

2017-2023 Texas State University Plan

2019-2020 Plan Progress

College/Unit/Division: College of Science & Engineering

1. Promote the success of all students.

1.1 Plan and implement activities aimed at improving the overall student experience and satisfaction.

- Number of students in the current year involved in curricular and co-curricular activities that indicate high levels of satisfaction or have received special recognitions
- Number of students in the current year involved in activities aimed at improving student experiences
- Number of TxState Mobile Application downloads in the current year
- Number of interactions with the TxState Mobile Application in the current year
- Number and total cost of NEW campus enhancement projects completed
- Number of NEW voluntary meal plans purchased by students
- Increase in total dining and vending sales volume compared to prior year
- Increase in bookstore sales volume other than course materials compared to prior year
- Decrease in percentage of students cancelled for non-payment by payment due date compared to prior year

1.2 Manage student enrollment, both at the graduate and undergraduate level.

- Graduate and undergraduate enrollment figures compared to prior year

In Fall 2019, there were 33,917 undergraduate students compared to 34,187 students in Fall 2018, a decline of 0.8 percent. At the graduate student level, there were 4,270 students in Fall 2019 compared to 4,457 in Fall 2018, a decline of 4.2 percent overall

1.3 Increase student retention and graduation rates.

- Student retention rates for all levels (i.e., first-time undergraduate, transfer undergraduate, first-time master's, first-time professional, and first-time doctoral) compared to prior year

The one-year retention rate for first-time, full-time undergraduates fell from 77.1 percent for the Fall 2017-18 cohort to 75.6 percent for the Fall 2018-19 cohort.

The one-year retention rate for Full-Time Transfer Students increased slightly from 81.3 percent for the Fall 2017-18 cohort to 82.1 percent for the Fall 2018-19 cohort.

The one-year retention rate for the Master's students increased from 83.8 percent for the Fall 2017-18 cohort to 85.4 percent for the Fall 2018-19 cohort.

At the doctoral level, one year retention increased from 92.8 percent for the Fall 2017-18 cohort to 94.4 percent for the Fall 2018-19 cohort.

The one-year retention rate for professional students increased from 90.5 percent for the Fall 2017-18 cohort to 97.6 percent for the Fall 2018-19 cohort. (NOTE: Due to the low number of students in the program, one student represents 2.4 percent in the Fall 2018-19 cohort.)

- Student graduation rates for all levels (i.e., first-time undergraduate, transfer undergraduate, first-time master's, first-time professional, and first-time doctoral) compared to prior year

The six-year graduation rate for the Fall 2014 first-time, full-time undergraduate cohort was up slightly to 54.9 percent compared to 54.3 percent for the Fall 2013 cohort.

The four-year graduation rate for the Fall 2016 cohort of full-time undergraduate transfer students with 30 or more hours was up slightly to 63.8 percent compared to 63.2 percent for the Fall 2015 cohort.

The five-year graduation rate for first-time, full-time Master's students in the Fall 2015 cohort was up slightly 84.7 percent compared to 83.2 percent in the Fall 2014 cohort.

The five-year graduation rate for first-time, full-time Professional students was 100 percent for the Fall 2015 cohort which is consistent with the rate for the Fall 2014 cohort.

The 10-year graduation rate for first-time, full-time doctoral students was down slightly to 64.4 percent for the Fall 2010 cohort compared to 69.1 percent for the Fall 2009 cohort.

- Student retention rate increases in academic or support services department-identified retention programs for the current year [[Deans/Academic Services/Student Affairs/Round Rock Campus](#)]

CS completed the NCWIT sponsored project to retain female students.

Fall 2019 1yr retention data is not updated on CatStats.

For ET Department: 1 yr retention Fall 2017: 65%; Fall 2018: 68%

For CSM Program: 1 yr retention Fall 2017: 74%; Fall 2018: 69%

For CIM Program: 1 yr retention Fall 2017: 86%; Fall 2018: 100%

For ET Program: 1 yr retention Fall 2017: 58%; Fall 2018: 66%

ISoE participates in the Supplemental Instruction program to combat attrition in MATH 3323 Differential Equations and CHEM 1335 Engineering Chemistry, which affects several engineering students. Statistics show that those engineering students who participated in the program earned higher grades in these two courses than those who did not participate.

