Realizing the Vision 2012-2015

Facility Services Strategic Plan
Progress Report 2014

PEOPLE
-STAKEHOLDER RELATIONS AND COMMUNICATION

CUSTOMER SERVICE

FINANCIAL ACCOUNTABILITY

ENERGY MANAGEMENT AND SUSTAINABILITY

SPACE PLANNING AND UTILIZATION

ASSET MANAGEMENT

PROJECT MANAGEMENT

PARKING MANAGEMENT

FALL 2014
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Dear Colleagues,

The Facility Services team, with its Directors, Managers, Supervisors, and front line staff, has worked hard to produce our first Strategic Plan, which aligns our services with the strategic direction of McMaster University. Since the release of the Strategic Plan in 2012, the Facility Services team has embarked on a journey to improve our ability to meet the needs and expectations of the McMaster community.

In this progress report, the Facility Services team will introduce you to the many initiatives, projects, processes, strategic documents, analyses, and surveys that we have produced and implemented throughout this journey. As always, our goal with these innovations has been to improve and streamline our service delivery and to enhance the processes that underpin our ability to meet and, hopefully, exceed our goals.

While we are always striving to improve, it is satisfying for us to share all that we have accomplished since the implementation of the Strategic Plan with the McMaster community. We hope that you find the contents of this report informative and interesting.

If you have any questions related to the content of this report, please contact our Customer Service division at clerks@ppims.mcmaster.ca or at extension 24740. For additional information and copies of our plans and strategic documents, please see the Facility Services website: ppims.services.mcmaster.ca.

Best Regards,

M. Attalla

Dr. Mohamed Attalla, P.Eng. FCSCE
Assistant Vice President & Chief Facilities Officer
1. PEOPLE

As the service solution department for McMaster University, the most important resource of Facility Services is its more than 300 employees. Ensuring the satisfaction and involvement of its people remains at the forefront of the Department’s strategic goals; employees are central to the departmental mission. Accordingly, the Strategic Objective for this theme is to foster and encourage a motivated, skilled, and professional workforce. In order to do so, Facility Services endeavours to meet the seven (7) Strategic Objectives discussed below.

“The first two years of the implementation of the Facility Services Strategic Plan has put a strong emphasis on its people. Developing our staff’s capacities has been paramount. All Directors, Managers, as well as front line staff have performed phenomenal activities in order to develop our own capabilities and to become more engaged in the University’s strategic vision. All staff deserve to be commended on their accomplishments in this aspect of the implementation of the Strategic Plan.”

-Dr. Mohamed Attalla, P.Eng. FCSCE
Assistant Vice President & Chief Facilities Officer
Implemented Actions:

1. **Increased staff satisfaction with work and workplace.**

All Facility Services divisions that were not already doing so are now holding regular staff meetings. The meetings encourage information sharing, suggestions, and feedback. All staff have access to suggestion boxes so that they can anonymously express opinions and make operational suggestions, and these suggestions and opinions are then reviewed by our managers and implemented where possible. Action items that come up are being documented and addressed. One of the suggestions from the Custodial Services and Trades staff, for example, involved tools: staff suggested that having the proper tools for their work was important to them. A team survey of equipment and tools showed that our teams were generally well-equipped, but some items needed to be purchased. A plan was developed and implemented to acquire the necessary tools, as is discussed in more detail below (see Strategic Objective 2).

The increase in communication with staff has encouraged innovation in the workplace as well as a mutual appreciation for the skills that different people bring to their work.

**We are proud to say that the Administration Division Engagement Survey results reveal that staff satisfaction levels in Facility Services increased by 25% in 2014!**

2. **Provided staff with the necessary tools and technologies to perform their job functions.**

The Strategic Plan recommends strategies to ensure easy access to and provision of tools and training. All Facility Services divisions have completed their tool inventories to ensure that we have the minimum number of tools and equipment required for all staff positions. These inventories are maintained to ensure that the appropriate tools are available at all times. Missing tools necessary to complete jobs have been purchased and damaged tools are continuously replaced based on the availability of funds.
To facilitate the tracking and sharing of tools among staff, a sign out system has been implemented. Staff and management have also determined that large or specialized tools and equipment should be maintained in a centralized location, while smaller, more common tools will be decentralized. We have also provided training to new employees on how to use machines and chemicals, in addition to other position-specific training. This training is ongoing.

Facility Services is committed to health and safety, and it is a standing item on all division meeting agendas. The different divisions of Facility Services are well-represented on the Joint Health and Safety Committee (JHSC): currently, all positions on all Health and Safety Committees are full because of our commitment to a healthy and safe workplace and community.

Fast Facts: Number of positions left unfilled on Health & Safety Committees?

0.

Health and safety is a high priority in Facility Services!

3. Ensured that staff are motivated and engaged with the delivery of the Department’s core function and strategic direction.

With all divisions holding regular meetings, including biannual meetings for our whole staff, monthly division meetings, and daily team discussions that occur as necessary, there is more opportunity to discuss the Mission, Vision, Values, and Strategic Objectives of Facility Services. These ideals and objectives comprise important parts of meeting agendas, which helps to ensure that work is completed with them in mind. In these meetings, we also share data regarding staff performance, discuss service levels (ppims.services.mcmaster.ca/pplant/documents/FS Service Levels.pdf) and customer needs, and receive feedback from staff. Meeting minutes are regularly recorded for review. The monthly meetings also provide an opportunity for staff commendation, while larger-scale recognition takes place biannually with the Facility Services Awards.

Directors and Managers have done regular site inspections, including process audits and reviews of departmental methodologies that quantify these processes, in order to initiate continuous improvement in service delivery and to verify that divisions are achieving their goals. These visits also ensure that staff and Directors are working with the same understanding of the Department’s Mission and Vision, and they provide opportunities for the recognition of work that is well done. Audit results are analyzed for areas of weakness, and these areas are then used as opportunities for training and overall improvement in performance levels. Over the last three months, for example, Custodial Services has done 585...
inspections and has met its targets 83% of the time. Since our Key Performance Indicator is 85%, we are working with staff to ensure we meet our goals in the future.

Staff have also been trained on the prioritization of work and projects, and tasks continue to be scheduled based on urgency using the Intelligence in Asset Management (AiM) software system. To help manage changing priorities, Change Management workshops have taken place at all levels, and numerous members of management and staff have taken the Change Management course offered through MOSAIC.

2014 Awards of Excellence: Terri Koppang and Vayda Bowes
2014 Awards of Recognition: Bob Shaw, Kirk McIlroy, Dragan Karic, and Fred Bene

Congratulations!

4. Fostered a culture of mutual respect and collaboration.

Respect in the workplace is of paramount importance in all workplaces, and Facility Services is no exception. To improve communication and to foster mutual respect, fairness, equality, courtesy, and positive communication at work, all Facility Services staff have taken “Respectful Workplace” and “Violence and Harassment Prevention” training. All team meetings now include agenda items that focus strongly on building a respectful workplace that is in line with the values of McMaster. The training has been deemed effective, though fostering and maintaining a respectful workplace culture must always be an ongoing process.

This training has supported our ongoing efforts to

- foster respectful communication in daily interactions, especially during corrective action regarding performance issues.
- emphasize the value of both individual work and teamwork.
- build trust between division members and supervisors.

Though problems regarding respect in the workplace were rare, conditions have improved significantly where there were problems, particularly with regard to staff-to-staff disagreements and conflict resolution.

Team-building initiatives and activities have also been incorporated into the workplace. Some of these include BBQs, potluck lunches, ice cream socials, pancake breakfasts, and recreational activities like playing sports together. These events allow staff and managers to create a bond and become more comfortable around each other in the work environment. Ultimately, we would like all employees to feel a sense of trust with regard to management; a sense of teamwork as well as a personal connection to their work; and a sense of recognition and appreciation for who they are and their contributions to Facility Services and McMaster. We work towards this goal every day.

“I really enjoy working at McMaster because the work environment is one based on mutual respect.”

-Gary Moscardini, Gardener
5. **Provided professional development training and health and safety training to ensure a high level of knowledge and skill.**

Facility Services has put together a comprehensive Training Matrix that tracks all completed, ongoing, and pending staff training. We have kept staff current with all relevant government-mandated training on changes to codes and standards. The Training Matrix is also where we track more specialized training that occurs on an as-needed basis. Some examples are as follows:

- One of our Trade Supervisors attended an Arc Flash information seminar (workplace safety).
- The Carpenter group attended a Fire Stopping training session.
- The Business Services staff completed the required PeopleSoft training.
- The Custodial teams and other staff completed several PeopleSoft-related programs.
- Two Managers attended the APPA Institute for Facilities Management in 2013.
- The Director, Custodial Services attended a variety of software courses through McMaster’s Centre for Continuing Education.
- The Energy Management and Sustainability Engineer attended the Quality Urban Energy Systems of Tomorrow (QUEST) conference on Combined Heat and Power (CHP) systems.
- Design and Construction division members took a training course on Excel applications.
- Some Design and Construction Project Managers are taking courses on LEED Certification, management, and Microsoft Project Manager software.
- Several Enterprise Resource Planning (ERP) training sessions took place.
- The Director, Custodial Services attended the International Sanitation Supply Association (ISSA) Convention.
- Trades and Residence staff took Heights/Fall Arrest Training.
- Scaffold training for Maintenance staff has been scheduled for early 2015.

Staff are encouraged to take advantage of Continuing Education courses offered by McMaster, whether they will build work-related skills or are on topics that are of personal interest to staff.

