



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

FACILITIES SERVICES PROGRAM MANAGEMENT

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Goals & Objectives

Achieve cost savings target (-7% of baseline):

UT System

President DiPietro's Reallocation Plan is redirecting 6% of each area's budget toward more strategic goals.

\$25M will be earmarked for deferred maintenance needs.

UT Knoxville

UT Knoxville has a five year plan to address deferred maintenance.

The campus has two SBC approved projects totaling \$23.5M to address deferred maintenance.

UT Knoxville Facilities Services has been under budget by \$1.8M (6.7%) each of the last two years.

Achieve minority spending goal:

UT Knoxville Facilities Services reaches out to minority businesses when bidding to provide them an opportunity.

Achieve energy consumption goal (-3% of baseline):

The campus has a goal of an additional 10% over and above the 10% achieved to date.

UT Knoxville has more than \$30M in avoided utilities costs since 2002 and has been under budget in utilities by over \$5M each of the last five years.

Life/safety code compliance:

UT Knoxville currently has SBC approved projects totaling \$7M to specifically address life safety code issues.

In the past year UT Knoxville Facilities Services has made a concerted effort to correct accessibility issues on sidewalks with in-house forces totaling about \$90,000. This is roughly half the estimated cost if the work had been done by an outside contractor. The campus has spent \$3M on ADA upgrades in the last five years.

Service delivery SLAs to meet or exceed:

The Facilities Services Special Team to Assist Research and Rapid Response Team were created to provide quicker and more focused response to campus needs.

The department's Total Cleaning Program establishes specific requirements for each area to allow more efficient use of resources.

No unplanned downtime:

UT Knoxville Facilities Services has begun a Zero Failures Initiative to evaluate unplanned outages to determine root causes and take corrective action to minimize future outages.

Improvements to the UT Knoxville utility systems has greatly reduced the number of unplanned outages.

Customer satisfaction (85% satisfied or highly satisfied):

UT Knoxville Facilities Services customer satisfaction is above the 90% goal. Customer satisfaction was at 94% for work orders completed in 2014.

Initiatives

Maintenance tracking program:

UT Knoxville Facilities Services has purchased and implemented software from Archibus to enhance our maintenance tracking.

Work orders can be entered by customers via web site, and requests will be routed directly to personnel in the field via smart devices for quicker response.

Preventive Maintenance program:

UT Knoxville Facilities Services is enhancing preventive maintenance and implementing predictive maintenance techniques.

The UT Knoxville Facilities Services Department is deploying inspection programs for custodial and building maintenance.

Energy management program:

Energy projects are identified and evaluated by the UT Knoxville Facilities Services Energy Task Force, with support from all areas of the department.

Funding for energy projects is currently available via a newly established revolving fund, and institutional funds.

UT Knoxville is partnered with TVA in piloting creation of an Energy Roadmap that will be used in other higher education institutions within the TVA service area.

Of its seven peer institutions UT Knoxville ranks second lowest in energy consumption per square foot.

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Strategic sourcing program:

UT Knoxville Facilities Services looks for opportunities to create contracts and/or change sources where possible to take advantage of pricing opportunities. Both State and UT Knoxville contracts are used.

The department's Central Supply subunit often performs strategic sourcing by combining multiple purchasing documents of like items to obtain best pricing through quantity discounts.

Employee training program:

UT Knoxville Facilities Services created a three person training team in 2013.

Specific training is offered to employees to help them improve, maintain or learn new skills.

Goal is to maintain a highly skilled workforce which will increase efficiency, improve customer service, and help to minimize operating costs.

Performance management program:

UT Knoxville Facilities Services performs employee evaluations annually as a minimum.

The department's Career Ladder provides a means to assess and reward employee development.

Customer relationship program:

The UT Knoxville Facilities Services Special Team to Assist Research is tasked to assist researchers with any needs that arise.

The department's Rapid Response Team performs the same functions for the rest of the academic community plus handles special events.

Department personnel follow up with customers if problems are identified.

UT KNOXVILLE PROGRAM MANAGEMENT

Maintenance Tracking Program

Electronic system to input & track work orders:

Archibus increases the service level to the UT Knoxville campus in a cost effective manner using state-of-the-art resources. Customers can enter work requests directly on the Archibus website or call them in on the department's One-Call number.

Use of smart devices in the field will allow our team to more quickly process requested work with information right at their fingertips.

Call center support staffed 24/7/365:

UT Knoxville Facilities Services provides maintenance coverage on the UT Knoxville Main and Agricultural campuses 24-hour-a-day, 365-days-a-year.

This service was created using repurposed positions.

Customers can call the Facilities Services One Call Line and be in touch with someone who will either be able to remedy or stabilize a problem.