Mathematics-During 2018-2019 the Department of Mathematics fully implemented co-requisite teaching for all students enrolled in developmental mathematics, adding MATH 1300 to the list of co-enrollment classes. This allowed all students who placed into developmental mathematics the opportunity to complete a credit bearing mathematics course in their first semester. Earlier completion of a credit bearing mathematics course has been shown to have a positive impact on degree completion and retention. A second item in this category is that during 2019-2020, the Department presented DFW rates for core classes, presented in a variety of statistical analysis formats, to each teaching forum and tasked them to find ways to improve.

1.4 Increase scholarship and grant resources to enhance recruitment, retention, and graduation of students.

- Number and dollar amount of NEW and total scholarships awarded, including merit scholarships

There were a total of 12,044 scholarships awarded in FY20 for a total of \$28.2 million, compared to 9,959 scholarships for \$25.9 million in FY19. This is an increase of 2,085 scholarships worth \$2.3 million.

- Number and total dollar amount of all grant resources for the current year

A total of 37,104 grants totaling \$122.5 million were awarded in FY20, up from 35,759 grant awards worth \$119.1 in FY19. This represents an increase of 1,345 grants worth \$3.4 million.

1.5 Enhance advising, academic support programs and services to ensure student success.

- Undergraduate student to academic advisor ratios at university and college level compared to prior year
- Number of students served by advising centers compared to prior year

- Number of students served by the Student Learning Assistance Center compared to prior year
- Number of students served by the Writing Center compared to prior year
- Number of NEW programs/activities and number of participants that ensure student success (provide one example) [[Deans/Vice Presidents/Round Rock Campus](#)]

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1.6 Ensure marketable skills are incorporated into curricular and co-curricular experiences.

- Number of academic programs for which marketable skills have been identified compared to prior year
- Number of continuing education courses for which marketable skills have been identified compared to prior year
- Number of NEW curricular and co-curricular programs and experiences that have incorporated marketable skills components in the current year [[Deans/Student Affairs/Round Rock Campus](#)]

The new program, Masters of Science in Construction Management, provides graduates with marketable skills dealing with advanced project management principles and practices, critical thinking and creativity, and complex problem solving and decision making in construction projects. Graduates will also be able to integrate information and communication technology in construction management.

ISoE offered the Eisenhower Transportation Fellowship program for Hispanic Serving Institutions to attract junior, senior and graduate students to the field of transportation, a multi-disciplinary engineering discipline.

MSEC identified program-specific marketable skills in September 2019.

1.7 Prepare all students to achieve their career goals and make positive and meaningful contributions as they interact in a diverse and increasingly global society through an inclusive program of learning and engagement, rich with diverse perspectives.

- Number of NEW career support programs provided and number of participants
- Number of academic credit internships/practica completed by students in the current year as measured by Semester Credit Hour (SCH) in sources as coded

A total of 21,714 SCH in internship/practicum courses were completed in FY20.
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- Number of face-to-face career counseling and career advising appointments for the current year
- Percentage of students in the current year who report employment or graduate/professional school plans in the Graduating Student Outcomes-First Destination survey

1.8 Provide educational programs and co-curricular activities that foster community, service learning, leadership, career exploration, and personal development.

- Number of NEW educational programs provided and total number of participants
[Deans/Student Affairs/Round Rock Campus]

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- Number of NEW co-curricular activities provided and total number of participants
[Deans/Student Affairs/Round Rock Campus]

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- Number of NEW course sections transformed or created with a service-learning component

1.9 Leverage data and analytics to support growth in student success and institutional processes.

- Number of NEW enrollment management (e.g., recruitment, admissions, financial aid, retention) policies that result from the use of actionable data
- Number of NEW dashboards, data and analytical reports published

<p>The Office of Institutional Research published eight new dashboards and data analytic tools in FY20.</p>
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1.10 Establish the appropriate processes, procedures, and tools to support the necessary accommodations for constituents with disabilities.

- Number of students with disabilities participating in support programs and services in the current year
- Number of NEW electronic and/or physical ADA compliance processes, procedures, and tools completed/available

1.11 Support the success of students by continuously improving the function, condition, reliability, and aesthetics of the facilities and grounds of the university.

