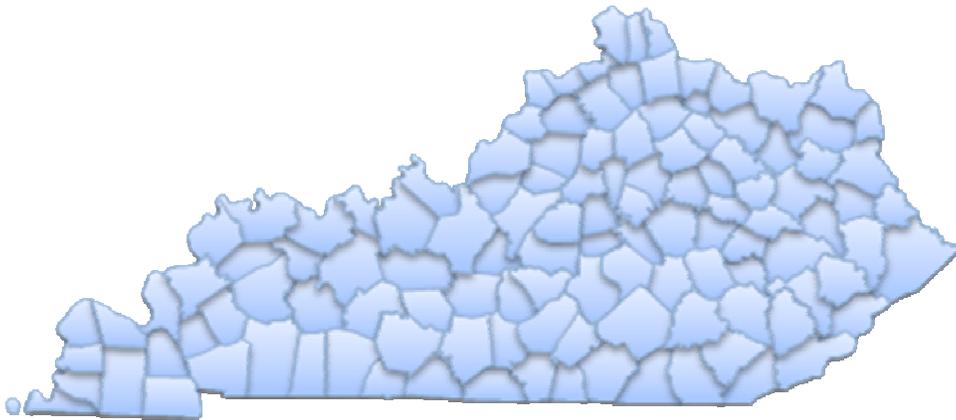


2011 Annual Report

of the

Kentucky Department of Education

Facilities Inventory and Classification System



Submitted by:

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with MGT of America

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Abstract

Overview

As a result of Senate Bill 132 (2010), the Kentucky Department of Education (KDE) conducted an Assessment (hereafter referred to as Assessment) of **485** public school facilities in Kentucky to address the considerations set forth in Kentucky Revised Statutes Chapter 157 (Sec. 9).

The assessment included a detailed facility condition, educational suitability and technology readiness evaluation of 485 schools totaling about 33 million gross square feet (GSF). The schools included in this phase of the project were initially selected based on having a Category 3 or Category 4 designation as of September 2010¹. Schools assessed represented 146 districts (101 county and 45 independent school districts). The other 28 districts did not have a Category 3 or Category 4 building and thus were excluded from the initial assessment. It included all school types: high schools (HS), middle schools (MS), elementary schools (ES), district-owned Area Technology Centers (ATC) and alternative schools (ALT).

KDE Objectives

KDE's objectives for the work included the following:

1. Provide an independent third-party baseline evaluation, inventory and assessment of the designated public school facilities² in the Commonwealth of Kentucky based on measurable, objective criteria to include the relative physical condition³ and educational suitability⁴ of the buildings to comply with current educational requirements for districts' facilities that are used in the education of students in preschool through high school.

The assessment should include numerical scoring with weights to recognize building components and characteristics that address:

- life safety issues
- compliance with state and federal codes
- compliance with requirements under the Americans with Disabilities Act
- community spaces
- instructional areas
- mechanical, electrical, plumbing and other technology systems
- site and exterior building conditions
- age of the buildings
- feasibility of building additions and major renovations
- the districts' facility capacities
- current use of temporary facilities
- projected enrollment growth

¹ Schools identified as Category 5 were addressed by the General Assembly in 2010 and excluded from the assessment.

² A "facility" refers to site(s), building(s) or building addition(s) or combinations thereof that provide a particular service or support of an educational purpose.

³ "Condition" refers to the state of physical fitness or readiness of a facility, system or system element for its intended use.

⁴ "Suitability" indicates how well a facility supports the programs that it houses as described in the guidelines for academic spaces, administrative and support spaces, sports fields and play areas, learning environment, site circulation patterns, and technology infrastructure.

2. Complete a facilities condition and suitability assessment of the designated facilities contributing to accomplishment of the districts' mission, including instructional buildings, cafeterias, band and choral facilities, gymnasiums and auditoriums. It should not include parking facilities, school bus facilities, external and outdoor athletic facilities, central business office space, district office space or district storage facilities. Evaluations are to be through visual, non-destructive inspection of buildings and review of existing building data and maintenance history.
3. Provide project report deliverables to include a statewide executive summary report and a report for each facility assessed.
4. Provide an already established capital planning and management software application, database and an ongoing method for accurate and timely tracking of facilities conditions that results in consistent categorizations of buildings for local planning purposes and for the distribution of state general fund monies designated for capital construction as part of a new Kentucky Facilities Inventory and Classification System (KFICS).