6. **Encouraged innovation and creative approaches to work.**

A staff forum has been created for ideas and innovative thinking. All suggestions and ideas are reviewed at managers’ meetings, implemented when possible, and staff are recognized and formally thanked at departmental meetings and at the biannual all staff meetings. On an ongoing basis, staff and management are encouraged to discuss and experiment with new strategies to complete work tasks, as in the case of the Snow Removal Procedure review that will help us to better meet the needs of the McMaster community (see [ppims.services.mcmaster.ca/pplant/documents/FS Service Levels.pdf](ppims.services.mcmaster.ca/pplant/documents/FS%20Service%20Levels.pdf)).

A workshop on innovation and creative thinking has been proposed for early 2015.

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**Some of the latest innovations in Facility Services and their impacts:**

- tested new walkway salt that has a lower impact on nearby vegetation
- developed a strategy that would allow two cable-related projects to be completed simultaneously
- developed a method to make washroom operations more efficient by increasing signage
• purchased new, lighter equipment, such as ergonomic mops, that improve both efficiency and workplace conditions because likelihood of staff injury is reduced
• developed a reporting system for electrical work that streamlines the process of reporting to the Electrical Safety Authority
• implemented the use of chemical-free cleaning supplies, which means a more sustainable cleaning process and a reduced likelihood of aggravating environmental allergies for both staff and the McMaster community
• developed the Project Management Methodology (PMM) to provide clear, consistent operational standards (for more details, see page 35)
• facilitated access to Parking Services for campus community members by opening a more centralized location
• streamlined the tracking of damage and facilitated access to information about room conditions through the use of StarRez software for inspections of student residences

7. **Strove for high quality performance and continuous improvement.**

Some divisions (as applicable) have used data from the Ontario Association of Physical Plant Administrators (OAPPA) annual survey to compare their service levels to those of other universities, including cost per square foot for Custodial and Maintenance Services. Our performance results, based on our Key Performance Indicators, are communicated via the Vice President (Administration)’s website on a quarterly basis (mcmaster.ca/vpadmin/KPI.html), at staff meetings, and they are also available on pages 40-41 of this document.

Overall, Facility Services has implemented improvements with regard to communication and quality assurance that can be seen in every element of our work. These improvements include a further opening up of discussions with staff and a more active welcoming of staff feedback, regular reviews and inspections of staff work, a comparison of our performance with those of other Ontario universities, and staff training, particularly on how to prioritize tasks and adapt to change. All of these factors—from increased communication to increased training—contribute to strengthening the Facility Services workforce, which benefits us all.

**Fast Facts: Mail Services has equipment for addressing envelopes and flyers at up to 30,000 pieces per hour. That’s 8 pieces of mail per second!**

Gunnar Christianson (L) and Trevor Benninger (R) using a General Sliding Bed Table Saw that features a 12” sliding bed and a scoring blade capability for double sided cutting. This saw is extremely accurate, and its sliding bed makes it ergonomic.
2. STAKEHOLDER RELATIONS AND COMMUNICATION

The Stakeholder Relations and Communication Strategic Theme reflects the importance of understanding who the internal and external stakeholders of Facility Services are. This understanding helps Facility Services gauge who needs to be considered and consulted in the making of key decisions and which relationships can be developed for mutual benefit. If we understand our stakeholders well, furthermore, communication can be clarified and tailored to suit different stakeholders’ needs. The goal of this Strategic Theme is to align the direction of Facility Services to reflect the importance of stakeholder relations.

“The ability to communicate to and with our stakeholders is a major component of our Vision for great service. Facility Services values working in collaboration with our stakeholders to ensure that everyone is on the same page and everyone’s needs are being met. Communication is a key component of ensuring a good working relationship, and it is something on which Facility Services has been and will continue to focus.”

- Carlos Figueira, Director, Custodial, Grounds, Logistics, and Mail Services
Implemented Actions:

1. **Created opportunities to interact with stakeholders.**

Continual communication with stakeholders helps to support the overall Mission, Vision, and Values of Facility Services. All divisions of Facility Services have identified their key stakeholders. Regular meetings with stakeholders to ensure that their needs are being met are ongoing, as are efforts to foster the potential for mutually-beneficial projects, and meeting minutes are being documented.

**Fast Facts: Stakeholders are anyone who is directly involved in or affected by a project. Who is Facility Services’s biggest stakeholder?**

**YOU!**

2. **Maintained or strengthened communication with other institutions.**

Information gathering and sharing, networking opportunities, and sharing best practices all contribute to the improvement of Facility Services’s overall level of service to the McMaster community. For this reason, all divisions have been heavily engaged in various organizations that are relevant to our core functions, such as,

- Association of Physical Plant Administrators (APPA)
- Ontario Association of Physical Plant Administrators (OAPPA)
- Canadian Association of University Business Officers (CAUBO), where we made six presentations related to energy and space in 2014
- Ontario Ministry of Training, Colleges, and Universities (MTCU)
- Association of Energy Engineers (AEE)
- Canadian Society of Civil Engineering (CSCE)
- Canadian Parking Association (CPA)
- University and College Housekeepers Association
- South Western Ontario Universities Buying Group (for natural gas purchasing)
- Association of College and University Housing Officers-International (ACUHO-I)
- Ontario Association of College and University Housing Officers (OACUHO)

Facility Services also led the the MTCU Productivity and Innovation Fund (PIF)-funded partnership with OAPPA for the University Utility Consumption Database and Benchmarking System (UUCDBS) project (also known as the Utilities Dashboard), involving 10 Ontario universities who collaborated on the development and operation of an energy database and benchmarking system (see pages 19 and 21 for more information). We also spoke about UUCDBS at the OAPPA Energy Committee Quarterly Meeting, April 2013.

3. **Understood and supported academic priorities and research strategies.**

On a philosophical level, Facility Services staff has been actively involved in developing our Mission, Vision, and Values and aligning our work with McMaster’s academic mission. We continue to discuss our Mission, Vision, and Values at meetings to ensure that we are working with McMaster’s academic priorities.

On a material level, Facility Services has established relationships and partnerships with academic leaders. Members of Facility Services have been involved in the academic planning process through committee participation, as well as by sitting on PhD committees, being Adjunct Professors in both the School of Engineering Practice and in Civil Engineering, and serving as the Faculty Advisor to McMaster’s student chapter of CSCE.
4. Fostered community relationships and engagement.

Facility Services has worked with several community organizations:
- Royal Botanical Gardens (RBG), with whom we share trail maintenance duties
- Mohawk College, with whom we share a building
- Johnson & Johnson
  - pilot project for a waterless urinal system
  - diversity education
- City of Hamilton, with whom we are collaborating on several projects, such as
  - Bike Share Program
  - Fraunhofer Project
  - Hamilton Community Climate Change Action Plan Taskforce (as a member of the Taskforce on Land Use and Built Form)
  - Smart Commute program, which has designated McMaster a “Smart Commute Workplace 2014”
- 2015 Pan Am Games

Fast Facts: Members of Facility Services regularly give guest lectures, tours of buildings and ongoing construction projects, and feedback on student work, most often in Engineering, Geography, and classes focusing on sustainability. We supported graduate and undergraduate research in key areas and provided experiential learning opportunities, and we have also served on PhD committees.

5. Promoted and communicated Facility Services’s activities and initiatives.

We have added a number of features to the Facility Services website that facilitate communication with stakeholders (ppims.services.mcmaster.ca/pplant): our visitors can now find highlights under the heading of “Important Topics” that show some of the great work our teams have done, such as the Asset Management Plan (AMP) (ppims.services.mcmaster.ca/pplant/documents/AssetManagementPlan.pdf), the Energy Management Plan (EMP) (ppims.services.mcmaster.ca/pplant/documents/EMP PLAN.pdf), the Facility Services Newsletter, and other updates and highlights from and about our teams. The page continues to be developed and updated, and work on newsletters is ongoing. We have also joined twitter (@MacFacilities), where we send out notifications and receive service requests for minor issues like water fountain filter changes. The Assistant Vice President and Chief Facilities Officer and various Directors also gave a presentation for the Human Resources New Employee Orientation to help new employees understand the work Facility Services does and the services we provide.

Fast Facts: McMaster University is proud to be a satellite village for soccer for the 2015 Pan Am Games! We are hosting players and all associated support personnel, including coaches, trainers, medical personnel, and security. Housing and Conference Services, in conjunction with Facility Services, will be responsible for ensuring that housing needs are met, that Les Prince Hall—where guests will be staying—is in excellent condition at all times, that parking is easy to access, that it is a secure setting, and that the environment is picturesque, in addition to our regular duties. We look forward to welcoming many visitors from around the world, including friends, family, and fans, who will take in the games and enjoy McMaster’s hospitality.
In collaboration with University Advancement, Facility Services Grounds staff designed and built the 1964 Founder’s Garden to commemorate the 50 year anniversary of the class of 1964 (located in front of the University Hall). This activity allowed our Grounds staff to use their skills, expertise, and experience creatively in support of McMaster’s vision.

The 1964 Founder’s Garden was unveiled on September 3, 2014.

For more information, see: alumni.os.mcmaster.ca/s/1439/index.aspx?sid=1439&gid=1&pgid=2572

In order to best realize efficiencies, Facility Services is proud to work in synergy with other campus divisions and stakeholders!

Brodie Mason, Residence Facilities Custodian
3. CUSTOMER SERVICE

Facility Services strives to ensure that customers and stakeholders are always considered in planning and process development. To this end, a strong customer service delivery model has been developed to guarantee success in the Department’s mission.

The goal for this Strategic Theme is to ensure customer satisfaction by meeting efficient, prompt, and high-quality service delivery standards. By establishing service levels for all divisions within Facility Services, we are able to measure the effectiveness of our service and strive for excellence in all our work. Facility Services monitors its performance by continually checking established service levels against customer feedback and making adjustments where necessary.