- Number and total cost of NEW space repair and renovation projects completed
- Number and total cost of NEW campus enhancement projects completed

- Number of NEW or modified facilities construction and/or improvement projects in which the Department of Athletics was involved in collaborative planning, improving technology, and/or space utilization and optimization

1.12 Provide a supportive environment for students, including student athletes, that encourages academic excellence, character development, and respectful interaction with others.

- Academic progress rate (APR) of student-athletes for the current year compared to NCAA national average
- Student-athlete retention rates (i.e., first-time undergraduate, transfer undergraduate, first-time master's) compared to entire student body
- Student-athlete graduation rates (i.e., first-time undergraduate, transfer undergraduate, first-time master's) compared to entire student body
- Number of NEW or modified programming for student-athletes that encourage academic excellence, character development, and respectful interaction with others
- Number of NEW or modified programming for student-athletes that promote their emotional, physical, and intellectual well-being

1.13 Provide all students with quality engagement opportunities that model the values associated with equitable competition, engender university pride, positive community relations, institutional prestige, and promote student well-being and development.

- Number of service-learning hours completed by students enrolled in service-learning designated courses compared to prior year
- Number of NEW curricular and co-curricular programs/activities that provide students with quality engagement opportunities (provide one example) [[Deans/Student Affairs/Round Rock Campus](#)]

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- Number of student curricular and co-curricular competitions in the current year that receive special recognition [[Deans/Student Affairs/Round Rock Campus](#)]

CS student, Samantha Aziz, is awarded a prestigious NSF Graduate Research Fellowship.
CS doctoral student, Noushin Azami, is awarded a prestigious and highly competitive P.E.O. International Peace Scholarship.
Two CS students won 1st and 2nd place in a Cyber Security Challenge at the 2019 SHPE National Convention in Phoenix, AZ.
CS student, Tanisha Bowman, has received an Honorable Mention for the 2020 USRA Distinguished Undergraduate Awards

5 student co-curricular competitions. Examples:
1st Place in Engineering Design, Steel Founders Society of America - Cast in Steel

Competition

2nd Place in Project Management - Associated Builders and Contractors national student competition

ISoE- A graduate engineering student won the top spot and cash award in graduate category at the Inaugural Society of Manufacturing Engineers (SME) Research and Development Competition 2020.

A team of manufacturing and industrial engineering students won the second spot and cash award at SME Research and Development Competition 2020 in the undergraduate category.

Mathematics- We had students on the Putnam team place more highly than before.

- Number of students and their total service hours in the current year involved in verifiable community service activities
- Number of events held on Texas State campuses for the current year that provide opportunities for students to engage, through observation or participation, that model the values associated with equitable competition and engender university pride

2. Offer high quality academic and educational programming.

2.1 Introduce new academic programs that meet the economic and cultural needs of the region and the state.

- NEW academic programs proposed during the current academic year
- NEW academic programs approved during the current academic year
- Online and hybrid SCH as a percent of overall SCH offered

For FY20, SCH generated from Online and Hybrid course offerings comprised 18.7 percent of the overall SCH. A portion of the increase from previous years was the result of on-line courses being offered in response to COVID19 during Summer 2020.

2.2 Provide quality educational programming that leverages diverse perspectives embedded in an inclusive learning environment.

- Number of NEW or modified academic programs that added multicultural or multi-perspective content [[Deans](#)]

Mathematics added a new doctoral course in Mathematics Education that focuses on equity.

- Number of NEW or revised courses with multicultural or multi-perspective content
- Number of educational or training sessions held in the current year for members or groups within the Texas State campus community that contain information concerning the value of diverse perspectives

2.3 Enhance and expand the Honors College experience to attract high-achieving students.

- Number and percent of students enrolled in Honors College courses offered compared to prior year
- Percent of students in each college participating in the Honors College compared to prior year
- Number of NEW Honors sections offered
- Number of Honors College graduates compared to prior year

2.4 Improve the capabilities in our learning spaces and learning environments to better foster creativity, enable collaboration, and encourage discovery.

