

Workgroup on the Assessment and Funding of School Facilities

Delegate Maggie McIntosh, Chair

Wednesday, July 28, 2021

3:00 p.m.

Virtual Meeting

Agenda

- I. Call to Order and Chairs' Opening Remarks
- II. Facility Condition Index (FCI) Presentation
- III. Total Cost of Ownership Presentation
- IV. Closing Remarks and Adjournment

Presentation to the Workgroup on the Assessment and Funding of School Facilities

July 28, 2021

IAC Staff and Bureau Veritas (SFA Vendor)

Timeline Update

- 1,404 active & holding school facilities assessed by June 2021
- 15 more buildings to be assessed this month (Maryland School for the Deaf)

- Data-quality-control process to conclude by July 30, 2021
 - Received comments on data from all LEAs
 - To date, addressed 90% of LEA comments

- LEAs to receive school-level FCI data in early August for review prior to August 25 Workgroup meeting

Purposes of the Statewide Assessment

- Uniformly measure statewide the current physical condition and educational sufficiency
- Differentiate the facilities with the highest needs from lower ones
- Observe and record the remaining useful lifespan of every major building system
- Generate a Facility Condition Index (FCI) score for each system and each facility overall
- Record if a building system has exceeded its typical expected lifespan or not
- Measure facilities against the IAC's Educational Facilities Sufficiency Standards
- Generate baseline data that are accurate, comparable, and updatable

An Evolved Assessment Process

- Maryland's statewide assessment differs from typical facility-condition assessments, which
 - Add up the estimated cost of projects in the immediate term that would be needed to bring selected components up to new/good condition
 - Generate data that rapidly becomes stale
 - Ignore educational sufficiency

An Evolved Assessment Process

- Maryland's SFA
 - Uses the depleted percentage of expected lifespan to measure the condition of each major component
 - Measures educational sufficiency against standards
 - Allows for valid comparison of systems and facilities across the state
 - Clearly differentiates between the greater and lesser needs
 - Is more scientific and transparent
 - Generates a baseline set of data that is perpetually updatable and allows for scenario development

Process

- Data collected from LEAs
- On-site assessments by BV's trained experts
- Quality-control process with LEA feedback and input

Deriving an Educational Facility Score



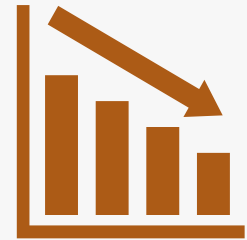
Physical Condition

Facility Condition Index
(FCI)



Educational Sufficiency

The usability of the
space for supporting
delivery of education



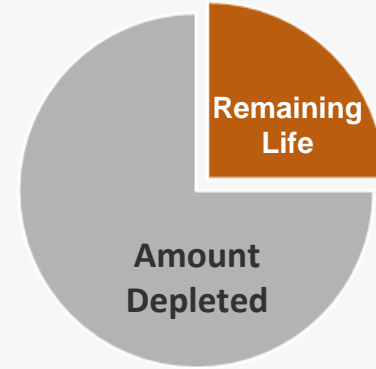
Combined Facility Score

Complete score

Calculating a Facility Condition Index

Building-System Level

FCI 75% =
Amount Depleted
Lower is Better



Facility Level

$$\text{FCI \%} = \frac{\text{Depleted Value}}{\text{Replacement Value}}$$

Depleted Value

HVAC (FCI %) + Roof (FCI %) + Foundation (FCI %) + etc.

HVAC + Roof + Foundation + etc.

Replacement Value

Facility Condition Index | FCI

HIGHER FCI

- means less remaining useful lifespan (RUL)

LOWER FCI

- means more remaining useful lifespan (RUL)