Executive Summary

This report identifies current deficiencies⁵ that include condition⁶ needs, deferred maintenance⁷ needs, educational suitability⁸ needs and technology readiness needs. The following table summarizes statewide needs based on buildings assessed in 2011:

	ESTIMATE
<i>Current Period⁹ Needs (2011–2014) Based on This Assessment</i>	
Total Number Buildings Assessed	477
Total Number Programs Assessed	485
Total Gross Square Footage Assessed	33,178,653
Total Needs	\$3,722,448,522
Current Replacement Value (CRV)	\$7,428,312,484

KENTUCKY SCHOOL SCORE RANGES	
RANGE	NUMBER OF PROGRAMS
0.00 – 20.99	0
21.00 – 30.99	9
31.00 – 40.99	32
41.00 – 50.99	73
51.00 – 60.99	94
61.00 – 70.99	136
71.00 – 80.99	88
81.00 – 90.99	40
91.00 – 100.00	13

The key deliverable provided by Parsons is the *State Report – School List by Kentucky School Score*. It is a list of the 485 schools, ranked by the Kentucky School Score from low to high. The report is available on the KDE website at the following link:

<http://www.education.ky.gov/KDE/Administrative+Resources/Facilities/2011+Facilities+Assessment+Project.htm>

⁵ A deficiency is the state of being damaged, missing, inadequate or insufficient for an intended purpose.

⁶ “Condition” refers to the state of physical fitness or readiness of a facility, system or system element for its intended use.

⁷ Deferred maintenance is condition work (excluding suitability and energy audit needs) deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available.

⁸ “Suitability” indicates how well a facility supports the programs that it houses as described in the guidelines for academic spaces, administrative and support spaces, sports fields and play areas, learning environment, site circulation patterns, and technology infrastructure.

⁹ The Current Period is the present year plus three forward years — in this report, 2011–2014.

KFICS Methodology

Assessment Team

Parsons Commercial Technology Group (Parsons) was selected for the condition assessment team that included MGT of America (MGT) for educational suitability and technology readiness assessment activities.

KFICS Data Components

KFICS addressed the objectives via four functional system components:

- 1) Facility Condition data that identifies the physical condition of the public school facilities in terms of deficiencies:
 - Deferred Maintenance - backlog maintenance or renewal work deferred on a planned or unplanned basis to a future budget cycle or postponed until funds are available
 - Capital Renewal - cyclic reinvestment in capital assets that extend the useful life and retain usable condition
 - Suitability/Adequacy - repairs needed to meet current or future mission – what’s missing
- 2) Educational Suitability data that identify the degree of a public school facility’s capability to meet its intended mission based on scored criteria
- 3) Technology Readiness data that identify the degree of a public school facility’s technology capabilities based on scored criteria
- 4) Capacity and Utilization data that identify a public school facility’s intended design capacity compared to its actual enrollment and historical enrollment compared to its projected enrollment
 - Although capacity and utilization data were collected, it is not included in the Kentucky School Score calculation. MGT’s calculation methodology differs from Kentucky’s regulations. However, it is noted that MGT generally found that Kentucky school facilities are slightly over-sized for current enrollment and utilization needs when compared to national standards¹⁰.



¹⁰ MGT of America bases its capacity and utilization calculations on national standards, namely those of the Council of Educational Facility Planners International (CEFPI).

KFICS Assessment Process

Parsons and MGT implemented a consistent, objective and equitable process for evaluating Kentucky schools that was easily repeated by each Assessment Team.

