenance of each
- Attenuation of each space versus flexibility



DESIGN GOAL:

Incorporate nature and natural systems into the built environment to help mitigate the negative impact of stress, engender positive cognitive and psychophysiological responses, and contribute to the well-being of occupants

CONNECTION TO NATURE

- Nature in the Space
 - Visual connections to nature
 - Physical connections to nature
 - Non-rhythmic sensory stimuli
- Nature of the Space
 - Prospect
 - Refuge
 - Mystery / Enticement
- Natural Analogues
 - Biomorphic Forms and Patterns

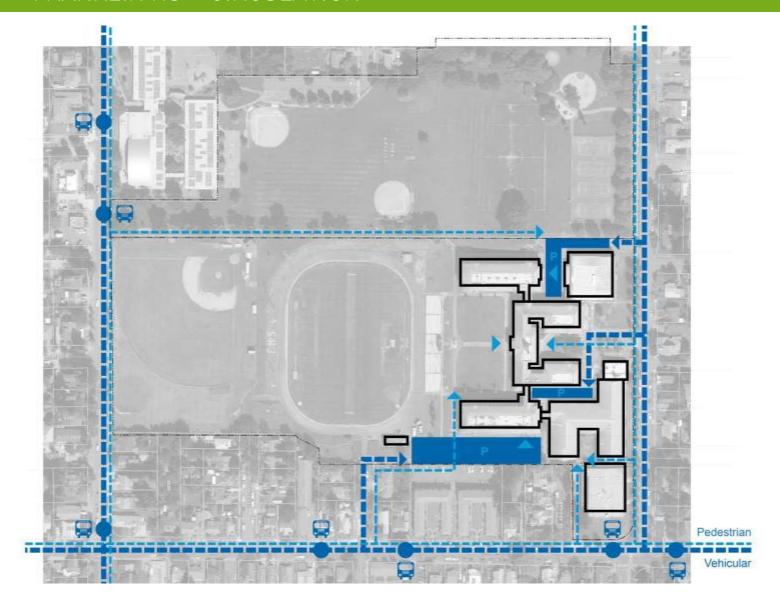








FRANKLIN HS - CIRCULATION







SERA

FRANKLIN HS – HISTORIC PRESENCE

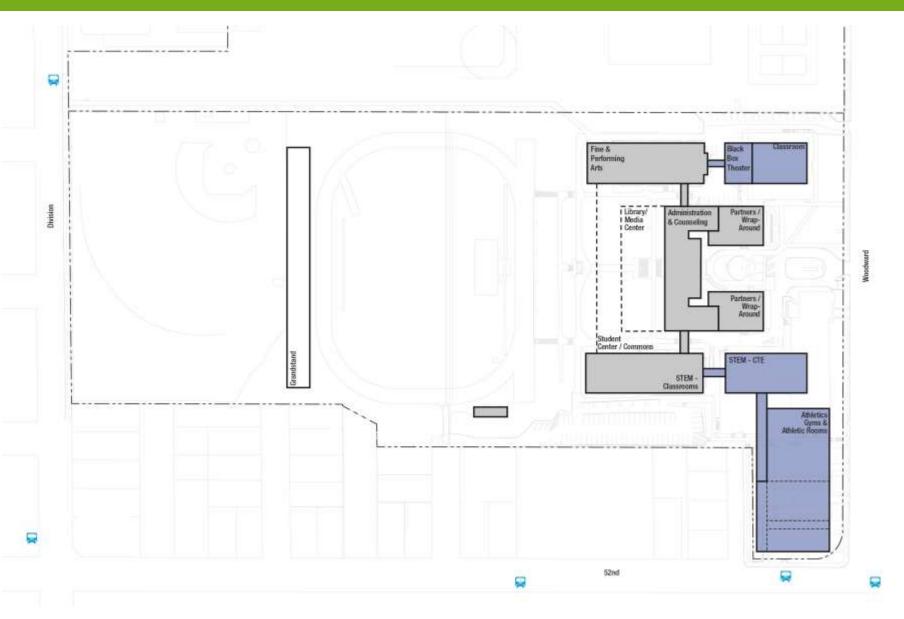






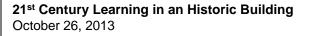


FRANKLIN HS - MASTER PLAN OPTION B



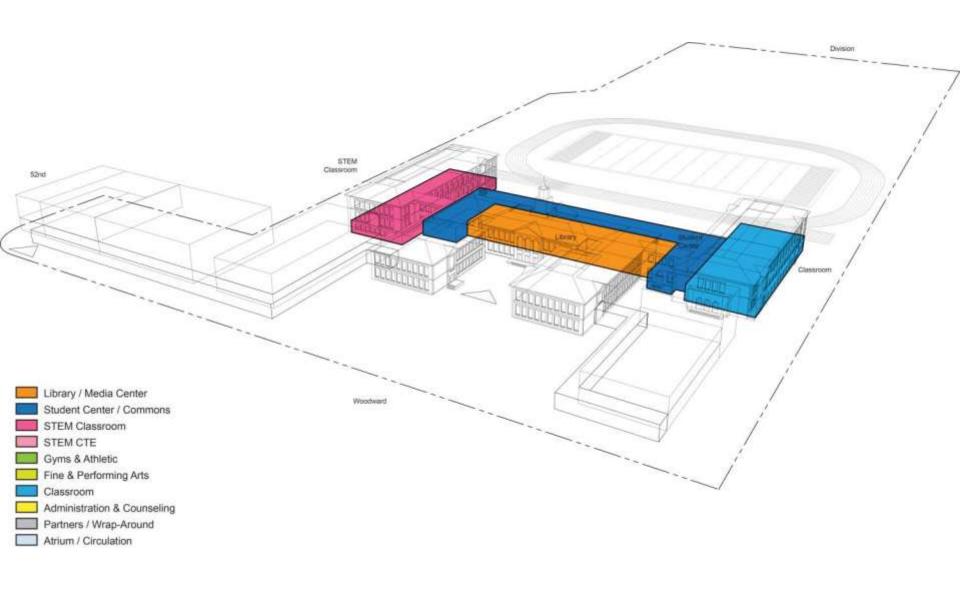