“The implementation of the Strategic Plan has provided opportunities for all members of Facility Services to contribute to the direction of the Department and, ultimately, the University. The value of an individual effort is realized when we take a step back and see that the Department has succeeded because of the efforts of all members of Facility Services. Customer Service is what we do: irrespective of our job task, we service the campus and its stakeholders. We should be proud of our collective accomplishments.”

-Craig MacDonald, Director of Maintenance Services
Implemented Actions:

1. **Established and publicized service levels and standards.**

We completed an extensive inventory of legislative requirements, safety regulations, and best practices for facilities management and constructed our service levels around them ([ppims.services.mcmaster.ca/pplant/documents/FS Service Levels.pdf](http://ppims.services.mcmaster.ca/pplant/documents/FS Service Levels.pdf)). Facility Services also did an inventory of assets to ensure that we meet service level requirements and to refine our service levels. All critical assets are documented in the Intelligence in Asset Management (AiM) database along with their service level requirements.

In preparation for the implementation of the New Budget Model, Facility Services developed a communication strategy so that our service levels for all areas were widely publicized through Departmental communications and on the Facility Services website. Facility Services maintains its service levels to ensure both the smooth operation of the University and the completion of annual/routine activities as required by codes that are reported to various inspection authorities. Staff training is updated on an ongoing basis, especially when service levels have been adjusted or when they have not been met. For more details, please see our Key Performance Indicators on pages 40-41.

2. **Aligned our service delivery model with the diverse and decentralized nature of our customers.**

Service levels at satellite McMaster sites have been documented and made available for all off-campus buildings. Directors within Facility Services have also reviewed and adjusted service levels with contractors at off-site locations to ensure consistency across McMaster facilities. Service levels for these sites, particularly those with unique needs, are regularly reviewed by McMaster administrators. Where service levels are not being met, training is ongoing.

3. **Continuously measured service performance.**

Facility Services has performed regular analyses of our Key Performance Indicators (KPIs) for all of our measureable benchmarks, some of which compare our performance with colleague institutions through our participation in an annual survey with the Ontario Association of Physical Plant Administrators (OAPPA). KPI data is assessed regularly at staff meetings, where opportunities for improvement are discussed.

The collection of KPI data, which is reported on the Vice President (Administration)’s website on a quarterly basis ([mcmaster.ca/vpadmin/KPI.html](http://mcmaster.ca/vpadmin/KPI.html)), is supported by regular staff performance reviews in which corrective measures are taken as necessary. For example, cost/square foot of Custodial Services is $1.57 (Ontario G6 university average is $1.58), Maintenance cost/square foot is $1.18 (Ontario G6 university average is $1.67), Construction operation cost/square foot is $0.30 (Ontario G6 university average is $0.36), Utilities cost/square foot is $3.24 (Ontario G6 university average is $3.29), and Residences Custodial and Maintenance costs are $2.44/square foot. We have striven to improve students’ experience of residences, so we have also partaken in the annual Residence Outcome Survey (ROS) as well as the biannual survey conducted by Educational Benchmark, Inc. (EBI), which compares our data against that of other institutions, and we evaluate our performance based on those results. For more details, please see our Key Performance Indicators on pages 40-41.

“**The Strategic Plan is a much-needed and valued tool that facilitates our ability to constantly and consistently evaluate ourselves (making adjustments as required). Because of this process, we are better able to educate our customers!”**

-Stephen Shurvin, Customer Service Representative
Fast Facts: Facility Services has developed a Priority Matrix to provide a clear framework for Maintenance service levels ([ppims.services.mcmaster.ca/pplant/documents/FS Service Levels.pdf](http://ppims.services.mcmaster.ca/pplant/documents/FS Service Levels.pdf)). Some examples include:

- **Smell of gas or smoke? Priority 1 (Immediate response or within 24 hours)**
- **Plugged washroom fixture? Priority 2 (48 hour response)**
- **Toilet or faucet battery replacement? Priority 3 (5-10 business day response)**
- **Event set up? Priority 4 (Date sensitive jobs & project work)**
- **Aesthetic conditions that are not safety-related? Priority 5 (3 month response)**

4. **Provided a format for customer feedback.**

Facility Services continually seeks out and receives meaningful input on our service from campus stakeholders. We have four ways of getting customer feedback: in daily interactions or phone calls that come into Facility Services; in random SurveyMonkey surveys in which we solicit feedback based on requests for work; through division heads’ inclusion of a SurveyMonkey link in their email signatures; and through the department-wide structured customer satisfaction survey, which launched in February 2014.

5. **Responded to customer feedback.**

Thank you for your feedback on the 2014 Facility Services Customer Satisfaction Survey! In this structured survey, we received feedback from 218 respondents who included 1,600 specific points of feedback. We are using your feedback to improve our service delivery. According to the surveys, you have tended to have positive experiences with our staff, response times, and the work of the Grounds staff, particularly with regard to landscaping and flowers. Most negative feedback concerned cleaning, snow removal, and communication with Facility Services, and you stated that your “priority” categories were snow removal, washroom cleaning, and temperature regulation.

We have reflected on your feedback, and we have employed a Plan, Do, Check, Act (PDCA) system to monitor and drive improvement in our service delivery. PDCA is a cyclical system that is built on establishing service levels, implementing them (including doing necessary training for them), monitoring performance and soliciting feedback, reviewing progress, and revising service levels or providing training to improve results from there. PDCA has proven to be an effective system, especially for revising service levels and modifying smaller scale practices. With one full large-scale cycle complete, we will continue to employ this approach over the 2014/15 year with the goal of improving our service to and, therefore, the satisfaction of, the McMaster community.

The survey results have led to numerous refinements to our benchmarks and service levels:

- **Custodial Services** staff has now begun to check high traffic washrooms at the end of their shifts in addition to their regular cleaning of all washrooms at the beginning of their shifts. Custodial Services has also taken steps towards increasing their casual staff pool so as to maintain service levels when full-time employees are away.
- **Energy Management and Utilities** has modified how they respond to temperature complaints, particularly through increased communication with customers. We have also begun implementing a proactive strategy to educate building occupants about how their thermostats work.
- **Parking Services** aims to improve communication with additional customer service training. Plans to address the challenge of meeting the demand for visitor parking are also in place.
- **Project Management/Design and Construction** is working on improving communication with clients by including clients more extensively in the design process as well as by reviewing and redistributing the workloads of Project Managers.

4. FINANCIAL ACCOUNTABILITY

One of the key areas of accountability for Facility Services is the use and management of its funding. Underlying the Department’s budgeting structures is the knowledge that the plans that are set in motion now will continue into the future. It is therefore necessary to ensure that all financial strategies be sustainable in the long-term.

While adhering to University and government regulations, the Department is always seeking new ways to succeed by improving on old practices. The Strategic goal of Financial Accountability is to foster an environment of fiscal responsibility that allows the Department to realize its vision and mission in accordance with those of the University.

“The Strategic Plan has increased our focus on activities we were already doing, such as the continuous monitoring of our budgets. We now have a formalized structure that highlights new ways to enhance our funding and reinforces our commitment to use our resources in the most efficient and effective ways possible.

The introduction of the Finance Module of MOSAIC, McMaster’s new Enterprise Resource Planning (ERP) software, motivated us to reassess and streamline our internal processes. Our goal was to ensure that our processes supported the requirements of the new system and also maximized use of the resulting output from MOSAIC to facilitate the ability of Facility Services to make informed decisions.”

-Julie Gienuisz, Manager, Business Services
Implemented Actions:

1. **Determined priorities that supported the Department’s Vision and Mission and developed a budget based on these priorities.**

Priorities have been developed that support the Department’s Mission and Vision in conjunction with other policies such as:

- Energy Management Plan (EMP) ([ppims.services.mcmaster.ca/plant/documents/EMP_PLAN.pdf](http://ppims.services.mcmaster.ca/plant/documents/EMP_PLAN.pdf))
- Campus Accessibility Action Plan (CAAP) ([ppims.services.mcmaster.ca/plant/documents/CampusAccessibilityPlan.pdf](http://ppims.services.mcmaster.ca/plant/documents/CampusAccessibilityPlan.pdf))
- Environmental Compliance Action Plan (ECAP)

These priorities remain a living document that shift based on needs and unexpected repairs or replacements. Operating budgets were developed based on the approved budget allocations from the University, which gave direction to our priorities and additional budget allocation requests.

2. **Fostered an environment of fiscal responsibility and continuously monitored expenditures within planned budgets.**

To do so, we

- prepared reports to track current and projected Departmental costs.
- created projection reports to enable Directors and Managers to track and forecast expenditures.
  - Reports are broken down into major expense categories such as salaries, wages, supplies, expenses, and recoveries.
- added actual information each month to facilitate Directors’ and Managers’ ability to revise forecasted expenditures.
- created monthly reports to give Directors and Managers an overview of all divisions’ current and projected financial positions.
- ensured the successful integration of Financial Services processes into the new PeopleSoft Enterprise Resource Planning (ERP) Finance Module.
- worked extensively with the Project Costing Module to ensure accurate reporting of costs for all capital projects.

3. **Reviewed and delivered greater efficiency and effectiveness.**

To do so, we

- streamlined procurement documents and processes to ensure that all necessary

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**Fast Facts: Business Services offers financial services to Facility Services, which in turn supports the McMaster community.** As Julie Gienuisz, Manager, Business Services says, this division is “support”

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“Business Services is continuously trying to find efficient ways to handle all financial aspects of the Department. Managing countless invoices and processing them in a timely fashion is essential. Doing so allows the department as a whole to purchase supplies so that they can continue to provide exceptional service to the McMaster community. The Strategic Plan provides us with the framework to do this.”