- 1) Parsons and MGT developed checklists based on Kentucky's regulations, standards and guidelines to identify issues found during on-site assessments.
- 2) Three schools were evaluated as a pilot to solidify and norm the checklists.
- 3) Parsons and MGT trained the Assessment Teams during a four-day session that included group visits and evaluations of schools to ensure consistency among teams.
- 4) Superintendents were notified in advance of the upcoming on-site evaluations.
- 5) A condition questionnaire regarding the school's physical condition was forwarded to the school facility contact for input prior to the on-site assessment.
- 6) A team of assessors then visited the identified schools on an advance-scheduled day. Each team consisted of one condition assessor (Parsons) and one educational suitability assessor (MGT).
- 7) Upon arrival, the Assessment Team provided an overview of the process to the principal and facility employee. The Assessment Team then separated to perform its evaluations.
- 8) The condition assessor reviewed the condition questionnaire answers and toured the school with a school facility employee who had knowledge of the building and could gain access to the roof, boiler, plumbing and other areas. The condition assessor photographed all areas and deficiencies found, noting all issues in a checklist.
- 9) The educational suitability assessor reviewed the floor plans and instructional programs and toured the school with the principal or a designee who had knowledge of the programs being offered in the school. The educational suitability assessor noted all issues in a checklist. The educational suitability assessor also evaluated the school for technology readiness criteria.
- 10) Once the Assessment Team completed the onsite review, the members recorded their results in a database.
 - The assessment time was based on the complexity of the site and the program. Most elementary schools were completed in three hours, middle schools in four hours and high schools in five hours.
- 11) Parsons and MGT analyzed the school's data and developed a Draft School Report. Each school was asked to review their specific Draft School Report and provide comments, captured in a Feedback tool.
- 12) Parsons and MGT responded to all comments and incorporated changes as needed.
- 13) Each school was asked to again review their updated Revised School Report and provide comments, captured in a Feedback tool.
 - Note that 313 of 477 (65 percent) facilities had comments from the school/district.
- 14) State Reports and Final School Reports were developed from the school data as final project deliverables.

KFICS Scoring Model

Score Classification Assessment data were used to develop physical condition, educational suitability and technology readiness deficiency needs represented by budget repair costs to bring the deficiency back into compliance with facility standards or educational suitability standards.

The condition needs were used to develop an index based on the industry standard formula called Facility Condition Index¹¹ (FCI). A new facility with \$0 repair needs will have an FCI index of 0 percent, while a facility that is totally deficient will have an FCI of 100 percent.

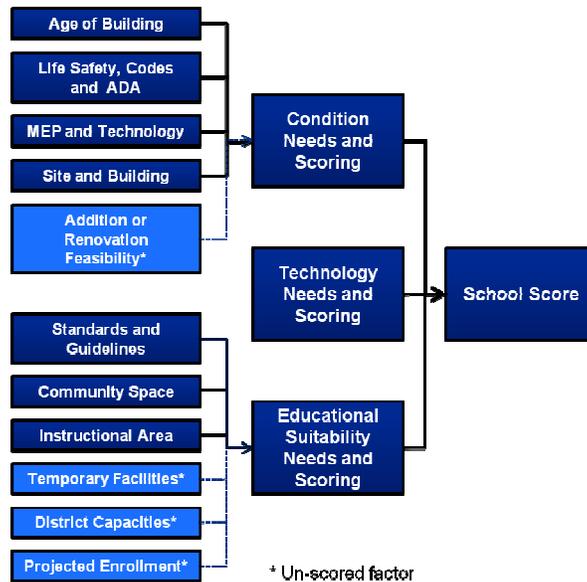
The formula is: $\text{Repair \$} / \text{Replacement \$} = \text{FCI Value \%}$

Educational suitability and technology readiness criteria were assessed and rated on the degree that criteria elements conform to a standard or guideline using a 1-5 choice Likert¹² questionnaire method.

Each rated criteria question was assigned a possible point value, and the rating applied by the assessor accorded the issue with a prorated value of scored points. The ratio of scored points to possible points developed a score expressed as a percentage. For example, the criteria “classroom size” might have possible points of 10.

Kentucky School Score A combined Kentucky School Score (KSS) was developed to rank facilities based on the above criteria scoring. Weighting factors were set at:

Element	Weighting
Condition	75%
Educational Suitability	20%
Technology Readiness	5%



¹¹ Facility Condition Index (FCI) is an industry-standard measurement of a facility's condition that is the ratio of the cost to correct a facility's deficiencies to the Current Replacement Value (CRV) of the facilities. CRV represents the total cost of rebuilding or replacing an existing facility in current dollars to its optimal condition under current codes and construction methods. FCI is typically expressed as a percent.

¹² Likert methodology refers to the most widely used scale in survey research named after its inventor, psychologist Rensis Likert. A Likert item is a statement which the respondent is asked to evaluate according to any kind of subjective or objective criteria; generally the level of agreement or disagreement is measured.