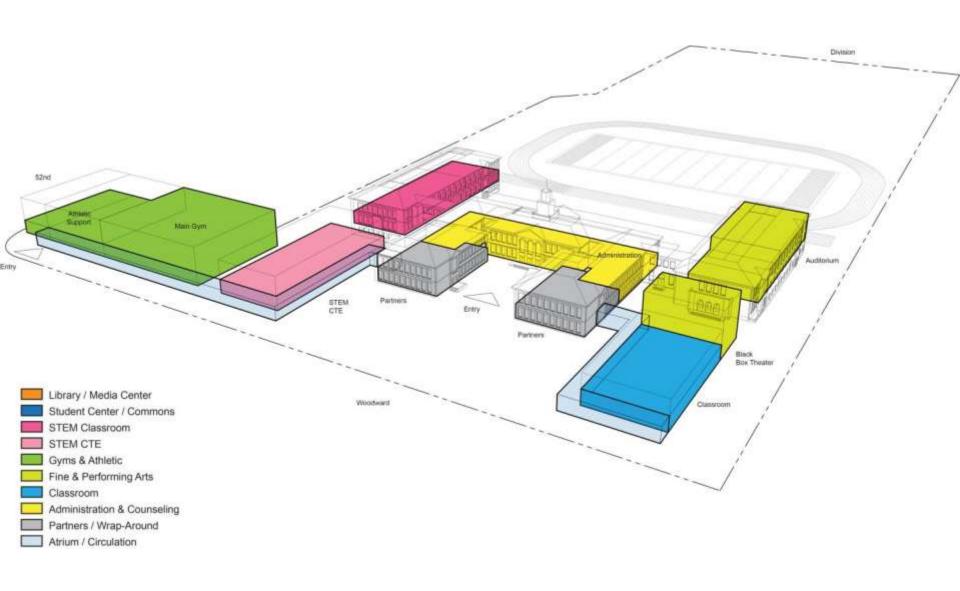
FRANKLIN HS - MASTER PLAN OPTION B - BASEMENT LEVEL







FRANKLIN HS – MASTER PLAN OPTION B – FIRST FLOOR



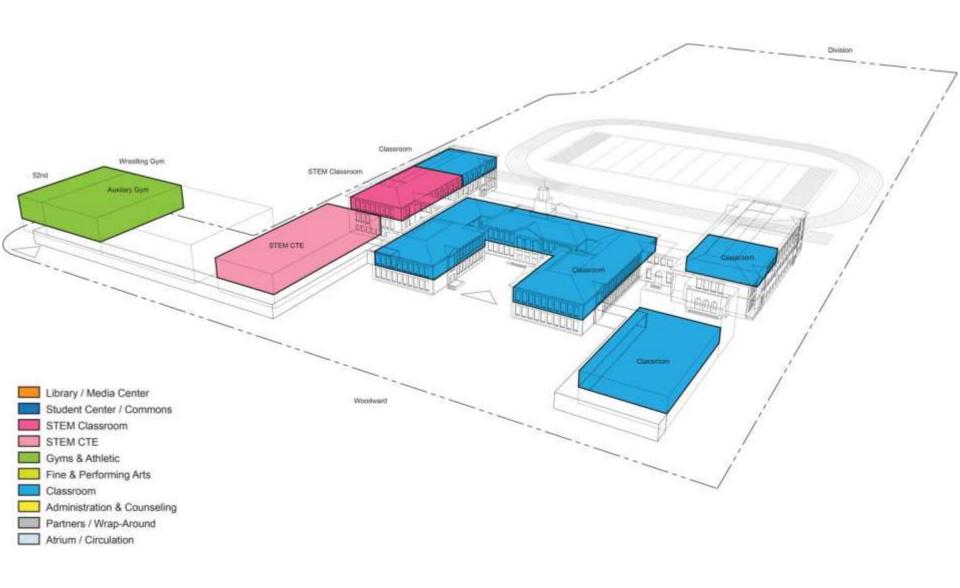






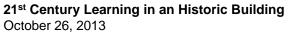


FRANKLIN HS - MASTER PLAN OPTION B - SECOND FLOOR



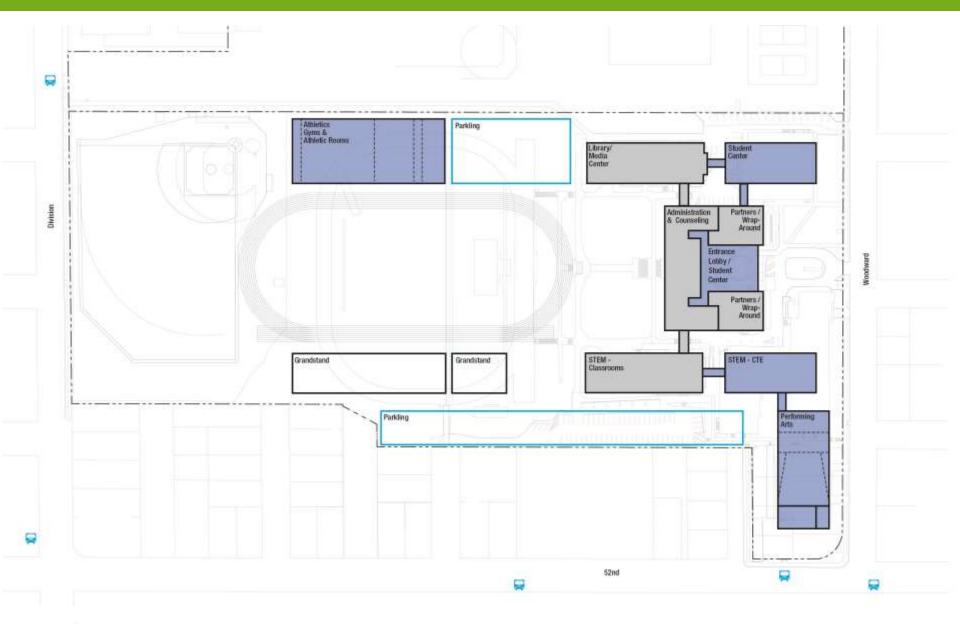








FRANKLIN HS - MASTER PLAN OPTION C

