University of Nebraska at Omaha
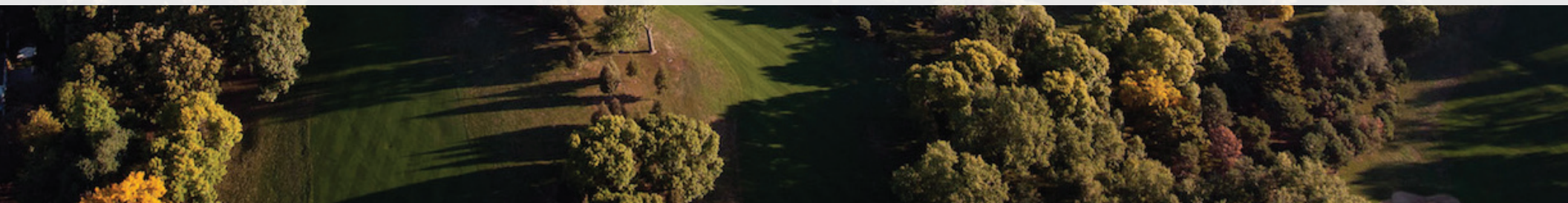
Sustainability Master Plan • November 2014

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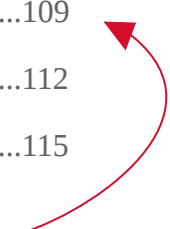
"The University of Nebraska at Omaha has developed substantial capacity in academics, operations, and outreach relevant to sustainability without any central coordination, and has the opportunity to do much more. Progress in this area enhances the efficiency of our campus operations, better prepares our students to address the problems of tomorrow, and establishes UNO as a responsible and respected leader in academia and the community."

- Excerpt from Campus Priorities: Charting a Clear Vision for 20/20

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And the hundreds (yes, hundreds) of others with whom the Planning Team met.

Executive Summary

Introduction

The University of Nebraska at Omaha (UNO) unquestionably values sustainability and sees it as a means by which UNO can achieve its goals of placing students first, being academically excellent, and engaging with the community.

Sustainability is not a new objective at UNO. Over the past several years, the university has built a solid foundation with respect to sustainability. This Plan is designed to build on these existing successes.

Sustainability presents a tremendous opportunity for UNO to conserve energy and resources while reducing long-term costs, attracting and preparing students, and improving the University's connection to the community. The cost of higher education is growing, but by working to achieve the vision and goals outlined in this Plan, UNO can take meaningful strides in tempering those costs.

UNO's peers are also prioritizing sustainability at their campuses. From a group of 17 peer institutions, 14 are members of the Association for the Advancement of Sustainability in Higher Education (as is UNO). Of those 14 AASHE members, three have achieved a gold Sustainability Tracking, Assessment and Rating System (STARS) rating, three a silver rating, and three a bronze – the same distinction UNO recently earned in spring of 2014. Additionally, six of the peer institutions are on the Princeton Review's 2014 list of Green Universities.

Many of UNO's peers have also adopted their own sustainability and climate action plans. The presidents at nine of UNO's 17 peer institutions have signed the American College and University Presidents' Climate Commitment (ACUPCC), a first step of which is creating a climate action plan. The presidents of over 680 institutions of higher learning have signed the APUCCC. The higher education arena is on the forefront of sustainability, and UNO is poised to be a leader.

Sustainability Defined:

Using resources wisely and engaging in actions that
1. are environmentally friendly, socially responsible, and financially feasible, and
2. benefit present and future generations.

Students and employees alike understand and agree that sustainability is important to UNO's success. In surveys, 95% of employees and 87% of students indicated that it's important to them that UNO is committed to sustainability and takes active steps to be more sustainable.

Furthermore, in conversations with groups from across the UNO community, it was very clear that sustainability efforts have a very direct, positive impact on UNO's students. It is this understanding and imperative that drives the university's motivation for future efforts, and the strategies outlined in this Sustainability Master Plan (Plan) chart the course for ensuring students are at the center of and benefit from the work.

The objectives of this Plan are threefold:
1. **Vision.** Articulate UNO's sustainability vision
2. **Integration.** Identify a path to integrate sustainability into UNO's everyday practices
3. **Focus.** Establish a focus on high, medium, and low priorities that lead toward the vision

Figure 1: UNO's Glacier Creek Preserve, a restored tallgrass prairie in northwest Douglas County, provided a unique and inspirational setting for the leadership immersion in March 2014 (photo credit: UNO).

This Plan reflects information collected through interviews, meetings with committees, councils, and task forces from across campus, site visits, focus groups, steering committee meetings, a leadership immersion, a Dream + Design Charette, three surveys, extensive research, review of several existing UNO strategic planning documents, and analysis of many UNO datasets, all of which occurred during February through September of 2014. The information obtained through this process (known as Discovery) was used to establish the strategic directions outlined in each of eight areas:

- Overarching Strategies
- Energy, Buildings, & Emissions
- Water & Sustainable Sites
- Materials, Waste, & Recycling
- Campus Planning & Mobility
- Campus Culture
- Community Engagement
- Academics & Research

To provide context for goals and recommendations, the Plan also discusses the progress of UNO's peers in higher education.

Also gleaned from the Discovery process were six key findings.

Key Findings

1. Stakeholders understand and agree that sustainability is important to the university
2. Stakeholders feel sustainability is important because:
   a. of its beneficial impact on student attraction, retention, and preparation
   b. it is a financially responsible approach to managing (and not wasting) resources
   c. it can and should set UNO apart as a leader
   d. of an ethical and moral obligation to protect the environment
   e. of the positive impact it can have on the people of the campus and local community
3. Significant and noteworthy accomplishments have been achieved, but awareness and knowledge of those efforts is limited
4. A solid coordination model is important to future success
5. The operational actions that occur can benefit UNO's education and research efforts
6. There are varying levels of understanding of the concept of sustainability and what all is encompassed

Visions & Goals

An extensive engagement process culminated in a set of visions and goals, which were refined and finalized at a Dream + Design Charette where key stakeholders from across the campus were present. These visions and goals serve as the light at the end of the tunnel and will guide efforts going forward.

Overall Sustainability Vision:

UNO integrates sustainability - concern for people, the environment, and fiscal responsibility - into everything we do.

Vision statements and goals were set in each of the relevant categories. In nearly every case, a measurable metric was identified and baseline set so that future progress can be clearly measured.

Water & Sustainable Sites

Vision: Water is efficiently used within buildings and prudently used in landscaping. Rainfall is managed so as to meet a portion of campus needs.

Metric	Baseline (Avg FY' 12-13)	Current (FY'13)	2025 Goal	2050 Dream
gallons per weighted campus user	11,328	11,451 +1.1%	25% reduction	50% reduction

Energy, Buildings, & Emissions

Vision: UNO uses energy efficiently and strives to have energy produced from renewable and carbon-neutral sources equal to the amount consumed. UNO uses existing, efficient building spaces to their fullest. When needed, new buildings are designed and built to the best resource conservation standards.

Metric	Baseline (FY'10)	Current (FY'13)	2025 Goal	2050 Dream
weather-normalized kBtu/ft²	302.3 (FY'10)	252.3 -16.5%	35% reduction	carbon neutral
metric tons of CO_2 equivalent	54,812 (FY'11)	53,164 -3.0%	60% reduction (2030)	carbon neutral*

includes Omaha Public Power District source reduction (coal & natural gas to renewables)

Materials, Waste, & Recycling

Vision: UNO reduces, reuses, and recycles nearly all materials to the extent that very few waste products are sent to the landfill. All purchasing decisions include lifecycle cost and closed loop considerations.

Metric	Baseline (Avg FY' 09-11)	Current (FY'13)	2025 Goal	2050 Dream
tons of waste + recycling per weighted campus user	0.176	0.173 (-1.7%)	25% reduction	50% reduction
% diverted from landfill	24%	23% (-4.2%)	61% (2020)	zero waste
% of purchases that are green	26% (FY'13)		50%	100%

Campus Planning & Mobility

Vision: UNO has a sustainably designed, walkable campus with buildings and outdoor spaces that are inviting and nature-inspired. The majority of people travel to campus by walking, biking, transit, or carpool. Many students live on campus, and virtual meetings/classes eliminate the need for some trips.

Metric	Baseline	Current	2025 Goal	2050 Dream
campus population per parking stall	1.84 (fall 2013)		2.24 (2020) 2.32 (2030)	5.00
% of single occupancy vehicle commute trips	57% (spring 2014)		40%	20%

Academics & Research

Vision/Goal: All graduates, faculty, and staff are sustainability literate. Sustainability literacy is embedded in curricular and co-curricular programs, and it is realized in the (physical and virtual) classroom and through experiential learning on and off campus. UNO is nationally recognized for the advancement of sustainability research.

Goals related to Campus Culture and Community Engagement are based on the Association for the Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment & Rating System (STARS). STARS is a transparent, objective framework for colleges and universities to measure their sustainability progress. It is the most thoroughly vetted and extensively tested international sustainability framework for colleges and universities and provides an excellent way for UNO to compare itself to its peers. UNO was one of 90 schools that piloted STARS in 2008 and completed a full report in May 2014, achieving a Bronze rating.

Campus Culture

Vision: Sustainability is an integral part of UNO's culture and identity. Students, faculty, staff, and administrators make decisions that are environmentally friendly, socially responsible, and financially feasible.

Metric	Baseline	Current	2025 Goal	2050 Dream
UNO Sustainability Engagement Index	52% (May 2014)		75%	95%
Campus Engagement STARS points	8.5 of 20 (May 2014)		20	20

Community Engagement

Vision: UNO is a model of dynamic sustainability thinking and practices for the community it serves and is a well-known and ready community resource.

Metric	Baseline	Current	2025 Goal	2050 Dream
Public Engagement STARS points	12.63 of 16.00 (May 2014)	16 (2020)	16	
An additional metric will be considered as part of the university's broader community engagement activities and tracking mechanisms.				

Top Strategies

Of the dozens of strategies included in the Sustainability Master Plan, the Planning Team identified the following recommendations as those that are most critical to UNO's future success.

Systematize & Coordinate Planning & Execution.
UNO will greatly benefit from establishing a clear, systematic process for sustainability planning and execution. UNO has experienced great success with its decentralized model, but future efforts will depend in part on the extent to which the rest of campus is aware of what's happening, feels engaged in the process, and understands how to get involved.

Communication, Tracking, & Feedback.
There is widespread agreement across campus that sustainability is important, but awareness of sustainability activities and issues is limited. By increasing communication efforts and consistently and transparently tracking progress and providing feedback, the entire campus will be in a better position to be actively engaged, assist with implementation, and champion future efforts. Furthermore, setting goals, agreeing to metrics, and reporting progress holds UNO accountable - just as in every other area of its strategic planning and mission fulfillment initiatives.

Sustainability Coordinator.
For UNO to best continue its sustainability progress and to ensure the two aforementioned strategies occur, UNO almost certainly needs a sustainability coordinator to lead its efforts. Among the group of 17 peer institutions referenced earlier, nine have a sustainability coordinator or similar position in charge of leading sustainability efforts. Institutions with sustainability coordinators are likely to achieve success when it comes to managing diverse sustainability projects that are often cross-departmental and collaborative in nature.

Focus on Student Engagement.
Students are at the core of UNO's mission, and they are poised and ready to be meaningfully engaged. Efforts to reach students and involve them in all facets of the University's sustainability initiative will pay significant dividends down the road, and their involvement will help prepare them for post-graduate life.

Figure 2: Students will play a key role in advancing UNO toward even greater sustainability efforts (photo credit: UNO).

Implement Environmentally Preferable Purchasing.
Several facets of an excellent Environmentally Preferable Purchasing (EPP) program are in place on campus. These elements should be systematically and comprehensively implemented across campus. Source reduction is the most important and effective way to save money on material purchases and minimize the volume of materials headed to the landfill.

Expand the Transit Pass Program.
UNO's transit pass program, MavRide, should be expanded to employees and opened to any student that wants to participate. Doing so is an important strategy to mitigating demand for parking.

Figure 3: Currently, 57% of UNO's campus users travel to and from campus by single occupancy vehicle trips. By expanding MavRide, which is currently only available to 800 students for most of the year, UNO hopes to reduce single occupancy vehicle trips to 40% or less (photo credit: UNO).

Focus on Residence Halls.

The residence halls are significant consumers of energy and water, and many opportunities abound to reduce consumption in both cases. While UNO won't directly financially benefit in the case of those units on Pacific Campus, reduced operating expenses of residence halls may help reduce overall costs to students. Focusing on residence halls also creates the opportunity to educate students via implicit and explicit facility systems.

Sign the American College and University Presidents' Climate Commitment (ACUPCC).

By setting a 2050 goal of climate neutrality in this Plan, UNO has already established its long term vision and met one of the major commitments of ACUPCC. By signing the agreement, UNO will solidify its commitment to sustainability and join over 680 other leading colleges and universities in working to combat climate change.

Upgrade to Thin Client Computers.

Speed up the transition to thin clients for desktops using the savings to invest in the next round of upgrades. To date, 1,250 desktops have been upgraded to virtual desktops, resulting in an 82% reduction in energy use and over $27,000 in annual savings.

Green Loan Fund.

UNO will benefit from institutionalizing its commitment to reinvesting energy savings into new efficiency projects so that it is not lost when leadership transitions occur. A hybrid model that allows for a small percentage of the fund to be used for engagement or other long- or no-payback initiatives will build engagement across campus.

Sustainable Foods Planning.

Build on this Plan and the current Dining Study to create a Healthy and Sustainable Foods Plan that identifies and articulates how UNO will expand its efforts to provide students, faculty, staff, and visitors with even more healthy and sustainable food options.

Conclusion

At its most basic level, this Plan outlines where UNO stands today with respect to sustainability (the baselines), where it plans to go in the future (2025 and 2050 goals) and what UNO should do to achieve those goals (strategies). It can and should serve as a roadmap for future efforts.

The foundation of success is strong and many opportunities exist for UNO to make quick and meaningful progress toward the bold goals that have been set. UNO's sustainability successes - in combination with this Sustainability Master Plan - place UNO near the top of the list in relationship to its peers. UNO is poised to be a sustainable university and an admired leader in the months and years to follow.

Introduction & Plan Overview

Introduction

The University of Nebraska at Omaha (UNO) unquestionably values sustainability and sees it as a means by which UNO can achieve its goals of placing students first, being academically excellent, and engaging with the community.

Sustainability presents a tremendous opportunity for UNO to conserve energy and resources while reducing long-term costs and improving the University's connection to the community. The cost of higher education is rapidly increasing, but by working to achieve the vision and goals outlined in this Plan, UNO can take meaningful strides in tempering that growth.

One of the primary objectives of UNO's Sustainability Master Plan (SMP) is to articulate UNO's sustainability vision. In doing so, it is important to first define sustainability, an effort that is considerably more complicated than it seems. Reaching consensus on what sustainability is and represents is a challenge that many organizations face.

Through hundreds of conversations with UNO stakeholders in addition to input from other sources, the University arrived at the following definition of sustainability:

Sustainability Defined:

Using resources wisely and engaging in actions that
1. are environmentally friendly, socially responsible, and financially feasible, and
2. benefit present and future generations.

Why is Sustainability Important to UNO?

The sustainability movement in higher education has built significant legitimacy in the last five years and is evolving at a rapid pace. There are currently over 760 institutions of higher learning that are members of the Association for the Advancement of Sustainability in Higher Education

(AASHE)[1] and more than 680 signatories to the American College and University Presidents' Climate Commitment (ACUPCC)[2]. These numbers are up dramatically from just a few years ago.

The broader higher education community clearly sees sustainability as important, and UNO is no exception. Boldly pursuing greater sustainability on campus will benefit UNO in the following ways:
1. Improved ability to attract, retain, and prepare students
2. Improved financial position, which translates into lower costs for students
3. More and greater connections with the community
4. Improved position as a leader with respect to sustainability

UNO undoubtedly stands to gain many other benefits; fortunately students and employees alike understand and agree that sustainability is important to UNO's success. In recent Sustainability Surveys administered as part of the SMP planning process (see Appendix I for a full summary of survey results), 95% of employees and 87% of students indicated that it's important to them that UNO is committed to sustainability and takes active steps to be more sustainable.

