UNIVERSITY OF MINNESOTA

University Services
Facilities Management

Facilities Management is responsible for all grounds, buildings and the energy management needs of the Twin Cities campuses of the University of Minnesota. Facilities Management (FM) works to provide a safe, welcoming and reliable campus in support of the University's mission of teaching, research and outreach. FM's responsibilities include over 23 million square feet in more than 280 buildings across 900 acres in the Twin Cities, and various support services for the Duluth, Morris, and Crookston campuses.

Vision, Mission, Principles, Values

Vision
Create an Exceptional Campus Experience

Mission
Provide a safe, welcoming and reliable campus for learning and discovery

Principles

- Cost Effectiveness: We provide best value compared to peers
- Consistent: We meet our standards each and every time
- Continuous Improvement: We always look for ways to get better
- Campus Stewardship: We manage physical assets to meet present and future needs

Values

- Safety: Doing what is necessary for everyone to go home injury free every day
- Teamwork: Committing ourselves to each other's success to achieve FM's greater good
- Accountability: Taking personal responsibility for my work, effort, attitude
- Resourcefulness: Taking initiative and seeking ways to improve
- Service: Understanding and responding to individual and institutional needs, problems, expectations

Strategic Objectives

1. Enhance and Leverage Partnerships and Customer Relationships
2. Effectively Manage Financial Resources
3. Drive Operations to be Reliable and Sustainable
4. Optimize the U's Physical Assets
5. Ensure a Safe University
6. Create a Welcoming Campus to Provide a Memorable Student Experience
7. Inspire and Support Employees

Primary Services

FM is organized into 5 main business units

1. **District Operations -** District Operations is charged with providing building and building-system maintenance and custodial services across campus, with the exceptions of Housing & Residential Life, Athletics and Student Unions. The Twin Cities Campus includes five "Districts" as detailed in the campus map and FM organization chart below.

Custodial Services	Custodial services meet or exceed established Maroon Standards which are detailed in the FM website. Where desired, departments can contract with FM for higher levels of service.
Building Maintenance	FM maintains all mechanical, electrical and plumbing building systems. Work includes reactive, preventive and predictive maintenance. The districts also perform service work like hanging whiteboards, painting offices and supporting department equipment.
FM Call Center	624-2900 is the primary point of contact for campus constituents to report issues related to any FM issues.
Central Planning	This team creates and coordinates preventive maintenance tasks in a campus-wide, comprehensive framework to ensure cost-effective, well planned care of assets.

2. Central Services - All Central Services offerings are delivered campus-wide and encompass both routine services and project work. Central Services contains some units, such as Landcare and Waste Recovery Services, which are funded from the university's cost pools. Other Central Services units operate as Internal Sales Organizations (ISO's) that charge out on a T&M basis.

Landcare	Responsible for the stewardship of natural and built campus assets. Services include grounds maintenance, landscape and irrigation design, snow removal and campus cleanliness.
Waste Recovery Services	Collects and sorts waste and recycling for the entire Twin Cities campus, and performs small scale in-house abatement services for asbestos, mold and lead. Waste is collected and sent to Hennepin County for incineration, while recycling is processed on campus then sold to manufacturers. The ReUse Center takes surplus items from across the University and offers them back to University departments or sells to the public.
Security Program	Works closely with UMN public safety department to manage campus wide security systems. Identifies and plans enhancements to surveillance, access control systems, standards and procedures. Also responsible for installation and maintenance of cameras, card access equipment, keys and locks.
U-Construction	Acts as an in-house general contractor, coordinating medium-scale ($50K – $500K) University construction projects and provides assistance to the FM districts with repair work as needed. U-Construction serves as the portal for trade laborers to enter and leave the university.

3. Energy Management - Manages the procurement, production, distribution and efficient use of energy, and provides engineering expertise to support the University's mission of research, education and outreach. Work is guided by the principles of reliability, cost and sustainability.