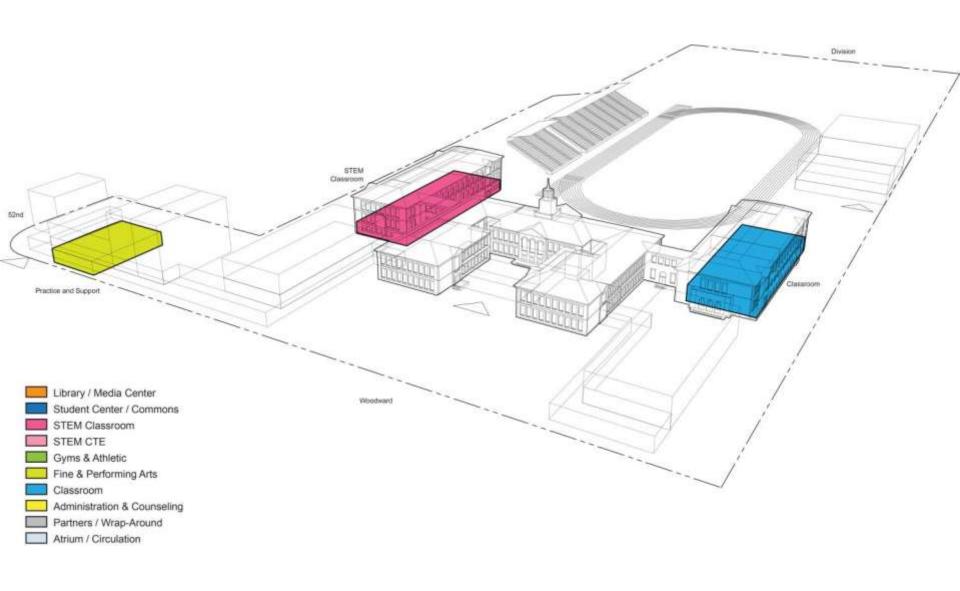






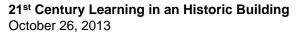


FRANKLIN HS - MASTER PLAN OPTION C - BASEMENT LEVEL



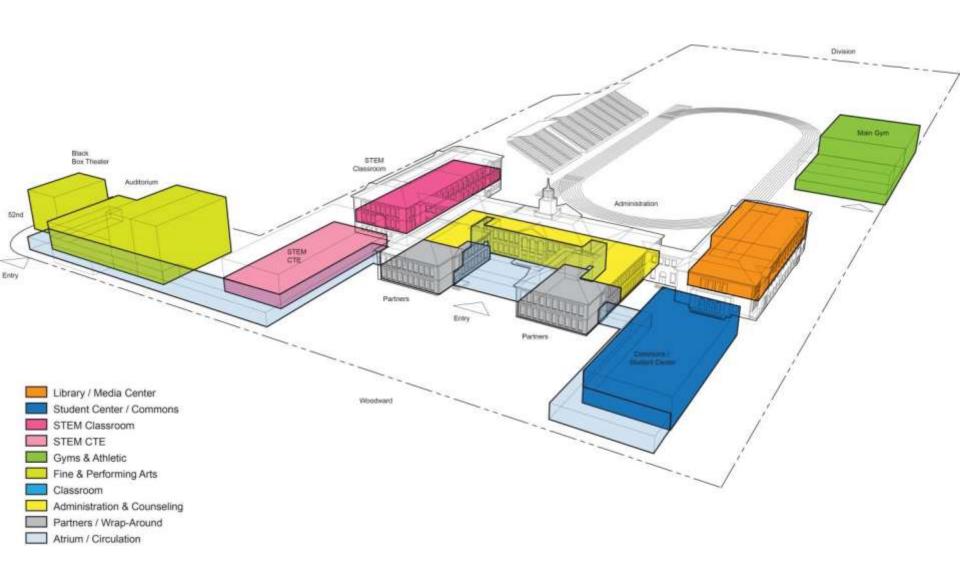






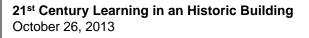


FRANKLIN HS – MASTER PLAN OPTION C – FIRST FLOOR



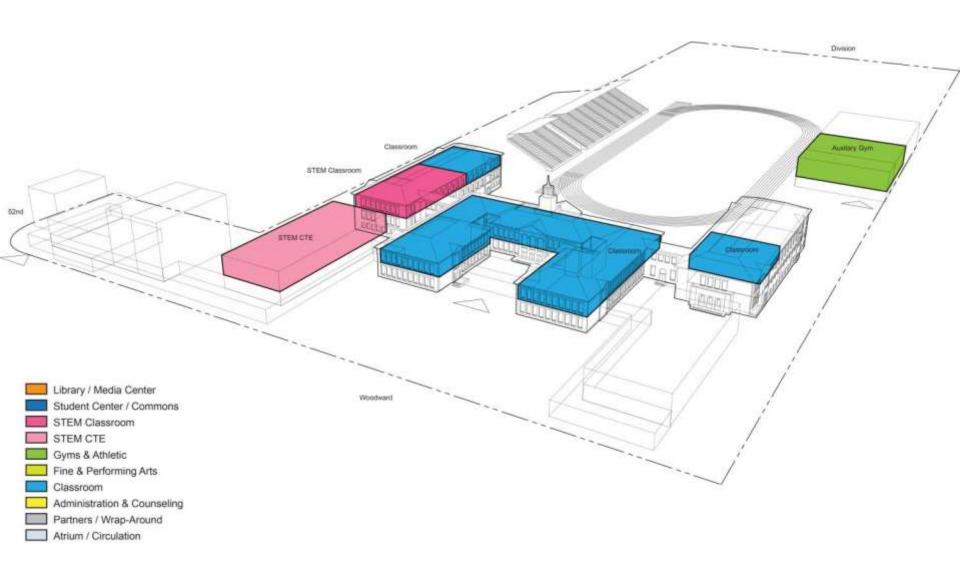








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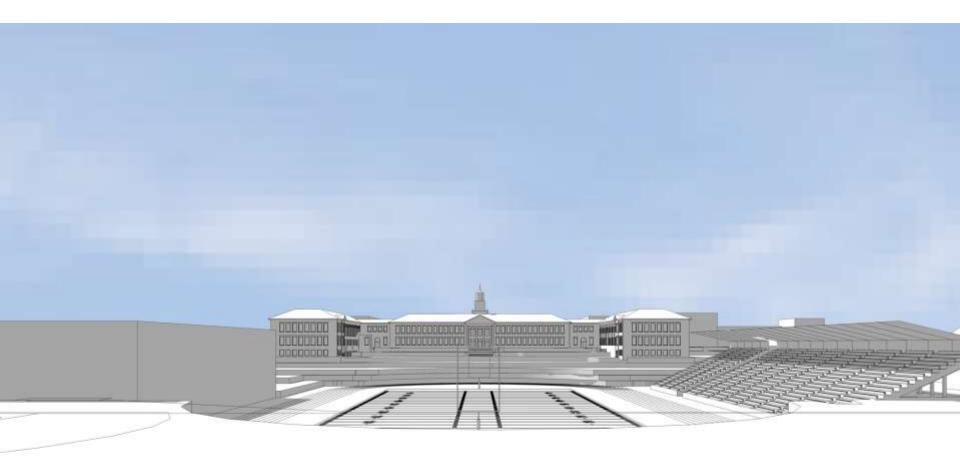