Furthermore, in conversations with groups from across the UNO community, it was clear that sustainability efforts have a direct, positive impact on UNO's students. This understanding and imperative drive the University's motivation for future efforts, and the strategies outlined in this Plan chart the course for ensuring students are at the center of and benefit from the work.

Objectives of the SMP

The objectives of the Plan are threefold:
1. **Vision**. Articulate UNO's sustainability vision
2. **Integration.** Identify a path to integrate sustainability into UNO's everyday practices
3. **Focus.** Establish a focus on the strategies that lead toward the vision

At its core, UNO's Sustainability Master Plan should articulate the University's long-term sustainability vision, provide indicators (metrics) to measure progress, and chart a course for achieving the vision.

Sustainability at UNO

Sustainability is not a new objective at UNO. Over the past several years, the University has built a solid foundation with respect to sustainability. This Plan is designed to build on these existing successes, some of which include:

- Institutionalized sustainability as one of five campus priorities
- Established the Center for Urban Sustainability
- Created Chancellor-appointed Sustainability Committee
- New curriculum offerings and programs such as a sustainability concentration and sustainability minor
- New buildings are green and efficient
- Increased its total building square footage without increasing energy use
- Created Green information technology guidelines
- MavRide program provides free bus passes to 800 students
- Ongoing sustainability research
- Widespread single stream recycling program
- Water bottle refill stations offset plastic bottled water
- Green Basis student sustainability organization and the Student Government Sustainability Committee
- Four-time Tree Campus USA designation
- Earned Sustainability Tracking, Assessment & Rating System (STARS) Bronze Rating, May 2014

Alignment with UNO's Mission, Values, and Goals

Sustainability serves as an exceptional strategy that better positions UNO to achieve its mission and three goals, and it aligns with UNO's values.

UNO's Mission

As Nebraska's metropolitan University, UNO is characterized by its strong academic foundations and creative community relationships that transform and improve the lives of constituents, the region, and the nation.

Values

The University of Nebraska at Omaha community is a diverse group of individuals sharing core values and working together to accomplish a common mission and vision.

Goal 1:

UNO will be recognized as a student-centered metropolitan university.

Students are UNO's key constituents and, as UNO strives to achieve its vision, UNO commits to develop and serve a diverse student body reflecting a dynamic metropolitan community.

Goal 2:

UNO will be recognized for its academic excellence as a leading metropolitan university.

UNO, led by the faculty, in collaboration with staff and students, strives for excellence at all levels of teaching, learning, scholarship, research, and creative activity consistent with its metropolitan mission. Excellence is demonstrated in programs and areas of distinction, high quality undergraduate education, and strong graduate research/professional programs.

Goal 3:

UNO will be recognized for its outstanding engagement with the urban, regional, national, and global communities.

In accordance with our mission, UNO is committed to community engagement. UNO defines community engagement as collaboration between the University and its local, regional, national and global communities for the exchange of knowledge and resources. As an engaged campus, UNO is fully committed to creating value through mutually beneficial partnerships where information and expertise is shared and applied for the common good.

Visualizing Success

Figures 4-7: Visualizing Success: The Center for Urban Sustainability's 'Launchpad' series, the LEED Gold Mammel Hall, a MavRide information station, and Tree Campus USA distinction are just four examples that demonstrate existing success and a commitment to sustainability (photo credit: UNO).

Certainly other sustainability successes exist, and naturally, UNO has opportunities to further engrain sustainability into its identity, culture, and operations.

UNO's peers are also prioritizing sustainability at their campuses. From a group of 17 peer institutions[3], 14 are members of AASHE. Of those 14 AASHE members, three have achieved a gold STARS[4] rating and three have achieved a silver rating. Three others have achieved a bronze rating, the same distinction UNO earned in spring of 2014. Additionally, six of the 17 peer institutions are on the Princeton Review's 2014 list of Green Universities, and nine have signed the ACUPCC.

Figures 8-9: *As members of the Association for the Advancement of Sustainability in Higher Education, UNO and its peers share ideas and best practices for making their campuses more sustainable. By signing the American College and University Presidents' Climate Commitment, UNO will further establish itself as a leader amongst its peers with respect to sustainability and emissions reductions.*

In terms of planning, 11 of the 17 peer institutions have published an energy or sustainability strategic plan since 2009. These include climate action plans, energy management plans, and broader sustainability plans. As indicated in the Peer Analysis summary table (Appendix II), only three peer institutions have published a broader sustainability plan (analogous to this one).

Thus, UNO's sustainability successes - in combination with this Sustainability Master Plan - place UNO near the top of the list in relationship to its peers. UNO is a sustainable University poised to become even more sustainable in the months and years to follow.

Key Findings

The Planning Team identified six themes or key findings. These concepts cut across specific areas of the Plan and broadly reflect accomplishments by and opportunities for UNO. The overall key findings are:

92% of survey respondents agree that it's important that UNO is committed to sustainability

1. **Stakeholders understand and agree that sustainability is important to the University.**

As previously discussed, there is widespread agreement across campus that sustainability is important to the University and will better position UNO to achieve its goals.

2. **Stakeholders feel sustainability is important for five key reasons.** These include:
   - its beneficial impact on student attraction, retention, and preparation
   - it is a financially responsible approach to managing (and not wasting) resources
   - can and should set UNO apart as a leader
   - an ethical and moral obligation to protect the environment
   - the positive impact it can have on the people of the campus and local community

3. **Significant and noteworthy accomplishments have been achieved, but awareness and knowledge of those efforts is limited.**

UNO has been able to achieve significant accomplishments related to sustainability, including operational, curricular, co-curricular, and research-related successes. Awareness of these successes, however, is limited across campus. There are some areas where accomplishments are known (primarily related to mobility), but opportunities to significantly improve in this area

are aplenty. As a case in point, the recent Sustainability Survey revealed that only 43% of staff and 25% of students indicated that they are aware of the fact that sustainability is one of UNO's five main priorities.

4. A solid coordination model is important to future success.

UNO recently took significant steps forward through the creation of the Chancellor-appointed Sustainability Committee and the Center for Urban Sustainability. These exist in addition to other sustainability-related organizations across campus - some formal, some not. Coordination between and amongst these different groups, however, could be enhanced.

5. The operational actions that occur can benefit UNO's education and research efforts.

UNO's operations and education/research arms primarily operate in silos, which is by no means unique to the University. Breaking down these barriers presents great opportunities for faculty to use the campus as a "living lab" wherein students and research can both benefit.

Figure 10: The rain garden located on the west side of UNO's Welcome Center is an exciting example of collaboration between operations and academics/research. In addition to retaining stormwater, the garden serves as an educational resource for students.

6. The extent to which students, employees, and visitors understand sustainability and what it means is extremely varied.

Knowledge of and perspectives on sustainability vary widely across campus. The most common request the Planning Team received throughout the process was to define sustainability.

A Planning Process that Involved Groups from Across Campus

The Planning Team placed a high emphasis on engaging and obtaining input from an extremely broad cross-section of campus. A wide variety of perspectives were sought through several mediums, one of which included discussions and listening sessions with several UNO groups (listed below).

- Chancellor's Cabinet
- University Communications
- College of Business Green Team
- Division of Student Affairs Leadership
- Student Government
- Student Government Sustainability Committee
- Barbara Weitz Community Engagement Center Leadership
- Center for Urban Sustainability Advisors and Leadership
- Green Basis
- Information Technology Leadership Team
- Facilities Management Leadership Team
- Sustainability Curriculum Task Force
- Nebraska Business Development Center
- Academic and Student Affairs Executive Leadership Team
- Deans' Forum
- Support Services Leadership Team
- University Village and Maverick Village Resident Assistants
- Staff Advisory Council
- Service Learning Academy Leadership Team
- STEM Education Group
- Mav-Rec Wellness Group
- Athletic Department Leadership Team
- College of Education Administrators
- Scott Hall, Court & Village Resident Assistants
- Enrollment Management Leadership Team
- Faculty Senate Executive and Goals and Directions Committees
- Fraternities & Sororities Presidents' Council
- Wellness Master Plan Steering Committee
- Student Housing Planning Committee
- Strategic Planning Forum

Plan Overview & Methodology

The process for creating the Plan, which is focused strictly on the Dodge and Pacific campuses, reflects eight months (February - September 2014) of work on the part of UNO's key stakeholders and Verdis Group, but it builds on years of excellent progress made by UNO.

Several mechanisms were deployed to engage and obtain input and perspectives from an extremely wide breadth of stakeholders. These mechanisms included but were not limited to the following:

- interviews
- listening sessions with committees, councils, and taskforces from across campus
- site visits
- topic-specific discussions that included internal and external stakeholders
- Steering Committee meetings
- Planning Team meetings
- Leadership Immersion
- Dream + Design Charette
- three surveys (students; faculty & staff; the community) garnering over 1,750 total responses
- extensive research
- peer review analysis
- review of several existing UNO strategic planning documents
- analysis of many UNO datasets

A high priority was placed on two components of the process: stakeholder engagement, and building on and incorporating the extensive work reflected in several existing UNO strategic planning documents.

The Planning Teams

There were two primary bodies that led the process of developing the Sustainability Master Plan. First, the primary Planning Team consisted of five project liaisons from UNO and the Verdis Group team. UNO's project liaisons included:

- Daniel Shipp, Associate Vice Chancellor/Dean of Students, Student Affairs

- Angela Eikenberry, Associate Professor, Public Administration
- Jonna Holland, Associate Professor, Marketing and Management
- Patrick Wheeler, Environmental Advocate / Sustainability Champion, Environmental Health & Safety
- Raechel Meyer, Graphic Designer, Student Affairs

A Sustainability Master Plan Steering Committee was also established to provide a very broad on and off-campus perspective, and to give the Planning Team guidance as the project unfolded. Members are listed in the Acknowledgements section.

Stakeholder Engagement

The stakeholder engagement process delved wide upon and deep into the organization and included students, faculty, staff, and administrators from across campus and beyond. The focus of each listening session (see Appendix III for detailed results) remained generally the same so as to draw consistent conclusions while allowing some flexibility for each group to articulate its interests. The list on the previous page represents every group the Planning Team met with throughout the course of the planning process, but does not include several interviews, four topic-focused discussions, and many less-formal small group discussions.

The Leadership Immersion, which was held at Glacier Creek Preserve in March, 2014, allowed the Planning Team to spend a day with 19 key stakeholders exploring why sustainability is important to UNO and what the long-term vision includes. Representatives from across campus attended and spent time exploring and learning from nature to inform their perspectives on UNO's sustainability vision.

Figure 11: The Leadership Immersion was held in a revitalized barn hayloft at the Glacier Creek Preserve. During the immersion, in addition to spending time outside in the restored tallgrass prairie, participants discussed what sustainability means to UNO and developed its sustainability vision (photo credit: UNO).

Figure 12: UNO's Daniel Shipp addresses attendees at the Dream + Design Charette in the Community Engagement Center. The charette brought together key decision-makers to finalize UNO's sustainability goals (photo credit: UNO).

Building on Existing Strategic Plans and Documents

UNO also has a healthy amount of work already invested in a variety of strategic plans and other similar documents, each of which touch on and address facets of sustainability to varying degrees. The plans and documents listed below were studied and built upon so as to leverage the work that's already been completed and to ensure consistency between documents and future plans.

- Campus Mobility Study (2008)
- Energy Study Phases I & II (2009)
- Campus Renewable Energy Opportunity Analysis (2011)
- Parking/Traffic Master Plan (2011)
- Storm Sewer Study (2011)
- Campus Priorities: Charting a Clear Vision for 20/20 (2012)
- UNO Mission, Vision, Values, and Goals
- Sustainability at UNO, White Paper (2011-12)
- Utilities Master Plan Update (2012)
- Facilities Development Plan Update (2013)
- AASHE STARS Submission (2014)
- NBDC's Environmentally Preferable Purchasing Study (2014)
- The Costs, Benefits, and Challenges of Implementing Sustainable Transportation Options at UNO (2014)

The information obtained through the listening sessions, information-gathering, and information analysis phase, called Discovery, was used to create baselines and preliminary vision statements and goals for greenhouse gas emissions, energy, water, waste and recycling, campus transportation mode split, campus engagement, community engagement, academics, and research.

The Discovery phase culminated in a Dream + Design Charette on July 2 during which vision statements and 2025 and 2050 goals were debated and finalized. These collectively provide the long-term desires of the campus with short-term milestones to gauge progress.

With the long-term vision and goals in place, the Planning Team began compiling and refining extensive lists of strategies that, if pursued and

implemented, will ensure that UNO achieves its goals. Subject-matter experts from across the campus were engaged throughout the strategy refinement process to provide input. They assisted with the completion of prioritization matrices that used six criteria to rank projects. The criteria used were formed out of the interviews and conversations held throughout the process and were refined and finalized by key stakeholders at the Dream + Design Charette. The results of the prioritization exercise provided a preliminary determination as to which projects should be first, second, and third level strategies.

The Planning Team completed the final refinement and prioritization of all strategies in each of the major eight categories of the Plan, which include:
- Overarching Strategies
- Energy, Buildings, & Emissions
- Water & Sustainable Sites
- Materials, Waste, & Recycling
- Campus Planning & Mobility
- Campus Culture
- Community Engagement
- Academics & Research

Structure of the SMP

Each of the eight aforementioned areas serve as the core of the SMP. Within each category, or chapter, readers will find a vision statement, baseline performance metrics, goals for each metric (except in Overarching Strategies and Academics & Research), and strategies for UNO to pursue. In sections where several strategies were identified, the strategies are organized into first, second, and third level strategies.

The metrics identified in each category represent the most important information UNO will continue to track over time. There are certainly other sustainability metrics that may provide excellent insight into how well the University is performing, but those included in the SMP are typically more holistic, were more important to most stakeholders, and in most cases the information needed to track progress is for-the-most-part available.

The strategies outlined in this Plan are numerous yet they were culled from a much larger list developed toward the latter stages of the Discovery phase. This Plan and the strategies outlined herein represent the Planning Team's view of the most appropriate course of action given the information currently at hand. In some cases, each strategy may require an additional level of analysis, including a detailed cost-benefit analysis, before any decision to implement is made. Additionally, the Planning Team acknowledges that there are several variables that impact the feasibility, desirability, and timing of any given strategy. As those variables change, UNO will act nimbly to adjust its plans.

Finally, there are likely strategies not included in this Plan that should be pursued nevertheless. The Planning Team went to great lengths to include and engage many stakeholders so as to be comprehensive, but it also acknowledges that the concept of sustainability is very broad and far-reaching, which makes it difficult to identify, study, and articulate all strategies.

UNO's Sustainability Master Plan should be viewed as a living document that provides the first stages of a work plan for implementation. Given the long-term horizon of this Plan, UNO should expect the Plan to continually evolve over time so as to address changing variables.

Notes

1. *"Membership Directory." Association for the Advancement of Sustainability in Higher Education. Web. 6 Sep. 2014.*
2. *American College and University Presidents' Climate Commitment. Web.*
3. *17 peer institutions considered: Cleveland State, IU-PUI, Oakland, Portland State, UT-San Antonio, UA-Little Rock, UM-Kansas City, UM-St. Louis, UNC-Charlotte, Wichita State, Northern Illinois, UC-Denver, Northern Iowa, Iowa, UC-Boulder, UN-Lincoln, Creighton.*
4. *AASHE's Sustainability Tracking, Assessment, and Rating System (STARS) is a transparent, self-reported framework for higher education institutions to measure their sustainability progress and learn from / compare themselves to other institutions.*

A Day in the Life of a UNO Student in 2025

Day In The Life

A Day in the Life of a UNO Student in 2025

Much can change in ten years, and with students at the center of UNO's mission, it's worthwhile to consider how students' lives might change if UNO achieves its 2025 sustainability goals.