Utility engineering and operations	Provide technical expertise for the oversight, review and strategic direction of utility operations. Responsible for the procurement, production and distribution of: • Steam • Electricity (Including campus security lighting) • Chilled water • Water, sanitary sewer and stormwater Utility metering, monitoring and system wide control (via SCADA)
Facility engineering and energy efficiency	Provide technical expertise for facility design reviews, troubleshooting and building system optimization. Energy efficiency components include: • Commissioning • Retro-commissioning • Energy Conservation Opportunities (ECO) • Building Automation Systems (BAS & BACnet reliability) • Technical support for Facility Operations
Engineering records	University systemwide central repository of all engineering design and construction documents. Also, Gopher State One Call locating of University utilities.
Engineering Support for University Wide Assets	Provides mechanical, electrical, civil and BAS controls engineering support for University system campuses and outreach centers as requested or needed.
Utility accounting and billing	Energy Management staff works closely with finance personnel to track consumption of all utilities and charge out to departments based on consumption

4. Business Systems and Strategies - Enable FM staff and customers to achieve their goals by supporting applications, improving processes, optimizing resources, and developing strategies to attain those goals.

Business Application Support (BAS)	The BAS team help users more effectively and efficiently use applications, systems, and data. Supports Facilities Management (FM) applications in terms of user support, reporting, and training. They also support application process improvements, upgrades and bug testing. Applications supported include: • FAMIS (Compass) • Web Reporting • Kronos • Custodial application and Custodial QA

	• Drupal • FM Contacts Application
Process Improvement and Strategy Implementation	Transforming and aligning business processes, strategies, and systems to meet the changing business needs in managing facilities. This is achieved by supporting applications, improving processes, optimizing University resources / assets, and developing strategies to attain the organization's goals and support the mission of the University of Minnesota.
Vendor Management and Contract Administration	The Vendor Management Program evaluates third-party providers of goods and services, supervising day-to-day interactions, and managing longer-term relationships. The program ensures that the vendor and FM customer have a clear understanding of the agreement terms and that the vendor's services are performed in the best interest of Facilities Management and those we serve.
Project Management and Business Analysis	Project management - initiating, planning, executing, controlling, and closing the work associated with a project to achieve specific goals and meet specific success criteria. These 'projects' are business process and technology improvements - construction projects are managed through U-Con. Business analysis - facilitating organizational change by clarifying needs, recommending solutions that meet those needs, and ensuring successful implementation of the chosen solution.

5. Office of Sustainability – This office has system wide responsibilities for overseeing the coordination of sustainability initiatives. They are committed to reaching shared goals through inclusive projects, cross-campus planning, partnerships, and working with the greater community to create a culture of sustainable practices.

Strategic Planning	Conducts strategic sustainability goal setting for University Services. Facilitates workplan development with departments and subject matter experts to achieve goals. Implements institutional sustainability governance structure with Provost's and President's offices.
Communications, Engagement, and Reporting	Communicates operations sustainability programs and achievements to internal and external audiences through the *It All Adds Up* sustainability campaign. Engages University community in taking individual and group sustainability actions. Conducts reporting to meet operational needs, to provide data for Regent's, and to meet commitments to external parties.
Program Management	Leads complex, cross-functional initiatives to achieve University environmental, social, and economic goals. Examples include Zero Waste at TCF Bank Stadium, Smart Labs (research facility sustainability), and renewable energy procurement.

Academic Enterprise Support

Campus Community

Facilities Management builds strong relationships with students, faculty and staff in an effort to anticipate their needs and customize our services to meet them. Research and education cannot occur without clean and functional spaces that have reliable building systems. Many science labs include highly sophisticated equipment that must be continually operational to advance discovery in human and environmental health. FM also incorporates sustainability principles into all of its work practices to be good neighbors and responsible stewards of available resources.

Faculty

Smart Labs: Research facilities are 25% of campus space but represent 60% of campus energy consumption. Through the Smart Labs program, the University is conducting deep energy retrofits of research facilities to reduce energy consumption by 50% or more, saving money for the research enterprise and providing researchers with more effective, capable facilities.

