Innovations in Technology and Management Models: Facilities Program Transformation at Chicago Public Schools

January 16, 2025

About Healthy Schools Campaign

Healthy Green Schools & Colleges is a program of HSC, a national nonprofit, that has worked for 20 years to ensure that students have access to healthy school environments where they can ***learn*** and ***thrive***.

HGSC Program

- ✓ Developed in partnership with school facility directors
- ✓ Encourages continual improvement
- ✓ Covers the full range of facilities management practices

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Current Participants

K-12

- Cape Elizabeth School Department (ME)
- Chicago Public Schools (IL)
- Clark County School District (NV)
- Issaquah School District 411 (WA)
- Kansas City Public Schools (MO)
- Salt Lake City School District (UT)
- Township High School District 214 (IL)
- West Allis-West Milwaukee School District (WI)

HIGHER EDUCATION

- Cosumnes River College (CA)
- University of Georgia (GA)
- University of California-Riverside (CA)

HEALTHY GREEN SCHOOLS & COLLEGES

PARTICIPANT

Today's Panelists

- Robert Christlieb, LEED AP, *Executive Director – Facilities, Operations and Maintenance*
- Brian Martin, *Deputy Program Director, PMO Office*
- Richard Schleyer, *Director of Environmental Health and Safety*
- Paige Ecton, *Environmental Manager*

Robert Christlieb

Executive Director - Facilities, Operations and Maintenance

Facilities Historic Timeline

2006

Hybrid Model

- Before 2006, engineers and custodians were managed by outsourced entities like Aramark.
- In 2006, CPS brought the facility management and engineering management services in-house.
- Around 2008 "Great Recession" posed challenges, leading to difficulties in achieving full insourcing.

2017

Integrated Facility Management (IFM) Model (Fully Vendor Managed)

- During 2009 - 2013 the District sought cost reduction measures including IFM model.
- Strategy to partner with experienced FM providers to enhance cost-effectiveness and service quality.
- Model proved to be a failure in that it took most of the control out of the hands of the Dept. of Facilities.
- IFM vendors failed to perform and effectively respond and follow through on request and tasks.

2021

Hybrid Engineering Management Model (Owner Vendor Partnership)

- CPS Management developed program standards and actively manage engineering with vendor.
- CPS owns all services contracts directly allowing for greater control and transparency over services.
- Vendor partner just provides labor to support CPS in managing the program. (engineers, field mgmt.)
- This model has proven to work well thus far in our partnership with JLL.

2024

Hybrid Custodial Management Model (Owner Vendor Partnership)

- Currently transitioning to hybrid custodial services model.
- Centralizing the management of supplies, equipment, and training.
- Custodial labor will be outsourced to vendors.
- CPS will oversee the management of all custodians with some support from vendor partners.

Engineering Program Support

FM & Engineering Partnership

Engineering

Vendor Owned & Managed
- JLL owns engineers
- Engineer scheduling
- Preventative Maint.
- Work Request & Repairs
- Project work

Facility Mgmt.

Vendor Owned & Managed
- CPS Owns All Vendor Contracts
- JLL owns Building Managers
- Manage contractor repairs
- Engineer performance
- Customer support to schools

Custodial Support

Vendor Support to CPS
- Equipment Mgmt.
- Supply Mgmt.
- CrowdComfort Mgmt.
- Training Mgmt.
- Summer Program Support

Program Controls

Vendor Owned & Managed
- Contract Mgmt. (CPS owns contracts)
- Compliance Mgmt.
- CMMS System Mgmt.
- Reporting & Data Mgmt.

Custodial Program Support

Equipment

CPS Owned & Managed
- Contracts w/repair vendors
- Equipment tracked in CMMS
- Repair request in CMMS

Supplies

CPS/Cintas Managed
- CPS contracted w/Cintas
- Weekly deliveries
- Par level support
- District level tracking

Custodian Mgmt.