7:07	Awakes in LEED Certified residential hall apartment that is part of the Living Lab.
7:11	Gets cleaned up using all low-flow fixtures (shower, faucet, toilet).
7:19	Checks energy dashboard on smart phone to see living quarter's energy and water consumption statistics. Currently in 4th place in energy conservation competition.
7:21	Eats an organic, locally-sourced from campus garden, breakfast in cafeteria.
7:34	Places organic food waste in composting containers; plastics in recycling container. It's a zero-waste breakfast.
7:45	Obtains a bike at bike share station, which is free to all students. Pedals to class.
7:59	Arrives at class: Renewable Energy Technology and the Nebraska Economy.
8:10	Class heads to Milo Bail Student Center roof to inspect solar array.
9:00	Arrives at Green Basis meeting, along with dozens of other students, faculty & staff. Currently planning phase two of energy conservation competition.
10:37	Exchanges tweets with UNO Sustainability Coordinator regarding upcoming Energy Peak Shaving days.
11:02	Web chat with student sustainability leaders at UNK, UNL, and UNMC. Topic: Recyclemania.
11:50	Grabs to-go lunch in reusable to-go container.
12:00	Arrives at Lunch 'n' Learn. Topic: UNO's Gold STARS Rating.
12:57	Walks to and arrives at class: Community Based Environmental Management.
1:23	Co-presents with guest lecturer from local environmental organization - class project community partner.

1:53	Sees Metro Transit bus arriving in three minutes using real-time travel information. Uses MavRide on smart phone to board. Back to apartment.
2:05	Nap. The sound of birds chirping in the prairie habitat next door is quite relaxing.
3:00	Attends Tree Campus USA award ceremony, UNO's 13th such award.
3:30	Studies outdoors in Elmwood Park using free wi-fi.
3:45	Checks bank account. Sees sustainability scholarship has been deposited.
4:30	Attends Green Loan Fund "pitch" meeting to advocate for funding for a new project developed as part of a class research project.
5:51	Meets friends at Dodge Street Bus Rapid Transit (BRT) station.
5:56	Scans MavCard to board eastbound BRT.
6:17	Arrives at 14th and Dodge BRT station.
7:00	Dinner in the Old Market at all-local restaurant.
8:24	Boards westbound BRT.
8:49	Arrives at recently renovated and now LEED-certified and Energy Star award-winning library.
9:09	Studies
10:42	Walks through campus orchard back to apartment.
11:09	Video games.
11:32	Lights out.

Overarching Strategies

Strategies

In addition to the more specific recommendations outlined throughout the following sections of this Plan, there are six overarching strategies that impact all aspects of the University of Nebraska at Omaha's (UNO) sustainability efforts. These actions will help integrate sustainability into the organizational fabric.

SYSTEMATIZE & COORDINATE PLANNING & EXECUTION

UNO will greatly benefit from establishing a clear, systematic process for sustainability planning and execution. UNO has experienced great success with its decentralized model, but future efforts will depend in part on the extent to which the rest of campus is aware of what's happening, feels engaged in the process, and understands how to get involved.

Centralized planning should not displace the decentralized efforts already underway. Rather, it should support and nurture them - many of the best strategies are identified by those green teams, departments, and sustainability advocates that are dispersed throughout campus. The key will be for there to be an effective and transparent flow of ideas across campus.
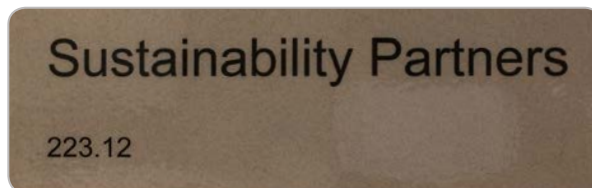
Figure 13: UNO groups focused on sustainability share a workspace in the Community Engagement Center, identified here with the Sustainability Partners sign. This space could be excellently utilized as a hub for coordinated sustainability planning and activity, which is critical to future success.

Ongoing Strategic Planning. This Plan represents the best course forward to achieve UNO's goals at this particular moment in time. Given the long-term horizon of the Plan (2050), it's important for the strategic planning process to be viewed as iterative and ongoing. Variables and conditions will change

frequently; being nimble and flexible in light of those changes is important.

Idea Generation. Create a clear and simple process for generating, vetting, selecting, and executing projects. Good ideas can come from all levels of an organization, whether it's a student, administrator, custodian, faculty member, or community member, collecting these ideas in a systematic, predictable and transparent way will enhance engagement levels across campus.

Developing a joint, web-based program for submitting sustainability ideas and feedback that ensures optional anonymity while still providing the opportunity to track topics and responses is an important first step to allowing good ideas to germinate and grow.

Execution. Ownership of the execution of strategies and action items is extremely diverse and sometimes requires the involvement of multiple stakeholders. Regardless of who is ultimately responsible for implementation of a particular strategy, results should be centrally tracked by the Sustainability Committee and/or a Sustainability Coordinator.

Feedback to all involved on the progress of UNO's sustainability efforts is a critical component to a successful, systematic process for planning and execution. Feedback mechanisms are covered in more detail in the following section.

Policy Review & Development. Several policy recommendations are made throughout this Plan, but a thorough review of all institutional policies was not conducted. Future efforts should include a systematic review of policies in order to identify those that are barriers to achieving sustainability goals, and to begin the development of new policies that outline and fortify certain activities that lead toward greater sustainability on campus.

COMMUNICATION, TRACKING & FEEDBACK

Two of the Planning Team's major findings underscore the importance of improving communication, tracking progress, and providing feedback to stakeholders. They are:

1. Significant and noteworthy accomplishments have been achieved, but awareness and knowledge of those efforts is limited
2. The extent to which students, employees, and visitors understand sustainability and what it means is extremely varied

Communication. Effectively communicating with all students, faculty and staff on a college campus has always been extremely difficult and is becoming increasingly more challenging. This barrier, however, does not decrease the importance of communicating successes, decisions, challenges, and opportunities.

**UNIVERSITY OF NEBRASKA AT OMAHA
SUSTAINABILITY COMMITTEE**

Figure 14: The GreenUNO Task Force (precursor to the Chancellor-Appointed Sustainability Committee) did an exceptional job leading several sustainability efforts on campus. However, without focused and integrated efforts, the Committee could be challenged to meet the realistic but challenging goals set forth in this Plan.

Nearly every strategy in this Plan could end with the phrase, "...effectively communicate as appropriate." When new curricular programs are created, they must be communicated. When a building earns a green designation, it must be communicated. When new, efficient faucet fixtures are installed, it must be communicated.

There are specific strategies related to communication throughout this Plan in nearly every section. In some cases these strategies are unique to a particular topic, while in others the strategy can and should be applied quite broadly to all sustainability efforts.

A sustainability coordinator (see below) can and will play an important role as the information gatekeeper and main storyteller but must work closely with and rely on the expertise of UNO's Communications team.

Track and Report Progress. When changes are made or efforts are undertaken but progress is not reported, it disengages those that are putting forth great effort and making changes. When one does not know how their actions play into and are impacting the broader picture, they'll eventually become uninterested.

It is absolutely vital for UNO to track the results of sustainability efforts. And the results must then be effectively communicated to all stakeholders involved. This is important to both the goals outlined in this Plan and to many if not most of the strategies.

Several strategies for communicating, tracking, and reporting progress are included in many sections throughout this Plan. A few of the more critical action items include:

• An online dashboard that highlights and tracks progress toward UNO's sustainability goals
• Quarterly sustainability updates at key leadership meetings
• An annual sustainability report available to all students, employees, and the community.
• Creation of a sustainability listserv or rss feed
• Regular updates in Maverick Weekly and Maverick Daily

SUSTAINABILITY COORDINATOR

For UNO to best continue - and enhance - its sustainability progress, it almost certainly needs a sustainability coordinator to lead its efforts.

Sustainability projects, which are inherently complex, are often cross-departmental and collaborative in nature. Institutions with sustainability coordinators are more successful at managing these types of projects than institutions that lack central coordination. Among the group of 17

peer institutions referenced earlier in this Plan, nine have a sustainability coordinator or equivalent position. UNO should join these institutions and the increasing number of other institutions throughout the nation that are adding sustainability coordinators. Not doing so puts UNO at risk of falling behind and struggling to achieve its sustainability goals and aspirations.

The addition of a sustainability coordinator at UNO would add centralization to the University's sustainability efforts, and with centralization comes synergy. UNO should still expect sustainability projects to often originate in decentralized departments or groups, but having a central point through which the projects pass will improve efficiency, communication, awareness, and engagement.

In terms of leadership, coordination, and management, UNO's sustainability coordinator could benefit the University in several ways:
- Provide leadership and coordination for the many distinct sustainability efforts on campus
- Keep inventory of ongoing and upcoming sustainability efforts
- Identify and prioritize opportunities to add to or expand sustainability efforts
- Build alliances among administrative, operational, academic, and research units
- Bring together groups that have not previously worked together
- Communicate with relevant parties
- Implement sustainability plans and develop new plans for reaching additional goals
- Hold the University accountable to its sustainability commitments
- Provide consulting power to research, plan, develop, and evaluate sustainability efforts
- Act as a single point of contact and spokesperson for all sustainability-related inquiries from both on and off campus
- Provide support to other departments to help them implement sustainability (and cost-saving) efforts

Instituting a sustainability coordinator could benefit UNO in other ways, too:
- Generate new revenue by securing grant funding and private support

- Contribute to a sustainable reputation that recruits and retains talented students and faculty
- Manage cross-topic sustainability programs that educate and engage a diverse student body
- Promote employee education and behavior change
- Build local community partnerships
- Provide sustainability knowledge or defer to the next-best representative to do so
- Collaborate to shape and deliver internal and external sustainability messages
- Manage the campus sustainability website, social media, etc.
- Represent the University to the media and at professional conferences
- Increase accountability and transparency for measurement and reporting towards goal attainment

Thus, creating a sustainability coordinator position is perhaps one of the best and most all-inclusive strategies for sending UNO along a sustainable path forward to meet - and exceed - the University's goals.

THE FINANCIAL SIDE
Green Loan Fund.
UNO will benefit from institutionalizing its commitment to reinvesting energy savings into new efficiency projects so that it is not lost when leadership transitions occur. A hybrid model Green Loan Fund that allows for a small percentage of the fund to be used for engagement or other long- or no-payback initiatives will build engagement across campus.

More and more institutions are making a financial commitment to sustainability via a Green Loan Fund. According to the 2012 Greening the Bottom Line report[1] from the Sustainable Endowments Institute:
- Green Revolving Funds (GRF) are sustainability financing mechanisms that have grown 15-fold in the past decade alone. There are 79 GRFs on 76 campuses in 31 U.S. states and two Canadian provinces (see Figure 15)
- 36 institutions have created a GRF since January 2011
- 900 energy efficiency projects have been initiated using GRF funding

Consider Charging Back Departments & Colleges. Departments and colleges pay very close attention to their budgets. By pushing energy, water, and waste costs to their budgets, departments and colleges will be increasingly motivated to reduce consumption. When a department or college is below their budget, a percentage or all of the savings can remain in their budget and spent as they deem fit; the remainder would flow back to Business & Finance for future energy efficiency investments.

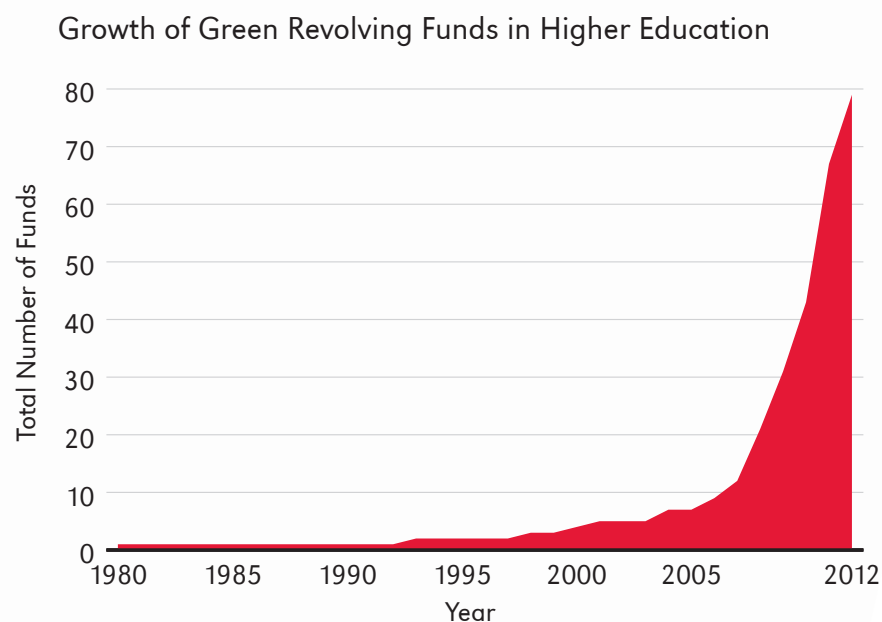## Growth of Green Revolving Funds in Higher Education

Figure 15: The graph above shows the total number of green revolving funds initiated in higher education. Although they have a relatively short history, they have become tremendously popular in recent years due to their ability to produce high returns on investment and to implement projects that support sustainability. Although UNO has plans to reinvest energy savings in sustainability, insitutionalizing the process through a green revolving fund ensures the commitment will continue.

POLICIES
Adopt a University-wide Sustainability Policy. UNO has worked with other University of Nebraska campuses (UNL, UNK, UNMC) to develop a not-yet-approved University-wide Sustainability Policy.

Policy Review. Identify policies that are barriers to sustainability efforts and revise as appropriate. Create new policies that embed sustainability at the policy level.

CONNECT WITH WELLNESS EFFORTS
There is a substantial effort underway to create UNO's Wellness Plan. People often don't immediately understand that wellness is a part of sustainability, but the connections between wellness and sustainability are very strong and direct. The efforts to tie the two programs together as often as possible and appropriate should continue. Doing so will mutually enhance both strategic efforts to improve quality of life on campus.

Notes

1. *"Greening the Bottom Line." Sustainable Endowments Institute (2012).*

Campus Planning & Mobility

Background

Several factors influence the means by which employees, students, and visitors choose to travel to and from UNO's campus: parking cost, parking availability, parking demand reduction programs, and campus design all have an effect. Due to its sheer size, UNO's campus has a significant impact on traffic and parking in midtown Omaha. Transportation and parking is a campus-wide challenge as a by-product of a vibrant and well-attended university. As UNO expands its academic offerings as a leading metropolitan university, buildings, rather than parking lots, become the highest use for land, even as more and more people want to come to campus. Adopting policies that encourage the use of active or lower-emission transportation options can reduce road and parking congestion, reduce pollution, promote healthy lifestyles, and preserve infrastructure.

According to UNO 2013 Factbook, the UNO campus has a weekday population of over 17,702 making the university larger than the population of La Vista, NE (17,562).[1] In the Fall of 2013, UNO updated its Facilities Development Plan (FDP) to provide a current vision and direction for growth on campus. The FDP provides many sustainability best practices that encourage making the campus a more vibrant, active, and sustainable place for students, faculty, staff, and the surrounding community.

Throughout the Discovery Phase of the Sustainability Master Planning process, the planning team heard from dozens of groups and individuals about the importance of creating a comprehensive approach to campus mobility as the campus grows and parking becomes more limited. UNO's SMP survey in April 2014 found 66% percent of faculty and staff support providing incentives for alternative commuting. Due to hearing UNO's focus on mobility, this section goes into more detail on strategies than other sections in this plan.

Successes

UNO has considerably ramped up both infrastructure and programs for multimodal transportation. In addition to the successes mentioned below, UNO plans to increase connectivity and enhance the pedestrian and bicycle experience as outlined in the Facilities Development Plan.

MavRide, the student transit pass program, was established in 2011 in partnership with Metro Transit. It surpassed 53,000 trips in 2013 and is estimated to reduce parking demand by 130 spaces each day.[2] UNO is also an engaged stakeholder in recent and on-going local transit planning efforts.[3]

Bike-parking, the installation of two bike fix-it stations, and other supporting programs led UNO to receive Honorable Mention as a Bicycle Friendly University in 2012. UNO started the yellow bike program in 2009, and now has two B-Cycle stations that are part of a city-wide network.

