

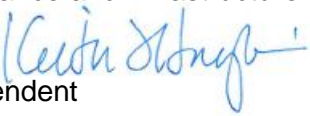


**STATE OF HAWAII**  
**DEPARTMENT OF EDUCATION**  
P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

March 3, 2022

TO: The Honorable Bruce Voss  
Chairperson, Finance and Infrastructure Committee

FROM: Keith T. Hayashi   
Interim Superintendent

SUBJECT: **Update on Board Policy 301-10, Equitable Allocation of Facilities Resources:  
Status of Resource Allocation in Accordance with the Capital Improvement  
Program Prioritization Criteria**

1. Executive Summary

For fiscal year 2020-21, the Hawaii State Department of Education (DOE) Office of Facilities and Operations (OFO) implemented the industry standard or best practice Facility Asset Management (FAM) initiative to address deferred maintenance and Board Policy 301-10 Equitable Allocation of Facilities Resources. **FAM includes “integrated, multidisciplinary strategies to sustain school infrastructure assets such as roofs, fire alarms, air conditions, water and sewer lines, and building structures.”**

- Past Six (6) Years (2014-2020) without FAM
  - DOE average deferred maintenance construction = \$37,901,103/year
  - DOE average/National average = 25%
  - School Construction Efficiency = 46%
- Recent 18 Months with FAM
  - DOE average deferred maintenance construction = \$95,944,981/year
  - DOE average/National average = 65%
  - School Construction Efficiency = 71%

As a benchmarking tool, FAM is on track to meet the benchmark set by the National Council of School Facilities (NCSF) for the systematic reduction of deferred maintenance by the next biennium budget cycle.

## **Facility Asset Management (FAM)**

<b>National Council of School Facilities (NCSF)</b>		
Systematic reduction of deferred maintenance 1% of current replacement values (CRV)		
▪ DOE Current Replacement Value (CRV) = \$14.5B		
▪ 1% Current Replacement Value (CRV) = \$145,441,016/year		
Past 6 Years no FAM	Recent 18 Months with FAM	Objective with FAM
DOE Average = \$37,901,103/year	DOE Average = \$95,944,981/year	DOE Average = \$145M/year
DOE/NCSF = 25% national avg	DOE/NCSF = 65% national avg	DOE/NCSF = 100% national avg

<b>Construction Efficiency = NEW Construction / CIP Appropriation</b>		
Past 6 Years no FAM	Recent 18 Months with FAM	Objective with FAM
Construction Efficiency = 46%	Construction Efficiency = 71%	Construction Efficiency ≈ 80%

### 2. Description

**Background:** A comprehensive review of the facilities program at DOE by the Council of Great City Schools (CGCS) in October of 2019 yielded the following:

- **CGCS found no evidence of a formally executed funded plan for predictive, preventive, or routine maintenance programs, which caused a large and growing deferred maintenance problem.**
  - The deferred maintenance backlog was estimated to be somewhere between \$300 million and \$1.3 billion;
  - When facility systems (i.e., roof, heating, ventilation, air conditioning (HVAC), life safety, security) were not maintained, these systems follow an accelerated deterioration curve and fail prematurely, sometimes years before their designated life expectancy.
  - The Comprehensive Master Facilities Plan was more of a “wish list” of 3,200 projects rather than a plan, and it was not a detailed list of projects’ timelines, costs, etc. that would be considered best practice methodology.
- **CGCS found no evidence of an essential, long-term facilities asset management or maintenance plan for managing the district’s infrastructure that would include a facilities condition assessment, a current facilities condition index (FCI) with deficiencies categorized by priority, space utilization plans, updated educational specifications, design guidelines, asset tracking and cyclic planning.**

- There was no updated design criteria or master specifications to support consistency between facilities construction and building maintenance requirements.
- There was no long-range plan for facilities needs based on demographic/enrollment projections. The most recent consultant report only cites current capacity vs. current enrollment.
- There was no “populated” active asset-tracking system in place.
- There was no agreed upon framework on what a 21st century school should look like.