- Andrea Wilson, Accounting Clerk
Information is included when requests are sent out to potential suppliers.

- Developed templates for Requests for Expressions of Interest (RFEOIs), Requests for Proposals (RFPs), and Requests for Quotes (RFQs) to standardize the procurement of materials and services.
- Standardized service contracts to increase efficiency and ensure better prices.
  - Directors compiled lists of frequently used services, materials, and commodities.
  - These lists showed that 37 different service contracts (previously “systems contracts”) would be required to procure these goods and services quickly, efficiently, and with the knowledge that competitive pricing had already been addressed.
  - Detailed specifications were developed for the various contracts, RFQs were sent out to pre-qualified providers of the particular service or material, and, since all bidders had been previously qualified, the lowest bidder of each RFQ was awarded the service contract.
  - To date, 32 service contracts have been created, and 5 contracts will be completed in 2015.

**Fast Facts: Procurement is an important part of what Facility Services does: we receive hundreds of responses to RFEOIs, RFPs, and RFQs every year!**

4. **Adhered to the University’s and the Province of Ontario’s procurement guidelines.**

We did so by

- bringing Facility Services into compliance with the Broader Public Sector Procurement Guidelines.
  - Results show that this improvement led to significant financial savings.
- hiring a Contract Management and Procurement Engineer on a contractual basis to assist with the pre-qualification of consultants and large contractors for Design and Construction.
- consulting Internal Audit to ensure that Facility Services followed the Broader Public Sector Procurement Guidelines (BPSPG) when procuring goods and services.
  - Audit results show that Facility Services is in compliance.

**Facility Services has strengthened its fiscal responsibility through the creation of a new position to lead its Business and Finance team: our new Senior Manager, Facilities Finance, Shari McHugh, CPA, CA, CIA, assumed this position as of Dec. 8, 2014.**
Joe Emberson, Director of Energy Management and Utilities

Energy management strategies are important because they present an opportunity for significant financial savings; they reduce energy consumption by improving efficiencies in buildings; and they encourage users to be more conscious of their energy consumption. Changes in the latter can contribute to a climate of sustainability, responsible corporate citizenship, and environmental awareness across campus.

Along with energy management, Facility Services has taken measures to reduce McMaster’s environmental impact through recycling, water management, gardening, and other environmentally-conscious practices. Facility Services encourages all campus stakeholders to do the same.

The Goal for this Strategic Theme is to reduce energy costs and consumption across campus and to promote environmentally-sustainable practices. To this end, an Energy Management Plan has been created, implemented, and monitored. Setting challenging conservation targets and consistently monitoring and evaluating progress enables Facility Services to achieve its goals.

“The Strategic Plan has allowed our unit to see where we are now and to work towards a greater goal together. It has allowed us to improve upon specific areas and see where we are in relation to everyone else in Ontario and Canada. The Energy Management Plan incorporates McMaster community feedback, allowing for a more engaged and personalized sustainable community experience.”

-Joe Emberson, Director of Energy Management and Utilities
Implemented Actions:

1. *Created, implemented, and monitored an Energy Management Plan (EMP).*

Facility Services developed the 5-year Energy Management Plan (2013-2018) ([ppims.services.mcmaster.ca/plant/documents/EMP PLAN.pdf](ppims.services.mcmaster.ca/plant/documents/EMP PLAN.pdf)) with challenging but realistic targets in mind. One EMP policy, for example, is that all new buildings are to be Leadership in Energy and Environmental Design (LEED)-certified because LEED-certified buildings perform better than traditional buildings in terms of energy savings.

Some recently completed and ongoing projects include:

- **Grid Balancing Project:** In 2013, McMaster became the first Ontario University to implement a smart-grid platform as part of a network of large Ontario electricity users including hospitals, utilities, and industrial plants. The technology uses the inherent variations in major electricity-consuming equipment to balance the electricity system. (Complete)
- **Utilities Dashboard/UUCDBS:** See details on pages 9 and 21. (Complete)
- **Fume Hood Balancing Project:** A monitoring system for laboratory air quality was implemented in the ABB undergraduate wing. The system is operational and savings are being quantified. (Complete, but planning for implementation in other facilities is currently underway.)
- **Miscellaneous Control Systems:** The University Hall controls upgrade has been completed. (Completed, but a mechanical fan belt upgrade is currently underway.)
- **LED Lighting Replacements:** A pilot project has been completed in the TSH corridors. The results have been a 30% reduction in electricity consumption. (Completed, but implementation in GH and KTH is currently underway.)
- **Co-generation Proposals:** A detailed engineering study has been completed, and an application for an Ontario Power Authority incentive has been submitted. (Ongoing)
- **Building Exhaust Fans:** 77 exhaust fans and pumps have been identified for scheduled use. The contract to install controls has been awarded, and the project is currently being implemented. (Ongoing)
- **Fume Hoods Project:** Obsolete fume hoods have been removed from TSH. A preliminary engineering study for a Variable Air Volume (VAV) fume hood control in MDCL is in process. (Ongoing)
- **Retro-Commissioning:** A preliminary engineering study for retro-commissioning that will align the operation of energy consuming heating/cooling/lighting equipment with facility requirements in JHE and MDCL is in progress. (Ongoing)
- **Chilled Water Savings:** The reduction of water consumption through the conversion of cooled city water into the University’s chilled water loop has been completed in LSB, Mary Keyes, La Piazza, JHE, Psychology Building, TSH, Commons, and ABB. (Ongoing)

The EMP progress and the status of ongoing projects have been reviewed in regular meetings with University administration, and opportunities for improvement are being implemented.

2. *Sought opportunities to reduce the cost of the procurement of utilities.*
We have consistently monitored variances in the electricity, gas, and water markets, thereby enabling the identification of optimal prices, which are shared at quarterly meetings with University administration.

Energy budgets are tracked and reported on regularly, and we have conducted regular meetings with energy consultant companies. Facility Services also led the Request for Proposals for a new natural gas consultant for the South Western Ontario Universities Buying Group, and the consultant has now been retained.

3. *Explored initiatives to reduce consumption of energy on campus.*

Facility Services reduced campus-wide energy consumption by pursuing a series of energy management projects and communicating energy consumption trends and patterns to the McMaster community. After assembling a list of ongoing energy management projects, we compiled monthly reports on energy use in all buildings, which served the additional purpose of facilitating the regular reviews of EMP progress.

At the Annual Campus Sustainability Day, Facility Services gave Mills Library the award for the highest energy reduction in the Chasing the Peak initiative, in which the 8 campus buildings with the highest rates of energy consumption were challenged to reduce their energy consumption (see Tables 1 and 2). The Utilities Team also won an award for all of their hard work on this initiative. (For more details, see [dailynews.mcmaster.ca/article/faculty-and-staff-pitch-in-for-chasing-the-peak-environmental-challenge](http://dailynews.mcmaster.ca/article/faculty-and-staff-pitch-in-for-chasing-the-peak-environmental-challenge/).

![Chasing the Peak Initiative results at the Annual Campus Sustainability Day (October 16, 2014)](image)

**Table 1. Chasing the Peak results and equivalencies**

<table>
<thead>
<tr>
<th>Campus electricity reduction</th>
<th>Electricity reduction equivalent</th>
<th>Greenhouse Gases emissions avoided (CO₂ equivalent)</th>
<th>Electricity Cost savings ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17% (or 2.3 Megawatts)</td>
<td>583 average homes</td>
<td>19 metric tonnes or emissions from 790 BBQ propane tanks</td>
<td>$15,000</td>
</tr>
</tbody>
</table>

**Table 2. Electricity performance for top energy consuming buildings**

<table>
<thead>
<tr>
<th>Building</th>
<th>25-ABB</th>
<th>16-JHE</th>
<th>39-LSB</th>
<th>10-MML</th>
<th>51-MUSC</th>
<th>34-PC</th>
<th>24-IWC</th>
<th>56-ETB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>-3%</td>
<td>-2%</td>
<td>-5%</td>
<td>-24%</td>
<td>-5%</td>
<td>-5%</td>
<td>-11%</td>
<td>-5%</td>
</tr>
<tr>
<td>Rating</td>
<td>🙃</td>
<td>🙃</td>
<td>🙃</td>
<td>🙃</td>
<td>🙃</td>
<td>🙃</td>
<td>🙃</td>
<td>🙃</td>
</tr>
</tbody>
</table>

While Mills Memorial Library won the competition, everyone was a winner because everyone reduced their energy consumption!
Facility Services has also begun displaying energy consumption information for the McMaster community via the Productivity and Innovation Fund (PIF)-funded University Utility Consumption Database and Benchmarking System (UUCDBS) (see Figure 1). This project, which is also known as the Utilities Dashboard, was completed in March 2014: the system uses 29 screens located around campus to show campus performance by displaying up-to-date electricity consumption trends in comparison with historical consumption rates. See also pages 9 and 19 for a further discussion of UUCDBS.

Figure 1. An example of the statistics displayed in the UUCDBS project: comparative analysis of electricity used on campus from 2011-2014
Facility Services also initiated the Mac Kill-O-Watt Challenge, an energy challenge between Chester New Hall (CNH) and Kenneth Taylor Hall (KTH) during the winter/spring of 2013. KTH won for the highest final week reduction, while CNH won for the highest overall reduction. To celebrate this achievement, Facility Services planted a tree and held a luncheon for the occupants of both buildings.

Facility Services has done an inventory of equipment that consumes energy at high rates and has developed criteria for future equipment purchases that is attentive to rates of energy consumption. Other energy management projects include building retrofits, refurbishing the campus Heating, Venting, and Air Conditioning (HVAC) systems, building a community garden, and installing small-scale, renewable energy components.