Car-sharing started on campus in 2013 with two ZipCars, and program use has been steadily increasing since the program began. UNO is a member of Metro RideShare, a local ride-sharing service that helps connect people who are headed in the same direction to share a ride.

To better accommodate campus users who drive to campus only sometimes, parking is available at no charge at Crossroads and the Parking and Transit office has implemented a $5/day lot as an alternative to buying a semester-long pass.

In 2011, UNO completed a Traffic and Parking Study which identified several sustainability best practices for parking garage design and multi-modal transportation. This section builds on the work completed in the 2011 report.
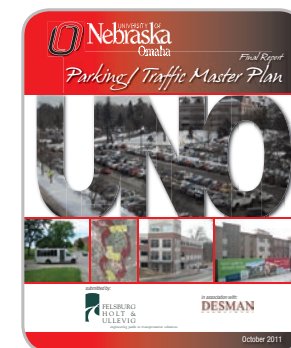

Figure 16: Information from the 2011 Parking/Traffic Master Plan informed many aspects of this chapter's recommendations.

Vision, Baselines, & Goals

UNO's vision sets the stage for creating a campus that enhances the quality of life of all campus users. UNO identified two important metrics to help track progress toward its Campus Planning & Mobility vision.

Campus Planning & Mobility

Vision: UNO has a sustainably designed, walkable campus with buildings and outdoor spaces that are inviting and nature-inspired. The majority of people travel to campus by walking, biking, transit, or carpool. Many students live on campus, and virtual meetings/classes eliminate the need for some trips.

Metric	Baseline	Current	2025 Goal	2050 Dream
campus population per parking stall	1.84 (fall 2013)		2.24 (2020) 2.32 (2030)	5.00
% of single occupancy vehicle commute trips	57% (spring 2014)		40%	20%

Mode Split for Commuting Trips

Baseline / 2025 Goal

- Single Occupancy Vehicle Trips
- Study/Work from home
- Walk, bicycle, non-motorized
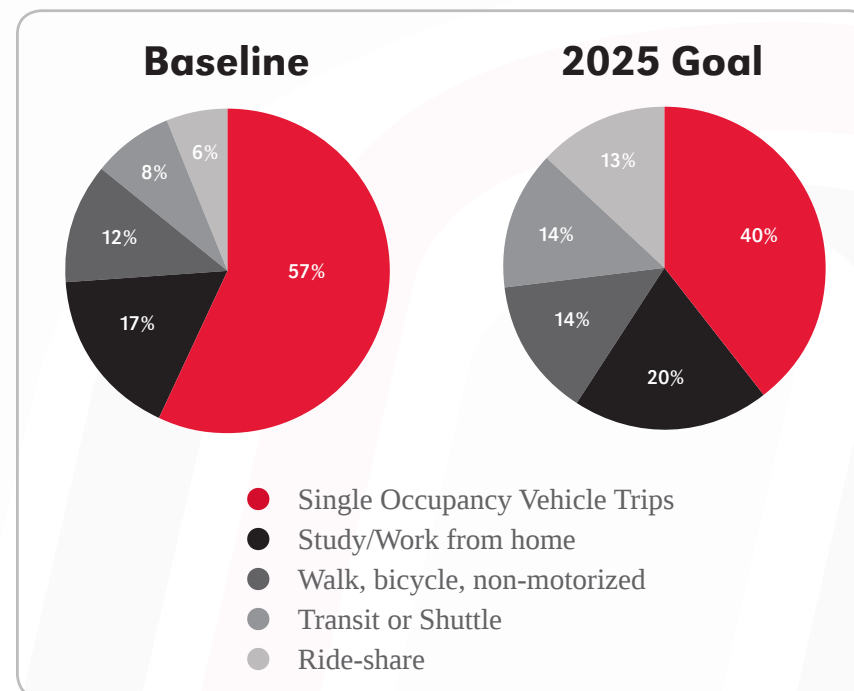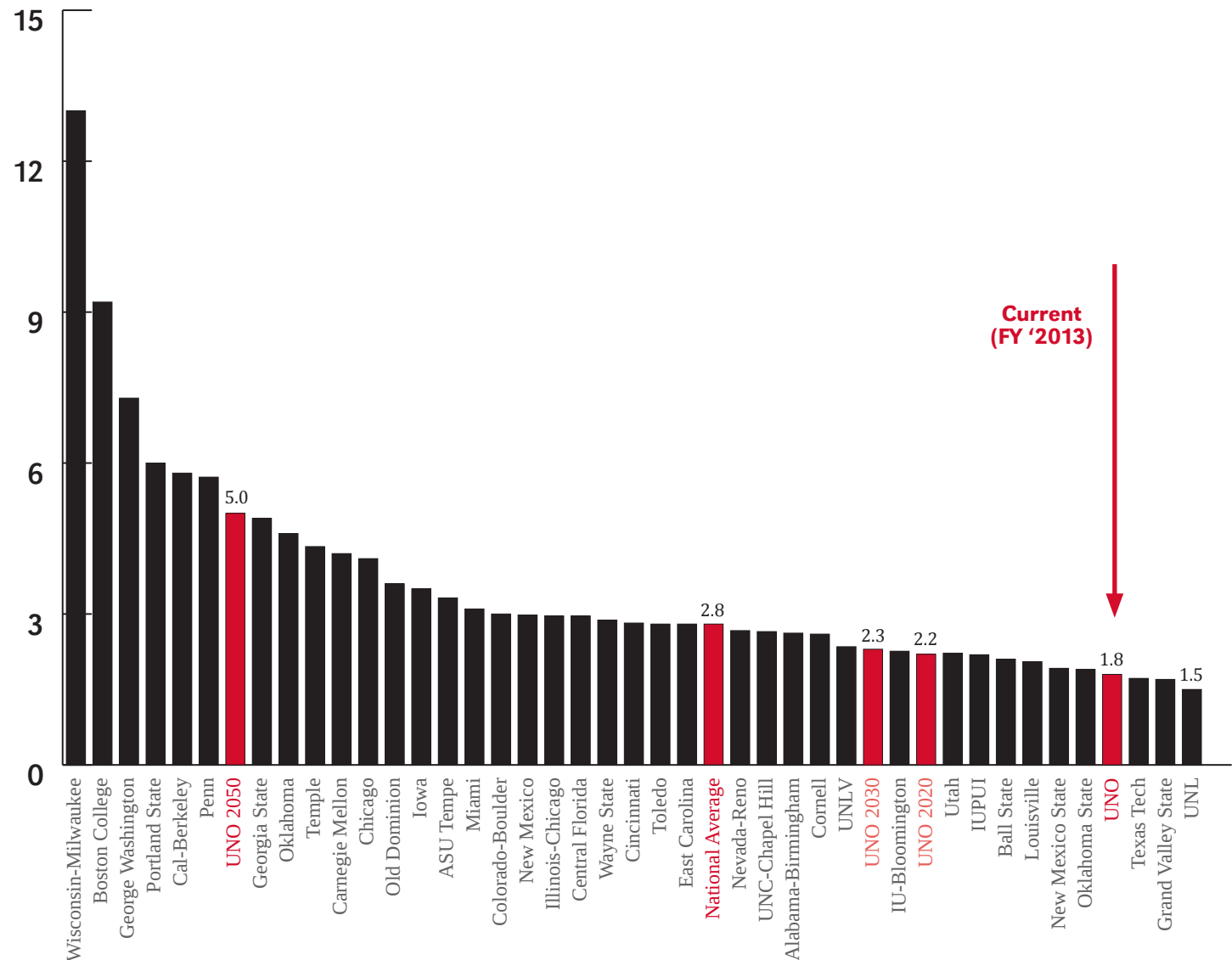- Transit or Shuttle
- Ride-share

Figure 17: UNO's goal (right) to reduce single occupancy vehicle trips is achievable and cost-effective through good campus planning and design, and building upon UNO's current multimodal options.

The 2050 goal of 20% single occupancy vehicle trips helps set decisions in motion today that will help create this reality.

Comparable Collegiate Parking Ratios 2013

Figure 18: UNO currently maintains nearly 8,800 parking spaces to support a total campus population of over 16,000. UNO's current ratio of total campus population per parking stall is 1.84:1. This is well below the national average of 2.80 people per stall.(FDP, p.31) UNO is projected to grow to 20,000 students by 2020 while consolidating parking and adding a minimal number of spaces. The 2013 Facilities Development Plan identifies the ratio goals of 2.24 in 8-15 years and 2.32 in 16+ years. (FDP, p.59) With the transportation demand management programs identified below, along with the work in Omaha's community around active transportation, UNO should be able to achieve both of these goals.

Current (FY '2013)

Chart bars (left to right): Wisconsin-Milwaukee, Boston College, George Washington, Portland State, Cal-Berkeley, Penn, UNO 2050 (5.0), Georgia State, Oklahoma, Temple, Carnegie Mellon, Chicago, Old Dominion, Iowa, ASU Tempe, Miami, Colorado-Boulder, New Mexico, Illinois-Chicago, Central Florida, Wayne State, Cincinnati, Toledo, East Carolina, National Average (2.8), Nevada-Reno, UNC-Chapel Hill, Alabama-Birmingham, Cornell, UNLV, UNO 2030 (2.3), IU-Bloomington, UNO 2020 (2.2), Utah, IUPUI, Ball State, Louisville, New Mexico State, Oklahoma State, UNO (1.8), Texas Tech, Grand Valley State, UNL (1.5)

Strategies

The strategies are organized by first, second, and third levels. This manner of organizing strategies generally results in an approximate prioritization based on a process that included subject-matter experts and stakeholders at UNO, the Planning Team, and the Sustainability Master Plan Steering Committee. Decisions were based on the quantitative and qualitative research completed during the Discovery Phase of the Sustainability Master Plan process. As part of the planning process, a special research study completed by UNO professors Angela Eikenberry and Craig Maher, both in the School of Public Administration, was provides additional detail for these strategies and informed their organization.

There are several aspects to mobility that warrant sub-sections. These sections are listed in the order of importance:
1. Transit
2. Ride-sharing
3. Program support
4. Communications and engagement
5. Bicycling and walking

Within each section the strategies are listed in order of priority, with the top six priorities for this section listed below.

Top Six Priorities
The six strategies listed below are considered the highest priority for pursuit as soon as possible. They are likely to have the largest positive impact. Details on each strategy can be found below.
1. Expand MavRide for students
2. Pilot a transit program for employees
3. Pilot ZimRide car-pooling program
4. Establish an Emergency Ride Home program
5. Develop and implement a communications and engagement strategy for transportation
6. Adjust campus shuttle contract to favor cleaner burning fuels to improve campus air quality and image

First Level Strategies

TRANSIT
Currently 8% of students, faculty, and staff use transit or the campus shuttle to regularly travel to campus. Many of those students use UNO's current transit program, MavRide, which is estimated to reduce parking demand by 130 stalls per day. For every 100 additional Mavride participants, parking demand is estimated to be reduced by 16.25 spaces per day.[4]

The following strategies address transit programs and infrastructure, both of which contribute to a culture where multi-modal travel is the norm. The goal of the recommended strategies is primarily to reduce the demand for parking, but these programs also increase students' affordable access to school, housing, and employment, and they have the side effect of improving air quality and wellness.[5]

Expand MavRide for students
Currently MavRide is available to 800 students in the Fall and Spring semesters and 200 students in the Summer session.

Open the MavRide program to any student that wants to participate, allowing natural program maturity. Transit pass programs will reach a natural saturation point and eventually plateau in use.
- UNO's Cost: $17/pass per year
  - During FY14, the total program cost was $30,112 for 800 passes in the Spring, 800 in the Fall, and 200 passes in Summer, for an average cost of about $17 per student pass per year.[6]
- Potential Impact: Two reports indicate that for every 100 additional passes there is the potential to reduce parking demand by 16[7] to 32[8] stalls daily. Ultimately, the more this program is promoted and used, the more parking demand will be reduced.

Transit Program for Employees

Pilot a faculty and staff transit program. Choose a way that would work best for UNO that can measure the success and cost of the pilot program.

- Potential Impact: Some employers in Omaha see reduced parking demand of 54 parking stalls daily for every 100 participants in an employer-subsidized transit program.9

Option 1: Pilot the MavRide program to faculty and staff. This would be a no-cost, unlimited ride pass for a limited number of employees. Participation in this program would require the employee to not purchase a parking permit. The suggested number of passes for the pilot to ensure quality data is 250 or more.

- UNO's Cost: $17 per pass per year assuming similar usage patterns as students.
  - Without knowing the usage pattern of employees, it is hard to project the annual cost. The above costs are based on the known cost per student pass during FY14.

Option 2: Join the Metro Partners program wherein UNO would purchase bulk 30-day unlimited ride passes at a discount. If UNO wants to provide no-cost bus passes to employees, expanding the MavRide program to faculty and staff is more cost effective, see option one.

- UNO's Cost: $0-$41.25 per pass per month
  - $0: If UNO allows the employee to purchase the pass at the same discount UNO purchases the monthly pass.
  - Up to $41.25: Depends on how much UNO is willing to subsidize each pass per month.
  - Program administration costs in the form of employee time are higher with this type of program compared to expanding MavRide to employees.

Potential funding for an employee transit program could come from a newly developed parking and transportation fee structure.

Park & Ride

Park & Ride locations are parking lots throughout the Omaha metro where students, faculty, and staff can park their vehicles free of charge and ride an express bus towards downtown, Route 92 serves UNO's Dodge campus. An express bus makes fewer stops getting people to their destinations more quickly than a standard bus route.

- Promote existing Express Routes and Park & Ride locations. The 92 Express with Park & Ride locations at Village Pointe and 144th and Dodge for easy transit access to campus.
- Work with Metro Transit to establish new Park & Ride locations if demand is present.

Partner with Metro Transit

Explore a partnership with Metro Transit to better meet the needs of student, faculty, and staff travel on the fixed-route bus system. Examples include:

- Explore ways the Metro system can help reduce the number and cost of shuttles needed to move students between remote parking and campus locations.
- Analyze ridership data that is already being tracked and discuss any applicable action based on identified trends, including the establishment of new Park & Ride locations if demand warrants.
- Explore the opportunity to begin using UNO ID smart cards for university transit programs.
- Work with Metro to partner on the establishment of the Dodge Street Bus Rapid Transit line scheduled for completion in 2018.
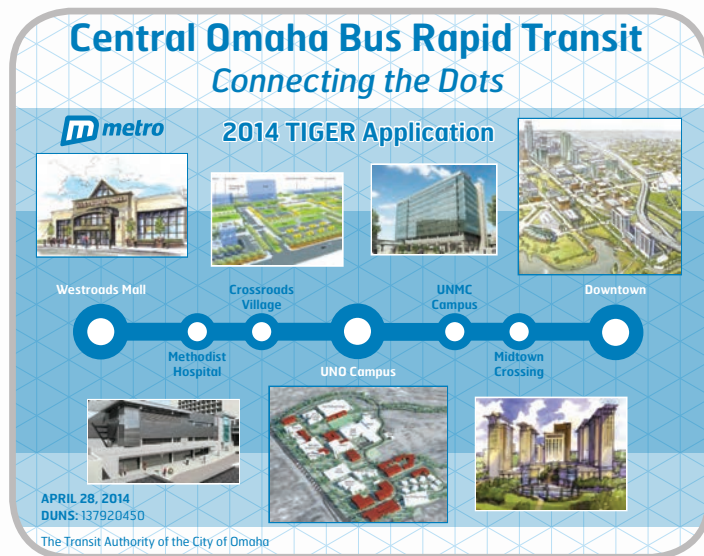
Figure 19: The Dodge Street Bus Rapid Transit line will improve connectivity among UNO Campus, Downtown, Midtown Crossing, UNMC Campus, Crossroads Village, and other parts of the metropolitan area.

Integrate transit planning into campus expansion

Meet regularly with Metro Transit during campus expansion and development to identify opportunities to integrate the Metro system into UNO's mobility strategy. Find opportunities to help move students, faculty, and staff using the existing bus system.

Examples include:
- Integrate a multi-modal transportation hub on Center campus to facilitate multiple bus transfers, B-Cycle, Keystone trail connections, car-sharing, and ride-sharing for Arena events and moving students from remote parking to campus.
- Where appropriate, integrate bus stop design or upgrades into new construction projects along bus routes.