FRANKLIN HS - MASTER PLAN OPTION C - VIEW FROM DIVISION

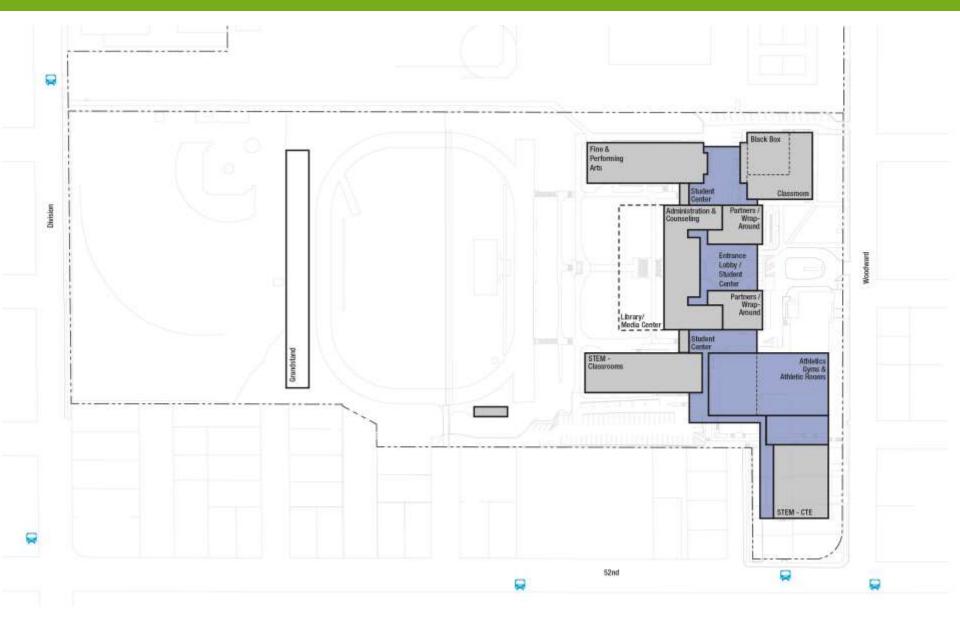








FRANKLIN HS - MASTER PLAN OPTION D



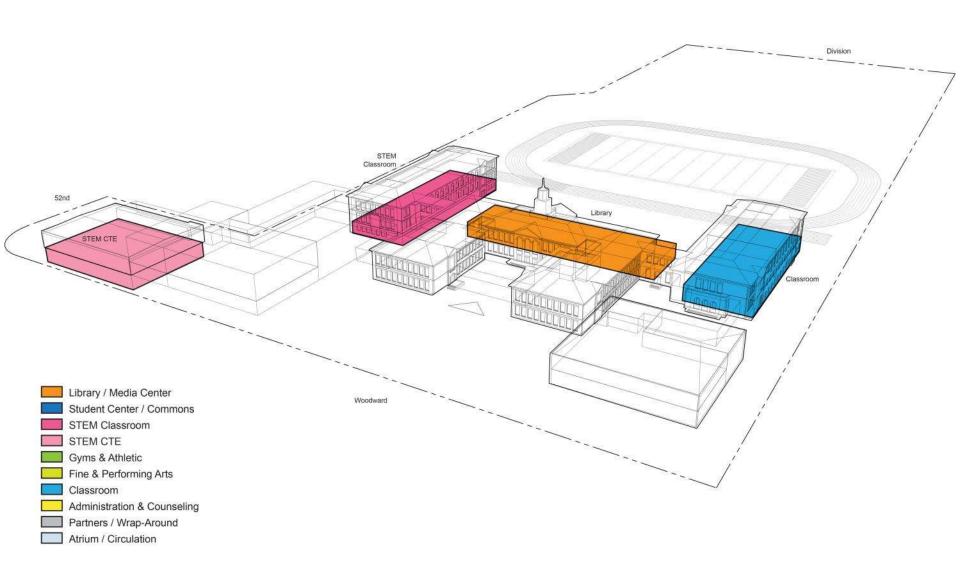