- Number of NEW programs/activities that improve capabilities in the learning environment (provide one example)
- Number of NEW programs/activities that improve capabilities in online learning environments
- Number, percentage, and capacity of active classrooms
- Number and capacity of diverse learning environments in the university libraries
- Number and total cost of NEW classroom and teaching laboratory enhancement projects

2.5 Transition Texas State’s Learning Management System environment to a more integrated, robust, and modern integrated learning system.

- Number of NEW transitional learning management system (LMS) activities implemented
- Percentage of courses being taught in the new LMS

2.6 Support the growing academic requirements of the university by improving the condition and reliability of academic facilities and technology, creatively assisting departments in optimizing their use of space, and collaboratively planning and constructing new facilities.

- Number and total cost of NEW capital projects resulting in square footage additions coded as “Academic”
- Number of NEW technology initiatives implemented during the current year and total cost
- Percentage of classrooms upgraded technologically for the current year

- Average age of computers in computer labs (includes learning commons)

2.7 Increase national and international visibility and presence by supporting curricular and co-curricular initiatives that prepare students to be responsible citizens.

- Number of faculty-led study abroad programs for the current year
- Number of students studying abroad for the current year
- Number of NEW institutionally recognized international exchange programs
- Number of students participating in Study-in-America for the current year
- Number of NEW curricular and co-curricular service-learning programs that prepare students to be responsible citizens (provide one example)
- Number of students participating in NEW global immersion programs

3. Achieve significant progress in research and creative activity as measured by national standards.

3.1 Achieve National Research University Fund (NRUF) Eligibility.

- Total restricted research expenditures
- Total endowment funds
- Number of Ph.D. degrees awarded

A total of 54 Ph.D. degrees were awarded in FY20.

- 5-year master's graduation rate

The 5-year graduation rate for first-time, full-time Master's students in the Fall 2015 cohort was up slightly to 84.7 percent compared to 83.2 percent in the Fall 2014 cohort.

- 10-year doctoral graduation rate

The 10-year graduation rate for first-time, full-time doctoral students was 64.4 percent for the Fall 2010 cohort compared to 69.1 percent for the Fall 2009 cohort.

- Percent of first-time entering freshman class in top 25 percent of high school class

For the Fall 2019 incoming class, which includes students who started in summer, 46.3 percent of those reporting a high school rank were in the top 25 percent of their high school class.

- Status as member of Association of Research Library membership, Phi Beta Kappa Chapter, or Phi Kappa Phi Chapter
- Association of Research Libraries (ARL) Library Investment Index ranking
- Number of tenured/tenure-track faculty who have achieved international and national distinction through recognition as a member of one of the national academies, are Nobel Prize recipients, and have received other faculty awards as designated in the NRUF eligibility criteria [[Academic Affairs/Deans](#)]

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- Number of Ph.D. programs

3.2 Develop new graduate programs to advance the university's research goals.

- Number of NEW graduate programs proposed during the current year
- Number of NEW graduate programs approved during the current year
- Number of graduate students enrolled compared to prior year

For Fall 2019, there were 4,270 graduate students enrolled compared to 4,457 in Fall 2018.

- Number of graduate degrees awarded compared to prior year

A total of 1,369 graduate degrees were awarded in FY20 compared to a total of 1,472 graduate degrees in FY19.
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3.3 Encourage and promote student research opportunities.

- Number of NEW curricular and co-curricular programs that provide students with research opportunities (provide one example) [[Deans/Round Rock Campus](#)]

<p>New Master of Science in Construction Management program</p> <p>ISoE offered the Eisenhower Transportation Fellowship program for Hispanic Serving Institutions to attract junior, senior and graduate students to the field of transportation, a multi-disciplinary engineering discipline. Selected participants conducted research at Texas State during Summer 2020.</p> <p>Mathematics had a new topics course run that allowed students classroom based research opportunities in Topology.</p> <p>The College of Science and Engineering, in collaboration with Presidential Fellow Dr. Ron Johnson, established a CoSE Undergraduate Research Fellowship Program piloted spring 2020. The team developed a barrier-free application and selected 25 CoSE Fellows in December, 2019 for spring 2020 programs. Each student received a stipend of around \$1000. The program focused on students from historically underrepresented groups and those considered at risk with the</p>

goal of providing a research experience to help with student retention.