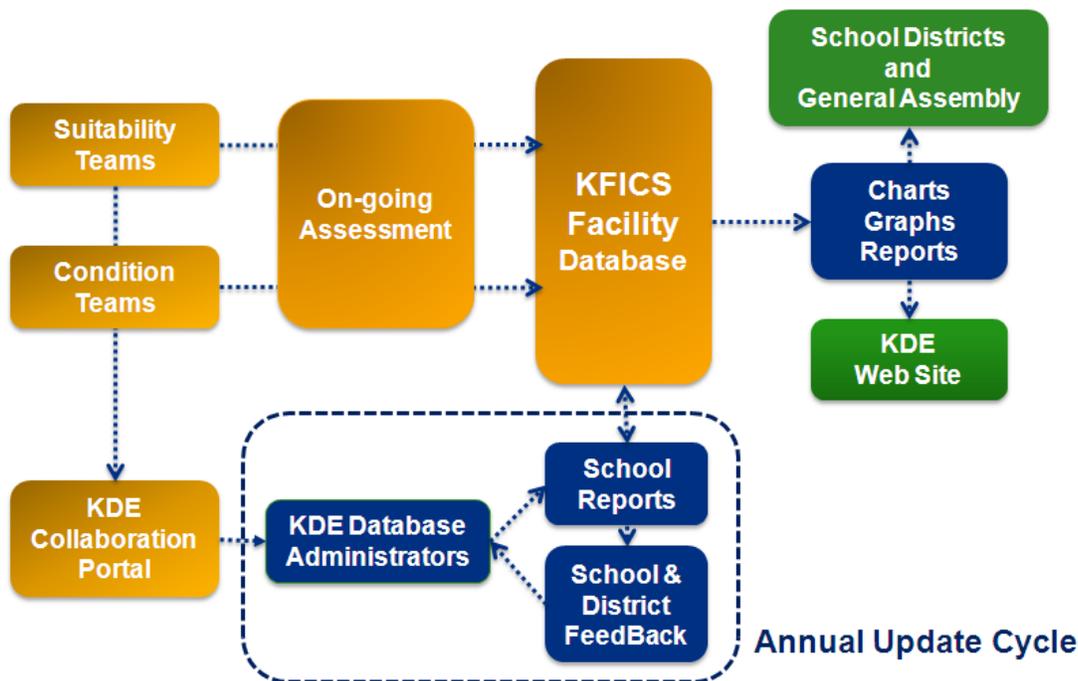
The following scoring metrics were developed for each school using this approach and are included in the *State Report – School List by Kentucky School Score*:

Budget Costs to Repair & Comply with Kentucky Standards	Budget Costs to Repair & Comply with Kentucky Standards is a sum of the assigned costs for the identified condition, educational suitability and technology readiness issues (deficiencies). The assigned costs are based on national average costs to bring a building, system, component or program into compliance with state standards, guidelines or best practices. It is not a detailed estimate.		
Projected Budget to Replace Current GSF (Current Replacement Value)	Projected Budget to Replace Current GSF, also known as the Current Replacement Value, represents the total cost of rebuilding or replacing an existing facility with the same gross square footage. It uses national averages, including RSMeans, to rebuild the same functional type of facility with an optimal state-of-the-art condition under current codes and construction standards and techniques.		
Condition Score	<p>Condition Score reflects the physical condition of the building, including all building systems and outside components, based on national criteria. It is calculated by subtracting the FCI from 1.</p> <p>It ranges from 0 (very poor condition) to 100 (new or best condition).</p> $\text{Condition Score} = (1 - \text{FCI}\%) * 100$ <p>Facility Condition Index (FCI) is an industry-standard measurement of facility condition calculated as the ratio of the costs to correct a facility's deficiencies to the facility's Current Replacement Value:</p> <p>It ranges from 100% (very poor) to 0% (new).</p> $\text{FCI} = (\text{deficiency } \$) / (\text{current replacement value } \$)$	Range Low High 0 100	
Suitability Score	<p>Suitability Score is a sum of the values for each educational suitability criteria question addressed. It is then divided by the total possible points (100). Educational suitability criteria questions were based on the function of the facility assessed: elementary, middle, high, K-8, K-12 or vocational.</p> <p>It ranges from 0 (least suitable) to 100 (most suitable).</p> $\text{Suitability Score} = \text{Criteria Based Points} / \text{Possible Points}$	0 100	
Technology Score	<p>Technology Score, also known as Technology Readiness Score, is a sum of the values for each technology readiness criteria question addressed. Technology readiness criteria questions were based on the function of the facility assessed: elementary or secondary.</p> <p>It ranges from 0 (least technology ready) to 100 (most technology ready).</p> $\text{Technology Score} = \text{Sum of Points for Technology Criteria}$	0 100	
Kentucky School Score	<p>Kentucky School Score is a combination score that reflects the physical condition, educational suitability and technology readiness of the building. It is a weighted value.</p> <p>It ranges from 0 (worst) to 100 (best).</p> $\text{Kentucky School Score} = (\text{Condition Score} * 75\%) + (\text{Suitability Score} * 20\%) + (\text{Technology Score} * 5\%)$	0 100	