Living Labs: Landcare, Capital Planning, and Sustainability work to make campus grounds available to students and faculty for applied demonstration projects and research through the Living Lab program. Since its inception, 20 projects have been approved, enabling the student and academic communities to conduct outdoor research and learning without leaving the campus.

University Senate: FM is an active participant in University governance via the Senate Committee on Finance and Planning.

Students

Education: FM is an educational resource to students. We have provided numerous applied experiences, internships and class projects from landcare to recycling/reuse to projects in the districts. The operational support of class based learning enriches students' experience with a 'real world' foundation.

In addition, Energy Management leadership is often solicited to present to undergraduate and graduate classes in mechanical engineering and civil and environmental engineering. We participate in doctoral thesis research on projects such as geothermal, carbon sequestration, solar to hydrogen and hydrogen to electricity. At times these projects involve the U.S. Department of Energy and Department of Commerce. EM also receives requests for data on utility usage data year round from undergrad and graduate students at the University plus other colleges and universities for classroom exercises.

Student Employment: FM employs about 150 students at any given time. During FY2016 FM employed 439 students for some period of time. Student workers are intentionally provided work opportunities to develop skills and have productive experiences. Many supervisors mentor their students, cultivating the many talents that students bring to their jobs and enhancing the building blocks for their subsequent careers.

It All Adds Up **Website:** The website provides resources on numerous ways for students to get involved in sustainability efforts -- from volunteering to student clubs to special courses.

Pack and Give Back Program: The University of Minnesota ReUse Program collects surplus office furniture, supplies, equipment and parts from around the UMN campus. The items are available for University departments or individuals for purchase. Every spring the Reuse Center picks up students' discarded furniture and then makes it available to new and returning students in the early fall.

Staff

Facilities Role Consolidation: In partnership with the U Services Project Management Office, FM is completing an initiative to streamline communications and coordination with customers in the academic and administrative units. Most U Services functions relied on multiple points of contact with customers, causing inefficiencies and confusion. Three new roles were created out of seven disparate ones to ensure single points of contact and enhanced authority and accountability levels:

- RRC Facilities Lead (represents each academic and administrative unit)
- Department Facilities Representative (represents each department)
- Primary Building Contact (represents each building)

Under this simplified structure, the University has 47 RRC Facilities Leads and over 500 Department Facilities Representatives. Primary Building Contacts are in the process of being appointed. Building security has already been improved and a host of business process improvements will be conducted now that formal roles are in place.

Advisory Committees: Each campus district conducts bi-monthly Advisory Committee meetings with college/ unit representatives to share locally pertinent information and solicit feedback for district issues.

Current Challenges

- Maintaining an aging infrastructure with limited and often decreasing funds.
- Improving the quality of our facilities, and removing poor and critical space.
- Reducing overall space on campus to better align with funding to maintain it.
- Minimizing physical asset life cycle costs and integrating end-to-end life-cycle processes and technology.
- Making space more cost effective to own and support.
- Managing the operational cost impact of temporarily vacant space.
- Becoming more sustainable while maintaining reliable operations and staying within available resources.
- Improving operational efficiencies through Labor Management Committees discussions.

Current Initiatives

Management Process Improvement

- FM is staffing and leading the Enterprise Asset Management (EAM) project across business lines and system campuses to improve and integrate the way we manage our physical assets.

- Creating a project governance culture, methodology and tools to launch, manage and track business process improvement initiatives.
- Reengineering our time and labor management practices through use of common tools and processes.
- Development of comprehensive FM-wide Training Program which includes job skills, safety, info technology, leadership.

Energy and Utilities

- Commercial operation of the new CHPP (Combined Heat and Power Plant) by March, 2017. This combustion turbine-driven system will save the Twin Cities campus a net $2 million per year and provide another level of utility reliability.
- Continue reduction of energy consumption (and subsequent carbon footprint) of the University campuses by:
    - Finding and developing energy efficiency projects
    - Monitoring and maintaining the energy consumption of university facilities
    - Continual improvement of the efficient production and distribution of utilities; chilled water, steam, electricity and water.
    - Providing best in class internal commissioning and retro-commissioning services for university facilities.