LOWER FCI = BETTER RELATIVE CONDITION

Major Building Systems

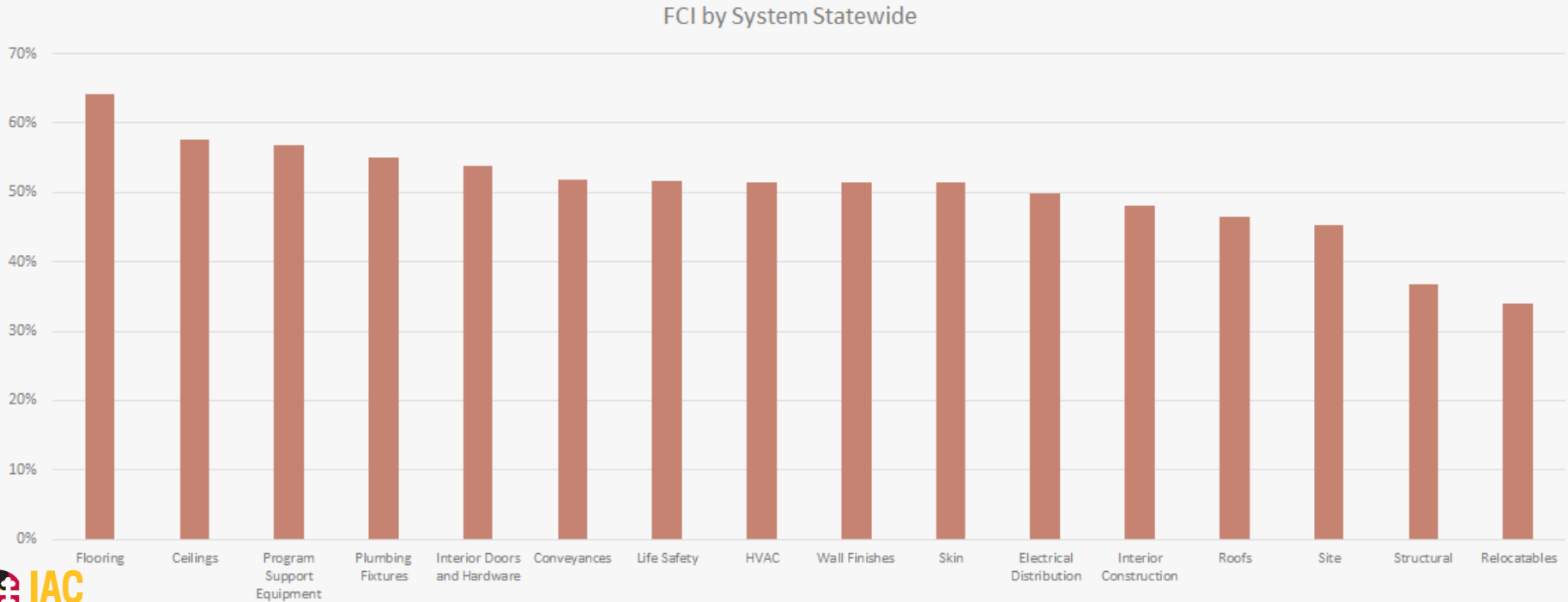
1. Ceilings
2. Conveyances
3. Electrical Distribution
4. Flooring
5. HVAC
6. Interior Construction
7. Interior Doors & Hardware
8. Life Safety
9. Plumbing Fixtures
10. Program Infrastructure
11. Relocatables
12. Roofs
13. Site
14. Skin
15. Structural
16. Wall Finishes

Major Building Systems

Systems	Estimated Useful Life (EUL)	Remaining Useful Life (RUL) For Illustration Purposes Only	System FCI
Ceilings			
Fiberglass Ceiling Panel	25	17	32%
Gypsum Board/Plaster Ceiling	40	20	50%
Suspended Acoustical Tile (ACT)	20	18	10%
Electrical Distribution			
Interior Lighting System	20	15	25%
Main Distribution Panel w/Sub Panels	40	20	50%
Security & Low Voltage Systems	15	10	33%
Switchgear/board w/Sub Panels	40	15	63%
Flooring			
Carpet	10	2	80%
Ceramic Tile	40	14	65%
Terrazzo	45	30	33%
Vinyl Composition Tile (VCT)	15	11	27%
Wood Sports Floor	30	15	50%
HVAC			
Boiler(s)	30	7	77%
Chiller(s) / Cooling Tower(s)	25	18	28%
Package Units (RTUs)	20	12	40%
Split Systems	15	6	60%
Roofs			
Asphalt Shingle	20	4	80%
Built-Up	25	13	48%
Modified Bitumen	20	5	75%
Single-Ply EPDM Membrane	20	3	85%
Single-Ply TPO/PVC Membrane	20	15	25%
Slate	70	45	36%

