

2018-2025

Washington University School of Medicine

SUSTAINABLE

OPERATIONS

Strategic Plan





Photo, courtesy of the Washington University School of Medicine Office of Medical Public Affairs

This plan is an expression of our commitment to sustainability and offers our department's interpretation of the word "sustainable" as it applies to the work we do and the direction we are heading. It captures the moment, reporting on ongoing efforts and recent accomplishments to advance those sustainability activities for which we have delegated responsibility and those which we accomplish within the larger setting of the campus, the university, and the city. It also details our expectations of next steps and next phases of realizing sustainable practices to employ in planning, designing, constructing and maintaining our physical environment.

The utility of this document is practical: to plan for capital and operating resources, staffing needs, and human resource development, as a vehicle for accountability. The core planning team, comprised of Operations and Facilities Management Department staff, representatives of the University Office of Sustainability, University Purchasing Services, and WUSTL Environmental Health and Safety contributed ideas and text to this report and we hope you will experience it as we do: a celebration of our commitment to sustainable operations.

Special thanks to all of our partners in support of and development of this program plan, as well as the School of Medicine Senior Leadership for their continued support of our planning and sustainability efforts.

With appreciation,

Melissa Rockwell-Hopkins

*Assistant Vice Chancellor and Assistant Dean of Operations and Facilities Management
Washington University School of Medicine*



In 2018, the Washington University School of Medicine's Operations & Facilities Management Department (OFMD) invited the university community to join in crafting this document. OFMD is grateful for the participation from representatives of the School of Medicine faculty, the Office of Sustainability, the Office of Resource Management (ORM), the Office of Environmental Health & Safety (EHS), and the Office of Medical Public Affairs.

This plan follows issuance of Washington University in St. Louis' first strategic plan for sustainable operations in 2015. The university plan highlights progress on sustainability made since 2010 and outlines the vision and commitment for the future. While the 2015 plan is university-wide in perspective, this document shines light on activity and plans that are specific to the Washington University School of Medicine. It was created to share information with the university community and all who have interest in its sustainability. It will serve as the basis for annual accounting of its implementation.

OFMD expects that this document will guide some of the content in the next university-wide strategic plan for sustainable operations. Beginning in 2025, the university and School of Medicine reports will be aligned in timing of issuance and planning term.



TABLE OF CONTENTS

05 | Executive Summary



06 | The Culture of Sustainability



09 | Energy & Greenhouse Gas Emissions

10 | Direction

10 | Progress

12 | Commitments



13 | Sustainability in Buildings & Landscapes

14 | Direction

14 | Progress

17 | Commitments



20 | Healthy Food

21 | Direction

21 | Progress

22 | Commitments



23 | Waste & Chemical Use Reduction

24 | Direction

24 | Progress

25 | Commitments



27 | Transportation

28 | Direction

28 | Progress

29 | Commitments



31 | Community Outreach

32 | Direction

32 | Progress

32 | Commitments

33 | Acknowledgements



EXECUTIVE SUMMARY

The Washington University Medical Campus hosts the Washington University School of Medicine, Barnes-Jewish Hospital, St. Louis Children's Hospital, BJC HealthCare, St. Louis College of Pharmacy, Shriner's Hospital for Children and the Alvin Siteman Cancer Center at Barnes-Jewish. The campus is 177 acres and supports more than 1,700 patient beds, nearly 23,000 employees, a daytime population of 30,000, 2.3 million gross square feet of research activity and an annual economic impact on the St. Louis region of nearly \$6.3 billion.

School of Medicine building space on the campus increased 65% in the last decade¹ and this scale of growth continues today with design of a new cancer center and a new research building². The OFMD plans, maintains and manages 59 School of Medicine buildings and 8.3 million gross square feet of building space. Department staff is dedicated to stewardship of the school's physical assets and promotion of the campus environment for the benefit of students, faculty, staff and visitors.

Perhaps the most valued of OFMD sustainability activities are those that reduce the university's greenhouse gas emissions through design and operation of its energy and utility infrastructure and its buildings. Specifically, the university made a commitment in 2010 to reduce its Scope 1 and Scope 2 greenhouse gas emissions to 1990 levels by 2020 and to build highly efficient buildings.

This plan is an expression of the School of Medicine's commitment to sustainability and is specific to the planning, development and operations of its real property. The narrative is framed by OFMD's responsibilities on this campus and is characterized by:



The Culture of Sustainability

The empowering of OFMD staff through education, assignments, training and growth opportunities is the foundation for OFMD to realize sustainability through campus design, management, stewardship and operation of the physical resources. OFMD recognizes progress on sustainability and showcases it through staff achievement awards.



Energy and Emissions

Design and operate the School of Medicine's energy systems and buildings to reduce university Scope 1 and Scope 2 GHG emissions to 1990 levels by 2020.

¹ | Measured by net assignable square feet.

² | Collectively, these buildings will add approximately 680,000 BGSF.



Sustainable Buildings and Landscapes

Become a model among peers in the sustainable design and management of School of Medicine buildings and landscapes.



Healthy Food

Provide the campus community with healthy food that is locally and sustainably sourced.



Waste Management

Reduce chemical use and increase the diversion of solid waste from landfills.



Transportation

Maintain or exceed the current School of Medicine profile of 47% of students, faculty and staff using modes of transportation other than single occupancy vehicles when commuting to or traveling through the medical campus.



Engagement

Funding a position to lead and coordinate sustainability activities. Regularly communicate about sustainability activity and its value to the School of Medicine, including at departmental meetings, regular operational interactions, service surveys, monthly newsletters, and targeted signage and sustainability communication. Encourage OFMD staff to contribute to and engage in the campus community, the neighborhoods that surrounds the campus, as well as their own communities.



THE CULTURE OF SUSTAINABILITY





THE CULTURE OF SUSTAINABILITY

The School of Medicine's pursuit of sustainability in its physical facilities rests with the 420+ members of OFMD, whose mission is to provide stewardship for the growth and preservation of physical assets while working to ensure a safe, welcoming and high-quality environment for students, faculty, staff and visitors. The department's commitment to sustainability builds from fundamental values:

- OFMD strives for excellence in the design, management and operation of the physical attributes of the School of Medicine campus for which it has responsibility.³
- Diversity and inclusivity are pursued through initiatives that promote a team based, collaborative and empowered work force. It includes programs to promote staff learning and mentorship and efforts to advance staff health, safety and diversity.
- OFMD communicates about sustainability in the built environment to School of Medicine students, faculty and staff. Measurable activities and outcomes establish credibility. Thus, this report commits to improving current data management systems, to robust internal reporting on activities, and to creating strategies for improved communication within the campus community.
- University and community partnerships are recognized and new ones are proposed in this document for the collective benefit.

Lactation Room Program

National studies establish that safe, convenient and appealing space for nursing improves the morale of nursing mothers in the workplace. This program is an essential element of supporting School of Medicine faculty, staff, postdocs, clinical fellows, residents, visitors, trainees and students who breastfeed.⁴ Access to lactation rooms can facilitate the transition back to work after childbirth. Recognizing this, the school launched a lactation room program in 2014. The program created 53 dedicated spaces in its first four years. The program's manager contributes

to the design standards for these rooms, establishes needed housecleaning standards, and inspects the spaces weekly. In 2018, the number of lactation rooms increased and the program now maintains 62 spaces.

Annual Employee Health Fair

The School of Medicine supports this university forum, which typically attracts about 1200 staff members. The fair has proven to be an ideal opportunity for OFMD to educate employees about campus sustainability initiatives and programs, campus emergency management practices,



Photo, courtesy of the Washington University School of Medicine Office of Medical Public Affairs

³ | As with all its investment decisions, sustainability at WUSM is pursued according to a calculus of cost effectiveness or return (capital and/or social) on investment. The university employs the WUSM Life-Cycle Cost Calculator and university guidelines on financial modeling.

⁴ | Programs like this have been documented to increase productivity and reduce employee health claims and absences tied to family illnesses.

campus safety strategies and the School of Medicine lactation room program.

Employee Recognition

This program recognizes OFMD staff for exceptional contributions. In 2017, 376 awards were granted in the categories of team, core values, leadership, community service, collaboration, innovation, and kudos.

Training and Education

Launched in 2014, the OFMD training program includes standard skills, leadership training and focused training. Targeted sustainability training and education is offered to OFMD staff as relates to their scopes of responsibility. In part, this effort serves the department's objective of achieving diverse leadership in implementing sustainability. Twenty-seven OFMD staff has been credentialed through the Sustainability Facility Professional® program⁵. In 2019 and beyond, the Office of Sustainability will promote professional development opportunities for the OFMD's six LEED AP staff.

The department is committed to establishing staff awareness and skills to execute their work in ways that promote university sustainability. Sustainability is featured in department/unit level orientations and is integrated into all variety of staff training. With the 2019 release of the School of Medicine updated design guidelines, specific training will be organized to inform staff of its changes and to highlight the green design attributes it contains. An aim of the training is to encourage staff to apply the education in innovative ways. In 2019, OFMD will offer staff operational training on recycling, alternative transportation options, and implementing the green office program.