**FAM Initiative:** As a result of endless studies and Board Policy 301-10 Equitable Allocation of Facilities Resources, OFO implemented the FAM initiative funded by Act 40, Session Laws of Hawaii 2019, and Act 6, Session Laws of Hawaii 2020, by ramping up the pilot Job Order Contracting (JOC) program started in 2018.

The FAM initiative is summarized in four (4) steps:

### INDUSTRY STANDARD – Facility Asset Management



- 1) **Facility Inspections:** Using the Facility Inspection Tool (FIT), FAM tailored FIT for Hawaii schools and branded the survey tool HI-FIT.

- 2) **Assessments & Projects:** Prequalified architects and engineers began statewide assessments of school infrastructure assets in five (5) disciplines:
1. Building Envelopes (Roofs) and Fire Alarms.
  2. AC Mechanical and Internal Water Systems.
  3. Electrical Infrastructure.
  4. Sewer and External Water Systems.
  5. Structural Integrity.

Facility asset inventories are being documented and recorded and deferred maintenance projects are being identified by: i) Location ID for schools, buildings, rooms, or structures; ii) UNIFORMAT II Building Elements classifications; and iii) FCI ratings.

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#### Purpose of the Facility Condition Index (FCI)

The principal value of an FCI rating, particularly for the owners and operators of a single facility or a portfolio of facilities, can be identified as:

- To assist in making resource allocation decisions amongst the buildings in a portfolio, particularly with limited budgets that are not adequate to address the deferred maintenance in all the facilities. It is therefore a means of identifying priorities.
- To determine the annual reinvestment rates to prevent further accumulation of deferred maintenance.

#### DOE Facility Condition Index (FCI)

10 – 9	GOOD	Green
8 – 7	FAIR	Yellow
6 – 5	POOR	Orange
4 – 1	CRITICAL	Red

#### Facility Condition Index (FCI)

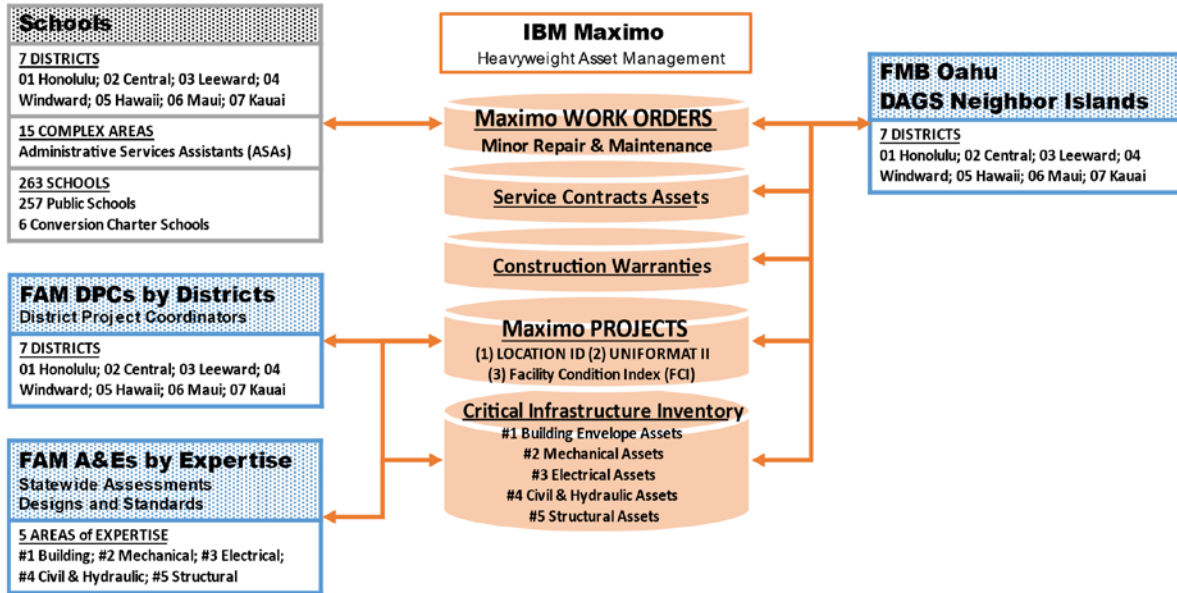
An industry-standard measure used to compare relative building conditions

$$FCI = \frac{\text{total cost of existing deficiencies}}{\text{current replacement value}}$$