4. **Implemented an Annual Waste Reduction Work Plan with the goal of diverting and reducing general waste on campus.**

We have been monitoring our waste programs through our “THIS, THAT & The OTHER” guide, which highlights individual waste streams such as paper recycling, cans/glass, and compost, among many other waste streams. Facility Services has explored waste reduction plans, and the most feasible strategies have been implemented, such as making new recycling waste containers available to the campus community, increasing the number of collection sites, and servicing them on a regular basis. We also collaborated with McMaster’s Office of Sustainability (mcmaster.ca/sustainability) to help analyze our annual waste audit data as well as our volume reports. The data analysis helps to guide our strategies for waste reduction and diversion on campus. The Waste Reduction Plan for 2013 was completed and published on the Facility Services and the Office of Sustainability websites, and a copy has been submitted to the Ontario Ministry of the Environment. Based on current data, McMaster’s diversion rate is 33%.

Custodians, Jamie Jacques and Nicole McLaughlin, showing the THIS (paper), THAT (plastics) & The OTHER (garbage) bins that help the McMaster community reduce its waste by diverting some of it into recycling streams.

For more details about what goes where, see mcmaster.ca/sustainability/documents/Waste program - main campus guide.pdf.
6. SPACE PLANNING AND UTILIZATION

Robert Craik, Coordinator, Design and Space Management

As a compact campus with attractive open spaces and a balance of academic facilities and campus life amenities, McMaster has grown into an environment with a full variety of learning, working, living, and recreational activities. To support this ongoing growth and in collaboration with many university stakeholders, Facility Services has participated in the development of recommendations for learning space standards that support different teaching modes as well as new and innovative pedagogical styles.

The campus has become a place that serves many communities in different ways while continuing to be a resource for different groups who may use facilities, such as the athletic complex or the daycare. Facility Services seeks to champion the balance McMaster has struck between the academic life of the University and its recreational green space to provide a full and rich experience for students, faculty, staff, and neighbours. The goal of this Strategic Theme is to optimize space utilization on McMaster’s multiple campuses and thereby to support the University in achieving its core mission.

“In Space Planning and Utilization, progress is being made in all areas of the Strategic Plan. One example is the implementation of Archibus, which is currently proceeding in coordination with the Council of Ontario Universities (COU) and BRG Resource Group. It was implemented through a successful Ontario Productivity and Innovation Fund (PIF) grant in collaboration with ten other universities. This new database software promises to streamline our space auditing, planning, and reporting functions.”

-Robert Craik, Coordinator, Design and Space Management
Implemented Actions:

1. **Stewarded the continuous development of the Campus Plan.**

In order to strengthen our space planning ability in relation to the McMaster University Campus Master Plan (mcmaster.ca/opr/html/opr/our_campus/campus_plan/campus_master_plan.html), which outlines a 30-year vision for campus growth and renewal, Facility Services has retained a Coordinator, Design and Space Management. The Coordinator uses architectural principles in the preparation of drawings and reports that inform the potential development of plans for renovations, additions, and new facilities. This work is supported by user groups, administrators, consultants, suppliers, staff, and authorities with jurisdiction.

A search is ongoing for a Manager of Space Planning and Utilization, who will be responsible for all University space information, space utilization, space needs requests, as well as all associated tools, systems, and databases. The Manager will develop and implement programs and strategies using an integrated space planning and management framework.

2. **Established and implemented learning space standards that enhance the student experience.**

The Facility Services Space Planning and Utilization division actively participates in the Council of Ontario Universities’ (COU) ongoing Committee on Space Standards and Reporting. This province-wide committee continually reviews and makes recommendations about university space standards, requirements, and costs and oversees the triennial space survey.

At McMaster, a Classroom Design Sub-Committee was initiated to address learning space needs. The Committee was co-chaired by the Assistant Vice President & Chief Facilities Officer, Facility Services and the Associate Vice-President (Teaching and Learning) & Director, McMaster Institute for Innovation and Excellence in Teaching and Learning (MIIETL). The committee was comprised of University administrators, staff, faculty, and student representatives. This committee, which was struck in February 2014 and concluded in May 2014, made use of the expertise of its members and also heard from external architects and furniture suppliers as part of a detailed exploration that could inform updated standards for the physical design of learning spaces at McMaster. For an example of the kind of statistical information they used, see Figure 2. The Committee made the following recommendations:

1. Attention needs to be paid to the design of flexible, non-classroom student spaces.
2. Small and large classrooms need to support different teaching styles.
3. Existing classrooms need to be better utilized.
4. Active learning spaces need to be utilized for testing to reduce strain on scheduling testing-specific spaces.
5. Active learning requires more square footage per seat and advanced technology (funding needs to increase to allow for this).

The Committee further recommended implementing the following next steps:

1. Plans for renovations and new spaces need to be aligned with different pedagogical styles and intended outcomes.
2. Class sizes need to decrease.
3. 15% of classrooms need to be renovated/updated at $5.5 million annually for the next seven years to achieve 96% completion.
4. Department classroom scheduling information needs to be consolidated and centralized.
5. Classroom utilization data needs to be connected with PeopleSoft.
6. The classroom scheduling process for Registrar-controlled classrooms and non-Registrar controlled classrooms need to become equally transparent and relatable so as to increase utilization.

The Committee recommended specific models for new and renovated learning spaces:

1. Basic and technology-rich active learning, non-tiered classrooms.
2. Basic and technology-rich large tiered lecture halls.
3. Flat floor flexible teaching/testing spaces to relieve immediate bottlenecks/space needs.

3. Developed processes to ensure the effective and efficient utilization of space.

An issue that undergirds and supports the space planning process is the need for accurate floor plans. Without them, planning future space well is impossible. With every renovation, addition, or new construction project at McMaster, the Space Planning and Utilization Department is continuously utilizing consultant-supplied drawings and in-house surveys to update its master collection of quick-reference building floor plans.

Facility Services conducted audits of campus space and created a database of this information, including details about the use of labs and classrooms. This data assists Facility Services in monitoring and tracking changes in how effectively space is being used.

Facility Services continues to gather information from campus stakeholders to ensure that their needs are being met and that space is being used in the best way possible. For example, some under-utilized spaces have recently been identified by faculties on campus. There is an opportunity for these faculties to save money under McMaster’s New Budget Model by consolidating usage into newly-renovated, flexible spaces and turning over the resulting wholly unused spaces to other departments where space needs are not being met. This spatial reconfiguration could potentially make approximately 22,000 net square feet of interior space available.

Fast Facts: Campus building space is 568,798m², so repurposing 2,044m² (the metric equivalent of 22,000ft²) is an increase of 0.003%. While that may seem insignificant, it is the equivalent of approximately 22 typically sized classrooms.

A Space Management Plan that considers the Council of Ontario Universities (COU) space utilization recommendations has been created, and the first draft is under review. We have also created a Space Request Form to facilitate communication with campus stakeholders requesting long-term use of alternate, new, or additional space. This is a process that enables Facility Services to organize and prioritize space requests and helps to ensure that they are handled in a timely fashion. To date only a small number of forms have been submitted, and the process will be reviewed in 2015.
4. **Implemented space planning technology that supports the effective utilization of space.**

Along with 21 other member institutions of the Council of Ontario Universities (COU), Facility Services has acquired and is implementing Archibus space management software, which will help McMaster improve its space management and planning. This software will help to streamline administrative reports on how much space McMaster has by category, by building, or by department as we compare our space usage to that of other institutions. All of McMaster’s quick-reference building floor plans and space inventory data have been incorporated into this software. The results are now being reviewed and vetted.

Department staff have had preliminary training on the new Archibus software for internal space planning and campus maps. The key to the successful use of this software is accuracy through the vigilant maintenance and updating of the drawings and data from which reports can be generated. The ease with which this is done will be a good indication of the effectiveness of the software.

**Fast Facts: There are three criteria that can determine if a space is used well: the number of hours of weekly use, seat occupancy, and room capacity. If a space is not often used, or is a big space that is only used by a small number of people, then there is an opportunity to make it more effective.**

5. **Fostered community engagement and inclusiveness.**

We are in the process of developing space standards that will be community-friendly, such as including multi-purpose rooms, benches, and other spatial designs that facilitate community engagement. We will also aim to develop related partnerships with bodies like the City of Hamilton, the Conservation Authority, and the Royal Botanical Gardens.

**All new construction and renovations to buildings are completed in accordance with the Ontario Building Code, the latest update of which was released on January 1, 2015. The OBC includes significant attention to issues of accessibility based on the Accessibility for Ontarians with Disabilities Act (AODA).**

6. **Championed a barrier-free and accessible campus.**

In 2012, Facility Services conducted a campus accessibility audit. Out of those results, we created the Campus Accessibility Action Plan (CAAP) ([ppims.services.mcmaster.ca/pplant/documents/CampusAccessibilityPlan.pdf](ppims.services.mcmaster.ca/pplant/documents/CampusAccessibilityPlan.pdf)) with the intention of increasing the accessibility of McMaster campus facilities and ensuring a minimum level of accessibility in all campus buildings. CAAP is a 5-year program that McMaster funds at $334,000/year, and it guides the practices of
Facility Services and the McMaster Accessibility Council (MAC) in achieving minimum accessibility priorities on campus. In some buildings, therefore, building code requirements have been exceeded based on the CAAP guidelines. The Assistant Vice President and Chief Facilities Officer is a member of MAC, and other senior management of Facility Services regularly attend MAC meetings. By participating in MAC, Facility Services takes a more active role in ensuring an accessible, barrier-free campus. Consultation with stakeholders to improve campus accessibility is continually taking place.

CAAP focuses on providing an accessible campus in the following areas:

- **Building entrances**
  - Ensure at least one fully accessible entrance at ground level by building ramps and installing automatic door operators for exterior doors.

