Deferred Maintenance
Boiler Replacement Plan

Facilities Committee Meeting August 21, 2024

OAKLAND UNIFIED SCHOOL DISTRICT

Community Schools, Thriving Students

Ask of the Board

Review the overall plan for future consideration in budget allocations to address the deferred maintenance needs of the district and to provide feedback on strategies Facilities and B and G will be using to reduce costs and reuse boilers from facilities projects.

OUSD is a Historical District in the State

School Name	Street_Address	Year_Opened
Edna Brewer Middle School	3748 13th Avenue	1913
Oakland Technical High School	4351 Broadway	1913
United for Success/ LIFE Academy (Simmons)	2101 35th Avenue	1922
Elmhurst Community Prep / Alliance (Elmhurst Campus)	1800 98th Street	1923
Roosevelt Middle School	1926 19th Avenue	1923
Crocker Highlands Elementary School	525 Midcrest Road	1925
East Oakland Pride (Webster ES)	8000 Birch Street	1926
Sequoia Elementary School	3730 Lincoln Avenue	1926
Laurel Elementary School	3750 Brown Avenue	1927
Street Academy	417 29th Street	1927
Castlemont High School / LPS Oakland R&D	8601 MacArthur	1928
Oakland High School	1023 MacArthur	1928
Westlake Middle School	2629 Harrison Street	1928
Fremont High School	4610 Foothill Boulevard	1931
Anthony Chabot Elementary School	6686 Chabot Road	1935
Coliseum College Prep (Havenscourt)	1390 66th Avenue	1935
Melrose Leadership Acad.(Maxwell Park)	4730 Fleming Avenue	1936

The **17** oldest schools in OUSD.

The Median school is Urban Promise Academy that was built in **1949**.

Notes: *The schools listed on this table may have had partial facilities work. The schools have been identified on the year they were built.*

Types of Heating And Cooling at OUSD

Chillers + Boilers

Heat Pump Split Systems

HVAC Package Unit

Heat Pump Package Units

Deferred Maintenance Priorities

Deferred Maintenance Projects

Students learning, playing, growing, connecting, THRIVING at all campuses.

Joy: Bleachers, Sports Fields, Gardens/Trees & Irrigation, Signage**,** Murals, Gyms

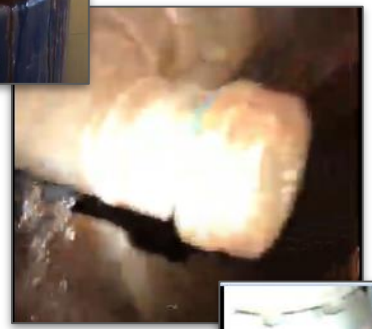
Safety: Fencing, Blinds, Locks, Windows, Video Cameras, Door Entry Systems, Phones, Intercoms

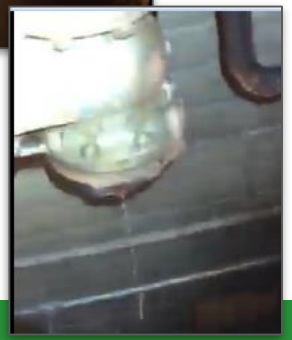
Quality Indicators: Exterior/Interior Paint, Landscaping, Play Structures

Structures: Flooring, Roofing, Asphalt, Accessibility

Systems: HVAC, **Boilers and Heating Systems**, Cafeteria/ Kitchens, Sewers, Electrical, Plumbing, Lighting

Burbank Boiler Condition





Multiple areas of boiler leaking when providing heat to classrooms

Providing Classroom Heat During Winter Months

67 of 110 heating systems are powered by gas fired boilers.

2 boilers per school are required to ensure heat is provided adequately.

School size is a key factor with larger schools requiring more boilers.

The median age for a boiler is 24 years, while the oldest boiler is 111 years old.

Boiler Types at OUSD:

- Steam Boilers
- Hydronic Boilers

Boiler Systems have complex infrastructure and piping systems that run throughout the school.

Replacing the boiler system with more efficient and modern systems can increase the cost of replacement by up to 10x.

Heat Shop Team

These boiler assessments will be integrated into the updated **Facilities Master Plan** and validated by the engineers supporting the plan's development.

