Evaluation of the Space Projection Models

Mr. Thomas E. Keaton

Director, Funding

Texas Higher Education Coordinating Board

60×30TX

Texas Higher Education Coordinating Board

Higher education has changed since 1992…

Space need reduced but not eliminated

Purpose of the Study

- Review the space projection model

    - Analyze the methodology
    - Consider impacts of online courses
   - Recommend enhancements to increase accuracy and validity

Model Overview

- The model has two purposes – predict square feet (SF) for space need and to inform infrastructure support allocation

- Uses logical drivers to predict space, examples:
  - Full-time student equivalents (FTSE) or headcount for teaching space
  - Faculty and staff for office space
  - Research activity (expenditures) and faculty for research space

- The model is not a facilities programming tool

- Space for growth needs to be considered on the front end, but the current model yields unrealistic numbers

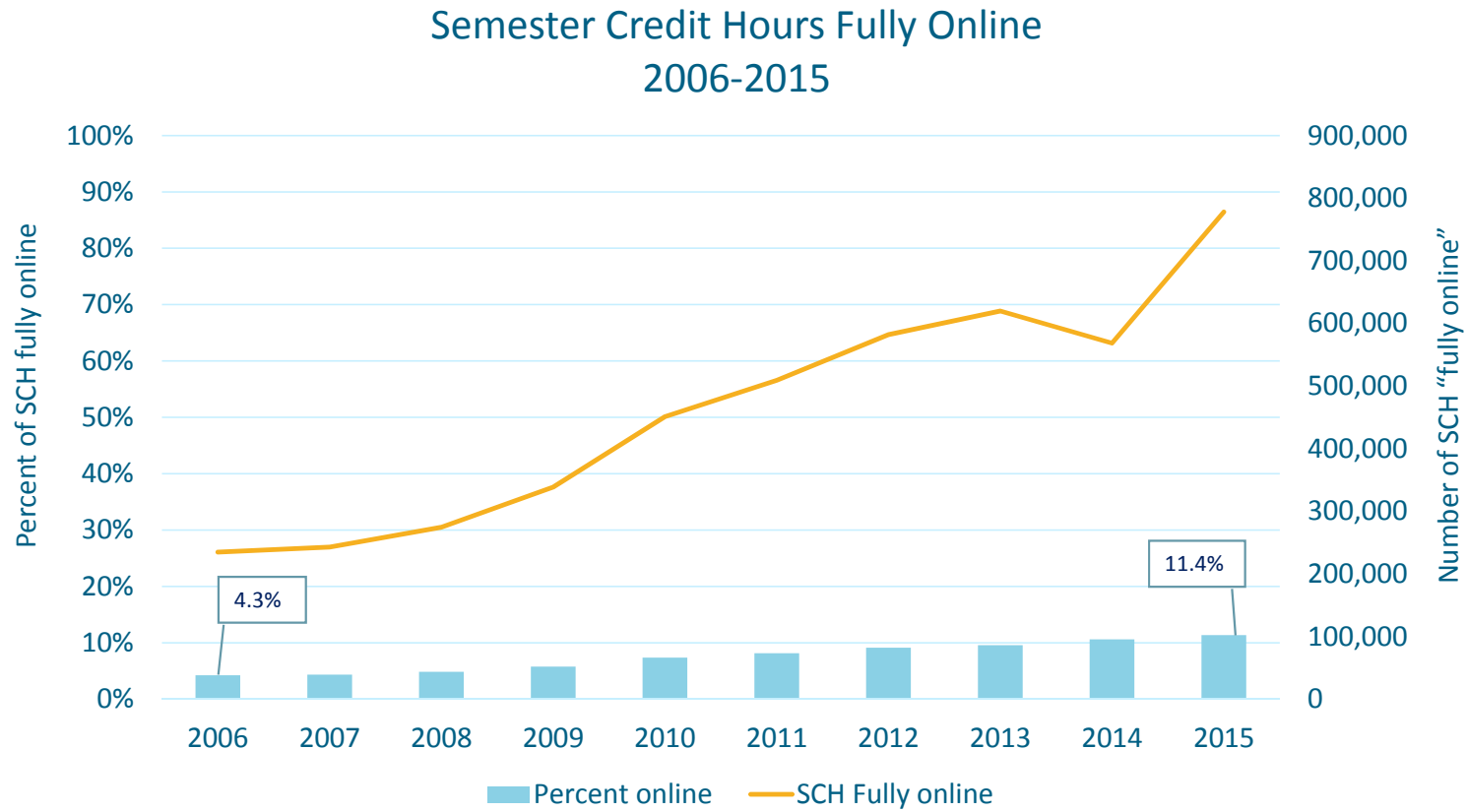# The gap between actual and predicted SF is growing
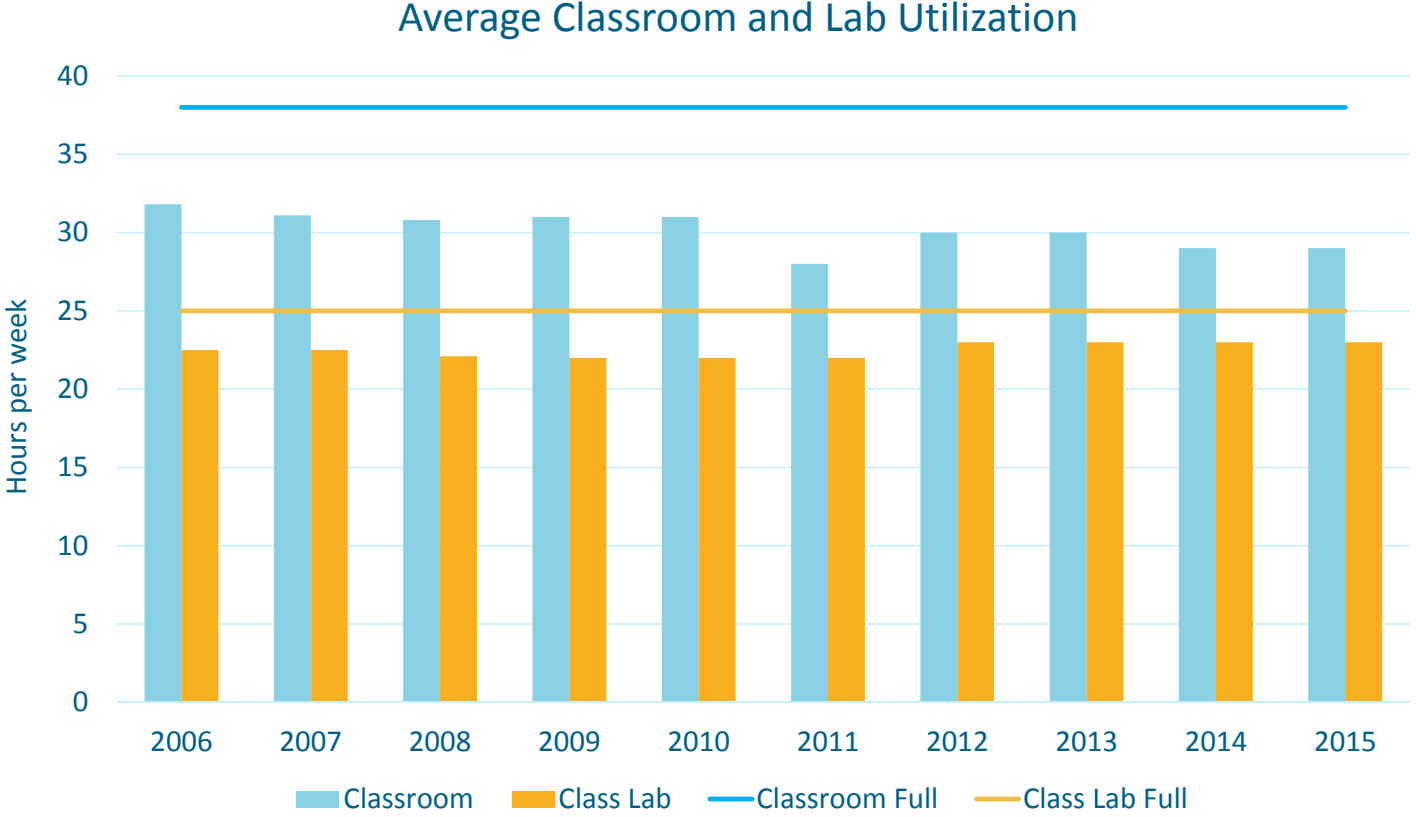
GAI Total SF Predicted vs Actual
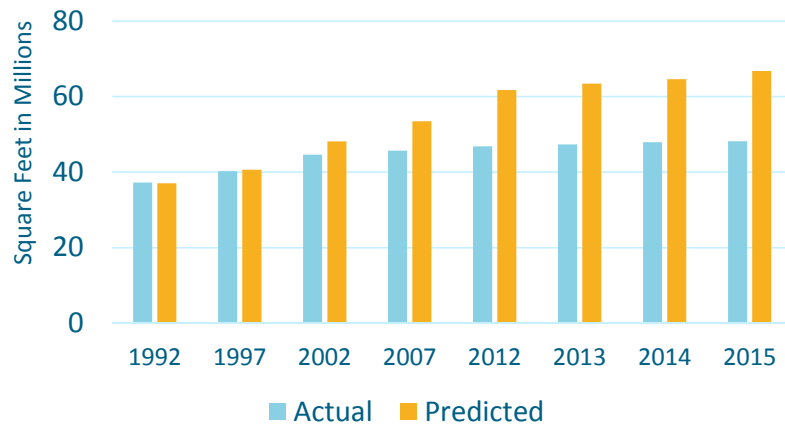
HRI Total SF Predicted vs Actual