FRANKLIN HS - MASTER PLAN OPTION D - BASEMENT LEVEL

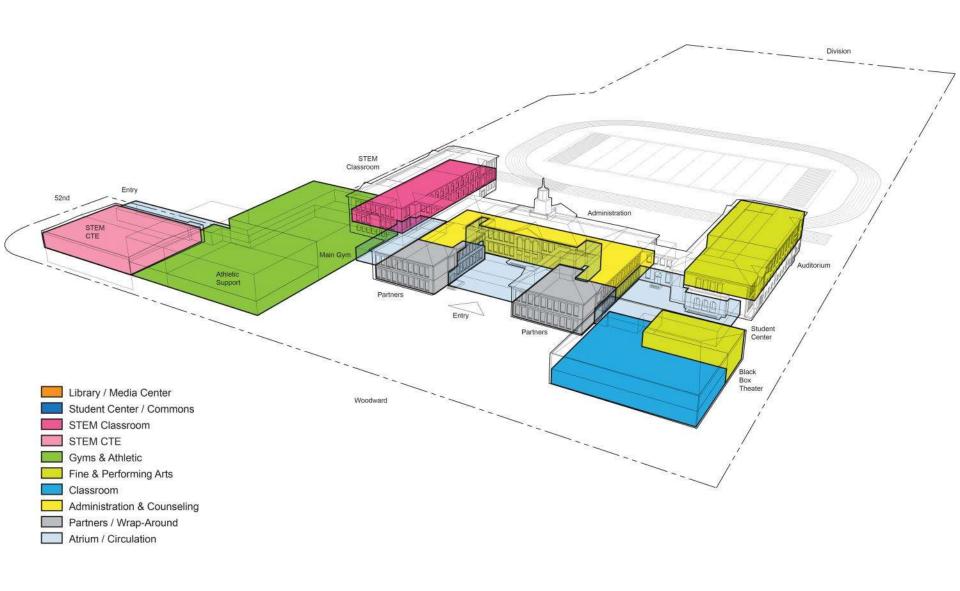






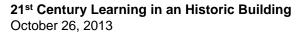


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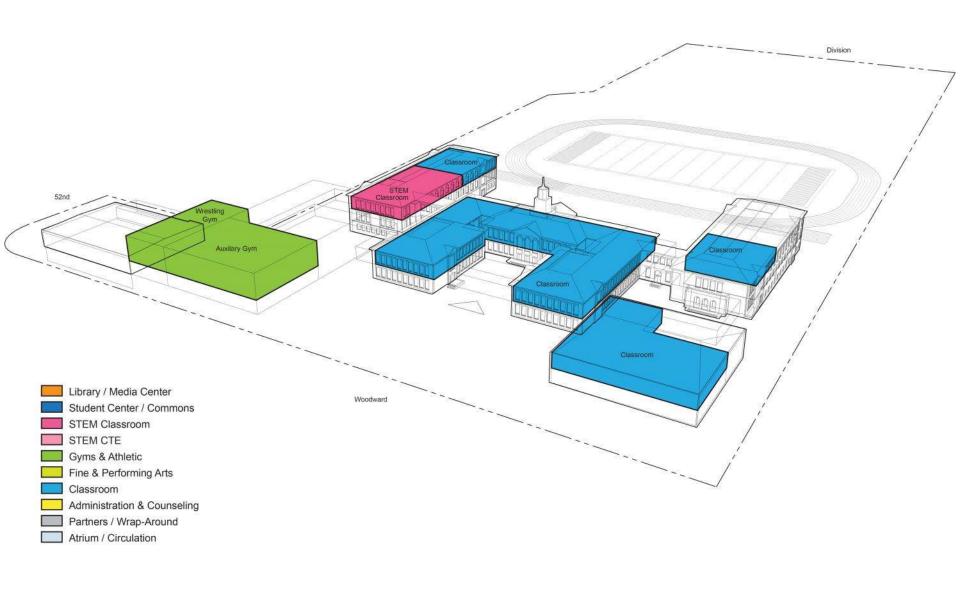