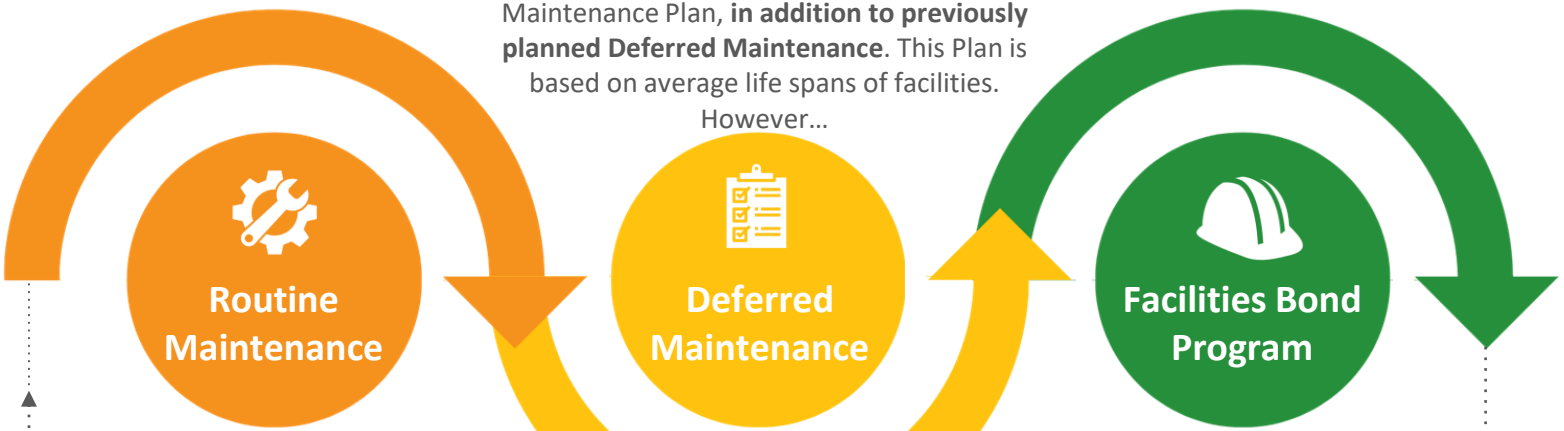
Our OUSD's Building and Grounds Heat Shop team is responsible for the ongoing assessment, repair, and maintenance of heating and cooling systems across all 110 OUSD sites, as well as at certain charter school locations.

Limited Routine Maintenance

Cascading Impact

Funding Source: General Fund ($3M)

If the facility does not stay in good condition, then it is added to the Five-Year Deferred Maintenance Plan, **in addition to previously planned Deferred Maintenance**. This Plan is based on average life spans of facilities. However…



Funding Source: General Fund (3 % Minimum)

Maintenance is completed for a facility on a regular basis to ensure it remains in good condition. **This requires consistent investment in routine maintenance**. However…

Emergency Repair Costs *These repairs are funded through routine maintenance or deferred maintenance depending on the severity of the*

Funding Source: Facility Bond Program

With a **shrinking investment in Deferred Maintenance**, the facility is then **added to the Facility Bond Construction Plan** for new construction, renovation, and modernization rather than building new/modern buildings. This keeps the building in good working order, but we have **fewer new facilities for students**.

District Wide Boiler Assessment and Database

Site Number	School Name	Board District	Project Description	Year	Status
210	Edna M Brewer Middle School	4	Boilers	1913	Needs replacement
	Lakeview	3	Boilers	1913	Needs replacement
103	Brookfield Village Elementary	7	Boilers	1944	Needs replacement
211	Montera Middle School	4	Boilers	1959	Needs replacement
168	Carl Munck Elementary	6	Boilers	1960	Needs replacement
114	Global Family School	5	Boilers	1960	Needs replacement
812	Kaiser ECE	4	Boilers	1960	Needs replacement
133	Lincoln Elementary	2	Boilers	1960	Needs replacement
	Prescott CDC	3	Boilers	1960	Needs replacement
352	Rudsdale Continuation School	7	Boilers	1960	Needs replacement
228	United for Success Academy	5	Boilers	1965	Needs replacement
204	West Oakland Middle School	3	Boilers	1975	Needs replacement
206	Bret Harte Middle School	4	Boilers	1980	Needs replacement
229	Elmhurst United Middle School	7	Boilers	1980	Needs replacement
335	Life Academy 6-12	5	Boilers	1980	Needs replacement
305	Oakland Technical High School	1	Boilers	1980	Needs replacement
308	PEC Young Adult Program	1	Boilers	1980	Needs replacement
154	Madison Park Academy TK-5	7	Boilers	1983	Needs replacement
309	Ralph J Bunche High School	3	Boilers	1983	Needs replacement
136	Horace Mann Elementary	5	Boilers	1985	Needs replacement
232	Coliseum College Prep Academy	6	Boilers	1990	Needs replacement
122	Grass Valley Elementary	7	Boilers	1990	Needs replacement