The People and Place Program is a monthly OFMD forum of speakers who address individual empowerment and career-related education. Recent topics included information about educational opportunities, health and wellness, community engagement and safety, overcoming adversity, and opportunities/encouragement to participate in university community outreach programs. The July 2019 installment focused specifically on Sustainability on campus.

In 2010, Washington University set a goal for the campus community to foster a culture of responsible use of natural resources and environmental sustainability among staff, faculty, and students.



Photo, © Alicia Hubert

The Sustainability Action Team

This university-wide group was established in 2007 to motivate faculty, staff and students to reduce building energy use through their everyday activities. Today, the team maintains a 1,000+ person mailing list. Quarterly meetings are held to share information about university activity that promotes sustainability. Guests are invited from the city and region to share their sustainability related expertise. This forum is also a source of volunteerism for education and outreach events, including the annual employee picnic that serves over 9,000 people. Since 2013, this event has composted or recycled nearly 99% of the waste generated.

Employee Sustainability Education

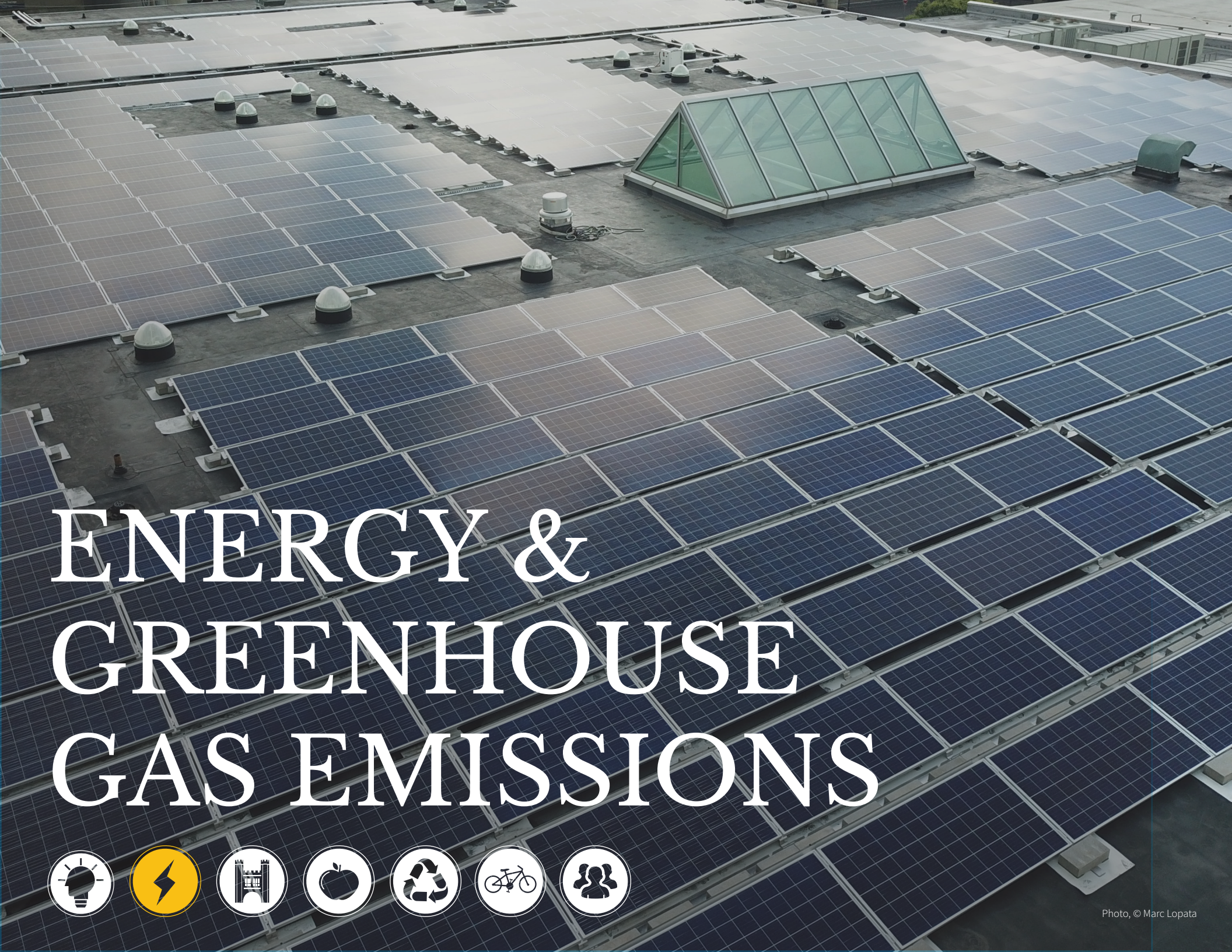
Special Events: OFMD organizes or contributes to many university initiatives that engage the university community to advance sustainability in the built environment, such as the Earth Day Festival, Recycling Genius Trainings, and Commuter Fairs.

Mentor Program: This program creates mentor: mentee partners to advance professional development of OFMD staff. For example, Ken Zimmerman Jr., then Protective Services Assistant Director, was paired with Tina Jameson,

a supervisor in the custodial services unit. Ken accounts for the value of the program: "Tina embraced the new direction for the department. It has been an honor to watch her grow professionally and be the change." Tina's response: "I had many questions about the new employee evaluation process. Ken gave me careful advice on how to manage it. When I drafted the staff evaluations, I shared them with Ken for his input. Ken made helpful suggestions and the review meetings were a success. I enjoy that this process opens conversation and I now coach team members on areas they need to focus on. I have grown confident in my leadership abilities. Listening to Ken's advice has helped me to be more empathetic and compassionate. Ken told me his door is forever open to me; the comfort of this, for me, is priceless."

Internship Program: OFMD began an internship program for local students in 2015 and expanded to include students from the Harlem Children's Zone in 2016. The students spend the summer working in various areas of the Facilities department, gaining critical job experience to further their education and career development. The caliber of the students has been so impressive that OFMD accepted 3 interns instead of the 2 planned for both the 2018 and 2019 internship seasons.

5 | Offered by the International Facility Management Association.



ENERGY & GREENHOUSE GAS EMISSIONS





ENERGY & GREENHOUSE GAS EMISSIONS

DIRECTION

The university has committed to chart a path toward carbon neutrality without purchasing unbundled renewable energy credits. Towards this aim, the School of Medicine:

1. Designs and operates its energy systems to support reducing university Scope 1 and 2 greenhouse gas emissions to 1990 levels by 2020.
2. Designs, operates and maintains its buildings to support reducing university Scope 1 and 2 greenhouse gas emissions to 1990 levels by 2020.
3. Actively engages in planning for the university's carbon reduction target beyond 2020.

PROGRESS

In 2014, the School of Medicine committed \$30 million to energy conservation to be expended by 2020. Key investments of this fund include: HVAC retro-commissioning and retrofit in the Biotechnology Center, the Central Institute for the Deaf, 4444 Forest Park, East Building, East Imaging, North Building, South Building, McDonnell Sciences, BJC Institute of Health and Cancer Research; HVAC retro-commissioning in multiple buildings; lighting retrofits in multiple locations; air handling unit upgrades in Renard Hospital and West Building, and; campus-wide chilled water optimization.

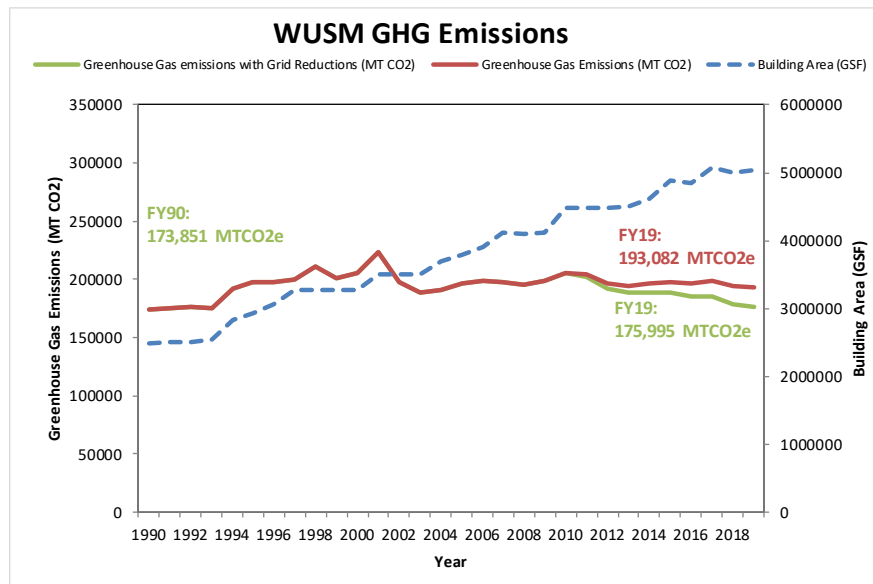
In 2015, the university completed a review of its progress related to energy conservation. The conservation commitment was made more specific so that projects with the greatest impact on greenhouse gas emissions reduction would take priority. Through this term, School of Medicine greenhouse gas emissions have not increased, even with substantial growth in building square footage. Since 2015, with considerable building growth, and excluding grid fuel mix improvements, the School of Medicine greenhouse gas emissions have remained nearly flat.

