Methodology for the assessment

Based upon infrastructure assessments done by our peer districts, most notably Austin Independent School District and Baltimore County Public Schools, JCPS staff did a comprehensive evaluation of each JCPS facility and the supporting infrastructure. JCPS staff also relied upon the methodology set forth by Parsons, an independent 3rd party, that assessed a random sampling of JCPS facilities in 2011.

When sharing preliminary data with counterparts from both Austin and Baltimore County, it was determined that a 3rd party evaluation was not needed as JCPS had access to all relevant information and internal capacity to complete a comprehensive analysis. It was noted these evaluations are costly, time consuming, and only reinforced current knowledge.

Additionally, over the course of four separate days, a comprehensive SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) was done on each structure lead by the Chief Operations Officer, that included all levels of maintenance staff, as well as representatives from Transportation, Safety & Environmental, Security & Investigations, Demographics, Data Management, and Academics.

Major factors assessed include:

Quartile Ranking:

All buildings were tiered by quartile. Age / efficiency of systems and overall condition of the structure were the major factors in rankings. This is a priority ranking of buildings needing major renovations with Quartile 4 denoting the most need. Quartile 4 is made up of buildings with end of life and failing HVAC systems. Conversely, Quartile 1 is made up buildings recently constructed or receiving recent capital improvements.

Facility Condition Index (FCI) – The FCI is a percentage formula used to determine the efficacy of renovating v. replacing a structure. The cost of renovating a structure is divided by the cost of replacement. Industry standard indicate that a structure with an FCI of 65% or higher is more cost effective to replace than renovate.

For the purposes of this study, Quartile 3 and Quartile 4 buildings received FCI percentages. Quartile 1 buildings were deemed to be in the good to moderate range. Quartile 2 buildings were deemed to be in the moderate to fair range.

FCI Overview

0% - 15% Good – Structure is in good conditions, only regular maintenance needed

15.1% - 30% Moderate- Structure needs moderate repairs

30.1% - 50% Fair – Structure has systems approaching or exceeding life expectancy

50% or greater Poor – Structure has end of life systems that require frequent critical repairs

Optimal Capacity – The exact ideal number of students based on the design of the building. A building should be at 75% - 115% of Optimal Capacity.

Under-enrolled - Buildings under 75% Optimal Capacity are an inefficient use of both human and financial resources.

Over-enrolled - Buildings with over 115% Optimal Capacity over-burden the physical structure and core spaces of a school – bathrooms, cafeterias, hallways, media centers, etc…

Formula for Optimal Capacity:

Elementary –

1. Count the total number of permanent classrooms
2. Subtract the number of classrooms used for special areas.
3. Multiply that number by 25 Students (Breakout Early Childhood classrooms use 20)
4. Multiply that number by the efficiency factor of 95% (85% for Title I schools)
5. Optimal Capacity Number

Secondary–

1. Count the total number of permanent classrooms
2. Multiply by 29 students
3. Multiply that number by the efficiency factor of 75% (70% for Title 1 schools)
4. Optimal Capacity Number

Projected Enrollment – the number of students projected to attend in 2016-2017

Percentage Optimal Capacity – Enrollment divided by Optimal Capacity.

Key Areas of Focus

Building Facts – Number Stories, Year Constructed, Gross Square Footage, Total Acreage

Capital Improvement History – Past major capital projects and expense.

Over 50 years – buildings over 50 years old are more likely to require more costly maintenance and have end of life systems.

Under 25 years – buildings under 25 years old are outfitted with newer components that require less costly maintenance.

5 year capital plan – Structure has systems scheduled to be replaced within next five years

Energy Star – Designated in the top 25% of energy efficient schools nationwide

Single Story – Single story buildings could be repurposed into early childhood centers.

Shared Site – Multiple JCPS programs housed on one campus

Room to build on site – Campus has ample room for construction

Small / Shared gym – Building does not have full size gym / independent gym

Undersized Media Center – Media Center is smaller than current standard

HVAC Issues – HVAC system is end of life or requires frequent maintenance

Site Drainage Issues – Refers to sites with high water tables, poor storm water runoff and retention

Regulated Materials – Sites with regulated materials make for more costly and time consuming maintenance and renovations

Daylighting Issues – Buildings that have few interior windows / natural light

Crime / Vandalism –Buildings historically susceptible to vandalism, graffiti, or theft.

Masonry / Structural – Require / have required masonry & structural repair due to settling and/or water intrusion.

Poor Design – Buildings with less than optimal layouts and egress

Roof Issues – End of life roof / high frequency leaking

Traffic / Parking Issues – Site has heavy traffic and / or space limitations

ADA - Site is not entirely accessible

Window Issues – End of life windows / high frequency repairs.

Sources of maintaining, improving, renovating, and constructing facilities

Annual Facilities Improvement Fund (AFIF) – a budget dedicated to infrastructure improvements and maintenance specifically targeting projects that do not meet the threshold of a capital project.

The AFIF in the year 2000 was $6 Million. Other than 2007 when it was raised to $8 Million, it remained at $6 Million until 2011. In 2012, the AFIF budget was cut to $4 Million. $6 Million in the year 2000 is roughly equivalent to $8 Million today.

The flat-lining, and subsequent reduction, of AFIF over the last 15 years has led to less and less infrastructure improvement and less capacity to perform non-critical maintenance.

Maintenance and Mechanical Budgets – these are the budgets allocated to the maintenance and mechanical departs to repair and maintain the systems and structures of the district. These budgets both flexible and non-flexible have essentially flat-lined for the last six years. The cost of doing business, just as with the AFIF, has significantly increased.

Capital Projects – a major facilities project using restricted funds. The impacting of three systems qualifies a project for use of restricted funds. Restricted funds may also be used to replace one system that impacts "life safety" issues, such as roofs, HVAC systems and individual components (boilers, chillers, controls, etc...), elevators, and fire safety systems.

Restricted Funds – funds generated from the $0.05 property tax (Nickel Tax) to be used for Capital Projects.

Michael L. Raisor, Ph.D., MBOE
Chief Operations Officer
Jefferson County Public Schools