- **Interior corridors**
  - Ensure that all public corridors on all floors inside a building are accessible.

- **Public washrooms**
  - Ensure that there is at least one barrier-free washroom that complies with current standards and codes per built building.

- **Fire alarm systems**
  - Update older fire alarm systems to provide visual alarms in addition to the audible alarms.

- **Elevating devices**
  - Provide voice annunciation in campus elevators.

- **Drinking fountains**
  - Provide at least one water fountain at accessible height per building.

Completed projects include:

- Automatic door operators or exterior access improvement for DeGroote School of Business, Tandem Accelerator, and General Sciences Building
- Accessible washrooms in the McMaster University Student Centre (MUSC) and Thode Library
- Accessible drinking water fountains in University Hall and Gilmour Hall
- Fire alarm upgrades in MUSC
- Voice annunciation in Thode Library and Togo Salmon Hall elevators

Ongoing Projects:

- Automatic door operators in Alumni House, Applied Dynamics Lab, and Ivor Wynne Centre
- Interior corridor access improvement for Ivor Wynne Centre
- Accessible washrooms in Gilmour Hall, Institute for Applied Health Sciences, Alumni House, and Applied Dynamics Lab
- Accessible drinking water fountains in Refectory and Tandem Accelerator
- Fire alarm upgrades in Hamilton Hall, John Hodgins Engineering Building, Psychology Building, Life Sciences Building, and Institute for Applied Health Sciences
- Voice annunciation for all campus elevators

**Fast Facts:** Approximately 44% of McMaster buildings have a barrier-free entry and 68% have a barrier-free interior.
7. ASSET MANAGEMENT

The value of McMaster University’s physical assets—its buildings—is approaching $2 billion. As the site for the delivery of the core teaching mission of the University, the buildings are often the lasting visual image that faculty, staff, students, and visitors associate with McMaster. Managing, enhancing, and preserving the physical campus speaks to the core function of Facility Services: we are committed to providing a healthy, safe, supportive, and inspiring physical environment for McMaster’s students, faculty, staff, and guests.

The goal for this Strategic Theme is to ensure that physical building assets are maintained following a strategic plan that supports the core mission of the University. The management of campus physical assets must be carefully planned. This planning is supported by the funding that we receive from both the provincial government and McMaster’s internal operating budgets for investing in infrastructure. As one of the University’s most critical assets, the utilities infrastructure must also be given special consideration in this Strategic Theme. A well-documented, detailed Asset Management Plan (AMP) that considers future costs, building conditions, maintenance backlogs, as well as health and safety is necessary to support and sustain campus buildings, which are vital to the achievement of the University’s core missions.

“The growing Deferred Maintenance backlog is a serious issue facing all Canadian universities. Our Asset Management Plan (AMP), however, details a proactive approach to addressing the backlog. The University has been incrementally increasing its spending on Deferred Maintenance, and we continue to prioritize the ‘prioritized priorities’ by selecting the most critical Deferred Maintenance projects to ensure the continuity of University operations.”

-George Vadakken, Manager, Environmental/Asset Management Systems
Implemented Actions:

1. **Provided an asset and infrastructure base that supports the core academic mission of the University.**

   Facility Services collaborated with stakeholders to ensure that we support the core academic mission of McMaster. To do so, we developed the Capital Plan (ppims.services.mcmaster.ca/pplant/documents/2014 Capital Plan.pdf), a 5-year plan that brings more focused plans, including the Energy Management Plan (EMP) (ppims.services.mcmaster.ca/pplant/documents/EMP PLAN.pdf), the Asset Management Plan (AMP) (ppims.services.mcmaster.ca/pplant/documents/AssetManagementPlan.pdf), the Campus Accessibility Action Plan (CAAP) (ppims.services.mcmaster.ca/pplant/documents/Campus Accessibility Plan.pdf), among others, into a single document that guides the growth of McMaster’s physical assets. We have continued to gather information from stakeholders that will inform the Space Management Plan, which is in the final drafting stages. Collaboration with stakeholders on shortcomings is ongoing.

2. **Ensured that Facility Services has a clear understanding of the condition and functional performance of University assets.**

   Aging buildings and their attendant maintenance costs are an industry-wide issue in higher education (see Figure 3). In 2012, Facility Services embarked on a large scale comprehensive audit of every building and component campus-wide to get a concrete idea of the conditions of McMaster’s buildings. In the audit, we detailed the full scope of the condition of various buildings, including their Facility Condition Index (FCI) and Deferred Maintenance (DM) backlog. Based on these results, the Asset Management Plan (AMP), version 2 was developed and adopted in December 2012. (Version 1 had been adopted in August 2012, but was found to be inadequate when the audits were completed, so version 2 was developed shortly thereafter.)

![Figure 3. National and McMaster data on age of building as a percentage of total building area](image)

**The September 11, 2014 update of the AMP contextualizes this graph by saying that, “[t]he Canadian Association of University Business Officers released a study in June 2014 that compared deferred maintenance across the Canadian university sector.**

**Of 49 institutions representing over 4000 buildings, the average deferred maintenance per gross square foot was reported as $45.97, with the McMaster average 22% higher at $55.87.**

**This deferred maintenance backlog is a function of the age of McMaster’s campus as well as current and historic funding levels. Figure [3] compares McMaster with the national averages for building age of construction in both 2013 and 2018. McMaster generally has a much older campus infrastructure[] than the national average, which contributes to its higher deferred maintenance backlog.”**
Updates to the facility condition database, VFA, are ongoing as projects are completed. The prioritization and re-prioritization of projects is based on building and utilities conditions and feedback from maintenance supervisors and trades staff. These regular updates ensure that the data on building systems and sub-systems remains current. Facility Services has also developed a multi-year building audit plan in which approximately 33% of campus buildings will be audited in 2015, 2016, and 2017. Following this audit, 20% of buildings will be audited annually on a rotating basis to ensure that there is a complete campus audit every 5 years. Facility Services also provides the University with annual updates on the AMP progress with regard to the FCI and DM backlog, showing how funding levels and renewal programs affect the condition of assets (see Figure 4). The latest update to the AMP was provided in September 2014.

Figure 4. Backlog $ forecast for Prioritized Priorities 1, 2, and 3

The September 11, 2014 update of the AMP states that this graph “illustrates the forecasted Priorities 1, 2 and 3 backlog for the next 10 years. This graph is based on the current survey of deferred maintenance.”

3. Preserved the asset value and integrity through sustainable, cost-effective maintenance practices.

The operating budget for Maintenance has increased by $300,000. These additional funds have allowed Facility Services to hire four new permanent staff members—two carpenters and two electricians—who can focus on building maintenance and repairs. The additional staff means that Facility Services is able to repair building components and systems that would otherwise have made their way into the deferred maintenance backlog. Investing in maintenance activities ensures more usable classrooms and teaching spaces, research facilities, and building infrastructure for the McMaster community, which supports the University’s core mission.

Furthermore, the funding increase facilitates the ability of Facility Services to anticipate problems, in addition to responding to immediate concerns. To this end, we are developing a proposal to expand the current Preventative Maintenance (PM) plan to also address critical building systems and subsystems for all academic buildings on campus. The proposal involves documenting different assets’ maintenance needs and their positions in the Priority Matrix in order to prevent premature failure and extend system functionality. The staffing, material, and equipment requirements to implement the expanded PM plan will also be documented to determine its feasibility and cost.

4. Maintained an effective utilities network that supports campus facilities.

In addition to ongoing repairs, a Preventative Maintenance (PM) program for the campus utilities network has been completed and meets the Independent Electricity System Operator (IESO) and the Technical Standards & Safety Authority (TSSA) requirements. We track the performance of the PM program on a monthly basis based on tradespeople’s and technicians’ work completion rates, and we see the benefits of this investment with prolonged
equipment life and system operating time. During the 2015 audits, we will also perform condition assessments to judge the effectiveness of the standardized system checks we have put in place through the PM program.

5. Developed and maintained an Asset Management Plan and rationale that will ensure that funding levels are sustainable.

The AMP (ppims.services.mcmaster.ca/pplant/documents/Asset Management Plan.pdf) includes a funding strategy to tackle the growing Deferred Maintenance (DM) backlog. The funding strategy involves the $2 million incremental increases to DM funding for 5 years, ending with a total allocation of $10 million in the fifth year. Since the implementation of the first AMP, Facility Services has received $16 million (2012/2013-2014/2015), including a one-time allotment of $2.5 million (2012-13), the $2 million Asset Management Base Increase, another one-time allotment of $1 million (2013-14), and the $4 million Asset Management Base Increase (2014-15). This is an additional injection of $9.5 million in 3 years, which has been used to fund various DM projects across campus and has made a substantial difference in the projects that Facility Services can address. Some of the major DM projects that this funding has enabled include:

- Repairs and waterproofing of building foundations in Burke Science Building, Hamilton Hall, Mills Library, Life Sciences Building, General Sciences Building, Togo Salmon Hall, and Kenneth Taylor Hall
- Elevator upgrades in Thode Library and General Sciences Building
- Window replacement projects in Kenneth Taylor Hall, Chester New Hall, Togo Salmon Hall, John Hodgins Engineering Building, University Hall, and General Sciences Building
- Roof replacement projects in Burke Science Building, Kenneth Taylor Hall, and Gilmour Hall
- Air handling unit replacements and ventilation upgrade projects in Nuclear Research Building, Commons Building, and Mills Library
- Electrical work, including an electrical substation replacement, in Gilmour Hall and various panel replacements in Life Sciences Building
- Fire alarm system replacements in various buildings

Under the supervision of Project Field Supervisor, Eugene Stodolak, a Roque Roofing employee torch-applies a roof membrane to University Hall.