5
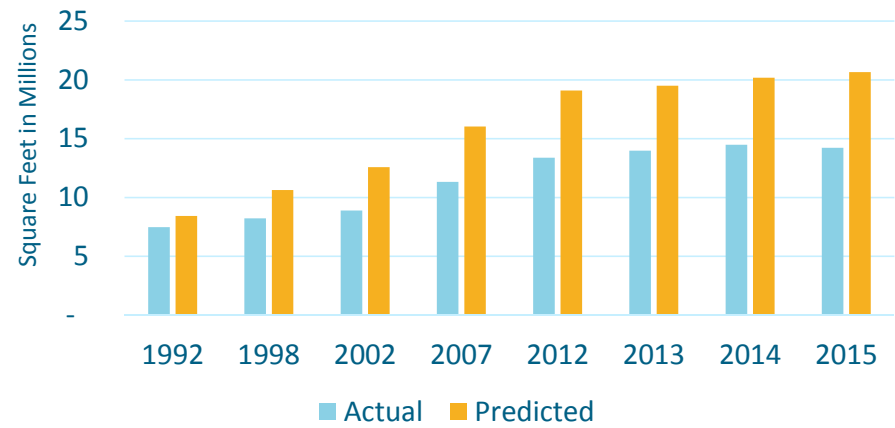
The percent and number of fully online SCH has increased since 2006

Semester Credit Hours Fully Online
2006-2015

Statewide data indicate available capacity in existing facilities

Average Classroom and Lab Utilization

Statewide data indicate available capacity in existing facilities
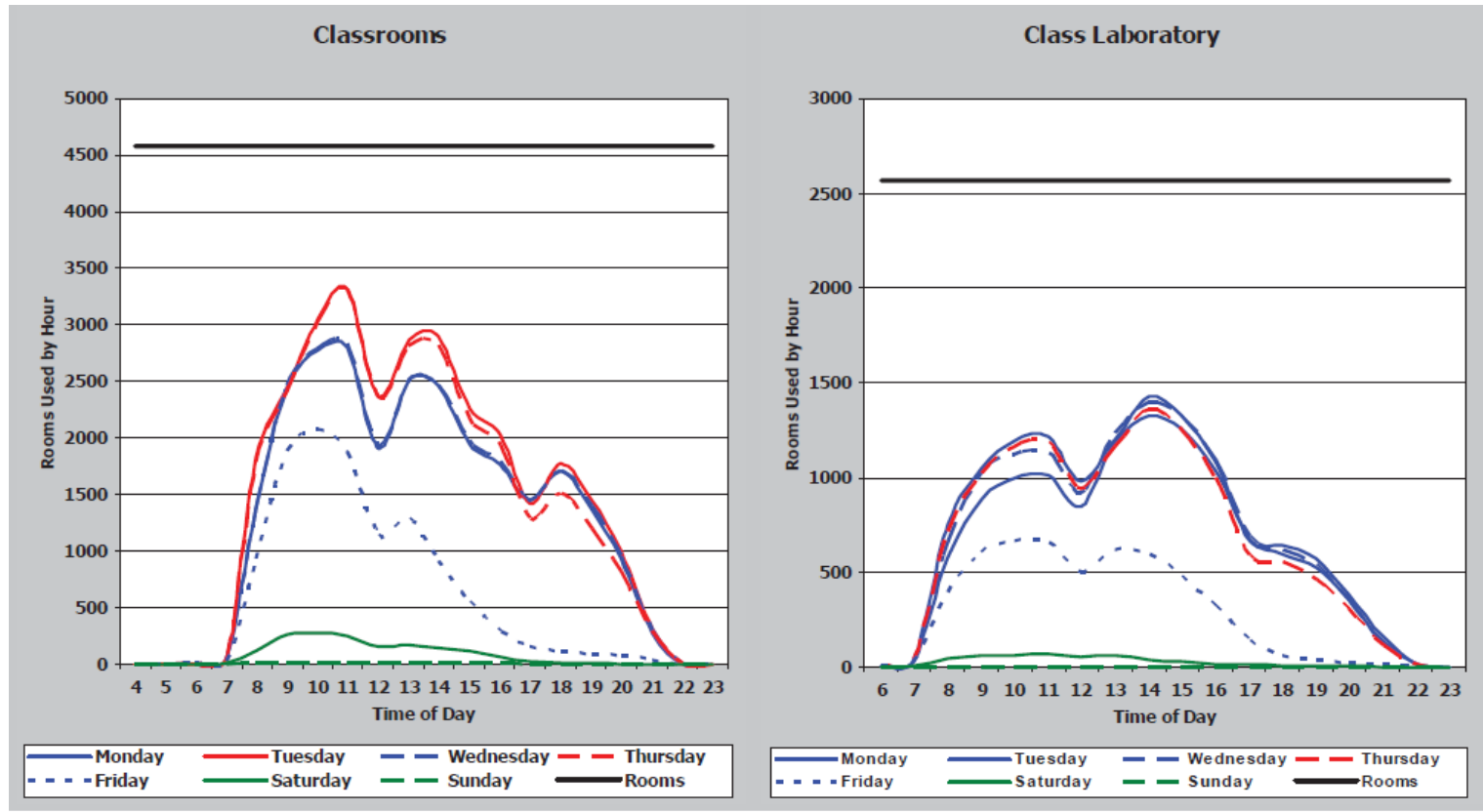
Process