CPS Managed
- ½ private & ½ CPS
- CPS Mgrs. manage day to day.
- Vendor partners provide more limited support (HR, training…)

Program Controls

CPS / JLL Managed
- System management support
- Data tracking & reporting
- Compliance
- Program standards
- Training

Brian Martin

Deputy Program Director, PMO Office

Custodial Work Validation System (CrowdComfort)

OVERVIEW

Work Validation

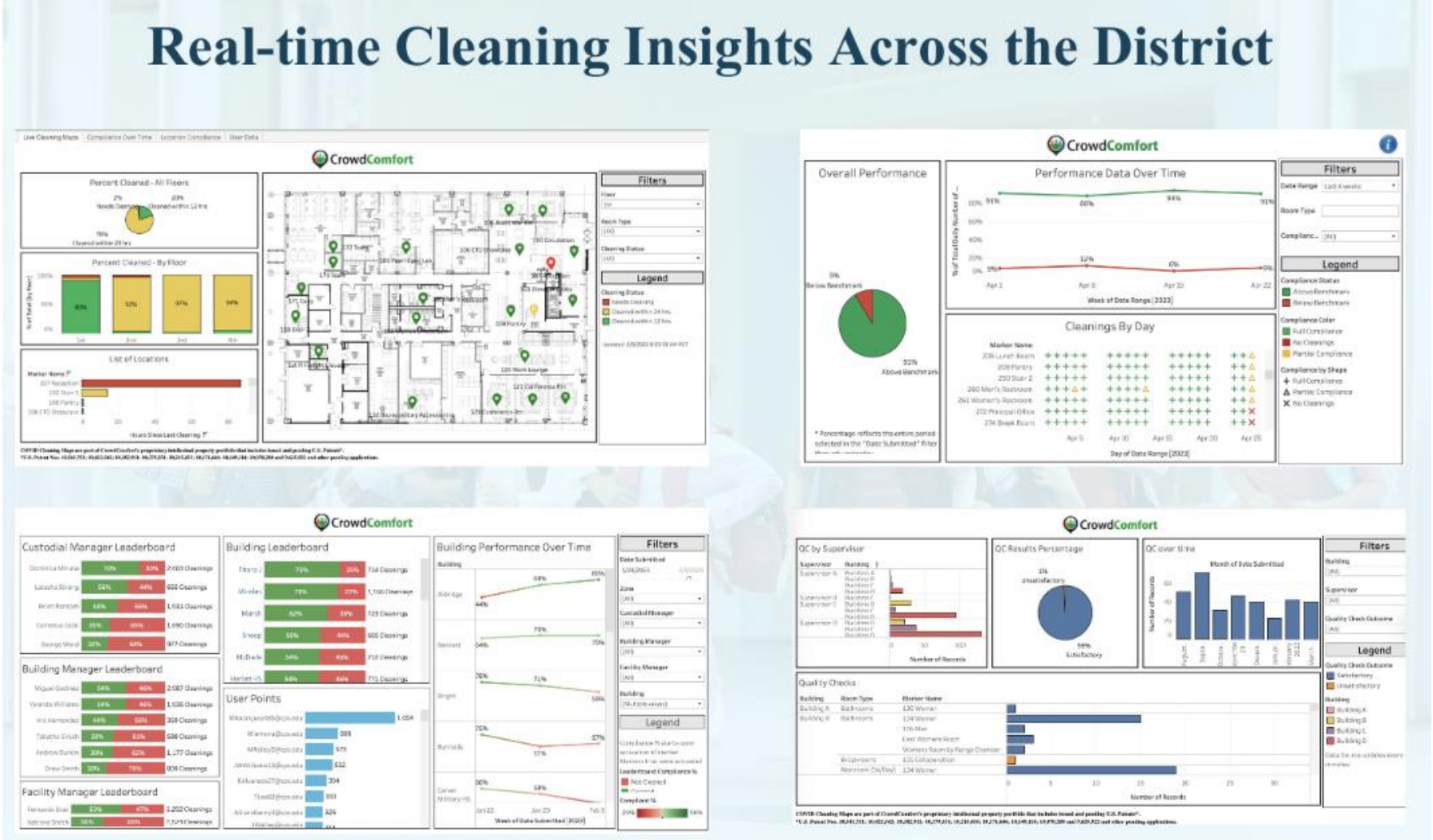
- QR Codes placed in all spaces within all schools
- Cleaning validated based on QR scanning by custodians
- Almost real time updates on % spaces cleaned
- Visual floor view with pins for each space (red, yellow, green)

Equipment / Supply Request

- Allows custodians to flag equipment and supply needs to management.