University Hall’s former roofing system had begun to fail and its replacement was, therefore, moved up on the Deferred Maintenance program. The new roof uses a modified bitumen membrane system that has an expected lifespan of 20 years. The project is being carried out in multiple stages to ensure that disruption to building occupants and students is minimal. The project was completed in January 2015.

Replacing the roof protects the integrity of this heritage-designated building and supports the core mission of the University.
The prioritization of Deferred Maintenance projects—the annual DM program—is decided based on the condition and functional performance of University assets as noted in the VFA database, system breakdown maintenance data, and feedback from maintenance supervisors. After looking at the condition of the assets, Facility Services prioritizes the building systems and sub-systems that are critical to the University’s mission, continuous operation, and that affect the health and safety of building occupants, and these recommendations are then approved by McMaster’s Board of Governors’ Planning and Building Committee. For a breakdown of how funds were spent in 2012/13-2014/15, see Figure 5.

The increased funding and resultant repairs have meant that McMaster’s FCI (excluding residences) was reduced by 1.17%. Though the increase in funding had an enormous effect—the FCI improvement translates to a $9 million reduction in the DM backlog (see Table 3)—the FCI remains affected by ongoing backlog deterioration, the addition of new projects to the backlog, and inflation.

Table 3. FCI Update as of Sept. 11, 2014

<table>
<thead>
<tr>
<th>Description</th>
<th>January 2013</th>
<th>Update as of Sept. 11, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Including Residences</td>
<td>Total Excluding Residences</td>
</tr>
<tr>
<td>Number of buildings</td>
<td>56</td>
<td>44</td>
</tr>
<tr>
<td>Total Gross Area of buildings</td>
<td>568,798 m²</td>
<td>475,054 m²</td>
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<td>Current Replacement Value</td>
<td>$1.75 billion</td>
<td>$1.56 billion</td>
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<tr>
<td>FCI*</td>
<td>18.2%</td>
<td><strong>18.89%</strong></td>
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<tr>
<td>Deferred Maintenance backlog (Priorities: 1 to 5)</td>
<td>$335 million</td>
<td>$307 million</td>
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<tr>
<td>Deferred Maintenance backlog (Priorities: 1 to 3)</td>
<td>$317 million</td>
<td>$295 million</td>
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<tr>
<td>Prioritized Priorities Backlog</td>
<td>N/A</td>
<td>$159 million</td>
</tr>
</tbody>
</table>

* FCI, Facility Condition Index, is a numeric score reflecting the asset condition. It is the ratio of the value of Deferred Maintenance to the Current Replacement Value of the asset.
Residence buildings are allocated $3.1 million dollars for all capital expenditures. This fund is used for projects including, but not limited to, accessibility improvements; environmental compliance projects; functional improvements, such as painting, replacing furniture, among other improvements; energy efficiency projects; and Deferred Maintenance (DM) projects. Approximately $1.8-$2.2 million of this fund is spent on DM projects in any given year. Figure 6 shows the effect of the use of funds for DM projects on the Residence Facility Condition Index (FCI) based on the current DM spending model (averaged out to $2.0 million a year). The current FCI of 9.63% is projected to decrease to approximately 2.3% by 2024 (see Figure 6).

Figure 6. Estimated residence FCI decrease with funding maintenance

Fast Facts: From the point of view of Facility Services, a building is not just a building. As the Manager, Environmental/Asset Management Systems, George Vadakken, explains,

“A building is comprised of many systems and subsystems. The main systems are the Building Envelope (roofing, windows, doors, wall construction), Interior Finishes (floor, ceiling, walls), Vertical Transportation (stairs, elevators, escalators), Fire Protection, Mechanical Systems (heating, venting, and air-conditioning [HVAC] and plumbing), Electrical Systems, Structure, and Site/Grounds.”

We might think of a building as a human that needs to live and breathe: if one system has problems, it will create problems for other systems.
8. PROJECT MANAGEMENT

On any given day, Facility Services is managing over $100 million in multi-year construction projects and supervising approximately 40 large and small projects, consisting of new buildings, renovations, and mechanical, electrical, and maintenance jobs across the University’s various campuses. Facility Services developed the Project Management Methodology (PMM) to standardize the prioritization and organization of our projects; it is designed to support the goal of delivering excellence on time and on budget to a satisfied customer.

The goal of this Strategic Theme is to develop and maintain sustainable structures, tools, teams, and practices of project management. The Department’s goal is to guide customers through each phase of its projects and to complete phases by set deadlines. Achieving this goal necessitates the adherence to carefully constructed strategies that prioritize work flows to employ the Department’s time and resources most effectively.

“The Facility Services Strategic Plan has helped the Design and Construction group focus its efforts to support the Vision and Mission of the University. The Strategic Plan helps our team deliver facilities that attract the brightest minds to McMaster, which will help to preserve its status as a world-class university. Our team is committed to delivering projects on time and on budget to a satisfied client. Delivering projects efficiently enables the University to get the best value for its money, and, through these savings, frees up resources to support other McMaster priorities. The development and implementation of the Project Management Methodology has helped to increase our efficiency and our communication with clients; it has been beneficial for everyone involved.”

-Ehab Kamarah, Director, Design and Construction
Implemented Actions:

1. **Developed the Project Management Methodology (PMM) to optimize project delivery.**

The Facility Services team is committed to effectively managing projects from initiation to completion by standardizing common operations, so we have developed and implemented the PMM ([ppims.services.mcmaster.ca/pplant/documents/PMM.pdf](http://ppims.services.mcmaster.ca/pplant/documents/PMM.pdf)) for all projects carried out by Design and Construction. The PMM is important because it facilitates communication with stakeholders, compliance with government regulations and McMaster policy, and the completion of projects on time and on budget. The development and implementation of the PMM—which leads stakeholder groups, including our division and other Facility Services divisions, contractors, architects, engineers, and, of course, our clients, through the various phases of a project—has ensured effective and clear communication, particularly as it integrates client design requirements into the design process.

The PMM acts as a checklist for what each phase of construction entails. This document enables all team members of the Design and Construction group to follow the status of each phase of a given project. With the systematization of the process of project management, staff have found that work flows have become more efficient and effective, and project components have become more quantifiable, making their success easier to measure.

2. **Delivered projects on time and on budget to a satisfied customer.**

To ensure that projects are delivered on time and on budget, three full-time Projects Directors have been hired to oversee the work of the Project Managers. Projects Directors then report on various projects’ progress to the Director of Design and Construction on a weekly basis. The increased supervision that these positions provide has enabled us to increase our annual construction project volume from approximately $50 million to approximately $85 million between 2013/14 and 2014/15. Projects Directors, Project Managers, and Field Supervisors implement consistent service levels to ensure efficient and effective service delivery. Projects Directors’ reviews of project progress are facilitated by the PMM, which assists in organizing projects so check-ins are detailed, quick, and thorough. Reviews include the documentation of service delivery in terms of budget, timeliness, quality, supervision, effective communication, and staff training.

We have heard your feedback from the 2014 survey and have implemented changes, as discussed on page 14 of this document. For more details, please see our Key Performance Indicators on pages 40-41.

3. **Enhanced Project Managers’ and Field Supervisors’ skill sets to support the PMM.**

*Fast Facts: In Facility Services, building projects have 8 phases: Initiation, Planning, Execution, Pre-Construction, Construction, Post-Construction, Control, and Closure.*
Our Project Managers and Field Supervisors are highly skilled professionals who have extensive experience in managing construction projects. By training, most of them are either architects or mechanical, electrical, or civil engineers. They are trained and experienced in developing projects’ scopes, budgeting, tendering, supervising construction projects, and meeting tight deadlines. They are committed to delivering projects on time and on budget to satisfied clients.

All Design and Construction staff have been trained on all computer software that supports Design and Construction work, including Excel, Microsoft Project Manager, as well as the newly implemented ERP. All staff have also been trained on and follow the Broader Public Sector Procurement Guidelines (BPSPG). Having a list of pre-qualified vendors and service providers readily available makes hiring contractors, such as general contractors, sub-contractors, consultants, architects, among others, a simple matter because they have been tested and have been proven to be consistently effective. This strategy also means that the Department is giving opportunities to a variety of companies.

4. Delivered the highest quality construction through Facility Services’s building standards.

Facility Services has made constant refinements to the University’s Construction Standards, which is a technical document that specifies the materials and systems to be implemented in all new construction and renovation projects. We review projects and collect cost-per-square-foot data for benchmarking and future reference in a database. This process makes estimating costs for future projects easier and more efficient.

Fast Facts: Watch for major construction updates on:
- McMaster Health Campus
- L.R. Wilson Hall
- Hatch Engineering Centre for Experiential Learning (ExCEL)
- Dr. Robert and Andrée Rhéaume Fitzhenry Studios and Atrium

“Effectively managing project schedules, budgets, and resources is essential for the success of any project. The Strategic Plan outlines a project management objective framework that we follow in the implementation of all of our projects to ensure that success is achieved. A satisfied customer is our key objective.”

-Roland Mech, Projects Director
Discuss “Parking is more than two white lines and asphalt. It’s also about great customer service, sustainability, transportation demand management, and transportation infrastructure improvement.”

- Terry Sullivan, Director of Security and Parking Services
Implemented Actions:

1. **Optimized parking revenue.**

We have increased visitor parking usage by 4.61% (from 28,787 users in 2013 to 30,178 users in 2014), and we have also increased parking enforcement, which has led to an increase in the number of tickets issued. The overall number of tickets issued has decreased, however, with the installation of automated parking systems (the gates), which was an update from the older kiosk system as well as because of an increased number of special events traffic redirects (when our staff directs traffic during special events so that the potential for visitor error is reduced). In September 2014, there were 372 tickets issued, which is down 55% from September 2013, for example (see Figure 7 for a breakdown of hours worked and tickets issued by month from May to September 2014). We are also improving our process for the collection of unpaid tickets by increasing the number of collection calls. Data to track lot usage is ongoing, and updates are available monthly (parking.mcmaster.ca).