- Background research into the basis for the existing model
- Data analysis (by sector and factor)
  - Time series
  - Regression
- Three meetings with each stakeholder group
- Integrate feedback
- External review

Recommended Changes (GAI)

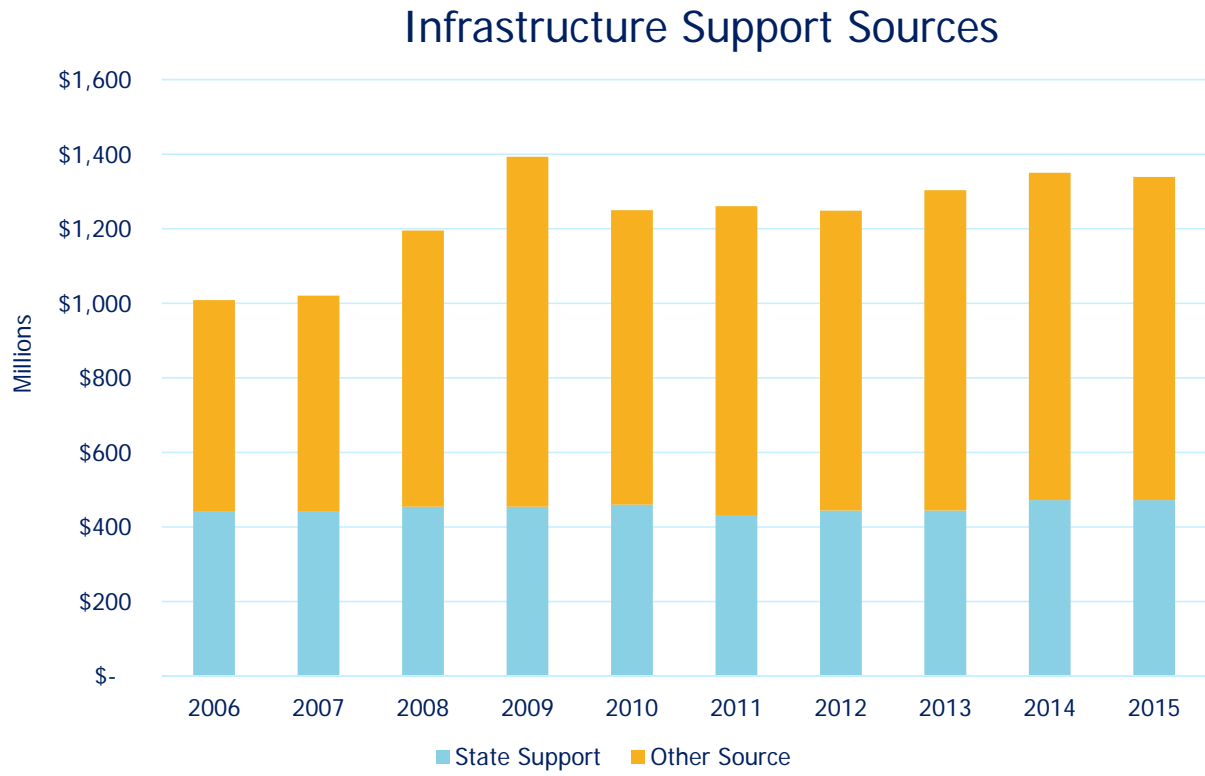| Current	Recommendation
Teaching • Four program areas with different coefficients • Economies of scale adjustment	**Teaching** • 40 SF per FTSE (165 for TSTC) • Online adjustment • Economies of Scale adjustment
Research • Base year to 1992 • 9,000 SF per adjusted million, or • 3 SF per FTSE	**Research** • Reset base year to 2013 • 4,150 SF per adjusted million
Office • Base year 1992 • 3,500 SF per adjusted million in E&G expenditures, or • 190 SF per faculty, 170 per staff • 1:1.8 faculty to staff ratio	**Office** • Reset base year to 2013 • 950 SF per adjusted million • Average plus for FTE ratios – 2.0 is base, cap 5
Library • 21 variables	**Library** • 15 SF per FTSE • 5 percent law library add on