Monitoring exists on various critical equipment that will initiate alarms to texts, emails, and cell.

System linked to employee time keeping:

Kronos Workforce Ready® is cloud-based workforce management system utilized by UT Knoxville Facilities Services for time keeping.

Integrated with Archibus, Kronos improves the payroll process and accuracy by automatically converting worked hours to payroll utilizing predetermined pay rules.

Preventive Maintenance Program

Detailed equipment list (by building):

The UT Knoxville Facilities Services Department is currently rechecking, revising, and adding data for new and replaced equipment to take advantage of advanced capabilities in Archibus.

UT KNOXVILLE PROGRAM MANAGEMENT

Equipment inspection and condition assessment:

UT Knoxville Facilities Services is developing an inspection program using repurposed positions to enhance equipment inspection and condition assessment.

Inspections will be able to identify and address needs such as training, materials, and tools, as well as potential deficiencies in materials and workmanship.

Inspectors will issue scorecards, similar to restaurants, to display in the buildings

Rewards to excellent scores are planned to build a greater sense of pride among personnel.

Determine PM scope (by asset type):

Archibus Building Ops Module provides the capability to define PM tasks by equipment type and then assign a list of tasks to specific equipment.

PM schedule (by building):

PM tasks can be schedule regularly for equipment or location based tasks. Work orders are generated automatically when PM tasks are scheduled.

Assigned team members with tracking:

Archibus work requests are assigned by supervised work teams. Supervisors are then able to assign specific team members to complete work.

Documented work and completion:

Archibus provides work tracking throughout the process. If a customer generates a work request they are able to track each step in the process and receive an automated email at each of those steps if they chose to do so.

Energy Management Program

Utility data capture system (UMS):

UT Knoxville has a SCADA (Supervisory Control and Data Acquisition) system in place and has recently installed metering for electricity, water, and steam condensate on all buildings. This metering data will be captured and reported via a radio frequency collection system to eliminate the need for meters to be read manually.

The ultimate goal of this system is to improve the acquisition of data for energy management and to greatly reduce or eliminate the possibility of unscheduled outages due to better monitoring and system redundancy.

Utility data tracking and evaluation system (PEERS):

The data collection from the metering will be able to be analyzed for anomalies due to usage changes, or possible problems that can be identified and corrected more quickly.

Technician orientation and training:

Employees were trained in building energy/scoping assessments as part of the TVA Energy Roadmap Program.

Energy champions:

UT Knoxville Facilities Services Energy Task Force is the primary source for utilities saving projects. The task force also analyzes various system problems that may arise and will work together to find and implement solutions.

UT Knoxville Facilities Services also oversees the energy related activities of the STAR Team, Student Environmental Initiatives Committee, and Office of Sustainability.

List no-cost/low cost opportunities (quick wins):

UT Knoxville Facilities Services accomplishes many utilities savings projects each year by replacing less efficient components with more efficient components during normal maintenance activities.

The Revolving Fund has allowed UT Knoxville to implement several small scale projects with quick savings. There is currently about \$330,000 in identified projects with an average payback of less than four years.

Campus building management systems use the programming capabilities to schedule systems off when not needed, and to reset temperatures to maximize energy savings.

Process to identify and execute projects for low cost (rapid return):

Initial evaluations are conducted by the STAR Team and Facilities Services Energy Task Force, then submitted for approval and execution.

Recommend large scale projects (favorable returns):

The Facilities Services Energy Task Force is currently evaluating several projects with larger return potential.

UT KNOXVILLE PROGRAM MANAGEMENT

Utility tracking/payment monitoring system:

Future phase of Archibus will incorporate a utilities tracking module. (Phase 2, spring 2015)

Code Compliance Program

Process to assess (Ensafe):

UT Knoxville buildings are inspected annually by Environmental Health & Safety for safety and code concerns.

UT Knoxville Facilities Services is implementing inspection programs for custodial and maintenance concerns that will also identify safety and code concerns.

Process to identify high, medium, and low priority violations:

UT Knoxville Environmental Health & Safety categorizes each deficiency as either an immediate safety concern, a safety issue that needs to be addressed, or as a low safety hazard maintenance item.

Process to create work orders to correct violations:

UT Knoxville Environmental Health & Safety report is reviewed by UT Knoxville Facilities Services and work assignments generated to responsible area to address specific items.

Process to assign, track, and complete and close out work orders:

UT Knoxville work requests are generated in Archibus by the assigned shop from where it can be tracked.

Strategic Sourcing

Process to continually evaluate vendor base to identify consolidation opportunities:

UT Knoxville Facilities Services keeps track of purchases from multiple units and will combine when advantageous to do so and will utilize State contracts where feasible.