Improve transit access and stops around campus

Work with Metro Transit to improve on-campus transit stops to make it easier, more convenient, and more comfortable to wait for a bus along the campus edge at the following locations:
- Dodge St., including future Bus Rapid Transit (BRT) station
- Pacific St.
- 67th St.
- Through Scott Village
- Through Aksarben Village
- At the consolidated athletic facilities on Center campus

Figure 20: The BRT project will upgrade UNO's current Dodge Street bus stop. Improvements to other stops around campus should also be pursued in order to improve campus users' waiting experience.

RIDE-SHARE

In addition to a transit program for students, faculty, and staff, a third way to reduce single-occupancy vehicle trips to campus is through ride-sharing, also known as carpooling. The Sustainability Master Plan survey conducted in April 2014 found 74% of faculty and staff and 73% of students support UNO sponsoring carpooling or ride-sharing programs. The strategies below address both programing and a basic incentive.

Pilot ZimRide or similar ride-sharing social network to expand ride-sharing options for students, faculty, and staff

ZimRide is a web-based ride-sharing software, but with additional features beyond Metro RideShare. It is designed to interact with social media, provide user ratings and enhance usability, including mobile access. With the connection to social media and marketing and outreach support, ZimRide has the potential to engage between 10-20% of the university population in the ride-sharing network. Data-tracking helps to better monitor trends and respond accordingly.[10] ZimRide also helps with on-going marketing and outreach efforts to expand the number of users in the program.

ZimRide Program costs:
- **Cost Option #1**[11]: Only UNO subscribes to ZimRide: $12,000/year + $2,500 setup fee
- **Cost Option #2**: UNO and UNMC both subscribe to ZimRide at the same time: $9,000/year, setup fee is waived.
- **Enterprise discount:** Because UNO uses Enterprise as it's primary rental car company, UNO may be eligible for an additional $3,000/year discount.
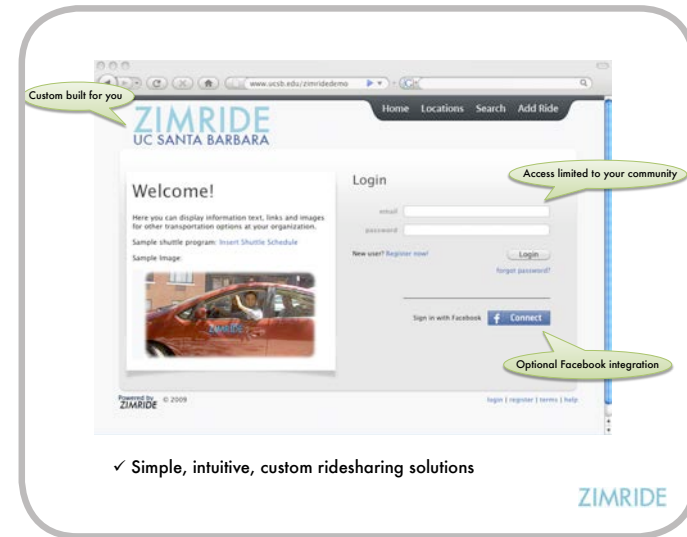

Figure 21: Zimride offers a user-friendly interface for campus users to participate in ridesharing and even provides options for network customization and Facebook connectivity.

Promote Carpool Permits

The current parking permit structure allows shared permits but few campus users know about this option. When more than one person with a shared carpool permit needs to park on campus, there is a daily rate lot and free parking currently at Crossroads and soon to be at the new arena.
- Promote shared permits as part of the communication and engagement program.

Dedicate reserved carpool parking

Designate preferred parking spaces for carpool and vanpool parking.

PROGRAM SUPPORT AND FUNDING

Since people can't always commute by the same mode every day, options need to be flexible, varied, and offered on a continual basis. Support programs help create a culture of multi-modal transportation by providing insurance for cases of emergencies and flexibility for the days when a frequent multi-modal user needs to drive a car to campus sometimes.

Establish an Emergency Ride Home

Implement an Emergency Ride Home (ERH) program for use by students, faculty, and staff who arrived on campus by any active means and, in the case of an emergency, need a ride home due to a family emergency, illness, or unplanned overtime. UNO's Emergency Ride Home program should be separate from MAPA's Guaranteed Ride Home Program, which currently is only available to individuals carpooling and registered under Metro RideShare's ERH program.

Most programs contract with a local taxi company to provide a limited number of emergency rides home per participant who requires one. UNO should determine parameters of the program, such as: eligibility, transportation mode, payment method, allowable destinations, distance and cost of rides, program rules, and program costs to the participant, if any.

- Program cost: $1.69, average (mean) annual cost per commuter registered in the ERH program[12].
- Program use: Typically less than one third of participants in an ERH program use the service. The typical range of use per registrant is between 0-31%[13].

Flexible Parking Permits

Develop a fee structure that is designed to reflect the true cost of parking but also provides greater flexibility to individuals who may not be driving to campus every day or every month. Examples include:

- Incentivize commuters to carpool
- Incentivize commuters to participate in a transit program
- Provide a one-day pass purchase option. This may be bundled in packages of 10, one-day passes.

Figure 22: ZipCar's car sharing service allows campus users to borrow a vehicle for an hourly rate, a convenient option for campus users who do not have a vehicle with them on campus (photo credit: UNO).

Expand ZipCar

Car-sharing programs like ZipCar provide a critical support to commuters who travel to campus without their personal vehicle by providing a means for day-time meetings and errands. The two ZipCars on UNO's campus have seen significant growth in use. In order to expand ZipCar:

- Allow faculty and staff to use ZipCar. Work with Purchasing to set up appropriate accounts for departmental use.
- Work with ZipCar to add additional vehicles at the Dodge campus as demand grows.
- Add a ZipCar location on the Pacific Campus
- Work with Student Affairs to promote ZipCar. See Communication and Engagement below for details.
- Cost to expand: $0. Use of ZipCar covers cost.

Parking Permit Fees

Raise parking fees to better capture UNO's associated parking costs. The current monthly parking lot fee is $24.99 per space whereas the actual cost to UNO is between $176 and $229 per space per month. Similarly, the monthly parking surface pass at UNO is $20 per space whereas the associated cost is between $127 and $199 per space per month.[14] The average cost for garage parking in Omaha is $70 and for surface parking it is $48.[15]

Funding

Funding transportation demand management programs can come from a variety of sources. Student fees, parking revenues (such as the parking sinking fund), grants, or other sources can fund programs that reduce the need to build parking.

COMMUNICATIONS & ENGAGEMENT

Integrate the promotion of multi-modal transportation into all UNO communications. Develop a communication strategy for informing potential, incoming, and current students and their parents; faculty and staff; and visitors about multi-modal options at UNO. Include convenient, specific, relevant, and timely information to each audience using campus maps, infographics, signs, websites and direct marketing programs. Include information on:

- MavRide
- B-Cycle and other bike sharing
- Metro RideShare or other ride-sharing program such as ZimRide
- Locations of bus stops and routes that serve campus
- Locations of bicycle, motorcycle, ZipCar, B-Cycle parking
- Any additional parking demand management programs and infrastructure developed as a result of this plan (such as preferred carpool parking, a faculty/staff bus pass program, emergency-ride-home, or others)

Branding

Brand the entire package of transportation demand management programs with a common name for ease of communicating travel options to, from, and between campuses.

Modeling

Model the desired behavior in a short video for internal promotion. Examples include a UNO student waiting for, getting on, and riding the bus.

Personal Stories

Have UNO students, faculty and staff write a short blurb about their experience riding the bus, carpooling, using ZipCar, B-Cycle and biking or walking to work.

Park & Ride and transit route map

Develop a map of Park & Ride locations along with route information and travel time to campus. Campus users are more likely to try using transit when route planning is easy to understand.

Walking map

Make available and communicate a version of the walking distance map developed in the 2011 UNO Parking and Transportation Plan, along with times to walk between the Dodge, Pacific, and Center campuses. Time represented in concentric circles is a best practice for informing individuals making travel decisions about walking.

Direct marketing

Develop a direct-marketing campaign that includes information about MavRide, Park & Ride locations, the employee transit program, ZipCar, ride-sharing programs and the Emergency Ride Home program. Example target audiences include:

- **Park & Ride:** All campus users within a 10 minute driving radius of each Park & Ride.
- **Bus Routes:** All campus users within a 10 minute walk of major bus routes that serve campus.

Webpage enhancement

- Develop an integrated "Transportation" webpage including all modes of travel to, from, and between campuses.
- Include multimodal directions for getting to campus on UNO's webpage

Events – "Getting Here"

Have the Events Office and all others organizing meetings on campus include multimodal directions in emails to incoming students and visitors who will be traveling to campus for special events (e.g. orientation, graduation, etc.)

Outreach

Work with Student Affairs for opportunities to meet with students to share UNO's comprehensive multi-modal transportation options.

Update campus maps to inform all modes of transportation

- Update "Visitor's Map" to include bus route and bicycle parking information.
- Update "Parking Map" to a "Transportation Map" including bus stops and route information.

REDUCE TRIPS TO CAMPUS

Increase the Percentage of Online Classes. UNO can grow enrollment without increasing the number of cars on campus by offering more classes online or by offering hybrid-classes.

Adjust Course Logistics. Add distance offerings and/or hybrid courses, thus reducing parking and facilities use. Convene a task force to determine how to best serve stakeholders while minimizing facilities needs and costs to meet the 2020 goal of 20,000 students.

Evenly Distribute Use of Instructional Space. Currently, instructional space is most heavily used during 10am - 2pm on Tuesdays and Thursdays. As a result, parking demand, congestion, and building operations are higher during these times. The manner in which courses are scheduled doesn't consider how distribution of instructional space will impact UNO's sustainability goals. Adding sustainability considerations to the current decentralized method of course scheduling will be a challenge, thus UNO should facilitate information sessions to increase awareness of the impact of course scheduling on infrastructure such as parking.

Figure 23: The shuttles are heavily used, which, unfortunately, exposes campus users to unhealthy air pollutants. Through upgrading to greener shuttles, UNO would improve its outdoor air quality and portray a more positive image to the community (photo credit: UNO).

CAMPUS FLEET
Campus Shuttles

Current campus shuttles include an aged fleet with diesel and gasoline fumes polluting the air on campus. In addition to concerns about the quality of air that students breathe, there is also a concern that the high-visibility of these diesel- and gas burning shuttles do not portray the image of a clean, healthy, and sustainable campus that UNO works diligently to embody.

In an effort to improve campus air quality, include contract language that favors cleaner burning of fuels to ensure students and visitors are not exposed to harmful pollution from shuttles. For example biodiesel, compressed natural gas, and electric vehicles are all cleaner transportation options than regular diesel fuel.

Reduce idling on campus: "No idling" as a standard practice

Encourage "No idling" as a standard practice to reduce noise and fuel use while improving campus air quality. This will require staff education and engagement to be successful.

Life-cycle cost of new vehicles

When purchasing new vehicles, consider the life-cycle cost of fuel consumption and the environmental impacts of the fuel used on campus air and water quality.

WALKING AND BICYCLING

Currently 8.7% (walk) and 2.4% (bicycle) of students, faculty, and staff walk or bicycle to campus. Research shows that to promote walking and bicycling, it is necessary to provide access and infrastructure and that a comprehensive approach produces a much greater impact on bicycling and walking than individual measures that are not coordinated. Comments made during Sustainability Master Plan information-gathering meetings indicated a desire for a more pedestrian- and bicycle-friendly campus, including connections between campuses.[16]

In addition to UNO's expansion of bicycle infrastructure and bike-sharing programs, the following strategies will enhance the culture of multi-modal transportation and make walking and bicycling to campus an even easier choice over driving.
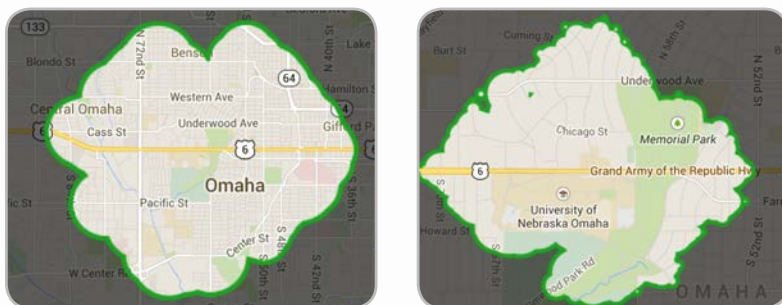
Figures 24 & 25: These maps (obtained from walkscore.com) indicate from where campus users can bike or walk to Dodge Campus and PKI within a 15 minute period.

Improve bicycle safety

Install share the road signs and paint sharrows on campus roads to improve vehicle and bicycle safety or plan separated bike paths with connections to and through campus

Improve secure on-campus bicycle storage and shower access

- Increase secure, covered bicycle storage near HPER and on South campus. Explore the installation of bike lockers or other dedicated space for an indoor bicycle parking facility elsewhere on campus.
- Include bicycle parking in all future parking garages.
- Provide short-term bicycle parking (e.g. racks) within 50 ft. of all occupied, non-residential buildings.
- Create a space where bike storage, shower facilities, and lockers are co-located in at least one building/location that is accessible to all commuters.
- Work with Student Affairs and HPER to establish a discounted bike commuter membership with access to the locker rooms and showers.
- Incorporate an on-campus bike-shop with the bicycle parking facility.

Figures 26 & 27: Bike racks should be plentiful and easily accessible throughout campus. The image on the left represents an opportunity for improved bike parking infrastructure.

Bicycle Friendly University

Work towards certification as a Bicycle Friendly University (at any level) by the League of American Bicyclists (U.S.) or under a similar third party certification for non-motorized transportation. Once achieved, include this designation in appropriate marketing and recruitment materials.

Walking and bicycling incentives

Provide incentives to encourage people to try walking or biking to campus. Examples include: multimodal commuting competition with prizes and bicycle give-away instead of parking permits for different campus events and/or access to free or low-cost showers.

Bicycle and Pedestrian Infrastructure

Implement the plan as shown on Bicycle Facility Map[17], including[18]:
- Provide connectivity to Keystone Trail as part of University Life Complex development on Center Campus.
- Utilize "Sharrows" near PS2 in lieu of dedicated path.
- Widen the 400' stretch of sidewalk along the west side of 67th just east of Mammel Hall. Increase width from 4' to 8' to increase capacity and match up with the remaining sidewalk north of Mammel Hall.
- Utilize 6" depth, 10' preferred width bike/pedestrian facilities for new projects.
- Pedestrian and bicycle facilities should be provided to connect any new parking facilities to the existing network.
- Bike dismount signs should be installed along main spine on Dodge Campus.
- Construction of new ramps & paths in various locations
- Switchback south of Caniglia Field
- Enhance connection across Pacific to improve pedestrian and bicycle safety and ease of travel.

Figure 28 *Pacific Campus already has "sharrows," but bike routes on Dodge Campus currently lack them.*

CAMPUS PLANNING

UNO has a recently updated (November 2013) Facilities Development Plan (FDP) which integrates three key sustainability design principles related to mobility. The intent of this section is to highlight a few examples of sustainable design principles UNO has already incorporated into the FDP to emphasize their importance and to provide a few strategies that complement what is already present in the FDP.

Principle 1: Foster a Mix of Building Uses to Improve Area Vibrancy. The FDP proposes an increase in both academic buildings and residential buildings on campus, both of which provide better compatibility with transit, access for pedestrians, and bicyclists due to an increase in activity and density.

Principle 2: Use Building Placement and Streetscape Design to Promote Active Transportation Modes
Dodge St. is an important edge where community and the campus meet. Planned improvements make this highly visible entrance to campus more transit, pedestrian, and bike friendly in addition to the planned buildout of the Mall running through the heart of Dodge campus. The Pacific campus buildout also provides an opportunity to practice streetscape design that enhances way-finding, fosters safety, and activates the first floors.