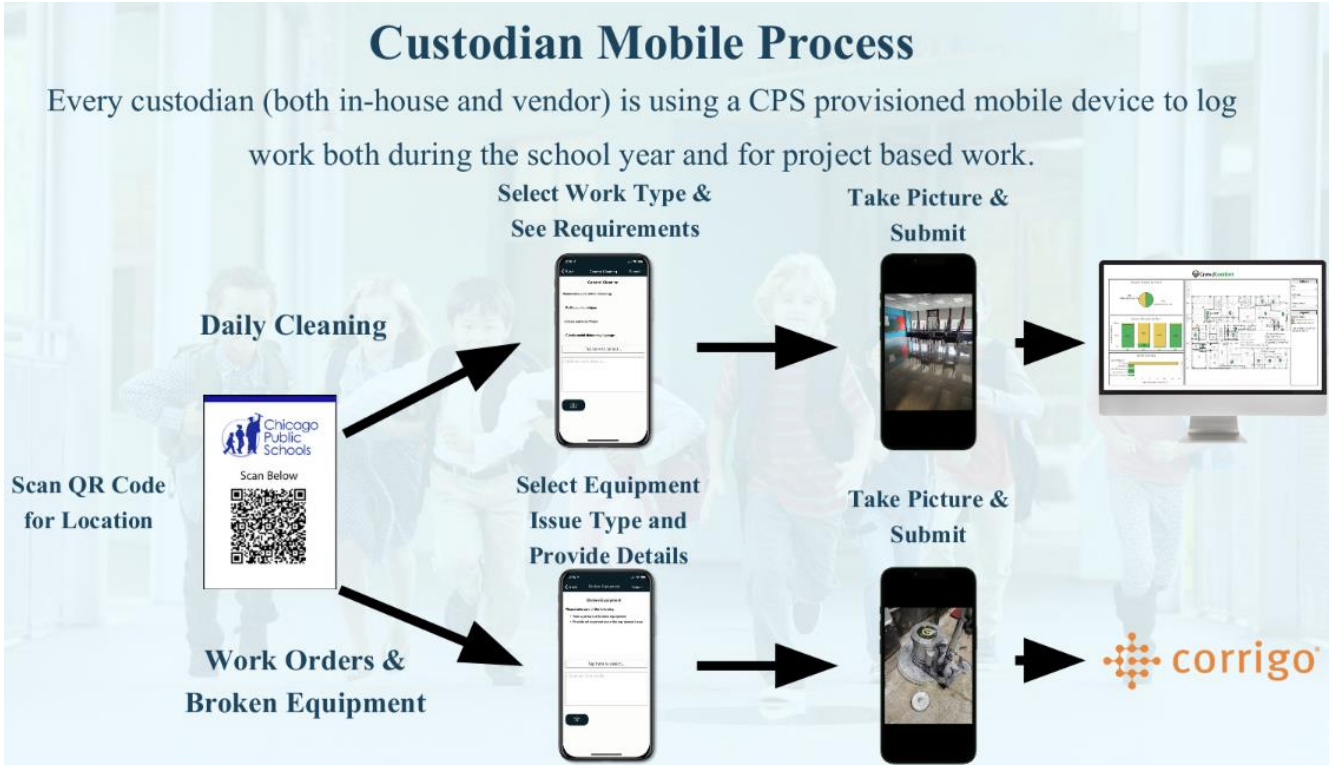
Custodian Schedules

- Tracks custodian weekly schedules and scope tasks



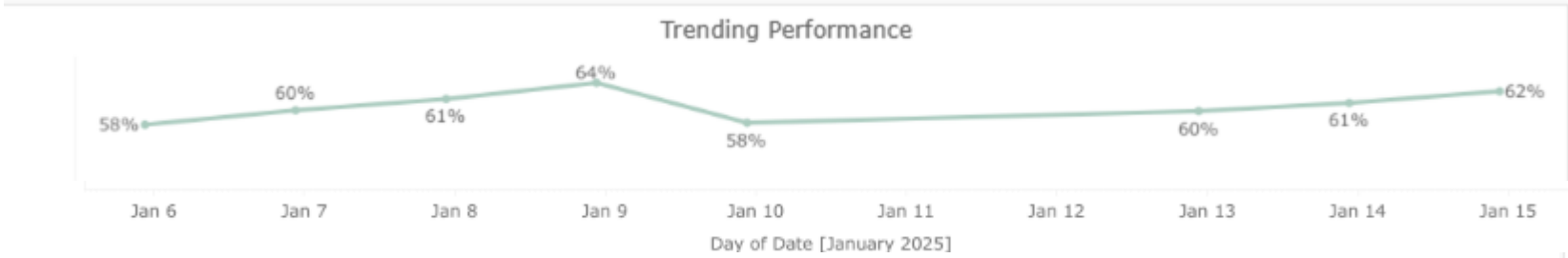
Custodial Work Validation System (CrowdComfort)