Heat Recovery Chiller Projects and its Impacts on Energy Use

Challenged with space constraints coupled with the commitment to reduce building energy demand, School of Medicine first installed a heat recovery chiller in 2007 in the Clinical Sciences Research Building. Ultimately, four chillers (each 1,400 tons) were installed and these have dramatically improved campus energy use. Both heat recovery chillers and traditional HVAC systems remove heat from buildings, but heat recovery chillers reuse that heat in the re-heat of supply air in the buildings. This eliminates nearly all need for a heating source to re-heat supply for the building.

Renewal – Role of Deferred Maintenance

Capital renewal is important to energy conservation. Age and use-related diminished performance, obsolete design methodology and outdated technology can cause significant increases in energy use. Reduced performance of utility distribution systems, building systems and building envelopes is a function of material decay, deferred maintenance and repairs, and/or obsolete controls and equipment. Obsolete design and technologies not only limit energy efficiency



In 2010, Washington University committed to reduce its scope 1 and scope 2 greenhouse gas emissions to 1990 levels by 2020 without carbon offsets. The university committed to building highly efficient buildings beyond 2010.

While building area (gross square footage) has steadily increased from 1990 to 2019, greenhouse gas emissions have remained nearly constant throughout the same time period. The reduced emissions line for 2019 (green) includes the local grid improvements resulting in emission reductions from 2010 – 2019.

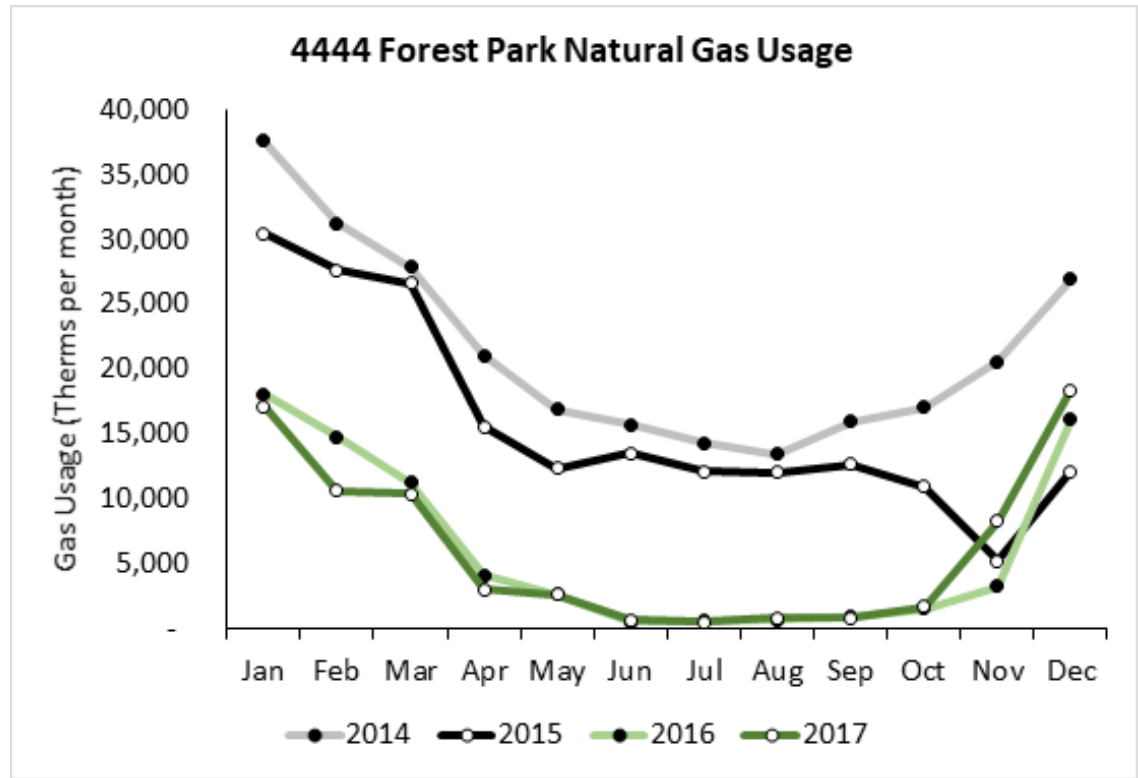
opportunities, but the ability to modify and renovate space. Proactively managing renewal is a systematic way to update and replace assets nearing the end of their useful life and to improve overall campus energy efficiency. Renewal projects provide the opportunity to install new technologies, such as converting a florescent lighting system to LED, and to implement innovative system design, such as moving from a constant volume HVAC system to a variable volume system.

Energy Retrofits

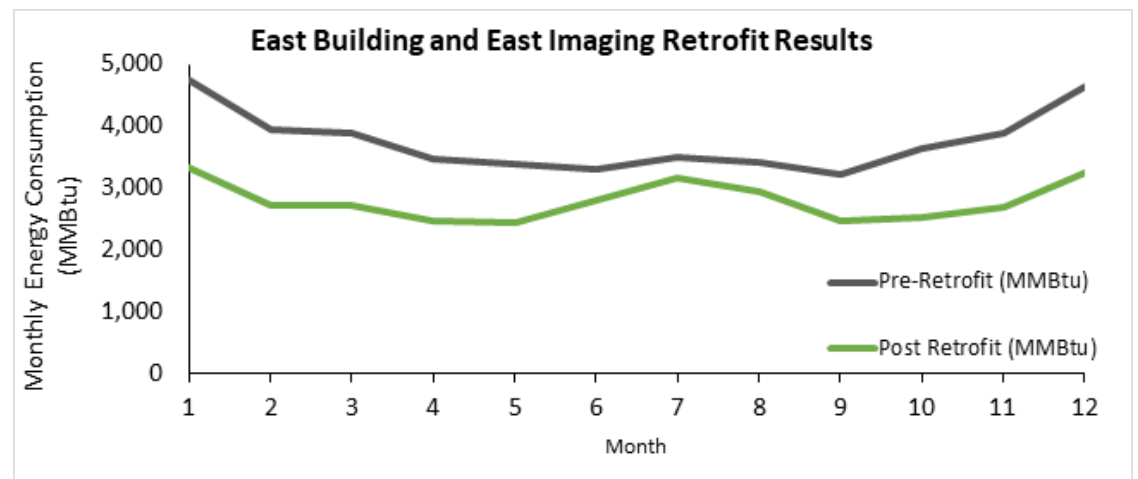
A 2015 energy retrofit project at 4444 Forest Park updated boiler controls and temperature schedules for HVAC systems, added a variable speed drive to a chiller and installed a new heat recovery chiller. The result was a 64% reduction in natural gas usage and 4% reduction in electricity consumption⁶ (while accounting for lab space that was vacated during the post retrofit period). 2016 energy retrofits at East Building and East Imaging included rebalancing to reduce airflows, scheduling the air handling units to include night and weekend setback, and converting terminal boxes from pneumatic to digital for precise temperature control. The result was a 21% reduction in electricity consumption and 34% reduction in natural gas input energy related to steam use reduction.

Emergency Power Management

The School of Medicine's electrical system's reliability is achieved through its layers of redundancy and by managing critical loads within buildings to maintain life safety and preserve the viability of university assets and research. It is supported by 100% redundant substations that it owns and operates. Every research building is supported by three power sources, two power lines from a substation and an emergency power source supplied through an emergency generator. The emergency generator use guideline dictates protection of life safety and provides emergency power to as many critical loads as can be supported through that system based on a watt per net area of square feet calculation. Each School of Medicine department is responsible for prioritizing equipment loads.



After a 2015 energy retrofit project at 4444 Forest Park, there was a 64% reduction in natural gas usage.



The retrofit projects at East Building and East Imaging resulted in a 21% reduction in energy consumption.

⁶ | Energy retrofit reductions account for change in heating degree days.

COMMITMENTS

1. Activities to manage energy have proven effectiveness. OFMD will continue these and innovate to enhance effectiveness.