Analyze spend to identify cost outliers:

UT Knoxville Facilities Services is currently re-assessing the elevator maintenance contract for possible cost savings.

Working with the current service provider it is possible some modifications to the contract requirements have a good possibility of reducing costs without affecting quality of service.

UT Knoxville Facilities Services has switched from using our its contract for custodial supplies such as paper towels, toilet paper, soap and garbage can liners to using a contract bid out by the Tennessee Board of Regents and this coupled with increased training and watchfulness of our in-house custodians has resulted in saving approximately \$300,000 annually on custodial supplies.

Employee Training Program

Program Overview:

The UT Knoxville Facilities Services Employee Training & Development team monitors, evaluates and records training activities and determines each program's effectiveness.

Online training and tracking system:

UT Knoxville has online training and tracking system via Skillsoft.

Process to identify and schedule required safety training courses:

UT Knoxville Environmental Health & Safety and Facilities Services keep abreast of OSHA requirements for safety training and courses are added as necessary.

Before reporting to their assigned work site, new UT Knoxville Facilities Services employees receive additional training after the HR orientation training to be sure they start with the required safety training, learn what department expectations are, and receive uniforms and PPE.

Skills assessment of all maintenance staff:

Enhancements to the UT Knoxville Facilities Services Career Ladder program will incorporate skills testing and assessment prior to advancement.

UT Knoxville Facilities Services has instituted a Custodial Certification Program (CCP) that awards an increase once the certification is met.

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Process to identify and schedule technical training courses:

UT Knoxville Facilities Services will provide training on equipment, devices, and techniques by bringing in outside vendors, sending employees to offsite training, and taking advantage of in-house expertise.

The department's Landscape University is a training program for Landscape Services personnel with similar goals and results to the CCP program.

Supplemental courses to improve low-scoring skills:

UT Knoxville Facilities Services inspection programs will provide training, on the spot where possible, for employees where a training need is identified.

Training requirements included in the performance plan:

Training is a graded category in the annual performance appraisal with higher grades for employees that are more active in seeking out and completing additional training opportunities.

Performance Management Program

Defined key measurements:

UT Knoxville Facilities Services recently developed a revised annual performance appraisal system that better assesses and scores employee performance on an annual cycle.

Identified data sources:

The revised Facilities Services performance evaluation allows each supervisor to pull five specific job requirements from an employee's position description into the evaluation so the employee is evaluated on specific requirements versus less descriptive metrics.

Determined frequency and timing of evaluations:

Performance evaluations are performed annually at a minimum.

Assigned reporting responsibilities:

Each employee is evaluated by their immediate supervisor.

Reporting dashboard:

Reports are provided to show scores distribution within each unit.

Results communication plan:

When merit increases are awarded a report is developed for each area in the department showing how the increases were distributed. This report is distributed department-wide.

Method to recognize and reward success:

Monthly award programs for employees including Employee of the Month and Exceptional Team Awards.

The recipients of these awards are recognized through department social media, in campus-wide publications, and in department newsletters.

Customer Relationship Program

Defined stakeholders:

Students, Faculty, Staff, Vendors, Contractors, Surrounding Community.

High level:

UT Knoxville Facilities Services employees serve on many key committees on campus

Department employees hold positions on the boards of Tennessee Clean Water Network and Associated Valley Industries.

UT Knoxville Facilities Services employees also serve as Presidents of Tennessee Association of Physical Plant Administrators and Associated Valley Industries.

Mid level and Day to day:

The department services all of its stakeholders with the same high level service commitment and responsiveness.

Target goals:

UT Knoxville Facilities Services goal is to maintain customer satisfaction at greater than 90%.

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System for ongoing survey and tracking of customer satisfaction:

Customer Satisfaction Surveys (with each completed work request and overall yearly survey).

Based on the 2014 work request customer surveys, the UT Knoxville Facilities Services Department maintained a customer satisfaction rate of 94%. These customers submitted a satisfaction rating of above average or excellent service.

Reporting methodology to key stakeholders:

The UT Knoxville Facilities Services Communications Coordinator facilitates all departmental communication, inter-departmental communication, and general public relations work for the department. This office also promotes employee morale, manages departmental social media sites, plans and implements award ceremonies and employee events, and maintains the lines of communication throughout the campus community to keep all parties informed of anything facilities related.

Special needs: lockdown, events, security, etc.:

UT Knoxville Facilities Services has the primary responsibility for lockdown during special events. The department provides special event support for most E&G and student events at no cost.

UT Knoxville Facilities Services has primary maintenance responsibility for both key locking and electronic security systems.