Recommended Changes (HRI)

Current	Recommendation
Teaching • Several program areas with different coefficients	**Teaching** • Reduce coefficients by 10 percent
Research • Base year to 1992 • 9,000 SF per adjusted million, or • 250 SF per FTE faculty	**Research** • Reset base year to 2013 • 4,150 SF per adjusted million • 250 SF per faculty FTE
Office • Base year 1992 • 1,600 SF per adjusted million, or • 190 SF per faculty, 170 per staff • LAR data for faculty: staff ratio • If headcount calculation is higher, use average	**Office** • Reset base year to 2013 • 950 SF per adjusted million • Average plus for FTE ratios - Average is base, cap 5
Clinical • Actual is the predicted	**Clinical** • No change recommended

If adopted, recommendations would…

- Decrease space deficit from 25 million to 10 million square feet
  - Leaves room for growth without over-predicting
- Change allocations among institutions
  - Adjustments would reflect changes in the environment
- Increase the validity of the THECB's capital project review process
- Improve the Legislature's ability to evaluate tuition revenue bond requests

State sources account for a portion of costs

Infrastructure Support Sources

State Support   Other Source

Recommendations in the report should <u>not</u> be used to…

- Reduce state E&G space support
  - State support only covers a portion of the cost
  - Institutions must operate and maintain high-quality facilities
  - The THECB has recommended an increase in the formula funding to account for:
    - Enrollment growth
    - Inflation
    - Support for student completions

Excerpts from the external reviewer's comments

Teaching
- ". . . the proposed application provides the same metrics to all institutions regardless of size or mission with two exceptions." (TSTCs; Economy of scale reductions for larger institutions)
- "The classroom component number is a bit higher than traditional metrics provided but seems appropriate . . ."
- "The need for more laboratory space at institutions with complex engineering programs has proved desirable in a number of other jurisdictions."

Research
- "The metric in this category is being reduced substantially."
- "The reduction seems consistent with what the reviewer is seeing in amounts of space per million dollars of expenditures at successful research institutions."

Office
- "The proposed calculation which keeps the 190 SF per FTE faculty and 170 SF per FTE staff seems reasonable."
- "Looking at the actual staff to faculty ratios seems an improvement over the single ratio that had been in place."

Excerpts from the external reviewer's comments

Library

- "THECB had a complicated library formula. It is being changed to a student sized formula with an add on for law libraries. While this is not a typical approach and, therefore, the reviewer has no perspective regarding the specific metrics chosen, the application which results in the need for some additional library space across the state seems reasonable."

Support

- "The proposed model does not change this factor which remains a percentage of the other spaces. In the reviewer's experience, land-grant institutions and other large research universities sometimes need more space in this category because of the complexity of their science and engineering programs, which can have greater needs for support space."

Clinical

- "This category counts actual space rather than attempting to model it."
- " This seems reasonable to the reviewer."

Space Quality

- "Issues of space quality are not addressed in a space needs model and can be of serious impact even when the total amount of space is adequate."

Discussion

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