System Improvements:

1. Creating “building system” database that will be housed internally on OUSD servers.
2. Updated annually to reflect changing conditions or investments.
3. Drives decisions in deferred maintenance investments.

Previous 7 Boiler Replacements

Enactment Date	School Site	Board Agreement	Replacement	Total Cost
6/7/23	Burbank Preschool	23-1110	2 Boilers	$346,000
5/24/23	Piedmont Elementary	23-1095	2 Boilers	$461,000
5/24/23	Oakland High	23-1093	2 Boilers	$299,000
1/12/22	McClymonds Gym	21-2993	1 Boiler	$148,296
4/28/21	Elmhurst United	21-0831	Boiler System	$1,215,570
4/7/20	MLA Maxwell	20-0570	2 Boilers	$265,000
4/7/20	Sankofa Academy	20-0562	2 Boilers	$195,000

Sites with Critical Needs and Estimated Cost

<u>High Priority: Hydronic Boilers ($350K per Boiler)</u>

High School: ($1M-1.4M)

1) Oakland Technical School (2 boilers)
2) Madison Upper (6-12) (2 boilers)

Middle School: ($500K-$700K)

1) Lowell Campus (WOMS/Ralph Bunche)
2) Edna Brewer Middle School (1 boiler)

Elementary/Early Childhood: ($2.25M-$3.15M)

1) Lincoln Elementary (1 boiler)
2) MLA Sherman (2 boilers)
3) Global Family (2 boilers)
4) Brookfield Elementary (2 boilers)
5) Kaiser ECE (2 boilers)

Administrative Spaces/YAP ($500K-$700k))

1) Santa Fe Special Education Center (2 boilers)

<u>Steam Boilers ($350K per Boiler)-$1.25M-2.1M)</u>

1. Markham Elementary (1 boiler)
2. Parker (2 boilers)
3. Lakeview (2 boilers)
   - Enrollment Office
   - AIMS Charter School
1. Fruitvale Elementary (1 boiler)

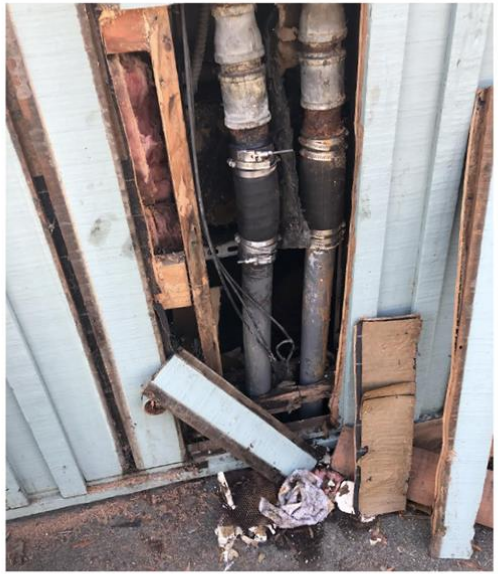
<u>Chillers and gas heat and AC units</u>

1) Oakland High School (4 Units)
2) Skyline High School (Gas package units)

<u>Elementary</u>:

1) Highland CDC
2) MLK Elementary
3) Emerson Elementary
4) Hoover Elementary

Examples of Boilers Current Condition



Leaky and rusted boiler pipes at MLK

Fruitvale boiler from 1946. It is rusted and only one works

Parker elementary boiler from 1936, rusted. Scope of work 1-2 months

Charter OUSD Sites

Total of 15 OUSD sites are being utilized by charter schools

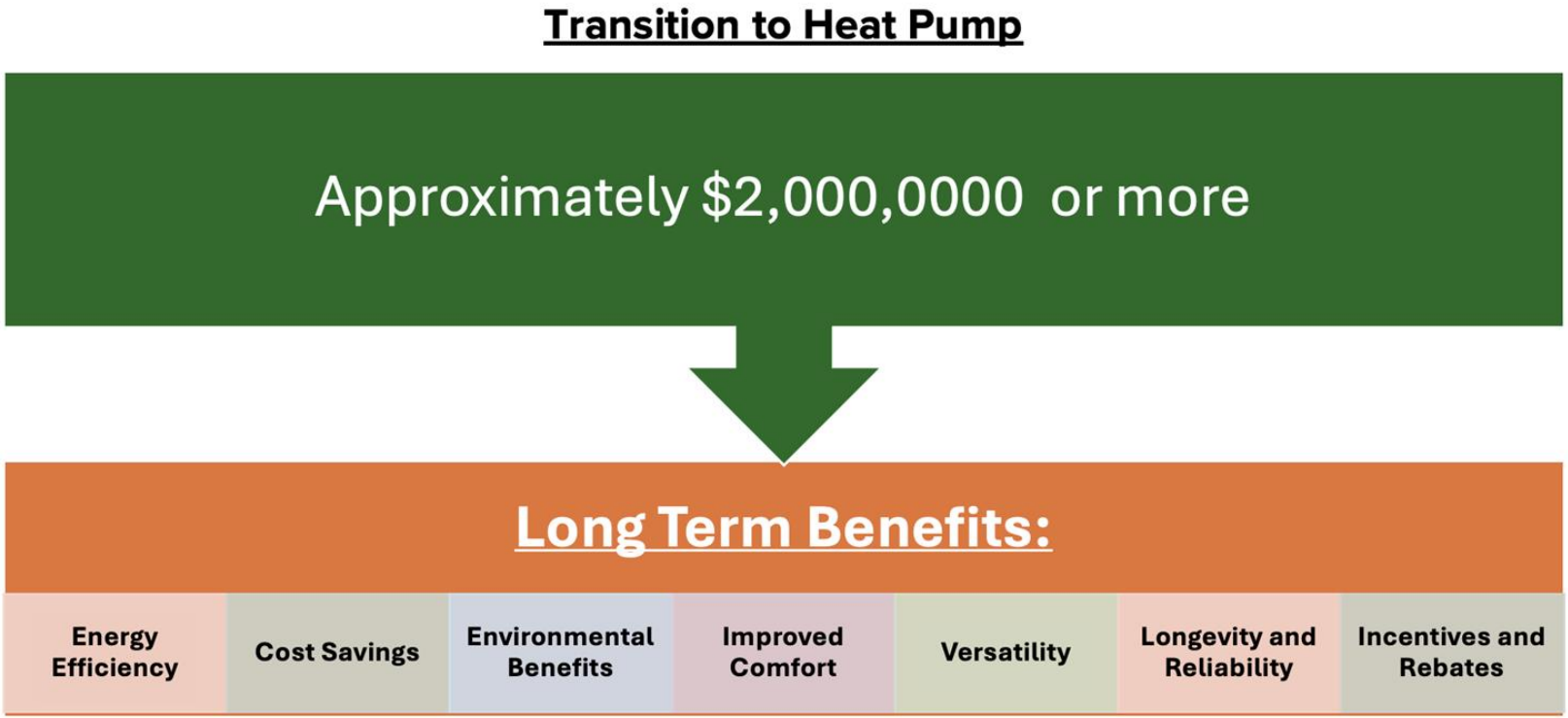
- Ten sites are being serviced by OUSD, with three requiring a full service
- Five sites have a long term lease and are managed independently