Statewide Depletion Level by System

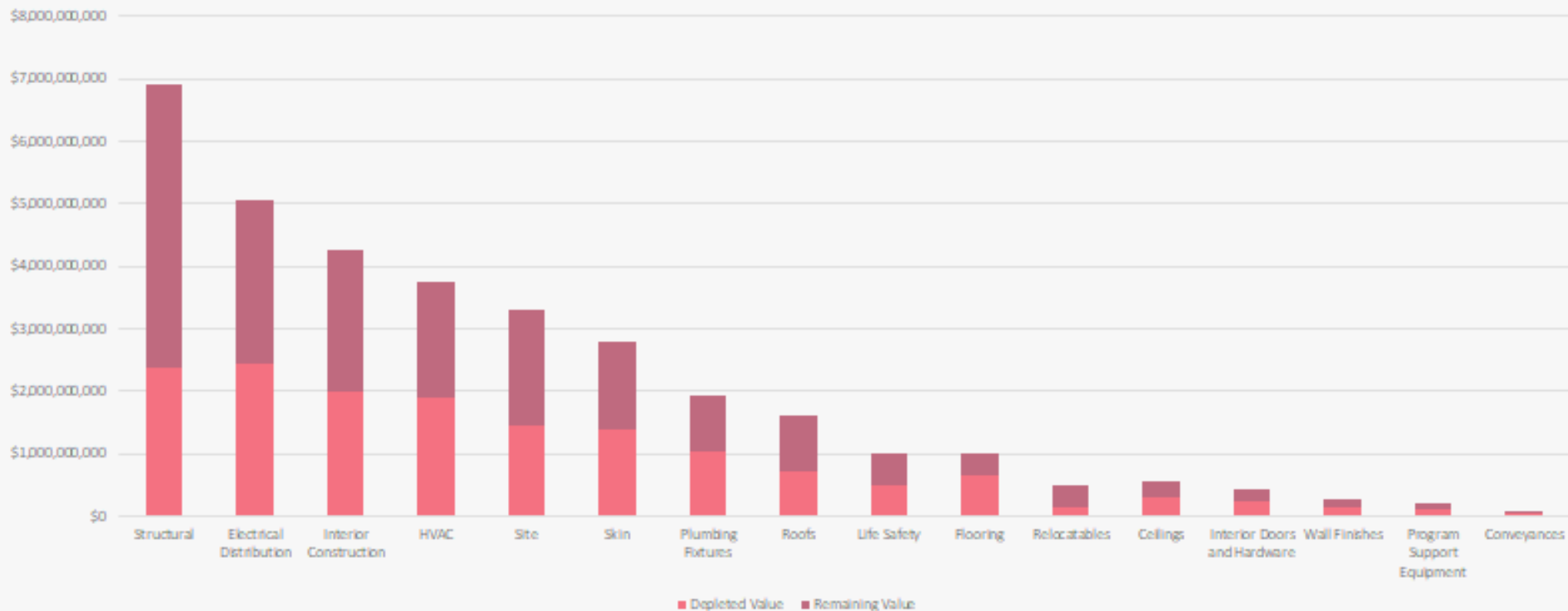
- Life-Based FCIs
- Higher FCI, like higher age = lower functional reliability and higher maintenance costs (routine, reactive, and capital)
- The condition of the Relocatable is measured here like any other Building Systems, lifespan depleted



Depleted Value and Remaining Value

- Cost-weighted, Statewide – Represents the cost magnitude of the depleted values for all systems