- Number of students participating in the Undergraduate Research Conference and Honors Thesis Forum compared to prior year
- Number of graduate students completing thesis or dissertation projects compared to prior year

3.4 Expand support to the research community by enhancing resources to support the evolving requirements while developing a staff of research professionals to support and assist researchers.

- Total research and development expenditures
- Number of proposals developed with the assistance of Research and Sponsored Programs staff and grant writing contractors compared to prior year
- Total number and utilization of High-Performance Computing (HPC) nodes
- Number of technology mitigation plans for research grants
- Number of NEW research job postings along with average time to fill
- Number and total cost of NEW capital projects resulting in square footage additions coded as “Research”
- Increase in number of research-specific Environmental Health, Safety and Risk Management training courses taught compared to prior year (including attendance)
- Decrease in the number of lab safety inspection violations compared to prior year

3.5 Foster a university-wide culture that promotes, rewards, and celebrates interdisciplinary research, scholarship, creative activity, innovation, and community engagement.

- Number of applications for Multidisciplinary Internal Research Grants (MIRG) compared to prior year

4. Provide the necessary services, resources, and infrastructure to support the university’s strategic direction.

4.1 Offer competitive salaries to attract and retain highly qualified faculty and staff.

- Median salary levels for each faculty rank including professor, associate professor, assistant professor, and lecturer

Based on CUPA-HR Definitions, the median salary for all faculty based on rank for

Fall 2019 were as follows:

Full Professor - \$98,484
Associate Professor - \$80,068
Assistant Professor - \$69,700
Lecturer - \$49,453

- Percent increase in average staff salary levels for all ranks

EEOC	Fall 2018	Fall 2019	Percent Increase
Administrative	\$91,943	\$95,880	4.3%
Professional	\$55,529	\$57,907	4.3%
Secretarial	\$38,400	\$39,541	3.0%
Service	\$26,400	\$27,373	3.7%
Skilled	\$43,393	\$45,566	5.0%
Technical	\$46,008	\$48,336	5.1%

- Comparison of median salary by position at Texas State with median salary in the local market for staff and to CUPA-HR national data or appropriate peer set for faculty
- Percentage of positions with an identified market benchmark

4.2 Plan and implement programs to help improve faculty and staff recruitment, hiring, and retention in order to support a highly qualified, diverse, motivated, and satisfied workforce.

- Number of NEW programs and activities that provide assistance in strengthening faculty/staff recruitment, hiring, and retention
- Number and percent of African American, Hispanic, and other diverse faculty and staff compared to prior year

In Fall 2019, African American employees made up 4.3 percent (n=160) of full-time employees compared to 4.2 percent (n=157) in Fall 2018.

In Fall 2019, Hispanic employees made up 21.6 percent (n=810) of full-time employees, compared to 22.5 percent (n=841) in Fall 2018. Part of this decline is the result of the increase in hires from other minority groups.

In Fall 2019, other minority employees (including those with unknown ethnicities) made up 11.2 percent (n=437) of full-time employees, compared to 8.9 percent (n=333) in Fall 2018.

- Annual turnover percentage of regular faculty and staff (by title, FLSA classification, years of service, age, diversity, division)

- Number of online recruitment advertisements of job postings and advertising sources for the current year
- Number of applications received for staff positions (total, per posting, and average by FLSA classification) for the current year
- Time to fill a staff position (overall and by division, FLSA classification) for the current year
- Time to complete staff new position and reclassification job audits for the current year
- Percentage of Performance Management assessments completed by annual May 31 due date
- Number of WellCats members, events, and participation for the current year

4.3 Promote excellence through effective planning, policy development, assessment, and reporting to ensure the continuous improvement of programs and services.

- Number of involvement and contribution levels in annual plan progress reporting
- Number of university and division policies that are current/delinquent
- Number of NEW policies developed or updated
- Number of responsible areas that are completing assessments and demonstrating continuous improvement for the current year
- Number of administrative peer reviews conducted for the current year
- Number of program reviews completed/submitted to the Texas Higher Education Coordinating Board for the current year
- Number of required major state and national reports completed and submitted for the current year

<p>A total of 56 state and national reports were completed and submitted in FY20 by the Office of Institutional Research. The vast majority of these reports are mandated by state and federal agencies.</p>

4.4 Implement fundraising initiatives in support of the university's strategic direction.

- Total dollar amount raised for the current year
- Total dollar amount raised per strategic fundraising priority area

4.5 Provide training and educational resources to enhance personal and community safety.

- Number of NEW safety support activities introduced
- Number of NEW educational activities related to applicable laws (e.g., Title IX, Campus Save Act, Violence Against Women Act)

4.6 Enhance information security practices to better predict, prevent, detect, and respond to threats to Texas State's information systems and data.