- a. Include cutting edge technologies in Utility Long Range Planning to further reduce overall energy use on campus. *End date: Ongoing with annual reporting.*
- b. Continue initiative to reduce outside air during unoccupied mode, nights and weekends. *End date: Ongoing with annual reporting on implementation*
- c. Insure consultants on new construction and major renovation projects consider/investigate linking thermostat set point to occupancy schedule. *End date: Ongoing with annual reporting.*
- d. Data generation and data management. Continue comprehensive real-time metering (electricity, steam, chilled water and water). Use this data in assessing the ROI of anticipated energy and water conservation measures. *End date: Ongoing with annual reporting.*
- e. Contribute to university-wide uniform and transparent presentation of GHG emissions data. *End date: Ongoing with annual reporting.*
- f. Complete the 3-year building and lab re-commissioning program. End date for program: June 2020. *Expected start of second 3-year building and lab re-commissioning program is July 2020. Annual progress reports will be completed to report on and measure progress.*
- g. Support the St. Louis energy benchmarking ordinance. *End date: Ongoing with annual reporting.*
- h. Continue room-level heat load analysis retro-commissioning. *End date: Ongoing with annual reporting.*
- i. Develop plan and purchase replacement fleet vehicles that are more fuel-efficient models. *Expected end date: vehicles replaced as needed; ongoing with annual reporting.*



Photo, © Alicia Hubert

- j. Reduce energy use of IT infrastructure (desktop computers, printers, etc.). Initiatives to consider are purchasing recommendations, programing best practices, behavior best practices. *End date: Generate messaging by December 2019. Annual reporting on activity and impact.*
- k. Complete commissioning of School of Medicine data center energy savings and implement study recommendations. *End date: commissioning study completed by December 2019, with drafting of related implementation plan based on ROI completed by December 2020. Annual reports on implementation and outcomes will be provided by OFMD.*

2. Looking to the next generation of commitment to reducing greenhouse gas emissions, OFMD will take critical steps to support university needs.

- a. The university has a 2020 goal for GHG emissions reduction that has inspired campus activity since its establishment in 2010. The School of Medicine will actively support the university's development of its next GHG emission reduction goal. *Expected date for establishing a new GHG emission reduction goal: 2020.*
- b. The university will develop a Scope 3 greenhouse gas emissions inventory as a first step to establishing a goal for its reduction. The School of Medicine will be an active participant in the university's initiative to develop the university's Scope 3 inventory. *Expected end date: 2020 with annual reporting.*

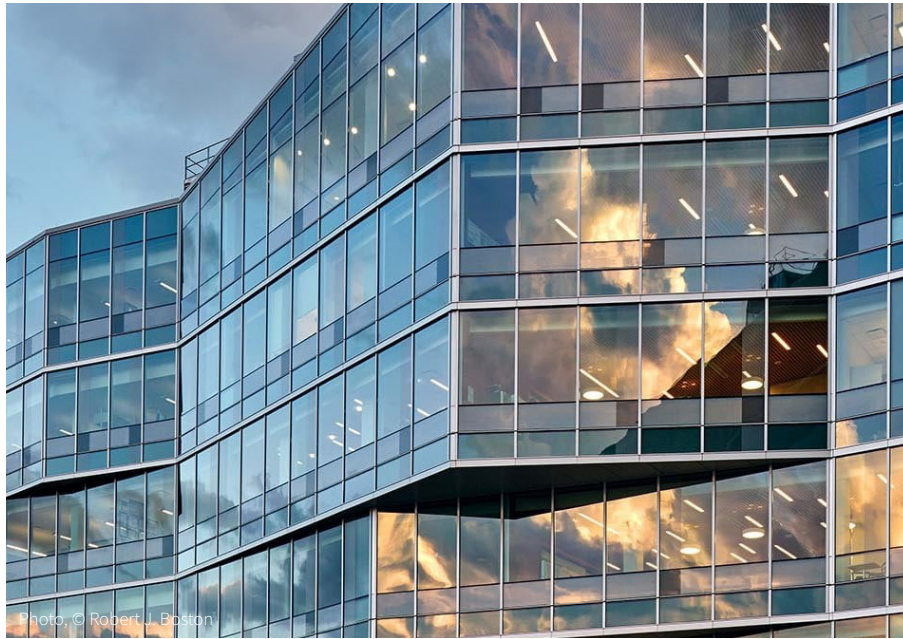


SUSTAINABILITY IN BUILDINGS & LANDSCAPES





SUSTAINABILITY IN BUILDINGS & LANDSCAPES



DIRECTION

The School of Medicine aspires to be a model among its peers in the sustainable design and management of its buildings and landscapes. Its standard is to execute ASHRAE 90.1 2010 energy conservation standards as its regular practice, achieve USGBC LEED Silver status⁷ for projects over \$5 million in construction in combination with incorporating relevant standards from other third-party certification programs.

Through this plan the School of Medicine commits to bringing greater focus to the sustainable design and management of its nearly 1 million square feet of lab space. Key objectives

will be to promote air quality, reduce energy demand and water use, reduce use of chemicals and increase safe practices of recycling and disposing of lab wastes.

A transformation of the campus landscape and outdoor physical environment is underway. Through study and practice, it is improving the selection of plants based on site conditions (such as sun and shade, dry and wet conditions, wind exposure, street lighting, and security). The School of Medicine is planting new trees every year to increase the campus tree canopy, continually identifying candidate locations for enhancement, and using native and adaptive plant material to improve the School of Medicine landscape.

In 2010, Washington University adopted two standards for new construction and major renovations: a LEED Silver minimum and a goal of 30 percent more efficient than the ASHRAE 90.1-2007 energy efficiency standard. Project teams are charged with surpassing both whenever possible.

PROGRESS

Certified Buildings

The School of Medicine has six LEED buildings. The Genome Sequencing Data Center, the BJC Institute of Health, and the Debra and George W. Couch III Biomedical Research Building are LEED Gold. The Data Center is LEED Silver and the McDonnell Medical Science Building (8th floor), BJC Institute of Health (5th floor) are LEED certified. The Mid Campus Center and 4480 Clayton are both designed to achieve LEED Gold (certification is pending).

Green Building Guideline Checklist

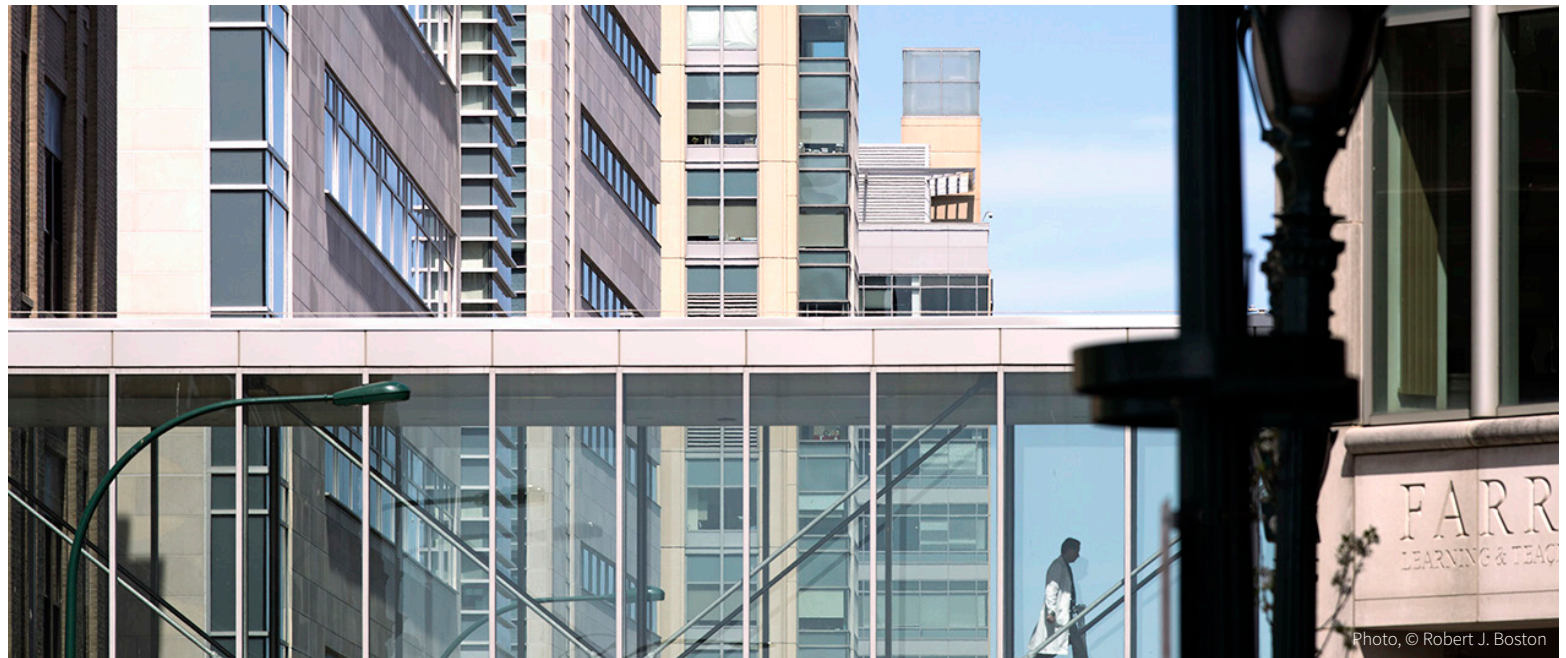
Planners and project managers use the School of Medicine's green checklist for every design project. It addresses installing bicycle storage and locker rooms, incorporating means to limit rooftop heat island effect, building systems commissioning, optimizing energy performance, construction waste management, sustainably sourced materials, indoor air quality management during construction, use of low emitting materials, and controlling lighting and thermal systems.