KFICS Operation Plan

Parsons envisioned a repetitive approach to collecting and validating facility data, maintaining and updating the KFICS database, and expanding the database to incorporate all school district facilities and to add new services and features, such as space inventory, energy audits and program management capabilities.

Operational Roadmap



1) ONGOING ASSESSMENT and DATA COLLECTION

a) Condition, suitability and technology readiness assessment teams scheduled and coordinated school assessments working through a district point of contact (POC) or directly with the school principal. Assessment times in the field varied with the school type in accordance with the Planning Approach above. For combined school programs within one or more facilities, the highest grade level determined the allocated field assessment time.

i) Condition and suitability teams, usually one person each, visited the school at the same time unless school holiday schedules, testing periods or other factors resulted in the school not being in instructional operation. Condition assessment did not depend upon teachers and students being in attendance, while suitability assessment was conducted only when teachers and students were in attendance. In some instances, suitability assessment times were rescheduled separately from condition assessments to take educational schedules into account.

ii) Future assessments will continue to be scheduled together to minimize disruption. However, if school schedules warrant separate condition and suitability assessment times, there is no detrimental impact to data quality for either team.

- iii) Ongoing assessment of the remaining Kentucky portfolio should be conducted by the Parsons team to maintain consistency of assessment approach and data integrity. Thereafter, Parsons recommends a continuing third-party assessment of the KDE portfolio to match biennium cycles, e.g., 25 percent of all schools each year so that the entire portfolio is reassessed every four years.
- b) The KFICS database has been configured to allow self-assessment by the school or district staff indirectly using the KFICS FeedBack system or directly through the KFICS database using the Internet, although the latter approach is not recommended due to the wide variance in computer and online technology capabilities within each district and school. With initial and periodic training of KDE database administrators and at regional district, annual conferences and via webinars conducted by KDE administrators or third-party firms, self-assessment on an annual basis would be practical and efficient.
- 2) KDE COLLABORATION PORTAL: The Collaboration Portal is a Microsoft SharePoint site used by Parsons to collect and share supplemental data supporting the KFICS database. Drawings, reports, photographs and other bulk data can easily be uploaded by registered team members and referenced later. The site is available to KDE as long as Parsons maintains a contractual relationship with KDE. The data on the site belongs to KDE and can be migrated to KDE's SharePoint site or the data can be downloaded and transferred to KDE on compact disk technology.
- 3) KDE KFICS DATABASE: Parsons eCOMET software is the database software for the KFICS database. eCOMET is licensed to KDE for an unlimited time period as long as KDE wishes to use the software. The KFICS database is hosted initially on the Parsons secure server farm, the Parsons Technology Center located in the Dallas, Texas area. Data hosting requires periodic labor to maintain the database servers, Internet servers and other information services infrastructure, and Parsons charges a minimal annual fee for the service. The eCOMET software also requires periodic maintenance for third-party software (RSMeans, CADViewer, Google Earth and Acrobat), functional upgrades and other ongoing maintenance.

The KFICS database itself should be upgraded annually with an optional RSMeans subscription to refresh cost data supporting the facility replacement cost models, deficiency cost budgets and escalation through RSMeans city cost indices.

- 4) ANNUAL UPDATE CYCLE: Parsons recommends an annual cycle of data review, data update, data archive and reports:

Annual Action	Task Period
Archive KFICS database	January
Update RSMeans data	February
Generate updated School Reports for District Review	March
Open Comment Period in FeedBack	March – April
Initiate KFICS Updates/Confirmation of Updates	May – October
Annual KFICS Report	November
KFICS Policies Review	December