Depleted Value and Remaining Value

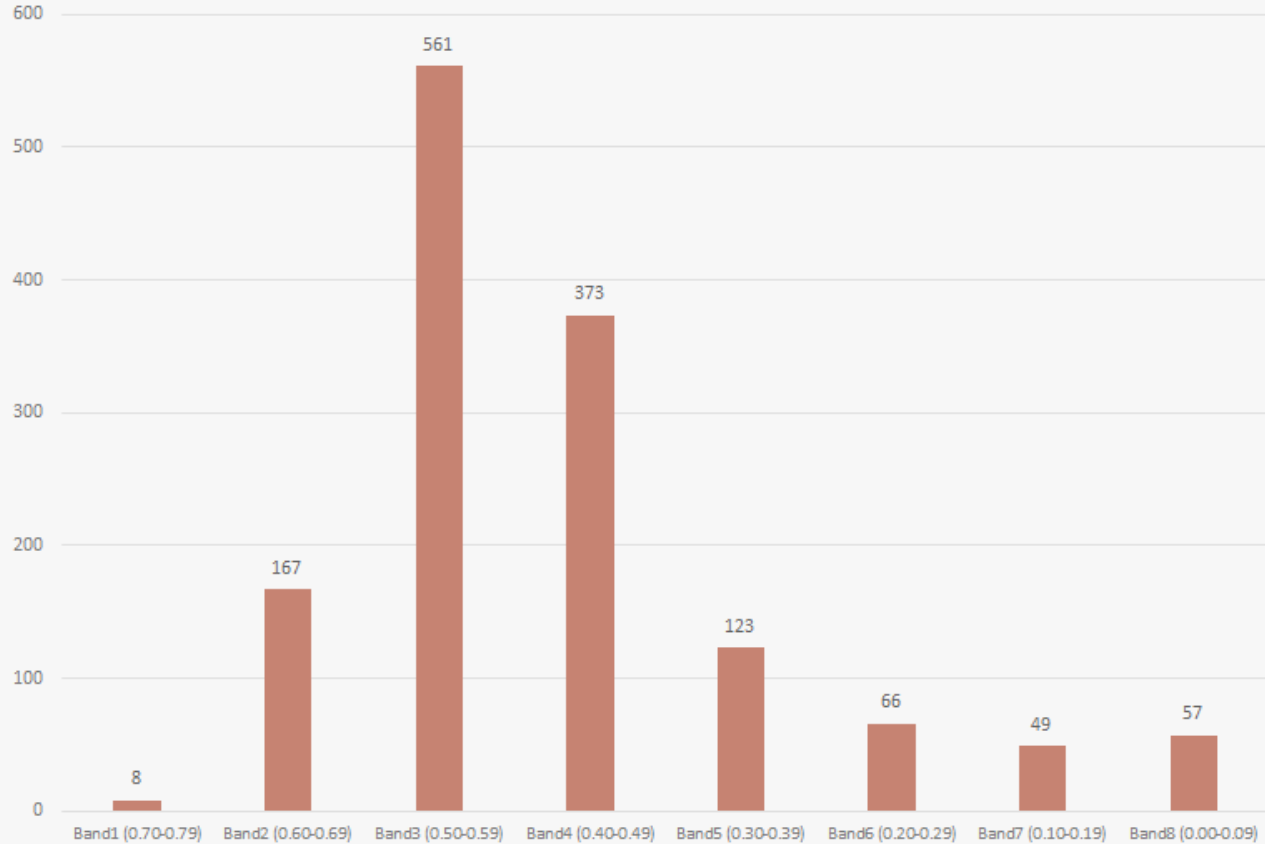


Facility Condition Distribution by Band

- Facility Population of 1,404
- Arithmetic Mean of 47.0%
- Std Deviation of 14.5%

Lower is Better

FCI	# Buildings	Percentage of Buildings
Band1 (0.70-0.79)	8	1%
Band 2 (0.60-0.69)	167	12%
Band 3 (0.50-0.59)	561	40%
Band 4 (0.40-0.49)	373	27%
Band 5 (0.30-0.39)	123	9%
Band 6 (0.20-0.29)	66	5%
Band 7 (0.10-0.19)	49	3%
Band 8 (0.00-0.09)	57	4%
Total	1404	100%



Deriving an Educational Facility Score



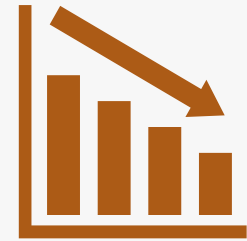
Physical Condition

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Combined Facility Score

Complete score

Maintenance Defined

“The work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be **fully functional** and **continuously utilized** for its **expected lifespan**, for its **intended purpose**, and at its maximum energy efficiency. Includes both routine and capital maintenance.”