Sustainable Practices in Labs

The School of Medicine involves staff from administrative and academic units to consider, test and document sustainable practices in labs. To date, this has included projects such as changing from static to individual cages in vivariums, using HEPA-filtration at the rack level in combination with reduced air changes in the room, improving building automation systems, and shifting to automatic water systems. Ongoing consideration of potential next steps include reusing rinse water for cage

⁷ | Policy was established in 2015. Ongoing analysis is considering its viability relative to LEED version 4.0.

In 2010, Washington University committed to reduce potable water use in landscaping practices and increase water efficiency in buildings.



wash, procuring racks that will increase energy savings, recycling feed bags, and transitioning from the current use of auger feed disposals for animal bed waste.

School of Medicine Building Design

With an energy use intensity of 128 kBtu/sq.ft./year, the Debra and George W. Couch III Biomedical Research Building is 36% more efficient than comparable buildings. A heat-recovery chiller captures the building's waste heat to reduce energy usage and occupancy sensors manage airflow. More than 95% of the waste generated from the demolition and construction process was recycled. Materials with recycled content account for more than 30% of the building materials used. Low-flow faucets and other strategies reduce the building's indoor water use by 35%. The landscape design incorporates native plants that contribute to a 50% reduction in irrigation water use. An appealing rain garden doubles as a stormwater facility to capture rainfall and area runoff.

Green Offices at the School of Medicine

The Green Office program was established by the Office of Sustainability in 2012. It provides resources and a detailed self-assessment that empowers office to improve their practices and achieve certification as a "Green Office." The

Access Control Office joined the Green Office Program in 2015 and has advanced from silver to gold level certification. Today, the office score is nearing the platinum level. Office members set their computers to print double-sided with minimal margins, reduce their use of mechanical lighting when natural light is available, keep thermostats set within recommended ranges for energy conservation, and use re-usable water bottles and coffee mugs. To guide best waste materials practices, the office has individual recycling bins and a central trash container. Half of the office members are dedicated to using public transportation for commuting and when traveling to meetings on and off the campus.

Improved Performance in Lab Equipment

Ultra-low temperature freezers (ULTs) are critical to university research and consume 3.4% of Washington University in St. Louis' total electricity. In addition to the carbon emissions this electricity represents, most of the university's ULTs use refrigerants with high global warming potential, an environmental problem if leaks occur or the refrigerants are improperly disposed of. The Washington University School of Medicine owns more than 800 ULTs and oversees purchasing decisions for replacement ULTs (typically procured at a rate of 63 per year).

In the last few years, manufacturers have transformed the ULT product to use half the energy and natural refrigerants. Recognizing the appealing prices and product choices in today's market, the university established a policy to only purchase the high efficiency models, ones that align with Energy Star's requirements. In retiring older units and replacing them with the most efficient models the university expects to reduce its annual CO2 emissions by 2,000 tons.

Rack Washer Equipment Replacement Projects

In 2014 and 2015, the Division of Comparative Medicine and OFMD replaced four rack washers that had been installed in the 1990s in East McDonnell and the Clinical Sciences Research Building. In 2019, additional rack washer replacement equipment was installed in the Central Institute for the Deaf Clinic/Research Building.

The new equipment dramatically reduces equipment energy and water use, including:

- Cold water fill with heat exchanger – cold water is used during filling of the tanks in lieu of hot water. This water is brought to washing temperatures by an in-line steam heat exchanger, which extracts the heat from the previous rinse cycles. This eliminates the need for steam to heat the incoming hot water.

- Chilled water drain cool-down - the energy transfer of the heat exchanger, along with a re-circulated chilled water system eliminates the need for cold water injection to cool drain water effluent.
- Rinse storage tanks – the washers were installed with a steam heated rinse storage tank, which allows the washer to lower energy consumption by re-using rinse water from each load for the subsequent cycle.
- Alkaline and acid storage tanks – allow the washers to reduce chemical usage and hot water consumption by saving chemical solutions from each load for subsequent cycles.

Rodent Capacity and Infrastructure Renewal

In 2017, the Division of Comparative Medicine and OFMD installed individually ventilated caging with an automatic watering system in East McDonnell and the Clinical Sciences Research Building. To date, East McDonnell Suite 640 air flow rates have been reduced by ~12% and still maintain the proper temperature set points. The 5th floor of the Clinical Sciences Research Building is

scheduled for air change rate reduction in the summer of 2018. The Clinical Sciences Research Building is tracking building level energy usage to validate the energy savings from these projects. The caging change and transition to automatic watering will allow for cage changing and washing frequency to be reduced from weekly to bi-weekly, resulting in energy and water consumption savings. Water bottles will no longer require autoclaving for sanitation and will be replaced by an ultra-filtration system that is distributed to the cage level.

Landscape Management

The School of Medicine is creating landscapes that feature Missouri and North American native plants, native cultivars and regionally adaptive species that require less input of water, fertilizer, and herbicide and reduce mechanical maintenance. Landscape design standards have been developed that provide guidance to new building projects and future landscape enhancements. These landscape design standards reinforce the need to use sustainable methods and materials and promote the quality of the outdoor experience for Medical Center visitors.

Recognized as a place of calm, rejuvenation and hope, the Ellen S. Clark Hope Plaza achieves its distinction in part because of the sustainable attributes of its design. This LEED certified plaza's habitat is that of native Missouri woodland. Healthy native plant communities thrive with minimal maintenance.

The stormwater detention basin at the corner of Scott and Taylor Avenues is an example of campus best management practices for stormwater. This basin, installed in 2015, has consistently satisfied Missouri Sewer District standards. Use of native grasses and perennials that have evolved and adapted to the Midwest environment provide deep root systems that help promote pore space in the soil and aid in the infiltration process during and after a rain event. These systems also work to sustain the plants during periods of drought and assist in anchoring the soil to reduce erosion. The native plants are also a valuable food and habitat source for birds and butterflies. Where applicable, such as the Mid Campus Center and the parking lot at the renovated 4480 Clayton Building, the School of Medicine uses permeable pavers.

Narrow dimension of space, height restrictions, and sun/shade challenges frame the opportunity for landscaping and tree planting on this densely urban campus. The campus vision is to ensure canopy continuity to reduce stormwater runoff and improve air quality and aesthetic value to the campus. The school's Tree Canopy Improvement Plan works with these constraints and is having a transformative impact. Nearly 300 shade and ornamental trees have been recently planted, 90% of which are Missouri and North American native or native cultivar. Between 30 and 35 trees will be added each of the next five years. Inventory data is used to understand species composition and tree condition and to generate maintenance recommendations. Tree values and benefits are quantified using the I-Tree Streets benefits model⁸ and establishing that the School of Medicine's campus trees provide approximately \$42,000 per annum of environmental benefits.



Photo, © Alicia Hubert

In 2010, Washington University set a goal to work toward a natural environment that recognizes the benefits of native plants and minimizes the need to use potable water, herbicides, and pesticides on our campuses.



COMMITMENTS

1. Design and construct sustainable buildings and landscapes.

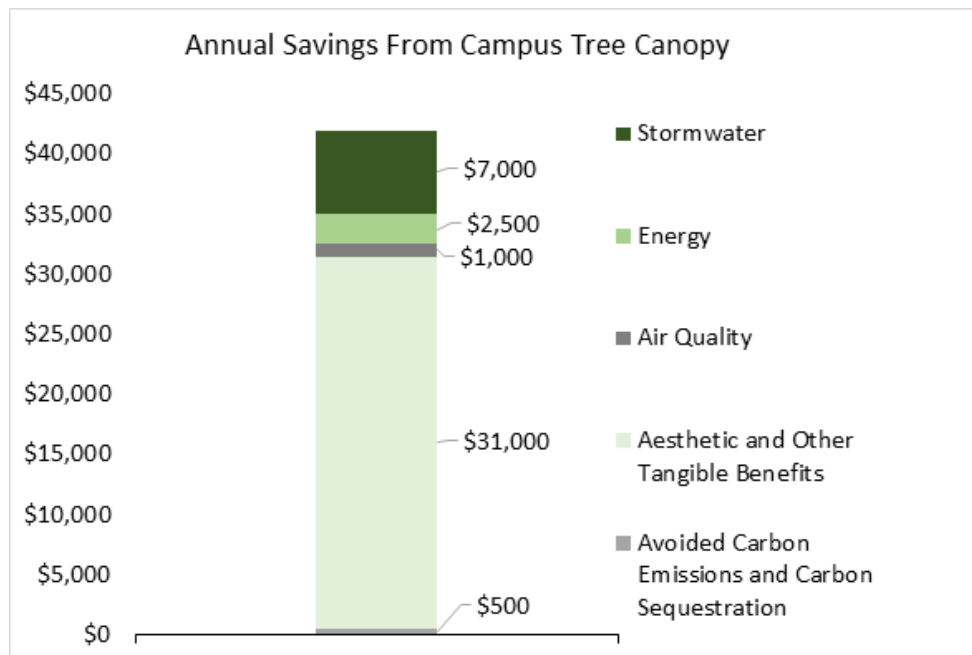
- a. The School of Medicine will continue to practice integrated design process as developed by the university. Integrated design orchestrates engagement of members of the design team towards setting the project's design goals and working effectively to realize them. The School of Medicine will assess means of always improving its design practice. *End date: Ongoing with annual reporting.*
- b. Accomplish sustainable building and landscape design with transparency through involvement of third party certifications such as USGBC LEED, Better Buildings, and EnergyStar. WUSM will pursue LEED Silver certification on all new construction and major renovation projects, in support of the university standard. *Expected*

end date of implementation: Ongoing with annual reporting.