Asset Management

- Implementing RBM (Reliability Based Maintenance) to shift away from reactive building systems maintenance to a reliability/predictive based model.
- Increasing our understanding and use of facility condition data and creating a new strategy for field inspections and data management.
- Implementing and supporting a Building-By-Building Strategy to address building needs based on formal Facility Condition Assessment. Under this initiative each of the system's 916 buildings is classified as "catch up / keep up", "sustain," or "do not invest" based on a combination of factors including facility condition, historic consideration, programmatic relevance, and adaptability.

Work Flow Improvements

- Streamlining customer facility roles to improve security, communications, and coordination with University Services.
- Educating customers and setting expectations for in-house design and construction work.
- Updating key and access policies and procedures.
- Defining campus landscape maintenance plan including service levels based on design needs and customer requests.
- Increasing compostable material collection from campus buildings.

Financial Overview

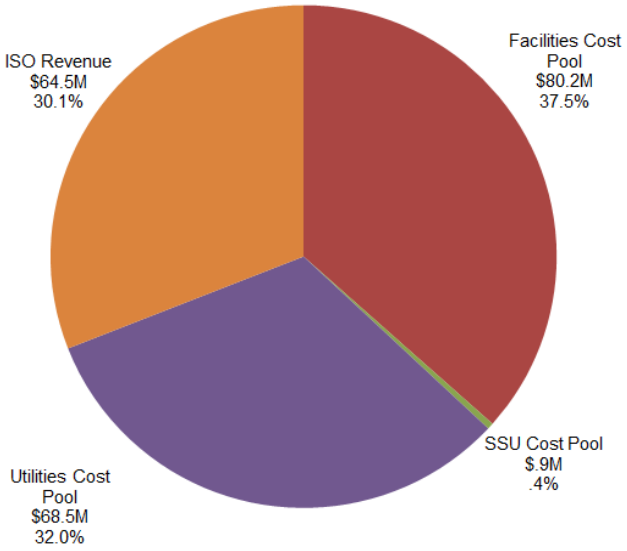
Facilities Management receives funding from central cost pools to perform operations and maintenance (O&M) activities. These charges are allocated back to supported units on a square footage basis. Additional work is performed by FM staff as requested and charged to the requesting department as internal sales (or non-support revenue). Utilities charges are billed to all customers based on actual consumption at a building level. FM also manages capital funding received from the state that is targeted at maintaining the university's significant asset base. The Higher Education Asset Preservation and Replacement (HEAPR) fund is used for major building repairs such as roof replacements or HVAC upgrades, and is not included in the graph below.

Budget
FM maintains a $214.1 million budget for FY17 as shown in graph below. Facilities Cost Pool is used for activities such as custodial, maintenance, repair projects and land care.

The Utilities Cost Pool is the budget for steam, electricity, chilled water and natural gas for supported units. Utility rates are established for each utility once a year, based on the expected budget and include all energy costs such as engineering services, maintenance fuel, debt, energy conservation and building controls.

ISO Revenue is received from the work performed by Facilities Management that is not included in the services standards defined for the Facilities Cost Pool or performed for non-supported units that are not part of the cost pool. Auxiliary units are also billed for utilities using the same billing principles as those used for supported units. This revenue also includes services provided to non-university tenants located in the University

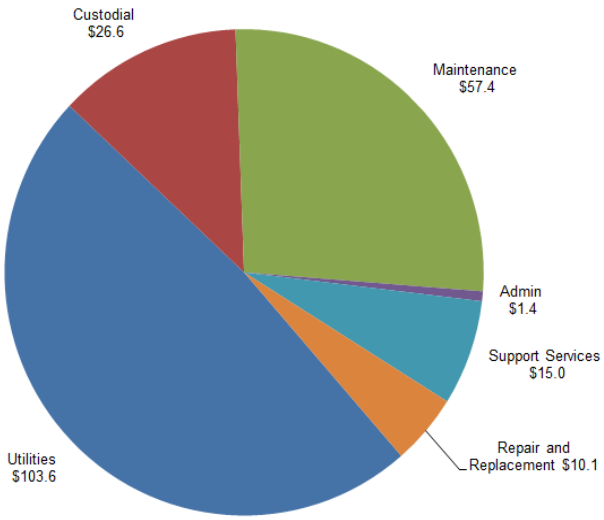
Source of Funds



2017 Budget:
$214.1 Million
FTE's: 1,035.2

area.