- 3) **Database of Projects and Critical Assets:** FAM implemented industry-leading Asset Management software (IBM Maximo) as the system of record for projects and critical assets. IBM Maximo stores three important criteria for deferred maintenance projects:
1. **Where?** Location ID – Where is the deferred maintenance project at a school?
  2. **What?** UNIFORMAT II – What building elements need to be fixed?
  3. **Why?** FCI – Why fix the building elements based upon critical prioritization ratings?

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- 4) **Deferred Maintenance Program by Biennium Budgets:** The deferred maintenance program equitability allocates resources and funding. Appropriations are distributed across the seven (7) districts by percentage of square footage and UNIFORMAT II Level 2 Projects.

Innovative construction acquisition programs using prequalified contractors identified by island are in progress. The goal is to have multiple ways to fix schools with prequalified contractors in weeks or months instead of years, which was happening when using the archaic low-bid process for construction contracts.

1. JOC – Unit Price Book.
2. Prequalified Small Contractors – Best Performance.
3. Multiple Award Task Order Contracting – Best Value.

#### 4 Program by Biennium Budgets

Deferred Maintenance Appropriations		Deferred Maintenance Target by District Square Footage							Level 2 Projects	
9 Yr Avg	\$89.269M	Districts	Square Feet	%	SLH19	SLH20	SLH21	SLH22		
SLH22		01 Honolulu	4,010,084	19%	\$13,510,227	\$13,510,227	\$16,941,593		A10 Foundation	
SLH21	\$87.778M	02 Central	3,478,813	17%	\$11,720,341	\$11,720,341	\$14,697,107		A20 Subgrade Enclosures	
SLH20	\$107.000M	03 Leeward	4,419,742	21%	\$14,890,391	\$14,890,391	\$18,672,295		B10 Superstructure	
SLH19	\$110.700M	04 Windward	2,116,534	10%	\$7,130,737	\$7,130,737	\$8,941,822		B20 Exterior Vertical Enclosures	
SLH18	\$54.500M	05 Hawaii	3,124,990	15%	\$10,528,289	\$10,528,289	\$13,202,294		B30 Exterior Horizontal Enclosures	
SLH17	\$90.000M	06 Maui	2,425,288	12%	\$8,170,949	\$8,170,949	\$10,246,230		C10 Interior Construction	
SLH16	\$76.125M	07 Kauai	1,201,838	6%	\$4,049,068	\$4,049,068	\$5,077,462		C20 Stairs	
SLH15	\$134.000M		20,777,288	100%	\$70,000,000	\$70,000,000	\$87,778,800		C30 Interior Finishes	
SLH14	\$70.500M								D10 Conveying	
SLH13	\$72.826M								D20 Plumbing	
									D30 HVAC	
									D40 Fire Protection	
									D50 Electrical	
									E10 Equipment	
									E20 Furnishings	
									F10 Special Construction	
									F20 Selective Building Demolition	
									G10 Site Preparation	
									G20 Site Improvements	
									G30 Civil and Mechanical Utilities	
									G40 Electrical Utilities	
									G50 Other Site Construction	

**Organization:** The FAM initiative structure is done by districts for organizational alignment and accountability. Each district has dedicated resources for project coordination and hazardous materials (hazmat) testing/remediation. Each district has dedicated resources for regulatory compliance and permitting. Dedicated accountable resources living on island are essential for speed of completion (weeks and months) and construction efficiency (> 70%).