- c. Update School of Medicine design guidelines. The School of Medicine will collaborate across the university to develop sustainable aspects of university building design guidelines. These will strive to outperform ASHRAE 90.1 2010 energy efficiency (new construction to perform 30% better and major renovations to perform 20% better than 90.1-2010 energy efficiency). This update will emphasize best practice environmental performance in lab design. It will introduce new elements such as including appealing and convenient campus showers, locker rooms, and bicycle storage areas as part of all new projects and major renovations, providing unisex bathrooms, providing lactation rooms and stipulating that designs for new construction will include testing the viability of incorporating renewables. The guidelines will address some capital investments in existing

facilities, such as favoring high Solar Reflectance Index (SRI) material (.78) and white roofs when roof replacement is done. *Expected date for issuance: December 2019.*

- d. Revisit elements of the design guidelines which impact campus water use, energy demand and GHG emissions reduction on a biennial basis. As identified through this process, revisions will be made to related policies and standard operating practices to best harmonize with the guidelines, campus sustainability goals and objectives. *Expected date for completion: December 2019 and every two-years after with biennial reports.*
- e. Task consultant engineers of new construction and major renovations with establishing a benchmark analysis to identify a goal for projects' energy use intensity. *Expected date of implementation: Spring 2020 for the new research building; ongoing thereafter with annual reporting.*
- f. Charter LEED O&M as a program pilot. Use this experience to inform the decision to and means of pursuing this LEED program for future School of Medicine buildings. *Expected date of completed pilot is December 2021.*
- g. Establish landscape design and maintenance standards. This will promote biodiversity, ensure desired quality of stormwater management, eliminate invasive species, use environmentally preferable materials, and employ environmentally responsible operations and grounds maintenance. The School of Medicine will use the SITES checklist as a reference in developing university design guidelines. This checklist will be tested on the ambulatory care building and the animal/research building and use this experience as basis for deciding whether to make this checklist a standard practice. *Expected date to issue guidelines is December 2019. Expected date for landscape installation at the new cancer center is spring 2021 and the new research building project is spring of 2022. Recommendation on future use of SITES checklist to follow within six months after that installation is complete.*
- h. Participate in the creation of outdoor spaces that foster community and improve safety. Project



The campus tree canopy inventory results showed an annual savings of \$42,000 based on a variety of environmental factors.



managers and planners will guide design teams to provide for social goals in combination with naturalized landscape, stormwater features, and maintenance needs that meet School of Medicine's reasonable capacity.

- a. The plaza area near the Mid Campus Center will be extended with infrastructure safety improvements including stairs, elevator, pedestrian crosswalks and landscape improvements, as well as the addition of a campus welcome center. *Expected end date: 2020.*
- b. The 4480 Clayton Avenue renovation-and-addition project and the new residential housing project each include a courtyard and green space. *Expected end date: September 2018*
- i. Continue to require general contractors to submit a soil management plan for each project expected to cause soil disturbance. *End date: Ongoing with annual reporting.*

2. Decrease potable water use.

- a. Establish a goal and strategies for School of Medicine water use reduction by 2025 relative to 2014 base year. *Expected end date: June 2021.*
- b. Implement strategies to realize School of Medicine's water use reduction goal. This will include specific steps relating to campus infrastructure systems, building maintenance, large medical and scientific equipment, and landscape and food service operations. *End date: Establish goal and strategies by June 2021; ongoing with annual reporting thereafter.*
- c. Improve cooling tower water use reduction. *Expected end date: Ongoing with annual reporting.*
- d. Continue to outfit irrigation systems with low-flow nozzles and rain sensors and include both on future projects. Prioritize native plantings to reduce irrigation needs. *End date: Ongoing with annual reporting.*

3. Ensure management of the School of Medicine's physical assets addresses sustainability with emphasis on excellence in the setting of the School of Medicine's nearly one million SF of wet lab space.

- a. Re-energize the School of Medicine's Green Lab Program. This program works with researchers, staff, faculty and students to introduce and institutionalize sustainable practices in laboratories and to inform the purchase of energy and water efficient equipment. *Expected program chartering and launch of a pilot: September 2019. Annual reporting on impact.*
- b. Implement post-occupancy surveys for all new buildings and major renovations. Leverage this opportunity to also test the opinions and solicit suggestions from building occupants about the greening of their work environment. *End date: Ongoing with annual reporting.*
- c. Support university steps to improve purchasing options for energy and water efficient large



Photo: © Marc Lopata

equipment. Survey WUSM's large equipment that is near to end of manufacturer's suggested life to strategically target three types of lab equipment to be piloted in this initiative.

Expected end date: Develop and implement policies like the High Efficiency ULT Freezer Policy for additional lab equipment by December 2020.

- d. Manage size and assignment of space with objective of optimizing space use. Employ existing guidance for offices and shared spaces. *Expected end date: ongoing activity with guidance for lab space to be developed by December 2019. Annual progress reporting thereafter.*
- e. Increase the scale and impact of the university's Green Office Program at the School of Medicine. *End date: Double participation by*

December 2019. Continue to grow annually and report.

- f. Create a program of sustainable practices for the School of Medicine dining facility management. Identify means of improving the energy use, water use, and waste generation associated with campus food preparation. Require the food concessionaire to regularly report on activities employing metrics established by the university and maintained in the university's database. Coordinate development and management of database and reporting with the Office of Sustainability to establish a university-wide structure. *Expected end date to generate structure: June 2020 with annual reports after that.*

- g. Review operational areas to identify potential means of improving standard practices to best support sustainable operation goals and strategies. For example, this will include updating the campus no idling guidelines. *End date: Ongoing with annual review and reporting.*
 - h. Implement department-specific resilience/safety planning. *Expected end date: Ongoing with annual reporting on impact.*
4. Accelerate School of Medicine's initiative to improve its landscape management practices.
 - a. Reduce the impacts of campus stormwater runoff. Satisfy regulatory requirements and implement best management practices. *Expected end date: ongoing with annual progress reports.*
 - b. Design all stormwater facilities to be functionally successful, low maintenance and aesthetically appealing. *Expected end date: ongoing with annual progress reports.*
 - c. Establish a database to track and report on implementation of landscape guidelines. Report on experiences annually. *Expected end date to create database: December 2019, with annual reporting thereafter.*
 - d. Develop standards and require landscape contractors to submit regular reports on compliance with university guidelines for chemical use in School of Medicine landscape projects. *Expected end date to establish requirement: December 2019 with annual reporting thereafter.*
 - e. Require landscape contractors to submit a training plan to educate their employees about School of Medicine's landscape guidelines and to validate their support and completing of its implementation. *Expected end date to establish requirement: December 2019 with annual reporting thereafter.*
 - f. Compost or recycle all landscape waste materials. *Expected end date: Ongoing with annual reporting.*



HEALTHY FOOD



HEALTHY FOOD

DIRECTION

The School of Medicine strives to motivate and support students, faculty and staff to have healthy eating habits. Its food service practice aims to be sustainable in its management practices, procurement patterns and the quality and choice of its food. The concessionaire will improve its record keeping that tracks purchasing regarding the geographic source and environmental attributes of food and the food service's management practices that best limit environmental impact. During the term of this plan, it will ensure that:

- At least 22% of its total purchases will be of food that is grown and/or processed food within 200 miles of the School of Medicine.
- At least 25% of its total purchases will be of food that is environmentally preferable, humane and fair and half of that will be grown and/or processed within 200 miles of the School of Medicine.

PROGRESS

The school food service vendor sources approximately 20%⁹ of its ingredients per year from local farms and vendors.

Each of the School of Medicine's cafes offers vegetarian options for each meal. Every September, an Eat Local Day is held to bring attention to and promote this practice. Food on the campus is prepared with fresh ingredients and recipes. Annually, a Low Carbon Day is sponsored to teach about the carbon virtues of a diet that limits beef and focuses on sustainably grown food.

Waste food is minimized by preparing food in small batches.

⁹ | Measured by cost.

In 2010, Washington University set a goal to reduce our impact on the food system by working with campus dining service partners to develop a system for measuring and purchasing more food that is produced and distributed locally, humanely, fairly, and in an ecologically sound manner.