Principle 3: Provide High Quality Public Spaces to Encourage Interaction and Innovation
Well-designed and managed public space encourages social interaction, physical activity, and local pride.[19] UNO plans to expand and improve their public spaces through the guidance of the FDP, specifically with the Dodge Street Mall, Pacific Campus, and connections to Elmwood Park.

COMPLEMENTARY STRATEGIES TO THE FDP

Transportation Department and Advisory Committee
Change the focus of the Parking and Transit Department and Parking Advisory Committee to a (Multimodal) Transportation Department and Advisory Committee. This subtle shift in name will help create a culture supportive to more campus users traveling by multi-modal transportation options.[20]

Complete Streets on Campus. Develop a complete streets policy on campus and integrate UNO's transportation demand management strategy.

Complete Streets in the Community. Work collaboratively with the City of Omaha and Douglas County to promote Transportation Demand Management and a complete streets policy regionally.

Second Level Strategies

Biofuel. Purchase biofuel (E-85 and bio-diesel) for vehicles that are equipped to run on biofuel.

Advanced Travel Information. Utilize an Intelligent Transportation System (ITS) providing advanced travel information via the internet, television, radio, cell phone, etc.

Increase Percentage of Alternative Fuel Vehicles. Increase the percentage of fleet vehicles powered by an alternative method such as: bio-fuel, electric, natural gas, or a hybrid drive system.

Nebraska Vehicle Procurement. Encourage the state of Nebraska to provide more high MPG options in their purchasing bids.

Smart and Safe Driving. Make smart and safe driving techniques resources available to employees.

Electric Golf Carts and Gators. Phase out gasoline-powered golf carts and gators and phase in electric alternatives.

Building Placement. Use building placement and streetscape design in new construction and renovation projects to promote active transportation

Increase Select Parking Rates. Charge appropriate rates in visitor parking facilities and at on-street parking meters to deter students and staff from parking in these more convenient parking areas.

Explore Expansion of Bike Share Program

Develop a study to identify barriers and opportunities for bike-sharing on campus. Consider potential locations, connectivity, and programmatic elements.

Figure 29: UNO has the opportunity to replace diesel utility vehicles like this one with electric options that cost less to operate, are quieter, and contribute less to outdoor air pollution.

Third Level Strategies

Vehicle Needs Assessment. When replacing a vehicle at the end of its life or adding a new vehicle to the fleet, first clearly identify needs for that vehicle and then purchase the highest MPG vehicle available through State purchasing.

Telecommuting. Offer a telecommuting program for employees, either as a matter of policy or as standard practice.

Condensed Work Week. Offer a condensed work week option for employees, either as a matter of policy or as standard practice.

Human-powered Vehicles. Find the right balance of human-powered vehicles for campus fleet. E.g. bicycles for security and work-horse tri-cycles for select food-service and maintenance purposes.

Vehicle Replacement Schedule. Explore specific opportunities to replace current vehicles now, such as replacing vehicles used for food service deliveries with lighter, efficient electric vehicles.

Electric Vehicle Charging Stations. Provide one or more Level 2 or Level 3 electric vehicle (EV) recharging stations that are accessible to student and employee commuters. According to the UNO Sustainability Master Plan survey, 61% of faculty and staff support providing on-campus charging stations at a neutral cost to UNO.

Driver Training. Train employees on efficient driving techniques and vehicle maintenance.

Bike Access: Caniglia Field. North-south bike access through Canigila Field area should be provided as part of any redevelopment or construction adjacent to the field.

Parking Rate Structure. Tier parking rates based on distance to central campus and primary destinations (see walking radius map).

Rightsize the fleet. Identify unused vehicle resources for reallocation or downsizing without impacting employee mobility.

Streetscape. Create development with consistent and small setbacks along streets in and around campus, and create active ground floors with plenty of windows.

Incentivize Proximity to Campus. Provide incentives or programs to encourage employees to live close to campus.

Fleet GPS Tracking. Use GPS systems to track vehicle operations and use this feedback to improve route efficiencies and fleet management.

Enhance bus stops. Work with Metro Transit to improve bus shelters that provide wind protection, sun protection, wifi, possibly conditioned space, standing and sitting areas for people to work or be on their mobile phone, tables, and mobile phone charging stations. Additional items may be interactive seating such as swings, teeter-totters, or other fun and safe activities.

1. *"Population of La Vista: 17,562, 2013 estimate." US Census Bureau. Web. 8 Sep. 2014.*
2. *"Parking Problems? Transit Programs as a Cost Effective Solution." Metro Transit (2013): 11.*
3. *UNO is currently a stakeholder as part of the Central Omaha Transit Alternatives Analysis. Phase I was completed in June 2014 and Phase II is scheduled to begin in January 2015. UNO was a stakeholder in the Heartland Connections: Regional Transit Vision Feasibility Analysis. Metropolitan Planning Agency: (2013).*
4. *"Parking Problems? Transit Programs as a Cost Effective Solution." Metro Transit (2013): 17.*
5. *Eikenberry, Angie and Craig Maher. "The Costs, Benefits, and Challenges of Implementing Sustainable Transportation Options at UNO." (2014): 11.*
6. *"Metro Program Costs." Metro Transit (2014).*
7. *"Parking Problems? Transit Programs as a Cost Effective Solution." Metro Transit (2013): 17.*
8. *"MavRide Executive Summary." UNO Student Government (2011): 2.*
9. *"Parking Problems? Transit Programs as a Cost Effective Solution." Metro Transit (2013): 25.*
10. *ZimRide. Web. 25 Aug. 2014.*
11. *Corporate ZimRide manager, phone interview. 5 Sep. 2014.*
12. *Menczer, William. "Guaranteed Ride Home Programs: A Study of Program Characteristics, Utilization, and Cost." Journal of Public Transportation 10.4 (2007): 139.*
13. *Ibid. 141.*
14. *Eikenberry, Angie and Craig Maher. "The Costs, Benefits, and Challenges of Implementing Sustainable Transportation Options at UNO." (2014): 46.*
15. *Ibid. 42.*
16. *Eikenberry, Angie and Craig Maher. "The Costs, Benefits, and Challenges of Implementing Sustainable Transportation Options at UNO." (2014): 12, 17. "Exhibit A8 in Appendix A. UNO Parking/ Traffic Master Plan." (2011).*
17. *Ibid. 24.*
18. *"Sustainable Places, Public Space Benefits." The National Archive UK. Web. 2 Dec. 2012.*
19. *Eikenberry, Angie and Craig Maher. "The Costs, Benefits, and Challenges of Implementing Sustainable Transportation Options at UNO." (2014): 141.*

Energy, Buildings, & Emissions

Background

The local utility, Omaha Public Power District, just released a plan to generate 33% of its electricity from renewables by 2018 and maintain that generation mix through 2030.[1] Fossil fuels currently account for two-thirds of the energy generation profile of electricity used by the University of Nebraska at Omaha.[2]

Different types and grades of fossil fuels produce varying levels of air pollution as a result of the combustion process. Air pollution has direct health impacts that contribute to asthma, respiratory irritation, chronic bronchitis, premature death, acid rain, and ground-level ozone (which leads to smog).[3] Most of these effects are localized around combustion sources, such as coal-fired power plants, and particularly in urban areas dense with internal combustion engines.

Fossil fuel combustion also releases greenhouse gases, which contributes to climate change. The impacts of climate change around the world include rising sea levels and generally warmer temperatures.[4] In Nebraska, scientists predict warmer temperatures, more high temperature stress days, more warm nights, and a longer frost-free season. They also predict less precipitation, longer periods of consecutive dry days, more intense heavy rainfall events, decreased soil moisture, increasing flood magnitudes, and reduced flow from snowpack melts. Finally, they predict an increase in the frequency and intensity of extreme weather events, particularly droughts and heat waves. Thus, climate change in Nebraska presents serious implications for agriculture, energy demand, urban water supply systems, ecosystems, human health, and other sectors.[5]

Although fossil fuels create many direct and indirect issues for human health and the environment, they will remain a part of our energy mix for the foreseeable future. The best way to mitigate these effects in the short term is to focus on energy efficiency and conservation. Doing so provides immediate benefits and reduces the challenge of eventually meeting energy needs using cleaner and safer renewable energy sources. UNO has already done an excellent job of reducing its energy needs, and over the next ten years and beyond, UNO can take additional steps to shift its energy supply to include renewable resources.

UNO's utility bill in FY2013 was $4.03 million.

Successes

UNO has made tremendous progress in recent years that demonstrates its commitment to energy efficiency and reducing energy consumption. Perhaps this is best illustrated by the fact that UNO has added new buildings and increased its building area, but has decreased its energy use intensity. Several projects deserve accolades for contributing to this success, only some of which are listed here:

- Major lighting upgrades, and plans to upgrade perimeter roadway lighting to LED fixtures
- Efficiency improvements to the Central Utilities Plant, including new chillers
- Some buildings upgraded to 100% Direct Digital Controls (DDC)
- Automation technology and efficient motors for pumps and fans
- UNO's first solar photovoltaic (PV) system installed on the Peter Kiewit Institute (PKI) storage building
- Per-building submetering of electricity, chilled water, steam, and natural gas
- Continuous real-time monitoring and trend analysis of some buildings' energy data
- Peak electricity demand management lowered peak demand for 10 consecutive years through technology and operational efficiencies.
- Buildings "powered down" during holidays
- Commissioning of several buildings

All of the aforementioned successes should be considered in progress rather than complete and the execution of most successes does not necessarily equate to widespread adoption. Many efforts - continuous commissioning, real-time monitoring, and installation of DDCs - play an extremely important role in ensuring that UNO continues to see improvements in its level of energy efficiency.
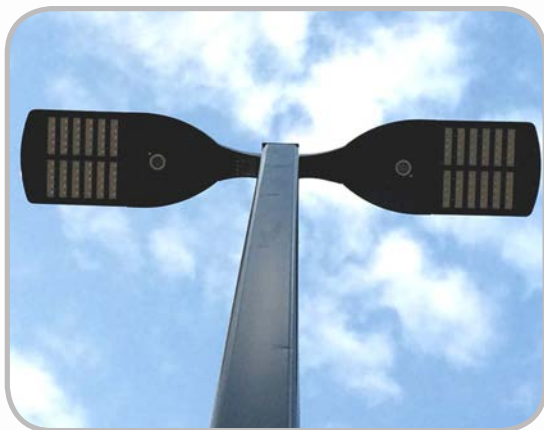
Figure 30: *UNO has already upgraded many outdoor parking lot and perimeter roadway lights such as this one, and more upgrades are planned.*

Facilities Management and Planning, and the university in general, will certainly continue to add to UNO's extensive list of energy-saving successes. This Plan aims to build on these successes by guiding energy managers to additional opportunities.

Additionally, the November 2013 update to the UNO Facility Development Plan incorporated previous work from the 2011 Renewable Energy Plan and the 2012 Utility Master Plan to ensure renewable energy and future utility needs were taken into account in campus planning. In 2009, UNO received the results of an energy study, the results of which included a lengthy list of facility improvement measures specific to energy conservation; nearly all of these have been completed as of the writing of this Plan.

UNO's recently constructed buildings were designed to prioritize energy efficiency, and all new buildings are designed to meet LEED criteria (Mammel Hall earned LEED Gold certification when it was built in 2010).

UNO's Information Technology (IT) Services (IS) was a leader in server efficiency as one the early-adopters of server virtualization. In addition, the Technology Guidelines for Going Green have also contributed to impressive energy savings. The guidelines instruct campus users to power down and shut off equipment, purchase Energy Star equipment, reduce printing, recycle hardware, and virtualize severs/desktops.

Vision, Baselines, & Goals

UNO identified one key metric for energy and one for emissions, both with the same goal of UNO becoming a carbon neutral university by 2050.

Energy, Buildings, & Emissions

Vision: UNO uses energy efficiently and strives to have energy produced from renewable and carbon-neutral sources equal to the amount consumed. UNO uses existing, efficient building spaces to their fullest. When needed, new buildings are designed and built to the best resource conservation standards.

Metric	Baseline (FY'10)	Current (FY'13)	2025 Goal	2050 Dream
weather-normalized $kBtu/ft^2$	302.3 (FY'10)	252.3 -16.5%	35% reduction	carbon neutral
metric tons of CO_2 equivalent	54,812 (FY'11)	53,164 -3.0%	60% reduction	carbon neutral*

includes Omaha Public Power District (OPPD) source reduction (coal & natural gas to renewables)

Helpful Definitions

CO_2 Equivalent: refers to carbon dioxide equivalent, which is a metric that is commonly used to compare the emissions from various greenhouse gases regarding their global warming potential.

MMBtu: Btu refers to a British Thermal Unit, a standard unit of energy commonly used when combining different units of energy (e.g., watts of electricity and therms of natural gas) to express total energy consumption. MMBtu equals one million Btu.
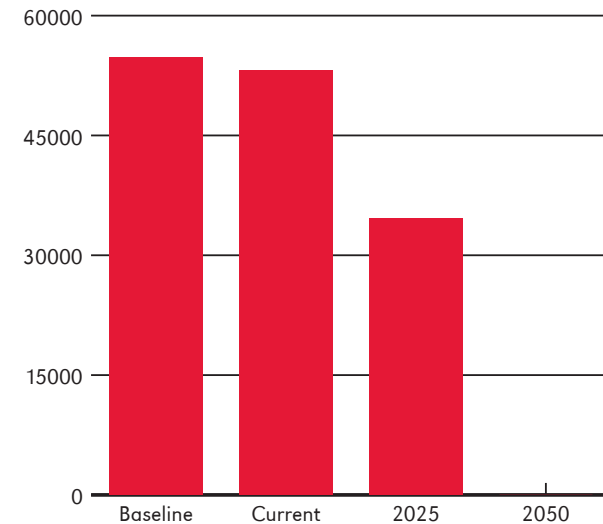
Metric Tons of CO_2 Equivalent

Figure 31: *UNO's greenhouse gas inventory includes Scope 1 and 2 emissions. Efforts by UNO to reduce energy use and add on-site renewables combined with OPPD's plan to have 33% renewable generation in the next three years will make carbon neutrality a reality by 2050.*

UNO Weather-Normalized Source Energy Use Intensity (kBtu/ft²)

Bar chart values:
- FY2009: 334.7
- FY2010: 302.3
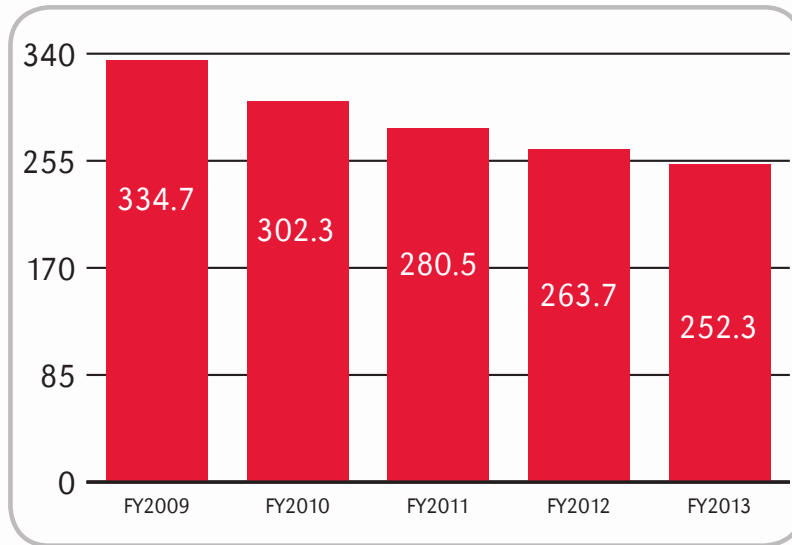- FY2011: 280.5
- FY2012: 263.7
- FY2013: 252.3

Figure 32: UNO's Weather-Normalized Source Energy Use Intensity includes all electricity and natural gas use weather-normalized to account for the impact of weather variations on energy use. Source energy includes the total amount of all the raw fuel required to operate UNO, including losses that take place during generation, transmission, and distribution of the energy. As OPPD adds more renewable energy generation to their mix and upgrades the grid to be more efficient in transmission, UNO's source energy use will decrease. In addition, as UNO continues to become more efficient the source energy use intensity will decrease.