Use of funds



FY17 Expenses
$214.1 Million

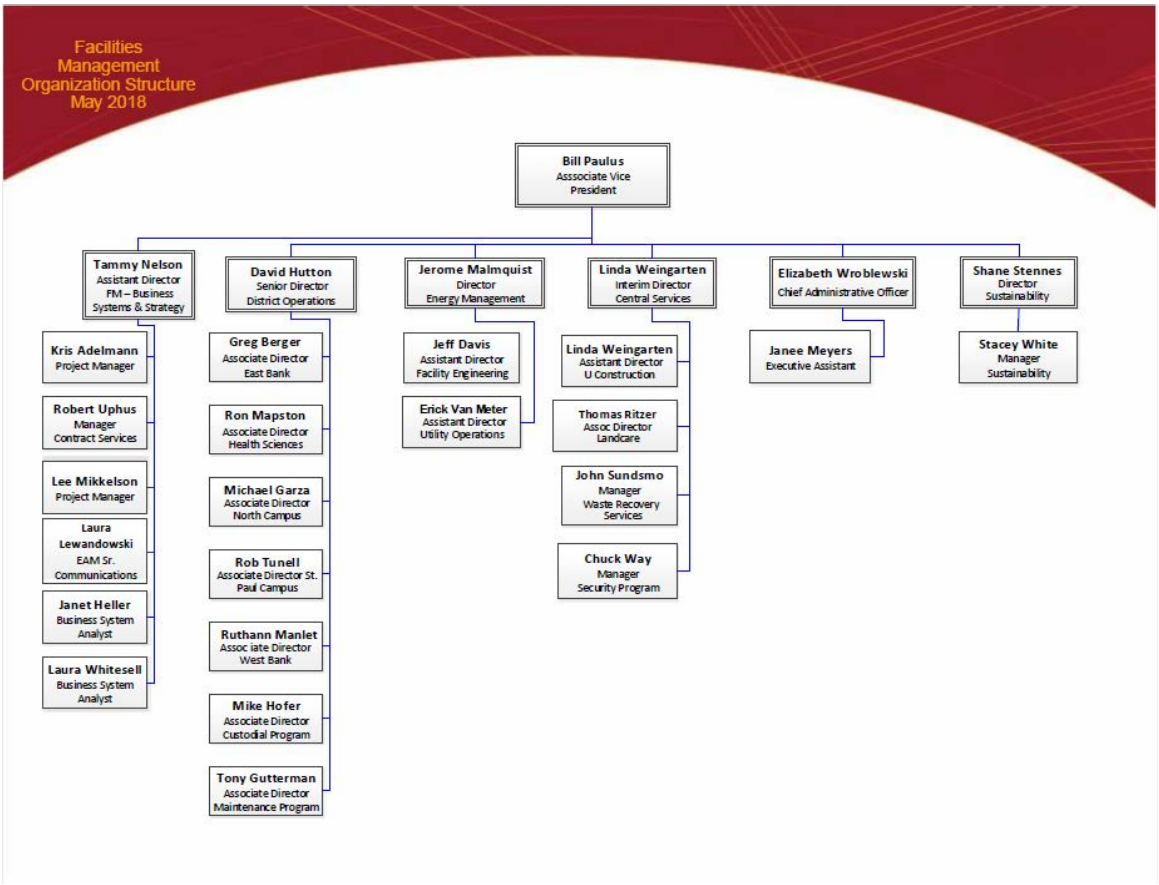
Workforce

As of October 2016, FM units included 1035.2 Full Time Equivalent employees with an actual headcount of 1218.