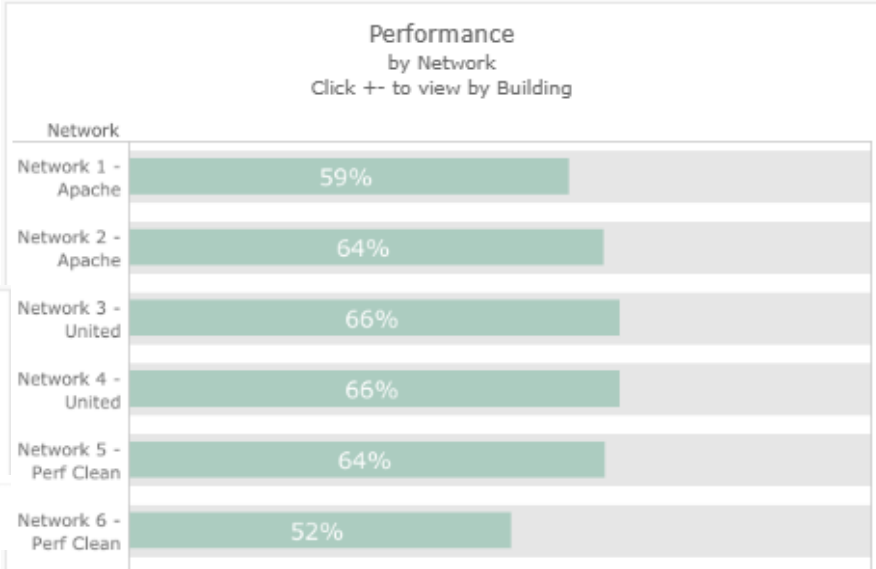
OPERATIONAL PROCESS



PERFORMANCE MANAGEMENT PROCESS

- Mgmt. teams review performance dashboards daily
- Mgmt. team meets 7am daily to review performance
- Teams address roadblocks and successes stories
- Address escalated issues with leadership to remove roadblocks
- Use training, coaching/counseling and discipline to help drive performance
- 80% target set for teams to meet by end of the year. (Currently at 62%)
- Annual custodian awards ceremony awards top performing custodians.





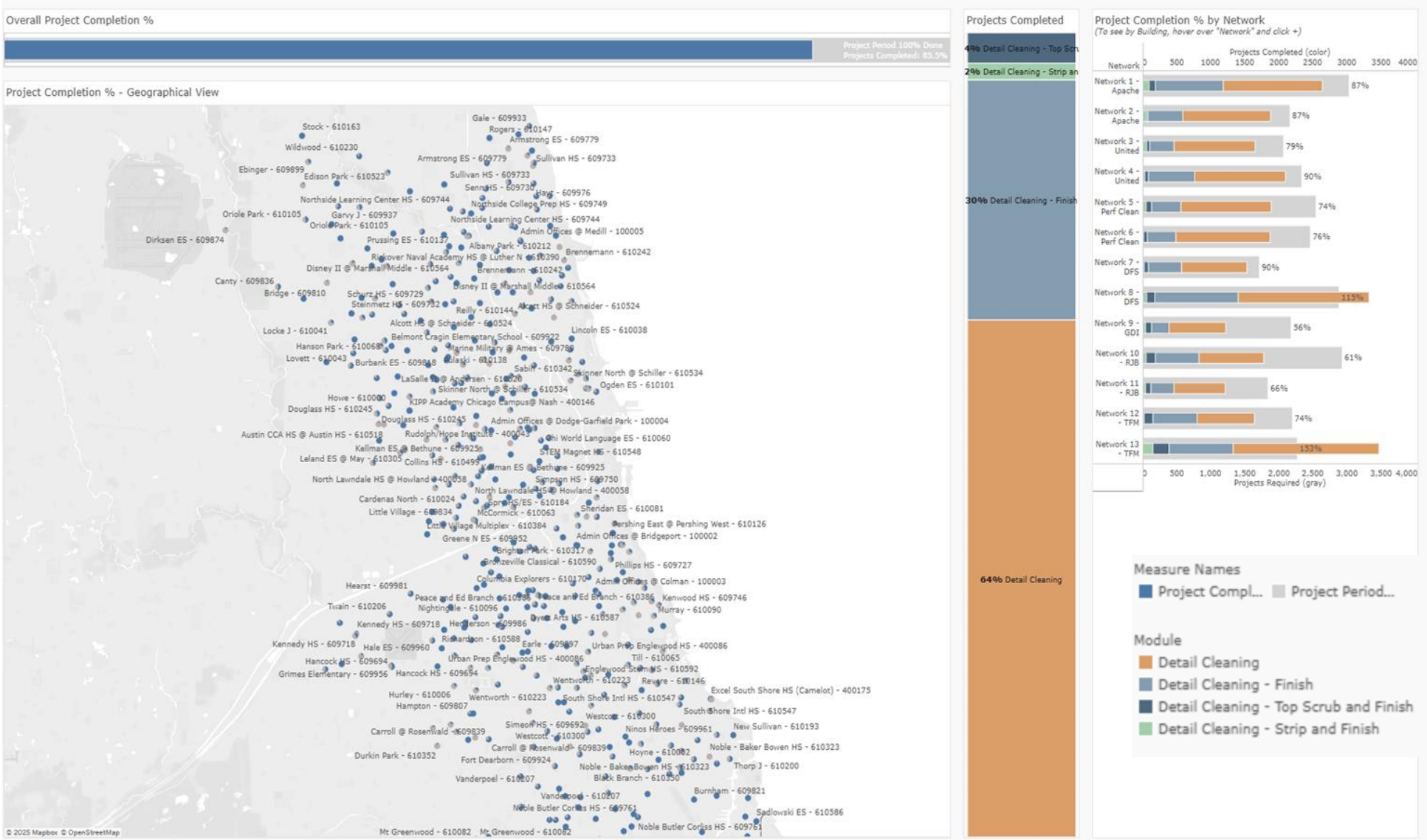
Custodial Work Project Work Tracking (CrowdComfort)