UNO Site Energy Consumption (MMBtu)

Electricity 142,000
Natural Gas 189,000

UNO Site Energy Cost

Natural Gas $841,000
Electricity $3,189,000
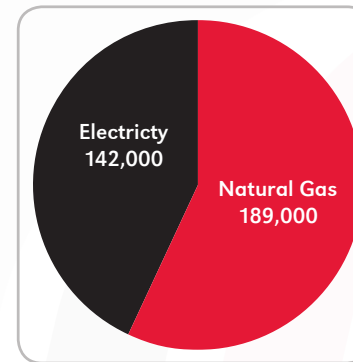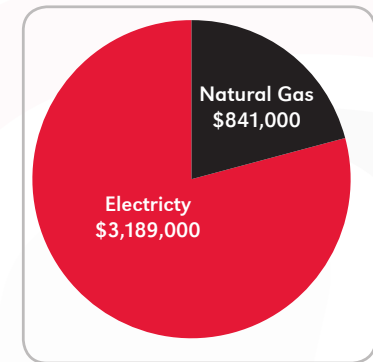
Figure 33 : Fifty-seven percent of energy used on-site by UNO is natural gas when normalized to MMBtus. However, the majority of UNO's utility cost comes from electricity (79%).

Helpful Definitions

kBtu and MMBtu: Btu refers to a British Thermal Unit, which is a standard unit of energy commonly used when combining different units of energy (e.g., watts of electricity and therms of natural gas) to express total energy consumption. MMBtu equals one million Btu and kBtu equals one thousand Btu.

Strategies

The strategies are organized by first, second, and third levels. This manner of organizing strategies generally results in an approximate prioritization based on a process that included subject-matter experts and stakeholders at UNO, the Planning Team, and the Sustainability Master Plan Steering Committee. Decisions were based on the quantitative and qualitative research completed during the Discovery Phase of the Sustainability Master Plan process.

The six strategies listed below are considered the highest priority for pursuit as soon as possible. They are likely to have a the largest positive impact and can begin relatively soon. Details on each strategy can be found below.

1. Conduct an energy-saving engagement campaign
2. Improve Residence Halls energy efficiency
3. Create an Energy Management Team
4. Continue upgrade to thin clients
5. Continue lighting upgrades to all buildings and exterior lighting
6. Expand initial and continuous commissioning of buildings

First Level Strategies

GREEN INFORMATION TECHNOLOGY (IT)

Computers, servers, printers, and peripheral electronic devices account for significant plug loads at UNO. With over 5,000 computers, over 1,000 printers, and thousands more peripheral devices on campus, UNO's IT needs draw significant energy loads. As with other energy use, there are two main ways to reduce consumption. The first is with more efficient technology: machines that perform the same or better with less energy. The second is through on-demand use: only drawing energy when a device is actually needed.

Server Virtualization. Continue server virtualization to further maximize server use while decreasing energy needs.

Eliminate CRT monitors. Continue to replace any CRT computer monitors with LED or LCD monitors until no CRT monitors are used on campus.

Nighttime Shut Down. Shut down computers where applicable to increase overnight security and save energy while maintaining an appropriate update schedule. Though this will work for most computers, this is typically not a one-size-fits-all solution.

UNO Green IT Power-Saving Guidelines for New Computers. Continue to set all new CPU's to UNO Technology Guidelines for Going Green power-saving guidelines.

Thin Clients. Continue to upgrade to thin clients to replace existing desktop personal computers. Virtual desktops use approximately 15 watts compared to current desktop CPUs, which average between 200 – 250 watts per CPU. Current thin client use at UNO has resulted in over 80% reduction in energy use.

Apple Automatic Startup and Shutdown. Schedule automatic startup and shutdown for all appropriate Apple desktop computers. Ensure schedule does not conflict with updates.

Expand Use of Network Printers and Multi-function Devices. As the use of networking and multi-function machines in central locations expands, decrease the number of desktop printers.

UNO Technology Guidelines for Going Green. Continue to implement the power-saving guidelines on existing machines. Provide instructions at the user level to help users meet the Guidelines. UNO's IS department has developed power-saving guidelines that meet the needs of the university while saving energy. Due to the de-centralized nature of university-wide information technology support, these guidelines are not currently being implemented consistently across campus.
- Create a campaign to help implement the guidelines across all colleges. This includes working with each college's IS Techs.

Green IT Purchasing Standards. The manufacture, use, and disposal of electronics has environmental impacts. Starting at the point of purchase can help improve UNO's energy and waste impact.

- Require office equipment, computers, and peripherals be registered with the Electronic Product Environmental Assessment Tool (EPEAT) or are Energy Star certified.
- Request that suppliers deliver electronic equipment configured to the most energy efficient settings by default.

IT Energy Efficient Upgrades. Work with Facilities to identify life-cycle costs and energy savings on new technology opportunities such as desktop clients. Once cost-savings are identified, use a portion of the projected utility bill savings to help pay for the cost of the new equipment.

Printer Sleep Settings. Continue to activate sleep settings on all multi-function printers/copiers. Ensure all machines across campus have these as default settings:
- 1 minute for non heavily used printers
- 5-15 minutes for heavily used printers

POLICY

A formal energy policy demonstrates institutional commitment and leadership to the campus and the greater community, and it institutionalizes best practices. The following strategies are opportunities to demonstrate leadership and commitment.

Energy Management Team. Create an Energy Management Team that regularly monitors energy use and develops solutions based on its findings. Successful Energy Management Teams involve campus users from across the university. They also invite specific representatives from buildings where there is high energy use so as to engage the building user in identifying the cause and developing a solution.

2009 Energy Study. Energy-saving measures from the 2009 Energy Study are more than 75% complete. Continue to complete the Facility Improvement Measures as planned by UNO Facilities.

Passive Design. Promote a positive, symbiotic relationship between buildings and nature to minimize carbon footprint and energy consumption.

Passive techniques (building orientation, sunlight control, thermal mass, etc) can be inexpensive but effective. More dynamic approaches to interacting with the sun, such as automatic shades, can also foster greater impact.[6]

LIGHTING

The sun is a free source of light and heat, and occupants are happier and healthier when exposed to natural light and with views to the outside. The following strategies identify specific actions to work with natural light in new construction and renovation.

Building Orientation. Orient new buildings to take advantage of sunlight to appropriately maximize lighting, heating, and viewsfor all occupants, and minimize cooling through shading. The CEC is a great example of how this can work. Apply successes in CEC to all new buildings and begin to retrofit appropriate existing lighting systems.
- Based on sunpath and wind diagrams specific to Omaha, the largest mass of the building should be oriented slightly rotated from the east-west long axis.[7]

Figure 34: The Community Engagement Center was designed to provide plenty of access to daylight, and its awnings and shades allow for the sunlight to be appropriately managed. The CPACS building does not have awnings, but its occupants can (but sometimes don't) use shades to manage the sunlight.

Access to Daylight. One of the clearest connections between student achievement and sustainability is access to daylight. Buildings should be designed in such a way that daylight is prevalent in all spaces. Replicate the successes from Mammel Hall and the CEC.

Daylight Harvesting. Minimize the use of artificial light with lighting systems connected to sensors that turn lights down or off depending on the level of daylight present.

Light Only What is Needed. Continue to install local lighting control so campus users can turn off unnecessary lights in offices and other campus buildings.

Figure 35: UNO should replace all incandescent bulbs, like this one at University Village, with CFLs or LEDs. The payback period for a CFL is typically less than 12 months while the payback period for a LED can range from 12 - 36 months.

Figure 36: UNO should expect noticeable energy savings by replacing its older exit signs with newer ones that utilize LED technology.

Figure 37: Opportunities abound for campus users to turn off lights and power down electronics in unoccupied rooms. This room in Milo Bail Student Center is unoccupied but has all its lights and projectors turned on.

Lighting Upgrades. Upgrade inefficient lighting with high-efficiency, high-quality lighting with short payback time.

- **Incandescent & Halogen Free.** Become an incandescent- and halogen-free campus: replace incandescent lamps with CFL, LED, or other high-efficiency lighting products. Be proactive in bulb replacements and work with the decentralized purchasing representatives to stop ordering incandescent lamps.
  - Scott Village has nearly 1,500 60W incandescent bulbs in bedrooms.
  - Maverick Village and University Village have hundreds of incandescent and halogen bulbs.
  - Incandescents were also noted in occasional accent lights such as lamps
- **Exterior Lighting.** Continue to upgrade exterior lighting to LED or other high-efficiency lighting options on both campus buildings and residence halls.
- **Upgrade Fluorescent Lighting.** Most campus buildings and residence halls have T8 fixtures and lamps. Continue to upgrade T12 lighting to T8, LED, or other high-efficiency lighting options.
- **Exit signs.** Most buildings and some residence halls have efficient exit signs, however some still do not. Upgrade exit sign lighting with appropriate lighting upgrades or building renovations.
- **Parking Garage.** Upgrade West Parking Garage to LED or other high-efficiency lighting option.

COMMUNICATIONS & ENGAGEMENT

One of the most frequent comments received during the planning phase of the Sustainability Master Plan pertained to getting the people on campus to support energy-saving changes and integrate behavior changes into their own life. The strategies below aim to cultivate a culture where energy conservation is the norm.

Engagement Campaign. Develop an engagement campaign platform to educate campus users about what they can do to support Facilities Management's energy-saving efforts. Include strategies such as green

champions or ambassadors, guidelines, and integration with UNO's new employee orientation. Examples of actions include: shutting lights off, understanding dual-level lighting, proper use of sun-shades, plug-load management strategies, informing campus users space heaters are not allowed, and peak shaving. Use behavior change best management practices to ensure the largest population of campus users are engaged in specific, relevant, and timely ways that create a norm of energy conservation on campus.

UNO Building Temperature Policy. Use an engagement platform to communicate with students, faculty, and staff about how the UNO Building Temperature Policy applies to spaces they occupy. Doing so will reduce comfort complaints, increase compliance with the temperature policy, and help shift the culture of campus.

Student Learning. Where appropriate, use mechanical system commissioning, lighting upgrades, Green IT, and other energy-saving projects to educate students and the professional community, and to demonstrate best energy management practices.

FEEDBACK LOOPS & TREND ANALYSIS

When energy monitoring is real-time and metered at the building or specific equipment level, it provides specific and timely feedback on how a building or piece of equipment uses energy. The data is monitored to identify short-term and long-term trends, both to correct high-energy use practices and identify what works well for building occupants and energy savings. Best practices can then be replicated in other appropriate places on campus. Thus, specific and timely feedback helps inform UNO Facilities and building users for adjustments in their behavior, operations, and/or maintenance practices.

Trend Analysis. Continue to regularly monitor electricity, chilled water, steam, and natural gas to identify anomalies in trends, troubleshoot high use buildings, and to see what is working for replication in other buildings.

Submetering. Continue to increase use of submetering for information-driven decision making. Install submeters for electricity, steam, chilled

water, and natural gas by building or major energy user (e.g. chillers, boilers, lab spaces) throughout the remainder of campus.

Real-Time Data. Continue to develop a systematic process for tracking, measuring and using real-time energy data:
- Leverage the existing real-time data that is being tracked.
- Ensure UNO energy data is available in an accessible way to students, faculty, and staff for research and learning.

- Ensure UNO energy data is available for feedback loops to building users (including students, faculty, the community, building engineers, custodial staff, and others). This may be in the form of a website, building dashboards, or other communication channels. This works best with an engagement platform to ensure the data is presented in meaningful and useful ways to change behaviors of end-users.

Energy Consumption Dashboards. Make visible digital, real-time energy consumption dashboards (using existing screens with web-access to energy dashboard), in high-volume buildings (student center, wellness center, library).
- Use energy dashboards as one component of the energy saving engagement campaign.
- Display year over year consumption and reduction of energy resources.

Streamline information Flow of Energy Data. Ensure the building managers/users get the relevant building energy use information in a timely and easy-to-understand format.

PLUG LOADS

In addition to information technology plug loads, there are other pumps, motors, machines, and gadgets that contribute to plug load. Some gadgets even draw power when they are off but still plugged in (phantom loads). In an effort to reduce plug load, the following strategies are recommended for implementation.

Vending Machines. Install vending misers on all beverage vending machines. Include language in future vending contract requiring all machines to have vending misers (or equivalent energy-saving technology) installed.

Time of Use. Install a timer or switch to shut off unused electronics during unoccupied hours (e.g. TVs, Audio/Visual equipment, coffee pots).

Refrigerators. Decrease the number of personal refrigerators by strategically consolidating refrigerators in work areas or lounges so that units are shared among colleagues.

PEAK-SHAVING

OPPD establishes UNO's electrical demand charge based (in part) on UNO's peak electricity use during any given 15 minute period within a rolling 12-month timeframe. This typically occurs during the summer cooling season. Though UNO has reduced its Dodge campus peak demand for ten consecutive years through technological and operational efficiencies, campus growth might have contributed to recent changes in the electrical demand profile. UNO can predict and minimize its peak electrical demand through both technological and human interventions, some of which are identified below:

Peak-Shaving Engagement. Create a culture that is aware of the impact of peak electricity days through an engagement campaign. Communicate to campus users when peak demand is anticipated and ask them to reduce load through shutting south and west facing blinds, shutting fume-hood sashes, and turning off unnecessary lights and other equipment. Incentivize peak-shaving behavior to improve results.

Fume Hoods. Develop and roll out a 'shut the sash' campaign to minimize unnecessary ventilation in lab spaces when sashes can be closed.

Figure 38: Another energy-saving opportunity is for campus users to appropriately shut fume hoods to minimize unnecessary ventilation

Load-shaving. Continue to find the right balance in electric demand between buildings for reducing energy during peak periods. Identify spaces that are unoccupied during peak and allow them to warm up more than those where occupant comfort must be maintained (where practical). Combine this with the peak-shaving engagement so building occupants can help reduce load in occupied buildings.

RENEWABLE ENERGY

Every organization that is thriving will always use energy; the question is where does the energy come from? In order to achieve UNO's goals of being more efficient and being carbon neutral by 2050, UNO should also install renewable energy on-campus and work with OPPD to add more renewable generation to its energy mix.

The addition of renewable energy presents an excellent opportunity to connect UNO's operational activities with research and education, especially if it's done as part of a living lab.

OPPD Renewable Energy Generation. Advocate for a cleaner portfolio of energy generation. OPPD has the ability to dramatically affect UNO's greenhouse gas emissions based on OPPD's electricity generation mix. The more OPPD uses renewable energy generation, the closer UNO becomes to achieving carbon neutrality.

Figure 39: OPPD gets some of its energy from the Flat Water Wind Farm in Richardson County. As OPPD continues to increase its renewable energy profile in the coming years, UNO will become closer to its carbon neutrality goal (photo credit: OPPD)

Geothermal. Collaborate with the City of Omaha for use of adjacent park land for geothermal well fields to maximize the efficiency of the Central Utilities Plant.

TIMING ENERGY USE

It is getting easier to use the right amount of energy at the right time with technological advances. As system control expands and feedback loops get put in place, UNO's ability to turn off unnecessary systems, lights, and other loads is increased.

Leverage Cyclic Processes. Leverage the cyclic flow of energy use by identifying when areas are occupied, thus requiring more energy use for occupant health and comfort, versus when spaces are unoccupied and in need of less energy. Once unoccupied areas are identified (for example most staff space is unoccupied in the evening and at night) use control systems and engagement strategies to have as much as (safely) possible turned off.

Adjust Course Logistics. Add distance offerings and/or hybrid courses, thus reducing parking and facilities use. Convene a task force to determine how to best serve stakeholders while minimizing facilities needs and costs to meet the 2020 goal of 20,000 students.

Evenly Distribute Use of Instructional Space. Currently, instructional space is most heavily used during 10am - 2pm on Tuesdays and Thursdays. As a result, parking demand, congestion, and building operations are higher during these times. The manner in which courses are scheduled doesn't consider how distribution of instructional space will impact UNO's sustainability goals. Adding sustainability considerations to the current decentralized method of course scheduling will be a challenge, thus UNO should facilitate information sessions to increase awareness of the impact of course scheduling on infrastructure such as parking.