Photo, © Matt Miller

Bringing Farm to Campus

The School of Medicine brings healthy eating options to campus through its year-round weekly farmers' market. Established in 2010, local farmers sell fruits, vegetables, eggs, meat, dairy, nuts, whole grain breads, jams, and a variety of other healthy food options. The market occurs in conjunction with a pick-up location for a local farmer Community Supported Agriculture subscription box, currently serving the families of 71 members of the School of Medicine community. Some farmers' market vendors sell their goods to the School of Medicine concessionaire.

Local Purchasing

Kaldi's is committed to purchasing coffees from farms that use sustainable farming practices such as preserving the soil, protecting local wildlife, and conserving their local ecosystems. Beyond the certified organic and bird-friendly coffee, Kaldi's Café in the Farrell Learning and Teaching Center offers a 100% vegetarian menu with gluten-free and vegan options. Kaldi's in the Mid Campus Center offers a menu with 50% vegetarian options.



Photo, © Alicia Hubert

COMMITMENTS

1. The School of Medicine food concessionaire commits to providing healthy food options for all campus community members.
 - a. The School of Medicine food concessionaire will continue to offer good quality vegetarian and vegan options at each School of Medicine food facility for every meal. School of Medicine generate metrics to evaluate this practice. *End date: Ongoing with annual reporting.*
 - b. The School of Medicine food concessionaire will continue to purchase certified seafood, grass-fed beef, organic milk, non-GMO produce, certified coffee, products from hormone-free animals, and meat that is certified humane. These purchases equate to at least 25% of total food purchases. *End date: Ongoing with annual reporting.*
 - c. Annually, WUSM will survey students, faculty and staff to test receptivity to healthy eating and to identify means of improving the WUSM food service offerings. *End date: Ongoing with annual reporting.*
- d. WUSM will participate in the University's "Food Week" by hosting at least 1 event on the WUSM campus. *Expected end date: October 2019 and annually thereafter.*
- e. Coordinate development and management of a database and reporting between the food vendor and the Office of Sustainability to establish a university-wide structure. *End date to generate structure: June 2020; ongoing thereafter.*
2. Ensure food purchasing for the School of Medicine community supports the region's food economy.
 - a. Continue to host a farmers' market and community supported agriculture program, in partnership with Human Resources. WUSM will evaluate its effectiveness and identify means of enhancing the program and increasing participation. *Expected end date: ongoing activity with annual progress reports.*
 - b. The School of Medicine food concessionaire will purchase 22% of the value of its food purchases locally (grown and/or process within 200 miles of campus). At least 12% of locally sourced food will also be environmentally preferable, humane and fair. *End date: Ongoing with annual reporting.*



 **Sustainability**
Washington University in St. Louis



WASTE & CHEMICAL USE REDUCTION





WASTE & CHEMICAL USE REDUCTION

DIRECTION

The School of Medicine diverts 38% of its waste, excluding construction and demolition waste. Well-established waste diversion programs and practices will remain in place with the expectation that they will continue to improve in proportion of waste diverted, reaching the goal of 45% diversion by 2020. The School of Medicine uses green products in its everyday cleaning and will continue to experiment with products to expand on this. Other waste management activities that the School of Medicine commitments are:

- Expand construction and demolition waste recycling to applicable campus projects.
- Reduce waste stream contamination.
- Expand safe recycling and disposal of hazardous and toxic materials.
- With support from the university office of Environmental Health and Safety, launch a chemical use reduction program for labs.

PROGRESS

The School of Medicine's solid waste diversion results from the convenience of campus recycling and diligent communication to inform the campus community about which materials are recyclable. Special programs such as holiday light recycling, shoe recycling and electronic

waste recycling supplement the core program. Since 2015, the School of Medicine performs annual audits to establish the extent to which waste it is being properly separated between that which should go to a landfill and that which should be diverted.

Green Cleaning Products

OFMD started purchasing environmentally preferable custodial products in 2009. Today, the School of Medicine employs industry standards¹⁰ to guide procurement of its cleaning products.

Food Waste Composting

Food waste from the Farmstead and Shell Cafes (over 14,000 pounds in 2018) is composted by a St. Louis-based company and sold locally as a soil amendment. Waste cooking oil is collected for reuse as biodiesel fuel (approximately 630 gallons in 2016 and 440 gallons in 2017).

EH&S at WUSTL: Serving as a Role Model

The EH&S Office offers information and services to support waste diversion interests. For example, the office provides written guidance on proper recycling and disposal of batteries and collects those batteries that should not be landfilled. The office provides similar instruction for empty containers, hazardous and regulated materials including chemicals, electronics and equipment, glass containers in labs, printer cartridges, and other materials in labs. The EH&S program for laboratory cleanout functions so that certain chemicals and materials that are no longer needed in one lab can be made available to another instead of immediate disposal of usable goods.



Photo, © Lexi Linsenman

In 2010, Washington University set a goal of lowering our landfill impact by achieving solid waste diversion rates of 20 percent on the School of Medicine Campus and 35 percent on the Danforth Campus by 2012.

¹⁰ | Such as those issued by the USGBC, the Green Clean Institute, and the Carpet & Rug Institute

COMMITMENTS

1. Improve the School of Medicine solid waste diversion rate.

- a. Achieve or surpass a 45% solid waste diversion rate by 2020, excluding construction and demolition waste. *Expected end date is 2020 with annual reporting.*
- b. Improve education and signage to promote proper waste diversion by faculty, students and staff. Continue the shift in offices to centrally located trash in combination with more convenient, local locations for recycling containers. *Expected end date: Ongoing with annual reporting.*
- c. Regularly train custodial staff about the School of Medicine single-stream recycling program. Establish a core group of custodians that elect to receive advanced training through regular meetings. *Expected date for establishing core group: July 2019. Provide "Recycling Genius" trainings annually.*
- d. Continue to support our food vendor to divert kitchen waste through commercial composting. *End date: Ongoing with annual reporting.*
- e. Explore opportunities to capture post-consumer compost on campus. *End date: Conduct pilot program by December 2020.*
- f. Continue to separate waste (compost, recycle, and landfill) for events with >500 guests (e.g. Employee Appreciation Picnic). *End date: Ongoing with annual reporting.*
- g. Composting as a service will be offered at all events. Education will be provided to allow schedulers to choose this service as an add-on for event planning and management. *Expected date for event offerings: June 2020 with annual reporting thereafter.*
- h. Participate in the university's program to convert waste oil to biodiesel. *Expected end date: Ongoing with annual reporting.*
- i. Support EHS in its efforts to expand recycling in the lab environment. *Expected launch date for new signage: September 2019. Annual reporting on impact.*
- j. Continue special material recycling collections (shoes, holiday lights, and e-waste). *End date: Ongoing with annual reports.*
- k. Identify opportunities to improve existing materials diversion such as waste bulk mail, furniture, and office supplies. *End date: Ongoing with annual reporting.*
- l. Assess the viability to expand recycling programs to include materials such as plastic film or Styrofoam. *End date for assessment: December 2019*
- m. Conduct a waste can audit to determine signage needs and ensure all waste cans in public areas are paired (recycling + landfill) and support offices to move towards centrally located landfill cans and local desk-side recycling cans. *Expected end date: Conduct audit by December 2019. Implement signage updates by December 2020. Purchase additional waste cans where needed by December 2021.*



Photo, © Alicia Hubert

- n. Expand current construction and demolition diversion practices and include in contract language on all projects. *Expected end date: Develop requirement guidelines by December 2019. Ongoing with annual reporting thereafter.*
- o. Promote use of refillable water stations. Continue to increase the number of stations with each new construction project. *End date: Conduct initial location inventory by December 2019, then annual reporting of new station additions thereafter.*
- p. Improve record keeping and database for School of Medicine waste management and diversion. *Expected date for improving the existing system: December 2019 with annual reporting thereafter.*

2. Reduce the use of chemicals.

- a. Coordinate across the university to target opportunities to purchase substitutes for regularly used materials in university labs that are comparable in performance and reduced in toxicity and/or comparable in performance and are recyclable. *Expected end date: September 2019 for launch of offerings. Annual progress reporting thereafter.*
- b. Exclusively use Green Seal, biodegradable and non-toxic cleaners in daily operations, where possible. *End date: Ongoing with annual reporting.*
- c. Explore, test, and actively pursue greener alternatives for floor care chemicals. *End date: Test alternatives by December 2020. Ongoing with annual reporting*
- d. Reduce chemical and nonorganic product use in landscaping practices. *End date: Ongoing with annual reporting.*
- e. Reduce the use of road salt and blended chlorides used during winter storm events. Test and implement alternative strategies and de-icers on paved areas when possible. *End date: Ongoing with annual reporting.*



Photo: © Alicia Hubert

TRANSPORTATION





TRANSPORTATION

DIRECTION

The School of Medicine offers its community multiple transportation options to, from and on campus. Forty-seven percent of the School of Medicine community use transportation other than single occupancy vehicles. OFMD has a suite of activities to maintain or expand that rate and ensure the School of Medicine community is satisfied with the quality and safety of campus transportation options.