![Figure 7. Hours of enforcement in relation to tickets from May-September 2014](image)

2. **Delivered parking services effectively and efficiently to our customers.**

In order to improve our customer service, we have opened a kiosk at the Campus Store. This location is increasingly popular with the campus community due to its proximity to the Student Centre. To get feedback on our overall customer service, Parking Services also participated in the Facility Services customer satisfaction survey, and some results of the survey are discussed on page 14 of this document. We also did a cashless payment survey, and the results revealed that the majority of the McMaster community is in favor of a cashless parking payment system. Effective January 1, 2015, the number of pay stations accepting cash on campus was reduced from 12 to 4 (see Figure 8 for a breakdown of types of payment used for parking in September 2014).

Meetings with stakeholders are ongoing. We met, for example, with the Registrar’s Office to plan for Fall Preview to ensure that prospective students had an enjoyable experience at McMaster from start to finish. We also met with the Faculty of Engineering for the Bay Area Science and Engineering Fair (BASEF) and the Engineering Open House to address their parking needs, in addition to meeting with the Athletics and Recreation Department for parking-related issues for Ti-Cats and Marauders games. We are also working with the Ron Joyce Centre, the Downtown Centre, and the new McMaster Health Campus to provide parking services that meet customer needs.

![Figure 8. Proportions of parking payments used in September 2014](image)
3. **Provided optimal parking for the campus community.**

We are working on optimizing parking with regard to Accessibility for Ontarians with Disabilities Act (AODA) legislation. Questions about this legislation were included in the Facility Services survey, and we are currently reviewing the results. We are continuing to improve sidewalks and curb cuts (the dips that bring the sidewalk to street level at crosswalks), while also making other improvements to increase accessibility for campus members and visitors. Parking Services is also managing parking acquisition for the McMaster Health Campus (MHC) and the Downtown Centre (DTC), and we are dedicating resources to maximize parking at both locations. Discussions to improve the reciprocal parking process—meaning that drivers would have a pass that works in McMaster Innovation Park (MIP), McMaster Automotive Research Centre (MARC), and the main campus—are also in progress.

### Fast Facts: Parking Services Statistics

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of parking spaces</td>
<td>4415</td>
</tr>
<tr>
<td>Number of active permits in September 2014</td>
<td>2900</td>
</tr>
<tr>
<td>Number of parking gates</td>
<td>41</td>
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<tr>
<td>Number of pay stations</td>
<td>12</td>
</tr>
<tr>
<td>Number of intercoms and cameras</td>
<td>53</td>
</tr>
</tbody>
</table>

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**Fast Facts: Did you know that Parking Services works to improve transportation across campus, not just in terms of parking? Some initiatives and projects include:**

- Parking lot repairs
- Sidewalk repairs
- Collaborations with the Energy Management and Sustainability Engineer
- Collaborations with the City of Hamilton
**Key Performance Indicators (Q2 2014) (mcmaster.ca/vpadmin/KPI.html)**

**Mission:** To deliver service excellence on time and on budget to a satisfied customer. We are committed to providing a healthy, safe, supportive, and inspiring physical environment conducive to learning, teaching, research, community partnering and the attraction and retention of quality students, faculty, and staff.

<table>
<thead>
<tr>
<th>Business Area</th>
<th>Strategic Objectives</th>
<th>KPI Code</th>
<th>KPI (By quarter unless otherwise indicated)</th>
<th>Target</th>
<th>Actual To-Date</th>
<th>G6 Benchmark (if applicable)</th>
</tr>
</thead>
</table>
| Custodial     | • Provide Custodial costs at or below the Ontario Association of Physical Plant Administrators (OAPPA) average  
• Provide custodial service to assigned campus buildings and auxiliary services within established service levels | FS 1.0 | $/Square Foot (sf) | $1.58 | $1.57 | 2012/13 OAPPA average: $1.58/sf |
|               |                      | FS 1.1   | Frequency of compliance with established service levels (in %)* | 85%    | 76%            | n/a                           |
| Maintenance   | • Provide Maintenance costs at or below the Ontario Association of Physical Plant Administrators (OAPPA) average  
• Perform repair maintenance and renovation work within the work-priority guidelines | FS 2.0 | $/Square Foot (sf)** | $1.67 | $1.18 | 2011 OAPPA Average: $1.67/sf |
|               |                      | FS 2.1   | Frequency of compliance with established service levels (in %) (Priority 1)*** | 95%    | 83%            | n/a                           |
|               |                      | FS 2.2   | Frequency of compliance with established service levels (in %) (Priority 2) | 90%    | 81%            | n/a                           |
|               |                      | FS 2.3   | Frequency of compliance with established service levels (in %) (Priority 3) | 70%    | 73%            | n/a                           |
| Grounds       | • Provide grounds costs at or below the Ontario Association of Physical Plant Administrators (OAPPA) average  
• Provide complete property/landscaping seasonal programs  
• Provide snow removal services | FS 3.0 | Operating cost of the unit (in $/Acre) | $42.07 | $27.33 | 2012/13 OAPPA average: $42.07/Student Fulltime Equivalent (FTE)/Acre |
<p>|               |                      | FS 3.1   | Frequency of compliance with established service levels (in %) | 100%   | 97%            | n/a                           |
|               |                      | FS 3.2   | Frequency of compliance with established service levels (in %) | 100%   | 96%            | n/a                           |</p>
<table>
<thead>
<tr>
<th>Business Area</th>
<th>Strategic Objectives</th>
<th>KPI Code</th>
<th>KPI (By quarter unless otherwise indicated)</th>
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</tr>
</thead>
</table>
| Construction             | • Provide construction administrative costs at or below the Ontario Association of Physical Plant Administrators (OAPPA) average  
                          • Deliver assigned projects on time and on budget to a satisfied customer                                                                                                                                              | FS 4.0   | $/Square Foot (sf)                                         | $0.36  | $0.30          | 2012/13 OAPPA Average: $0.36/sf |
|                          |                                                                                                                                                                                                                      | FS 4.1   | % projects on time                                         | 100%   | 95%            | n/a                          |
|                          |                                                                                                                                                                                                                      |          | % projects on budget                                       | 100%   | 92%            | n/a                          |
|                          |                                                                                                                                                                                                                      |          | % projects not on time or budget                           | 0%     | 1%             | n/a                          |
| Utilities                | • Provide utilities costs at or below the Ontario Association of Physical Plant Administrators (OAPPA) average  
                          • Provide utilities to all campus buildings with no service interruptions                                                                                                                                            | FS 5.0   | $/Square Foot (sf)                                         | $3.29  | $3.24          | 2012/13 OAPPA Average: $3.29/sf |
|                          |                                                                                                                                                                                                                      | FS 5.1   | % of uninterrupted utility service                        | 100%   | 99.95%         | n/a                          |
| Logistics Services       | • Provide the campus with logistic delivery services as per assigned schedules and service levels                                                                                                                                 | FS 6.0   | Frequency of compliance with established service levels (in %) | 100%   | 100%          | n/a                          |
| Mail Services            | • Provide mail services as per service standard                                                                                                                                                                     | FS 6.1   | Frequency of compliance with established service levels (in %) | 100%   | 100%          | n/a                          |
| Parking Services         | • Promote carpooling by marketing carpool program with new initiatives  
                          • Improve undergrad parking space to student ratio                                                                                                                                                                     | FS 7.0   | Increase % of carpool permits/quarter                       | 2%     | 4%            | n/a                          |
|                          |                                                                                                                                                                                                                      | FS 7.1   | Ratio of designated undergrad spaces per undergrad student   | 1:17   | 1:15****       | n/a                          |
| Residence Facilities     | • Custodial and Maintenance costs  
                          • Enhance student learning, working, and living experience through responsive customer-focused residential facility services.                                                                                           | HC 2.0   | Student satisfaction rate – “cleanliness of the bathroom facilities” | 80%    | 76%           | n/a                          |
|                          |                                                                                                                                                                                                                      | HC 2.1   | Student satisfaction rate – “cleanliness of common/study rooms” | 80%    | 73%           | n/a                          |
|                          |                                                                                                                                                                                                                      | HC 2.2   | Student satisfaction rate – “timeliness of repairs”         | 85%    | 85%           | n/a                          |
|                          |                                                                                                                                                                                                                      | HC 2.3   | Custodial frequency of compliance with established service levels (Priority 1) | 90%    | 96%           | n/a                          |
|                          |                                                                                                                                                                                                                      | HC 2.4   | Maintenance frequency of compliance with established service levels | 90%    | 95%           | n/a                          |

* FS 1.1 Actuals based on 2258 completed audits  
** FS 2.0 is based on the APPA survey that is current as of spring 2013  
*** The updated data for FS 2.1 to 2.3 represents the average from Dec. 2012-Aug. 2014  
**** Projects completed from May 2012-Oct. 2014  
***** Total parking spaces for undergrad population 1:6
VALUES

TRUST

RESPECT

ACCOUNTABILITY

INTEGRITY

TEAMWORK

PERSEVERANCE

Mission
To deliver service excellence on time and on budget to a satisfied customer. We are committed to providing a healthy, safe, supportive, and inspiring physical environment conducive to learning, teaching, research, community partnering and the attraction and retention of quality students, faculty, and staff.

Vision
Embracing innovation and commitment in designing, building, and maintaining facilities and grounds that ensure McMaster’s continued placement as a world-class university.