Rapid Response Team is designed to react to both planned, and unplanned events and needs that may arise.

The department regularly assists the campus, colleges and departments with re-accreditation needs, at no charge.

Additional Information

Deferred Maintenance:

President DiPietro and the Board of Trustees have given each campus specific goals for funding for deferred maintenance. Each campus has developed a five-year deferred maintenance plan.

The UT Knoxville plan will address building envelope needs first, followed by building HVAC, electrical, and plumbing systems. UT Knoxville has SBC approved institutionally funded projects for deferred maintenance. More than \$20M in approved SBC projects with another \$15M proposed from President's Reallocation Plan.

Emergency management and response:

UT Knoxville Facilities Services has a lead role in campus emergency management. In addition to having an active role in most emergencies, the department serves as Sector and Zone Coordinators.

Facilities Services is the lead department for responses such as fire and flood and handles coordination for remediation and reimbursement.

Environmental compliance:

UT Knoxville Facilities Services prepares and submits required reporting to TDEC and EPA for facilities emissions.

The department has certified lead RRP workers, certified asbestos supervisors, designers, and monitors to identify and deal with problem materials for our workers and customer safety.

Work request distribution:

UT Knoxville Facilities Services is in the process of deploying smart devices to employees in the field so that work requests can be sent directly to them which will speed up response to customer requests.

Employee empowerment:

UT Knoxville Facilities Services is cross training employees in multiple disciplines to allow issues to be addressed more quickly.

In concert with the new Archibus system, issues encountered by customers will be routed directly to a building's Maintenance Specialist without the need to route through several levels of review.

Providing Maintenance Specialists with more building level authority reduced the number of work requests generated by Zone Maintenance to the central shops from more than 2,000 in FY 2012 to less than 600 in FY 2014.

UT Knoxville Facilities Services Employees:

UT Knoxville Facilities Services employees total more than 5,500 years of accumulated service ranging from 47 years to those just beginning their careers.

The experience and institutional knowledge of these employees represents an irreplaceable asset to both the University and the State.

UT KNOXVILLE PROGRAM MANAGEMENT

Capital project support:

UT Knoxville Facilities Services plays several key roles in support of capital projects from inception and programming; project management; utilities and campus coordination, and other support throughout the project; through inspection; and assuming operation of the project at completion.

Input from the Facilities Services Design Unit has resulted in saving more than \$40M on campus construction projects.

The department's Construction unit provides estimates and trade workers for in-house projects and smaller Capital Projects.

Projects are completed in-house or using outside contractors based on cost and capabilities analysis.

Other initiatives:

UT Knoxville Facilities Services recently brought custodial services back in-house. This has provided a greatly increased level of service.

UT Knoxville Facilities Services Total Cleaning – through improved communications with customers cleaning is provides more in tune with each customer's specific needs.

UT Knoxville Facilities Services Maintenance Restructuring – Upon review of staffing levels for maintenance personnel as compared to peer institutions, maintenance staffing per square foot and supervisor to employee ratios were not in alignment with peers.

UT Knoxville Facilities Services has begun addressing these ratios via attrition and repurposing personnel and to-date has improved these ratios by 10%.

Supplemental Web Resources

UT Knoxville Facilities Services web site:

More information about the UT Facilities Services Department can be found on the department's web site: <http://fs.utk.edu/>.

UT Knoxville Facilities Services Showcase & Annual Report 2015:

The 2015 UT Facilities Services Showcase & Annual Report details the department's reorganization, an overview of each unit, annual reports and benchmarking data: <https://tiny.utk.edu/2015FSSshowcase>

UT Knoxville Facilities Services 2015 Summer & Fall Projects Catalog:

The UT Knoxville Facilities Services Projects Catalog details the projects completed by each unit during the course of summer 2015 as well as planned projects for fall 2015: <https://tiny.utk.edu/ProjectsCatalog2015>

Conclusion

The information above addresses the specific items listed within the FM Program Management Plan, with abbreviated supplemental information. This document does not cover the full extent of the UT Knoxville Facilities Services Department's responsibilities and accomplishments. Each item above has been addressed with an abbreviated description and many have additional components the Facilities Services Department uses to address each concern.

The Governor of the State of Tennessee, the President of the University of Tennessee, and the Chancellor of the Board of Regents all share a common goal of delivering the best product to the State at the best cost for that product. The facilities departments for each University of Tennessee institution also share the same goal and continually improve upon best practices in order to support this goal, while maintaining the best cost model along with our employee's vested loyalty and ownership in the State and their respective institutions. These facilities departments will continue to improve by working more collaboratively going forward in sharing each campus' best practices that will allow all to continue to improve.



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