Seasonal Project Work Tracker
- Winter Break
- Spring Break
- Summer Break

Scope Development
- By Scope type
- by Space
- based on need

Daily Progress Review
- Allows management to track and better manage program project work.

Change Management
- Focus on keeping custodians scanning habits through breaks
- Scans similar to regular daily cleaning



Richard Schleyer

Director of Environmental Health and Safety

Indoor Air Quality Assessments

Conducted annually by independent environmental consultants consisting of:

- A visual inspection in 100% of offices and classrooms
- Direct read monitoring in 20% of classrooms and offices per campus:
  - Temperature
  - Relative Humidity
  - Carbon Monoxide (winter only)
  - Carbon Dioxide
  - Particulates (PM2.5)
- Reports posted on CPS website

https://www.cps.edu/services-and-supports/school-facilities/air-quality-testing/

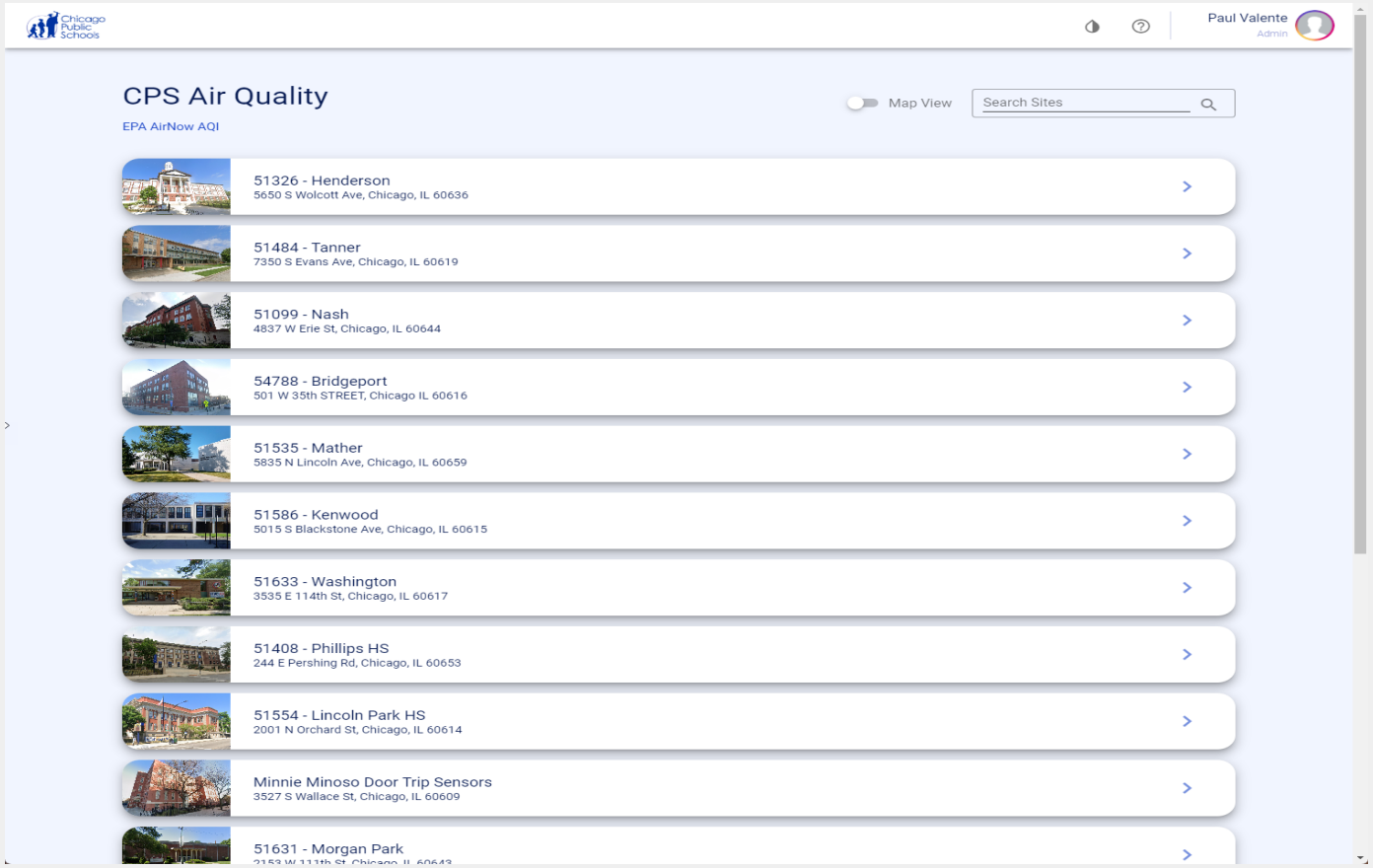
Indoor Air Quality Assessments

Conducted quarterly IAQ Assessments by Building Engineers consisting of:

- Direct read monitoring in the following locations:
  - Cafeteria (1)
  - Gymnasium (1)
  - Library (1)
  - Classrooms (2)
- Parameters:
  - Temperature
  - Relative Humidity
  - Carbon Dioxide
  - Particulates (PM10 and PM2.5)
  - Formaldehyde
  - Mold/Mildew (visual inspection only)

Indoor Air Quality Assessments

Remote Monitoring Devices



Paige Ecton

Environmental Manager

Water Quality Testing Program

Overview

- At Chicago Public Schools (CPS), we take a proactive approach to maintaining safe drinking water in our schools. In 2016, CPS announced a district-wide water testing program out of an abundance of caution to ensure the water in our schools is safe.