Charter Schools					Annual General Maintenance	
School Name	Address	Historical Name	Boiler Present	Service Extent	Hours Annually	Cost Estimate
Unity Middle School	1180 70th Ave	Rudsdale Hx (portables)	No boiler	Deferred Maintenance Only	80 hours	$ 10,000.00
Urban Montessori	4551 Steal St	Tilden Campus	No boiler	Deferred Maintenance Only	80 hours	$ 10,000.00
Francophone	9736 Lawlor St	Toller Heights campus	NA	Deferred Maintenance Only	80 hours	$ 10,000.00
East bay innovation	3400 Marshall Ave	Marshall campus	1980	Deferred Maintenance Only	160 hours	$ 15,000.00
Community School for Creating Education	2111 International blvd		1980	Deferred Maintenance Only	80 hours	$ 10,000.00
Education for Change	3709 East 12th St	Ascend	No boiler	Deferred Maintenance Only	80 hours	$ 10,000.00
Lakeview Charter School	746 Grand Ave	AIMS	1913	Deferred Maintenance Only	160 hours	$ 15,000.00
Learning without Limits	**2035 40th Ave**	**Jefferson**	**No boiler**	**Full Service**	80 hours	$ 10,000.00
Cox Academy	**9860 Sunnyside Ave**	**Cox**	**2010**	**Full Service**	160 hours	$ 15,000.00
Bay Area Technology School	**8251 Fontaine St**	**King Estates**	**1960 x 2 and 2000 x1**	**Full Service**	160 hours	$ 15,000.00

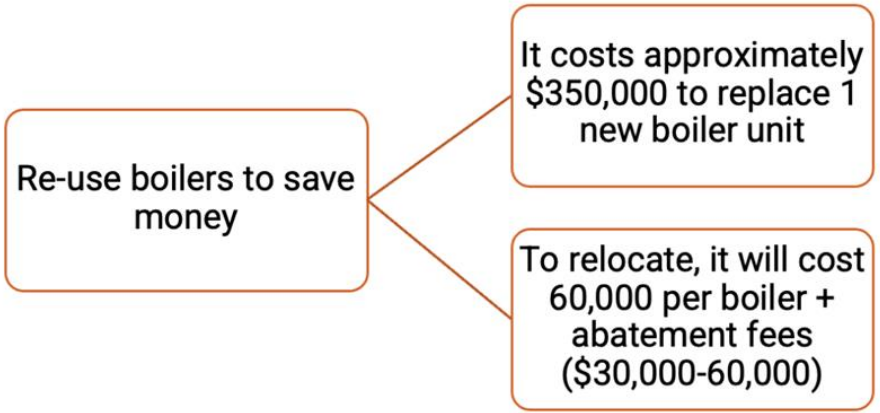
Long Term Leases (No Service)				
School Name	Address	Historical Name	Boiler Present	Service Extent
Achieve Academy	1700 29th Ave	Hawthorne	No boiler	No service from OUSD
Aspire Berkley Maynard Academy	6200 San Pablo Ave	Goden Gate	Steam Boiler	No service from OUSD
KIPP Bridges Academy	1700 Market St	Lafayette	N/A	No service from OUSD
Lazear Academy	824 29th Ave	Lazear	No boiler	No service from OUSD
Oakland Military Institute	3877 Lusk St	Long Fellow	N/A	No service from OUSD

Assessment Leads to Savings for District by Reusing Boilers from Schools with Major Facilities Projects

McClymonds Modernization Project



OUSD Cost-Effective Approach



Advantages to relocating and re-using boilers:

1) **Cost Savings:** Relocating and reusing existing boilers can significantly reduce expenses for the district.
2) **Environmental Benefits:** Reusing boilers contributes to environmental sustainability by minimizing waste and resource consumption.
3) **Enhanced Service Efficiency:** This approach enables us to deliver faster and more efficient service to schools in need.

Reuse McClymonds Boilers Plan

Relocate once Heat Pump Operational

Markham ES

McClymond HS

Boiler Distribution

Burbank Preschool

Burbank Preschool

Fall 2024

Relocate once Heat Pump Operational

MLA Maxwell Boilers Plan

- As part of the upcoming modernization project, this site will transition to a new Heat Pump system, enhancing both energy efficiency and climate control
  - Pending assessment and review, the two existing steam boilers will be relocated to Parker, where they will replace two aging boilers
- Benefits:
  - Upgrades to our facilities
  - Maximizes the utility of our existing resources

THANK YOU

Any Questions?

Additionally, for more information, please reach out:

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