There are city and county-wide security challenges that inhibit the alternative transportation goals of the campus. The university advocates for changing the system so that only paid riders can board trains. While still an honor system, the School of Medicine will work with its campus community to educate users on personal safety and resources available.

PROGRESS

In 2015, the WUMC Roundtable commissioned a comprehensive traffic and mobility study to assess short, mid-and long-term growth projections across the district. Recommendations include a plan for a comprehensive street network, transportation and demand management policies to increase alternative mode use, and a schedule for revisiting progress in the future.

In 2017, the Transportation and Parking Committee was established to study parking functionality and capacity, vehicular circulation and impact to adjacent streets, pedestrian and bicycle circulation, safety measures, landscaping features, stormwater requirements, planning-level utility needs, and cost impact. The committee calculated the excess street/traffic capacity that could be accommodated for future development build-out of the campus.

The free transit pass program for all School of Medicine employees and students began in 2007 and serves more than 8,000 users annually.



Photo, © Alicia Hubert

Transit Passes

This free transit pass program for all School of Medicine employees and students began in 2007 and serves more than 8,000 users annually.

Transportation Demand Management

Field observation of campus bicycle and pedestrian routes generated recommendations for physical investment, to promote the use and safety of non-motorized transit on the medical center. Progress toward the university's transportation demand management goals include an aggressive safety

communication campaign. The aim is to be transparent in providing the university community with data about the safety of the campus. School of Medicine Protective Services and Barnes-Jewish Hospital Public Safety share a security center which provides the member institutions with an integrated dispatch system to improve incident responses and outcomes.

Bicycle Facilities

In the previous 3 years, campus bicycle parking spaces has been increased by nearly two thirds to 477 spaces. Ninety percent of these are well-used during the work week. Six campus buildings have shower and locker facilities for



Photo: © Alicia Hubert

cyclists to use and OFMD will strive to ensure every future building will have this as a standard to its program.

Central West End MetroLink Station

The School of Medicine, with Barnes-Jewish Corporate and its partners, collaborate in the funding and design of improvements to the Central West End Station, which has the highest ridership in the Metrolink system. Visibility from the station, a design for safety, and inclusion of a welcome center is expected to promote the sense of campus safety of this station, working to improve ridership.

Cortex/Boyle MetroLink Station

In July 2018, a public, private partnership created the Cortex/Boyle Metrolink Station. In addition to the university's financial commitment to this project, School of Medicine units were active participants in the design of this project. Given that nearly one third

of School of Medicine students, faculty and staff use public transportation and that the university provides its full-time staff with passes for free ridership, the interest of School of Medicine in the success of the design and construction was paramount.

COMMITMENTS

1. Improve and expand options and increase appeal of human-powered transport, regional transit, sustainable driving, and ride sharing to students, faculty and staff as means of commuting to/from campus. A recent survey¹¹ showed 53% of School of Medicine students, faculty and staff arrive on campus in a single occupant vehicle, 29% use public transportation, 9% walk, 7% carpool, and 2% use bicycles. School of Medicine's goal is to maintain or reduce the proportion of single occupant vehicle

commuters. This will be accomplished through several means:

- a. Update transportation demand management strategies, including enhanced communication efforts. The committee is currently testing software solutions to gather and analyze parking and transportation data to optimize movement through and beyond campus. *Expected end date for update: Ongoing with annual reporting.*
- b. Continue to offer regular bicycle tune-ups and provide bicycle safety information to students, faculty and staff. *Expected end date: Ongoing with annual reporting.*
- c. Continue to provide free Metro commuting passes for School of Medicine employees. *Expected end date: Ongoing with annual reporting.*

¹¹ | "Comprehensive Traffic & Mobility Study" (Urban Planning Roundtable, 2015)

- d. Contribute to design and construct the Central West End Station expansion. The School of Medicine's project manager and partner in financing station expansion. *Expected end date: December 2021. Annual reports will be provided by OFMD.*
- e. Continue to expand campus bicycle parking and shower/locker facilities for bicycle commuters. These will be located in convenient and appealing locations. *Expected end date: Ongoing with annual reporting.*
- f. Encourage car sharing, van and carpool use. The university offers Enterprise CarShare, supports Ridefinders van pools, and is exploring additional ridesharing opportunities. In addition to program offerings, The School of Medicine will make affirmative efforts to communicate to its community about the availability and advantages of these programs. *Expected end date: Ongoing with annual reporting.*
- g. Continue to operate and finance an after-hours shuttle service for the neighborhoods adjacent to campus. Regularly assess the use, appeal and cost of this program to optimize it. *Expected end date: Ongoing with annual reporting.*
- h. Issue a comprehensive pedestrian and vehicular safety program. This program is being crafted using data from recent studies that observed traffic flow and bicycle and pedestrian movements. The program aims to communicate and educate the campus community members on being safe while walking, biking and driving. *Expected end date: December 2019 with annual reports to track program impact.*
- i. Complete the Newstead Street improvements to ease congestion and improve pedestrian safety in the Tier II district area. *Expected end date: December 2021.*
- j. Allow the campus to optimize its land use and reduce the number of cars on campus by offering remote parking. *Expected end date: August 2019.*

- k. Develop a comprehensive bicycle and public realm enhancement program. Continue to participate in the committee selected to guide development of the Chouteau Greenway and advocate for strong connectivity to and through the medical center. *Expected end date: December 2023. Annual reports will include a progress update.*
- l. "Green" the Newstead Garage by assessing opportunities to install solar on roof, LED lighting in garage and EV charging stations. *Expected date*

to complete assessment: December 2019 with garage opening in spring 2022.

- m. Optimize electric vehicle charging capacity as demand requires and infrastructure allows. Educate community members on fuel-efficient and electric vehicle options. *Expected end date: Install 20 EV charging stations in the Clayton/Taylor garage by December 2018. Ongoing with annual reporting on changes and progress*



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COMMUNITY OUTREACH





COMMUNITY OUTREACH

DIRECTION

The School of Medicine supports staff as contributors and as leaders of city and regional sustainability initiatives and programs, particularly as it relates to promoting public health and community redevelopment.

Objectives:

- Foster a diverse and inclusive sustainability movement.
- Collaborate with a range of partners to advance sustainability in the St. Louis region and state.

PROGRESS

OFMD staff is encouraged to contribute to community outreach efforts that benefit the School of Medicine community, that which surrounds the campus and/or the neighborhoods in which they live. Through this, staff can experience the satisfaction of impacting community. These activities create bonds and increases social awareness. Some of the opportunities offered to staff are the school supply drive for the Adams Elementary School, raffles to benefit the United Way, financing a holiday adopt-a-family initiative, making furniture donations to local shelters and domestic programs and donating supplies to holiday food drives.

The Chouteau Greenway

The Chouteau Greenway will create a new means of connecting the Medical Campus to the Danforth Campus, Forest Park, the Cortex Innovation Community, the City Foundry STL and Armory projects, the Grand Center Arts District, Saint Louis University, Harris-Stowe State University, midtown, downtown and the Gateway Arch and Mississippi riverfront. The university is a proud contributor to this initiative. As described by Henry S. Webber, Executive Vice Chancellor for Administration, "Successful cities around the world not only have great

assets, they have great ways to connect those assets. This project celebrates St. Louis' many vibrant neighborhoods and great cultural and recreational assets while also doing the hard work of strengthening needed connections."

COMMITMENTS

1. OFMD staff is involved in many Washington University Medical Center Redevelopment Corporation (WUMCRC) activities. WUMCRC is a partnership of BJC HealthCare and School of Medicine. Its mission is to improve the quality of life for the neighborhoods surrounding the medical center. Activities address improving security, promoting a diversity of housing options, enhancing human and social services, improving infrastructure and cultivating economic development.
2. In support of university community engagement activities, OFMD organizes departmental activities with which staff contributes. OFMD will continue to participate in the following annual and ongoing events:
 - a. Annual United Way Campaign
 - b. Annual School Supply Drive supporting a local elementary school.
 - c. Ongoing expansion of the Lactation Room Program to support mothers returning to work after the birth of a child.
 - d. Sustainability initiatives and zero-landfill waste efforts at the annual Employee Appreciation Picnic.
 - e. Ongoing support of employee empowerment and professional development (People & Place, Women in Leadership, mentorship, internship, etc.).
3. While not an explicit directive of this plan, the School of Medicine recognizes that its buying power impacts



Photo, © Rudo Gray

the local and regional economy. This is a point of pride that this plan will help to advance. Noted in this document are plans to collaborate with the purchasing office to improve the ease with which departments can purchase large lab equipment that is water-and-energy efficient, materials of reduced toxicity, and food that is grown and/or processed within the region. OFMD is also dedicated to procuring goods and services from local vendors where quality and price are competitive. Its guidelines discuss making all reasonable efforts to procure sustainably sourced materials defined as those that are at least one of the following in whole or in part: made of recycled material, regionally extracted/harvested/recovered and processed/manufactured (within 500 miles), rapidly renewable (e.g. bamboo), made of FSC certified wood.



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