**Prequalified A&Es**  
 Facility Asset Management (FAM)

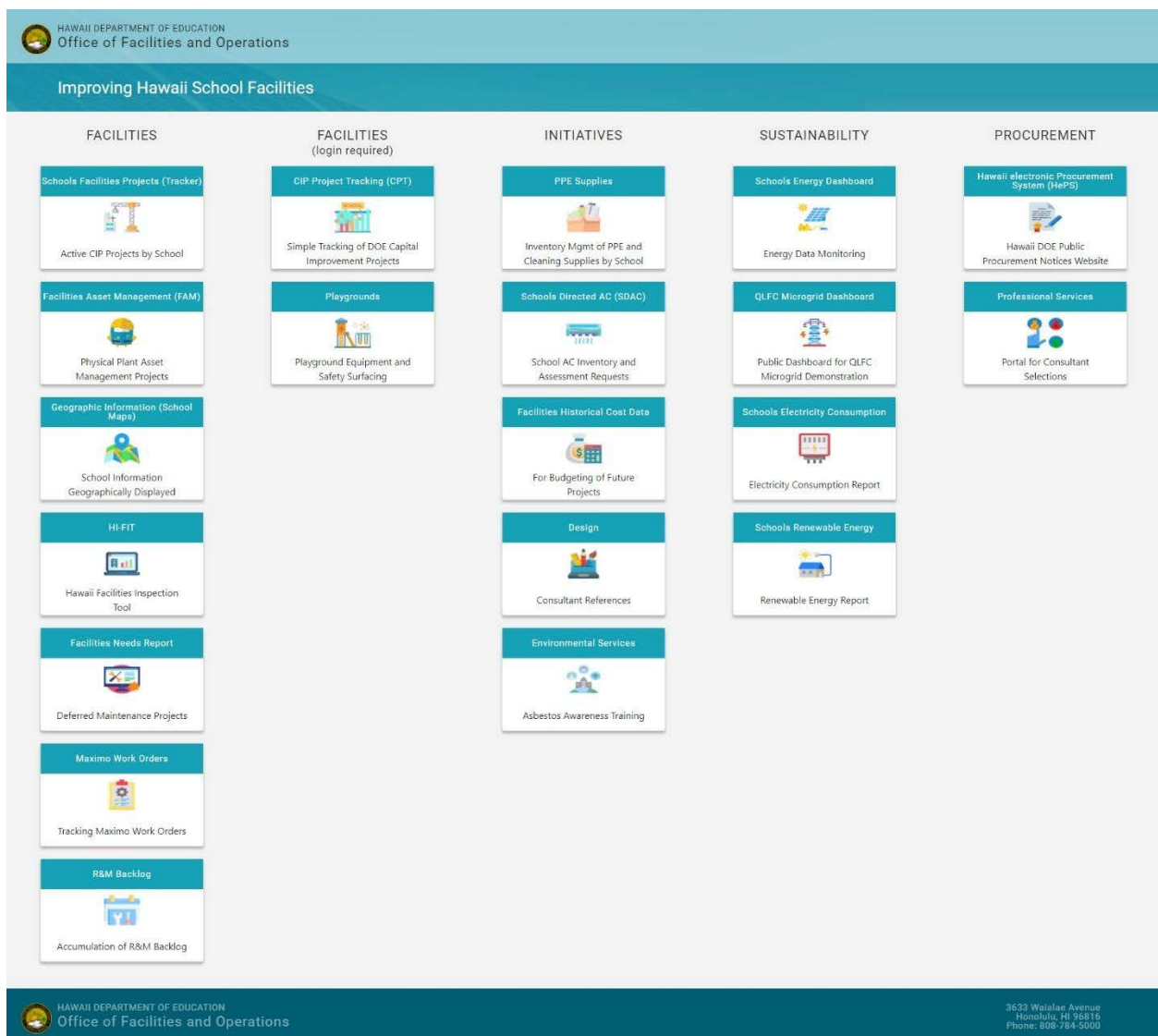
### PREQUALIFIED Architects and Engineers (A&Es)