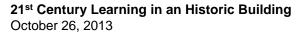


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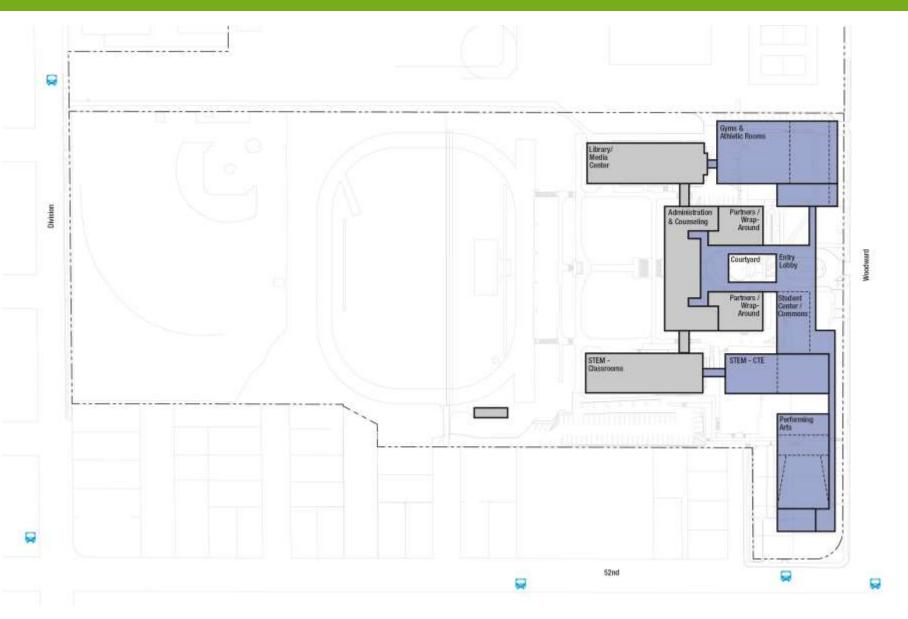