- Number of security breaches in the current year

- Number of applications using Two Factor Authentication
- Number of reported security incidents for the current year

4.7 Continue to improve strategies and models for governance and planning that are transparent and inclusive.

- List of NEW published models or processes to support governance and planning decisions

4.8 Expand Round Rock Campus resources and space to support the move of the College of Health Professions and growth of other academic offerings at this location.

- List of NEW capital projects completed at Round Rock Campus and total cost
- Dining and vending sales volume at Round Rock Campus compared to prior year
- Number of NEW non-faculty positions added at Round Rock Campus
- Number and total cost of NEW technology initiatives implemented at Round Rock Campus during the current year
- Total technology expenditures for the current year at Round Rock Campus

4.9 Increase the utilization and effectiveness of available technologies through more impactful implementations, education, training, marketing, and communications.

- Number of IT-related communication and marketing events for the current year
- Adoption rates of new technology implementations/upgrades

4.10 Enhance the experience of the university community by continuously improving processes and interfaces.

- Number of NEW campus business improvements
- Number of electronic documents processed through Adobe Sign
- Number of NEW functionalities implemented via mobile technology
- Number of NEW cloud solutions vetted and approved
- Increase in percentage of employees signed up to receive electronic W-2s compared to prior year
- Decrease in percentage of Outstanding Charges Receivable compared to prior year
- Increase in number of vendors in the TSUS Marketplace compared to prior year
- Increase in percentage of automatically paid invoices using 2-way match compared to prior year
- Increase in utilization of Concur Travel Management tools compared to prior year

4.11 Provide a diverse and inclusive environment of support to achieve the highest level of performance for all members of the campus community.

- Number and percent of ethnically diverse faculty and staff compared to prior year

In Fall 2019, ethnic minorities made up 33.9 percent (n=1206) of full-time employees, excluding non-resident aliens and those with unknown race/ethnicity information.

- Number of NEW cultural and diversity programs

4.12 Effectively engage alumni and external constituents to influence and generate human and financial capital opportunities.

- Number of NEW external constituent outreach (parents, families, business) activities and number of participants [[Deans/Student Affairs/Finance and Support Services/Round Rock Campus](#)]

8 new outreach activities with local, statewide, and national businesses in the construction industry

- Number and percent of alumni (undergraduate degree holders) donating to Texas State compared to prior year
- Number and percent of recent (graduated within last five years) alumni donating to Texas State compared to prior year
- Number of NEW alumni achievement awards for the current year
- Number of NEW Alumni Association sponsored and co-sponsored events and number of participants
- Number of NEW recognized alumni chapters
- Number of NEW alumni chapter-hosted events and number of participants

4.13 Provide programs and services that support and enhance the health and wellness of the university community.

- Number of NEW student health and wellness activities provided and number of participants [[Deans/Student Affairs/Round Rock Campus](#)]

- Number of NEW faculty and staff health and wellness activities provided and number of participants
- Employee Assistance Program utilization rate compared to prior year

4.14 Provide a competitive, high-profile, diverse, equitable athletics program, in compliance with applicable rules and regulations, which increases university prestige and creates exciting engagement opportunities.

- Number of NCAA Division I events held for the current year that provided engagement opportunities for faculty, staff, students, alumni, and the community-at-large

4.15 Support the growing requirements of the university by enhancing the condition and reliability of the university infrastructure, creating redundancy to support essential building operating systems, and collaboratively planning and constructing new facilities.

- Number of deferred maintenance projects completed for the current year and total cost
- Number and total cost of NEW infrastructure repair and renovation projects completed
- Total square footage of NEW construction or additions completed
- Percentage of data switches less than five years old
- Percentage of servers in the data center running under virtual machines