01 Honolulu 54 School 19% SF	02 Central 42 Schools 17% SF	03 Leeward 45 Schools 21% SF	04 Windward 31 Schools 10% SF	05 Hawaii 43 Schools 15% SF	06 Maui 32 Schools 12% SF	07 Kauai 16 Schools 6% SF
Honolulu District Project Coordination and Hazmat	Central District Project Coordination and Hazmat	Leeward District Project Coordination and Hazmat	Windward District Project Coordination and Hazmat	Hawaii District Project Coordination and Hazmat	Maui District Project Coordination and Hazmat	Kauai District Project Coordination and Hazmat
Honolulu District Regulatory Compliance and Permitting	Central District Regulatory Compliance and Permitting	Leeward District Regulatory Compliance and Permitting	Windward District Regulatory Compliance and Permitting	Hawaii District Regulatory Compliance and Permitting	Maui District Regulatory Compliance and Permitting	Kauai District Regulatory Compliance and Permitting



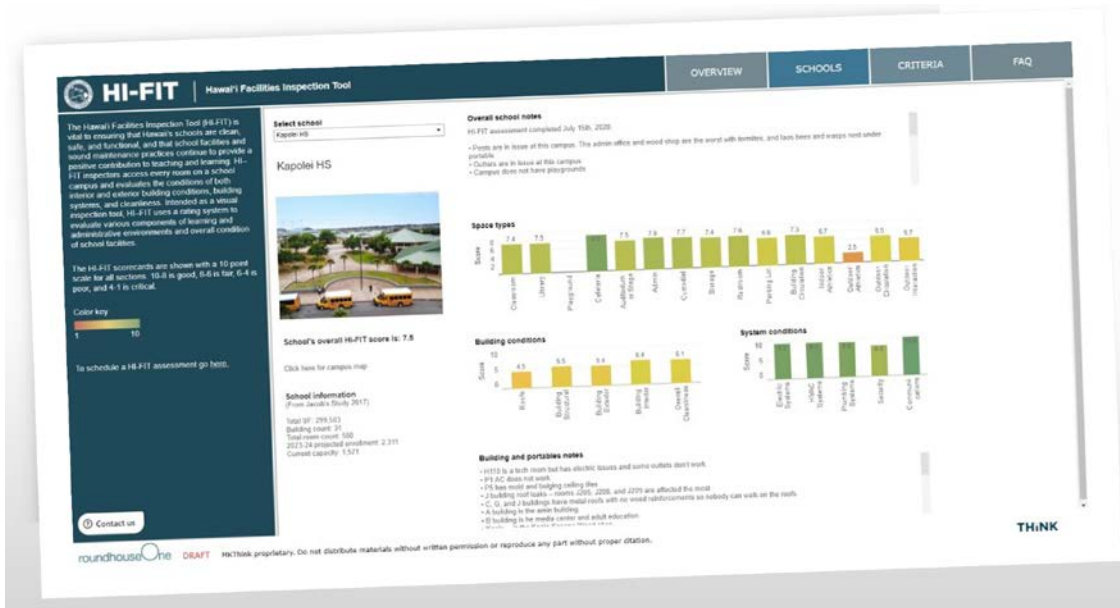
### 3. Update

Through discussions with complex area superintendents and schools, OFO continues the implementation of FAM while addressing deferred maintenance. The FAM initiative promotes equitable distribution of funds to schools in need based on socioeconomic and academic indicators as well as on facilities condition through assessment and scoring. OFO is also in the process of aligning personnel and resources to continue this progress. The FAM initiative results and progress can be seen at the “Improving Hawaii School Facilities” site, which can be accessed at <https://www.hidoefacilities.org/>.



On the “Improving Hawaii School Facilities” site, the “[Facilities Asset Management \(FAM\)](#)” tile links to a dashboard of all the deferred maintenance projects being worked on by district and biennium budget. This includes, but is not limited to, a list of contracted projects with encumbered amounts. Key milestones are supplied to track the progression of projects.

Tile “[HI-FIT](#)” publishes school inspection surveys as they are completed. The site allows viewers to compare schools and complexes by various survey criteria.



Tile “[Facilities Needs Report](#)” publishes summaries of HI-FIT surveys and deferred maintenance projects by district, complex or school. Information updates weekly.





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Should you should have any questions, please contact Randall Tanaka, Assistant Superintendent of the Office of Facilities and Operations, via email at [randall.tanaka@k12.hi.us](mailto:randall.tanaka@k12.hi.us) or by phone, at (808) 784-5000.

KTH:rf

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