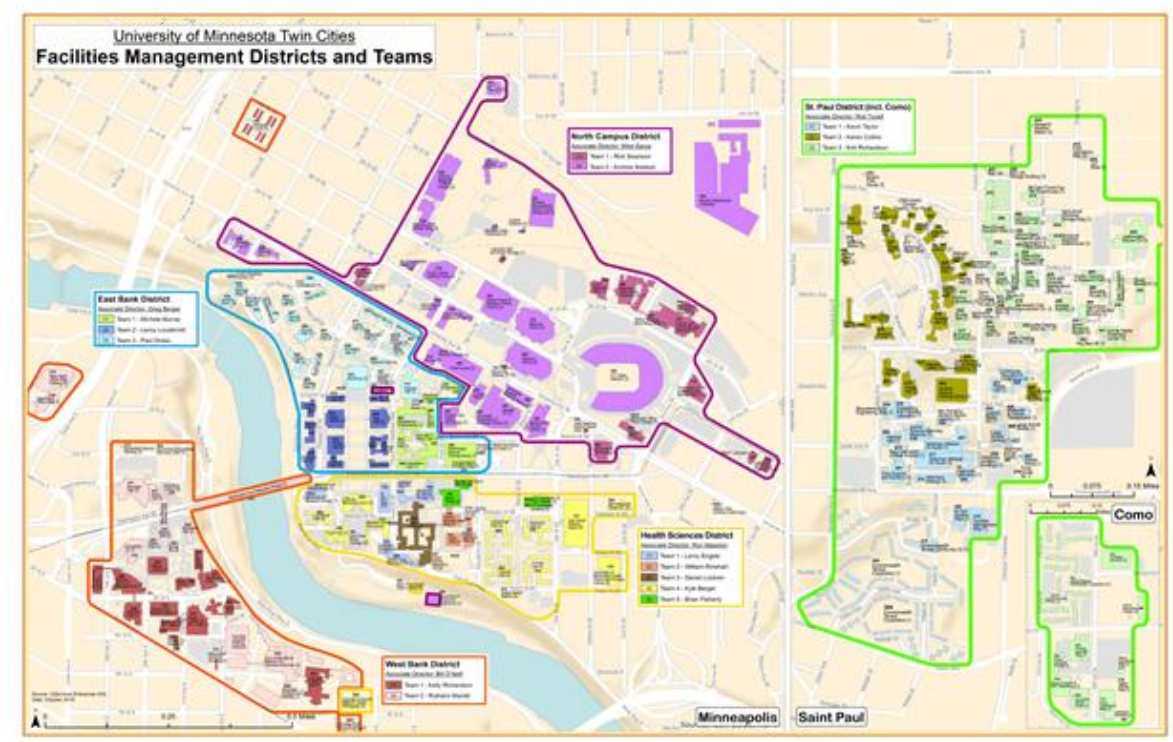
Personnel Data	Student	Union	Professional or Academic	Civil Service	Total
Employee Headcount	147.0	910.0	54.0	107.0	1218.0
Full Time Equivalents	41.5	832.9	53.9	106.9	1035.2

FM also maintains external partnerships with many contractors who provide various materials and labor services. There are dozens of contractors who perform functions from operating the steam plants, to performing property services for WBOB to fire alarm testing and roof inspections.

Organizational Chart



District Maps



Regulatory Responsibilities

Facilities Management has responsibility for the following U-wide policies:

- Property and Facility Use
- Sustainability and Energy Efficiency
- Distribution of Information Through Publications, Banners, Chalking
- Getting Access to University Buildings

Facilities Management has enforcement or compliance responsibility for the following requirements:

> OSHA (employee safety and healthy work practices)
> MPCA (carbon emissions, waste water, waste disposal, refrigerant usage)
> Building Codes (life safety requirements, remodeling and maintenance activities)
- NFPA (fire protection sprinklers, alarms, generators)
- ANSI standards (eye wash stations)
- NEC (electrical work)