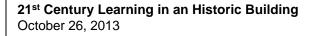


FRANKLIN HS - MASTER PLAN OPTION E



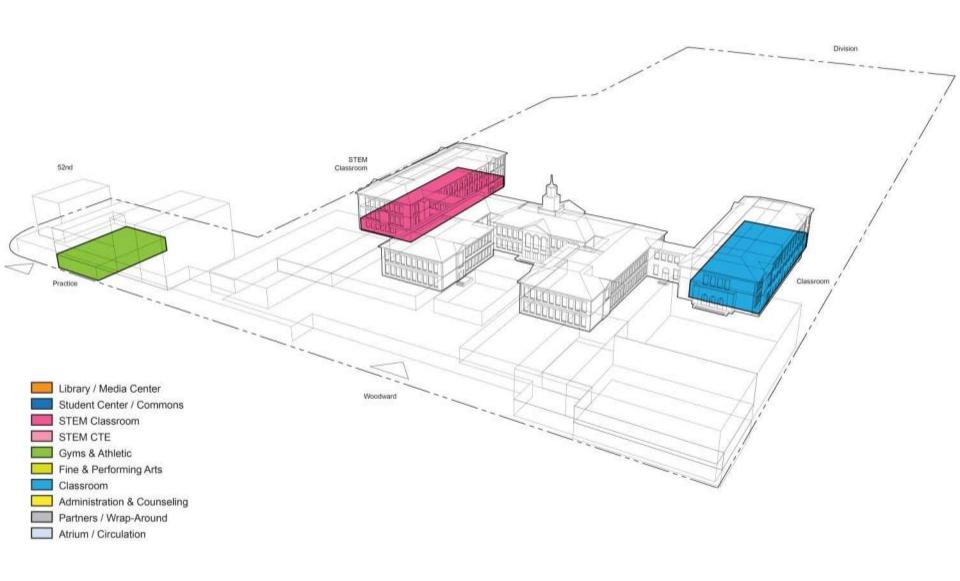






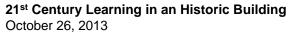


FRANKLIN HS – MASTER PLAN OPTION E – BASEMENT LEVEL



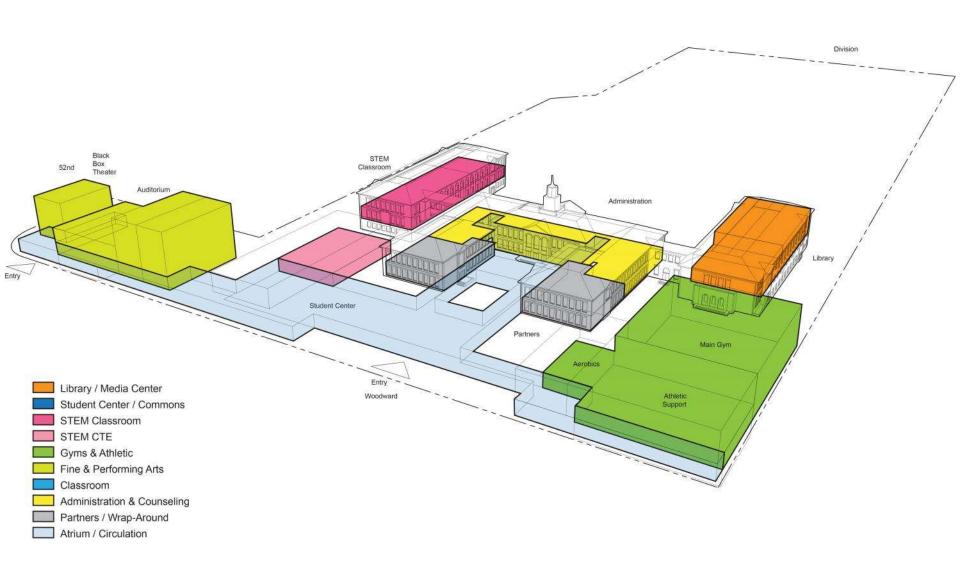








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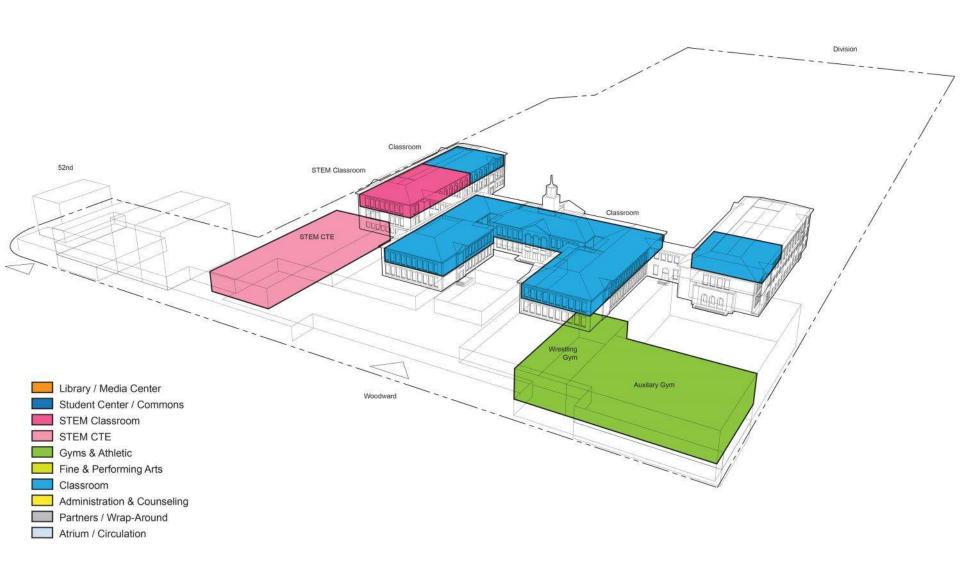








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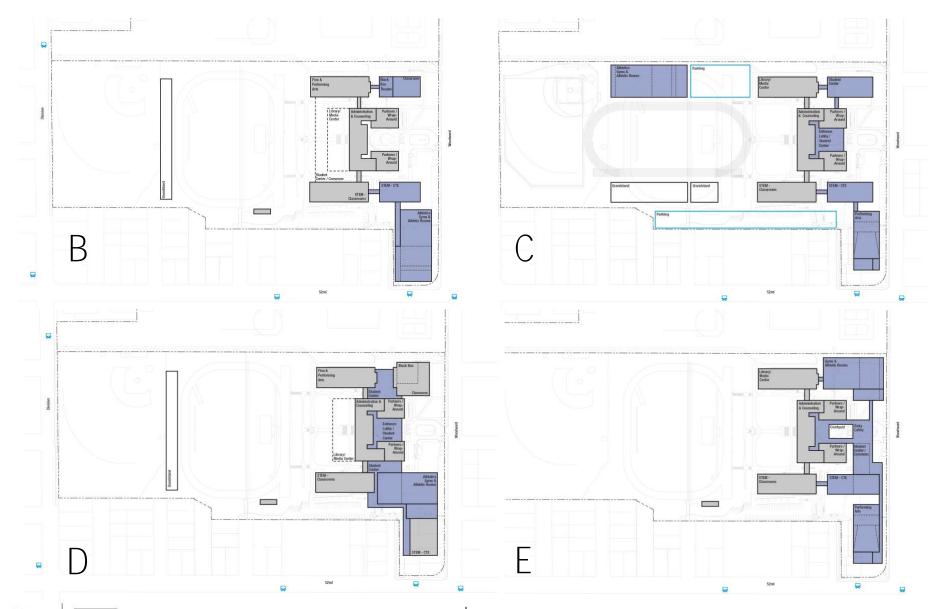






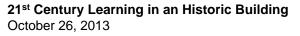


FRANKLIN HS – MASTER PLAN OPTIONS











PPS General Bond Info:

http://www.pps.k12.or.us/bond/



Franklin HS Bond Info:

http://www.pps.k12.or.us/bond/8495.htm