- CPS Facilities and Nutrition and Support Services stakeholders collaborated with the Chicago of Department of Water Management (CDWM) and the Illinois Department of Public Health (IDPH) on the water sampling methodology, what constitutes as a potable water source and the effects of lead in the human body and who is at most risk.

- CPS helped craft legislation that eventually became Illinois law in 2017, requiring all school districts in the state to test their drinking water by Dec. 31, 2018. While that law and requirement ended, CPS continues to test the drinking water in our schools to ensure it is safe and our students are protected.

Drinking Water Testing

- **New Drinking Water Fixtures**
  - ➢ All new potable water fixtures installed must be tested for lead and meet the Illinois Department of Public Health guidelines prior to being put into use at a school.
- **Potable water fixtures include the following:**
  - ➢ Faculty lounge sinks; Nurse station sinks; Kitchen and culinary sinks (food and drink preparation only); Pre-K and K classroom sinks and water fountains
- **Health clinic sinks** - Drinking fountains and bottle filling stations
- **Existing Drinking Water Fixtures (5 samples per fixture)**
- **Fixtures that Exceed the Lead Standard**

Drinking Water Testing (Continued)

- CPS exceeds state and federal testing requirements
- Drinking water testing program implemented in 2016
- 25% of schools are sampled every year
- Testing of new fixtures prior to placing in service
- The District has approx 15,000 drinking water fixtures
- Over 122,000 samples collected and analyzed
    - (approximately 10% of samples exceed the lead standard).
- Sample Results letter issued to Network Chief and School Principal for all sampling events
- Created submittal form for testing new fixtures
- All samples results posted on CPS “Water Quality Testing” website
- New Initiatives:
    - Automatic Flushing Fixtures Pilot Program
    - Reduce flushing for new fixtures