— *National Council on*

Main Categories of Maintenance



1) Routine Maintenance

Routine, preventive, predictive, and emergent unscheduled tasks and repairs required to ensure that a facility functions according to its design and for its expected lifespan.

Industry Standard for Spending: 2% of Current Replacement Value per year

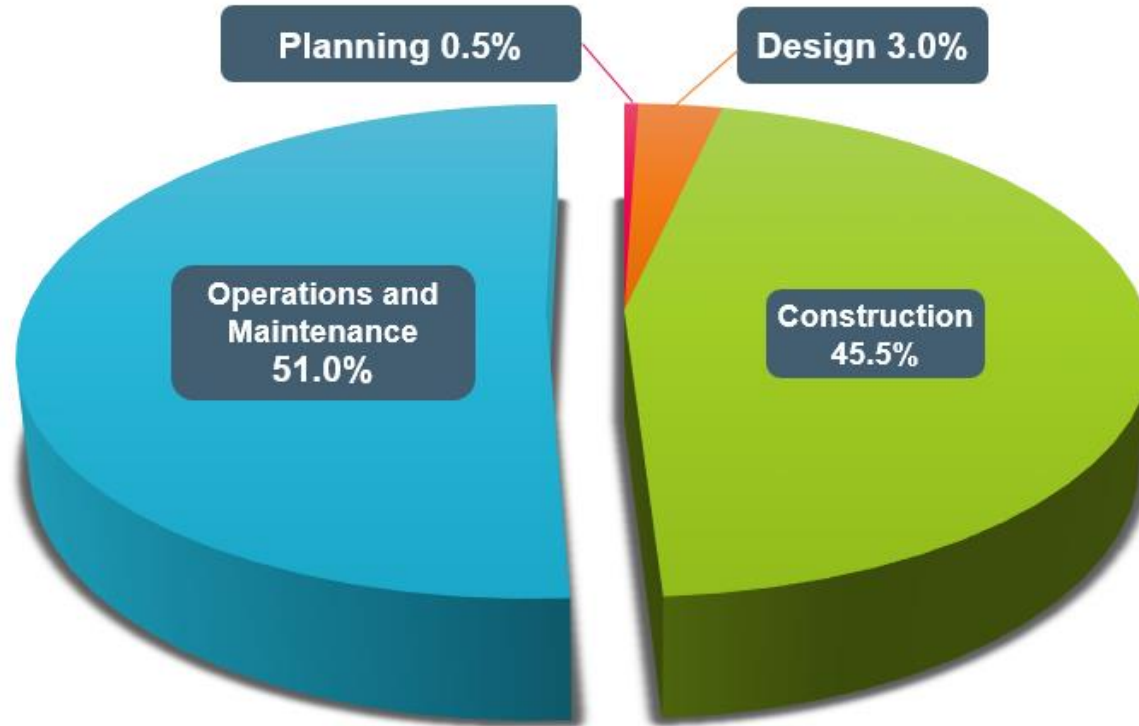
2) Capital Maintenance

Major repair, alteration, and replacement of building systems, equipment, finishes and components, including their removal and disposal.

Industry Standard for Spending: 2% of Current Replacement Value per year

Total Cost of Facility

Average Percentage Over 30 Years



Total Cost of Ownership Within a Portfolio



TCO in the IAC Process

- IAC Receives a TCO Estimator with submission of Educational Specifications
- The estimator is submitted during early planning, before many decisions impacting TCO are made
- Broad stroke, using industry standards, to promote awareness and understanding of TCO

Opportunities for TCO Incentives

- Achieve fiscal benefit for State and greater benefit for local governments
- Allow LEAs to drive innovation
- Use estimates to reward decisions that reduce TCO
- Bonus incentive for LEAs with good maintenance that exceed expected building system lifespans

We'd love
to hear your questions