Automatic Door Openers. Ensure automatic door openers do not stay open for extended times and install point-of-use prompts to remind campus users to only use automatic doors when necessary.

Residence Hall Thermostats. In the short term, set thermostats at Dodge Residence Halls to a 68-80 range. A longer-term, more effective strategy is to install programmable thermostats and provide training on how to properly use them.

Second Level Strategies

PLUG LOADS
Automatic Shutoff. Implement automatic shut off for relevant equipment such as projectors.

Water Fountains & Water Coolers. Place timers on outlets serving water coolers and water fountains that would automatically shut off after normal operating hours.

TVs. Pilot motion sensors for TVs in the wellness center. If this works well, replicate where applicable across campus.

GREEN IT
Under-utilized PCs. Identify under-utilized desktop PCs and re-allocate, increase utilization, or reduce energy used in under-utilized machines through power management settings to meet the minimal use.

Servers. Evaluate the setup and operation of any servers or server rooms to identify and plan for opportunities to reduce energy use, including the move to co-location facilities.

LIGHTING
Motion & Occupancy Sensors. Install motion and occupancy sensors in classrooms, group study rooms, offices, restrooms, and residence hall bathrooms and closets.

RENEWABLE ENERGY
Renewable Energy Demonstration Project. Install and showcase renewable energy systems on new and existing buildings. Select locations where students, faculty, and the public can access the site for demonstration, teaching, and research.

2011 Renewable Energy Plan. Integrate renewable energy generation into new construction when it aligns with the 2011 Renewable Energy Plan. See UNO's 2011 Renewable Energy Plan for details.

BUILDING ENVELOPE
Minimize dock door open times. Ensure dock and garage doors are kept closed as much as possible when the inside of the building is being conditioned.

Air Curtains. Install air curtains where appropriate (typically large garage or bay doors).

Weather Seal Doors. Inventory all exterior doors to ensure they are adequately weather-sealed when closed. Seal when necessary.

MECHANICAL SYSTEMS
Central Plant Stack. Install a flue gas economizer on the main stack to capture waste heat produced by the boilers and reuse it to make hot water for the system.

POLICY & PLANNING
Sustainable Construction Guidelines. Continue to refine UNO's construction guidelines to include sustainable construction best practices and specifications. Get down to the specifics of system efficiency requirements, lighting configurations, and other equipment or building system requirements. Continue life-cycle analysis which assesses the initial cost and operations and maintenance costs.

Third Level Strategies

PLUG LOADS

Wellness Center Master-Off Switch. Pilot wiring outlet circuits in wellness center to a master switch that can be shut off when the center is closed. If this works well, replicate to other circuits.

LIGHTING

Parking Garage Lighting Controls. Install lighting controls to dim or turn off lights in parking structures when there is sufficient natural light.

RENEWABLE ENERGY

Renewable Energy Integration. As technology changes and becomes available, integrate renewable energy into all new construction and major renovation projects on campus.

MECHANICAL SYSTEMS

Eppley Admin Building Air Handling Unit. Replace Eppley Administration Building air handling unit with highest efficiency available based on a life-cycle-cost analysis.

Steam & Chilled Water Line Upgrade. Ensure steam and chilled water lines are not leaking, well insulated, and in good repair. Replace steam and chilled water lines across pep bowl and improve the insulation. The preferred option is to install the new lines in a tunnel under the sidewalk.

Energy recovery ventilators. Install energy recovery ventilators to reduce the heating and cooling load for outdoor makeup air.

HVAC&R Replacement Schedule. Develop a replacement schedule for HVAC&R equipment in advance of equipment failure or replacement necessity.

Notes

1. Omaha Public Power District Future Generation Plan. Web. 12 Sep. 2014.
2. The majority of OPPD's total supply capability starts as coal, natural gas, or oil per "Annual Report 2013." Web. 27 Aug. 2014.
3. "Effects of Air Pollutants – Health Effects." U.S. Environmental Protection Agency. Web. 2 Dec. 2012.
4. "Climate Change: The Challenge of Our Time." Sierra Club and Climate Recovery Partnership. Web. 2 Dec. 2012.
5. "Understanding and Assessing Climate Change: Implications for Nebraska." University of Nebraska-Lincoln (2014). Web. 26 Sep. 2014.
6. UNO Facilities Development Plan (2013): 111. SmithGroup JJR.
7. Ibid. 30.

Water & Sustainable Sites

Background

Water and sustainable sites are coupled together because water is one of the most significant items to consider when evaluating the sustainability of outdoor sites. Water use encompasses water consumption in buildings and outdoors, and sustainable sites addresses the techniques for designing and maintaining outdoor space. Both areas have ties to sustainability, although in the case of site management, the connections may not be obvious at first. For UNO, water and sustainable sites are important due to the location of the Dodge, Pacific, and Center campuses in the Little Papillion Creek watershed and because water is an important resource in Nebraska.

Site features such as rain gardens, pervious pavement, and bioswales help to retain and clean outdoor water as it percolates back into the ground, providing habitat, flood control, and improving water quality by filtering out particulates.[1]

Sustainable landscaping requires less application of fertilizers and pesticides. These chemicals can be transported into buildings through air handling equipment or foot traffic, creating health hazards for visitors, students, faculty, and staff.[2] Reduced lawn and landscape maintenance also creates a better learning and research environment by reducing noise[3] and emissions from equipment like lawn mowers, blowers, and vehicles used to transport people and equipment.

Water conservation is also particularly important in Nebraska. The state's agricultural industry uses significant amounts of both surface water and aquifer water for irrigation. Climate change projections for Nebraska warn of warmer seasonal temperatures and more high temperature stress days. The resulting increase in evapotranspiration is likely to increase demand for water, with serious implications for agriculture and other sectors.[4] Watersmart landscaping on UNO's campuses would make UNO better prepared to handle the increasingly frequent drought conditions expected in the coming decades.

Finally, cleaning, processing, and pumping water requires significant energy use. The nation's wastewater plants and drinking water systems spend about $4 billion per year on energy to treat water.[5] Therefore, using less water reduces emissions and saves energy.

UNO uses significant amounts of water. In FY2013, UNO used 97.1 million gallons of water, which is equivalent to 147 Olympic sized swimming pools.

UNO uses 97.1 million gallons of water each year.

Figures 40 & 41: The bio-retention garden just west of the Welcome Center helps to manage rainfall sustainably. Also, UNO has planted extensive landscaping that is ecologically adapted to require less water than turf grass, such as these species planted just south of the CPACS building.

Successes

UNO has demonstrated its commitment to improved water quality and wise water use through an on-campus teaching rain garden, a highly efficient central cooling plant, and increased use of native and ecologically adaptive species.

Additionally, UNO has begun to implement strategies in its 2011 Storm Sewer Study to improve water quality and better control storm water runoff from campus property.

Vision, Baselines, & Goals

UNO identified one metric related to Water. The baseline reflects averages from FY2012 – 2013 for both campus and residence hall water use.

Water

Vision: Water is efficiently used within buildings and prudently used in landscaping. Rainfall is managed so as to meet a portion of campus needs.

Metric	Baseline (Avg FY' 12-13)	Current (FY'13)	2025 Goal	2050 Dream
gallons per weighted campus user	11,430	11,451 +0.2%	25% reduction	50% reduction

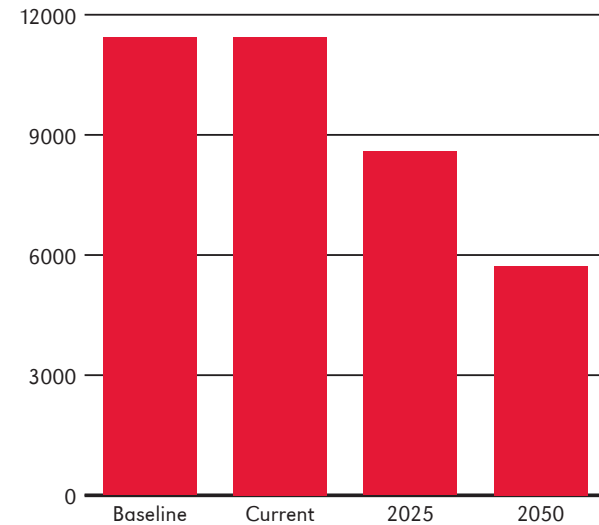## Gallons per Weighted Campus User

Figure 42 & 43: The largest opportunity for saving water on campus is in residence halls, followed by all other buildings, irrigation, and finally the high-efficiency central utility plant. As UNO uses water more wisely, it will achieve its 2025 and 2050 goals..

2013 Water Use by Location

- 13%
- 21%
- 39%
- 27%

- ● Residence Halls
- ● Campus Buildings
- ● Irrigation
- ● Central Utility Plant
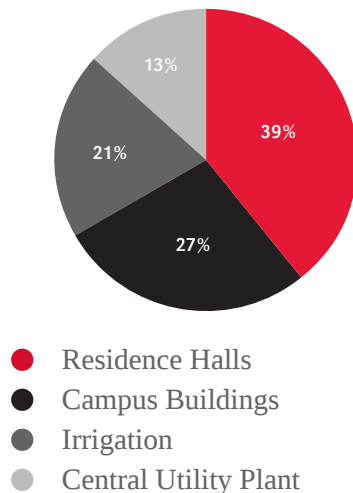
Top Five Priorities

The strategies are organized by first, second, and third levels. This manner of organizing strategies generally results in an approximate prioritization based on a process that included subject-matter experts and stakeholders at UNO, the Planning Team, and the Sustainability Master Plan Steering Committee. Decisions were based on the the quantitative and qualitative research completed during the Discovery Phase of the Sustainability Master Plan process.

The five strategies listed below are considered the highest priority for pursuit as soon as possible. They are likely to have the largest positive impact. Details on each strategy can be found below.
1. Begin water-use tracking in residence halls
2. Water-saving behavior change targeted to students in residence halls
3. Upgrade shower heads in University Village and Maverick Village
4. Review residence hall irrigation meters for sewer fees
5. Label stormwater inlets

First Level Strategies

IRRIGATION

As expected, UNO's water use peaks in the hotter summer months. There are three main ways to reduce water use with irrigation systems. The first is to only water just the right amount at the right time with the goal of eliminating over-watering. The second is to replace high-water use landscapes with low-water use landscapes. The third is through the capture and reuse of rainwater.

Review Irrigation Meters for Sewer Fees. Ensure residence hall irrigation meters are not being charged sewer fees.

Data-informed Irrigation. Install irrigation systems that include smart features, such as moisture sensors and rain sensors, to reduce the amount of unnecessary watering.

On-going Irrigation System Review.
Ensure that each zone is appropriately configured for the type of landscape, and ensuring water is reaching the targeted plants and not impermeable surfaces

Irrigation Water Optimization Plan. Develop and implement a plan that includes policies or guidelines to optimize water use (examples below). Once developed, ensure all staff are following the determined practices.
* Minimizing water applications
* Restricting water application to optimal times and weather conditions

Figures 44 & 45: Opportunities exist for UNO to ensure it is only watering turf grass during appropriate times. For example, these photos were taken during the middle of the afternoon on hot summer days; watering during these conditions is not ideal.

LANDSCAPING

Landscaping provides an aesthetic first impression and an outdoor oasis to campus users. UNO has recognized that beautiful landscapes can be water efficient, help with stormwater quantityand quality, improve air quality, and reduce the need for fertilizer and pesticide applications.

Reduce Turf Grass Where Applicable. Turf is the right plant for the right place in high-use areas. Examples of sustainable alternatives for other areas where turf isn't necessary include: outdoor classrooms, butterfly gardens, perennial flower and shrub beds, small scale agriculture, orchards, and restored native prairie. These alternatives also present opportunities to connect landscape with curriculum.

Sustainable Landscape Practices. Conduct a study and develop an action plan to pro-actively transition campus landscapes to sustainable practices such as native and drought tolerant vegetation that also provides habitat and promotes biodiversity.

Plant Selection. Continue to plant native and ecologically well adapted non-invasive species.

Native Habitat. Restore native habitat where possible on campus.

STORMWATER

Managing stormwater quality and quantity is important to supporting the health of the Little Papillion Creek (Little Papio). As UNO absorbs, stores, and slows more stormwater on-site, irrigation needs are reduced and water is filtered more naturally, leading to cleaner water and healthier stream ecosystems in the local watershed.

Label Stormwater Inlets. Label storm water inlets on campus with standard Keep Omaha Beautiful discs that say "No dumping. Drains to creek" and includes a picture of a fish.

Reduce Run-off Rates. To reduce run-off rates to pre-development conditions, UNO should consider treating the 1.50" first flush of rainwater to manage water quality and the 6.50" 100-year event for water quality. Additional best practices include reduction of impervious surfaces and treatment of stormwater in place.[6]

Flood Plain. Areas within the 100-year flood plain of the Little Papillion Creek should avoid new building construction.[7]

INDOOR WATER

Buildings account for the majority of water use on campus, from residence halls and other campus buildings to the Central Utility Plant meeting the cooling needs of buildings in summer. Common indoor uses include restrooms, kitchens, labs, and cooling loads. Water savings come from both technological changes such as higher-efficiency fixtures and behavior changes, such as shorter run time of faucets and showers.

Water Use Tracking - Residence Halls. Begin tracking water use from utility bills in addition to costs for on-going monitoring.

Water-Saving Behavior Change. Implement an education and awareness campaign around water conservation similar to the campaigns focused on curtailing peak electricity use. This may include:
- Point-of-use prompts
- Campus messaging
- Sustainability pledge for students, faculty, staff, and administrators that incorporates research-based techniques for achieving desired long-term behavior change.

Water Conservation Fixtures. Identify the lowest-flow toilets, showers, and other fixtures that don't negatively impact pipes and specify their use in any new buildings or renovations. Such fixtures should look to the standards of the US EPA WaterSense Program and Leadership in Energy & Environmental Design (LEED) for New Construction or Major Renovations (2009).

Residence Halls. Proactively upgrade water fixtures in residence halls with previously aforementioned fixtures that meet US EPA WaterSense standards.
- Upgrade shower-heads in University and Maverick Village to 1.6 gallons per minute (gpm). (Currently 2.5 gpm)
- Consider installing bathroom faucet atomizers with a flow rate of less than 1.5 gpm.
- As replacements occur, upgrade toilets in all residence halls to 1.28 gpf. (Current is 1.6 gpf)

Faucets. Use water-saving atomizers on all appropriate faucets. Examples include restrooms and applicable break room faucets.

Laundry Washers. Upgrade laundry equipment in Centennial Hall.

Leak Detection. Implement a leak-detection program wherein building managers or maintenance staff regularly check for leaks and proper functioning of auto-flush valves. Program must include an easy-to-use and effective reporting mechanism to add to the work order list.

Food Service. Conduct an in-depth energy- and water-saving assessment of UNO's kitchens, catering, and food preparation facilities.

Second Level Strategies

Rainwater. Capture rainwater from buildings for irrigation in lieu of purchasing processed and treated water from Metropolitan Utilities District.

Monitor & Tracking System. Develop a system for periodically tracking building water use and monitoring trends in order to identify opportunities.
- Establish water use targets for specific buildings
- Provide regular water use data to key users and occupants, whether through a webpage, dashboard, or other means

Dish-washing. Install water-efficient, pre-rinse spray valves in dish washing areas to a maximum of 1.28 gpm.

Third Level Strategies

Pervious Surfaces. Minimize the need for impervious surfaces and where applicable, utilize pervious surfaces in new construction and replacement projects.

Restore Organic Matter in Soil. Restore soil to 6–7% organic matter to help absorb rainfall. Typical soil is <0.5% organic matter (too low).

Rain Gardens. Incorporate rain gardens and bioretention in new construction and major landscape renovation projects.

Short, Simple Feedback. Improve user feedback to Facilities for reporting items such as leaks and other water conservation opportunities.
- Improve user interface and functionality on Facilities website for reporting water-saving opportunities.
- Develop a restroom sign for user feedback. It may include an email or phone number to receive SMS messages.

Greywater. Greywater is relatively clean waste water from baths, sinks, washing machines, and kitchen appliances. Explore grey-water reclamation for filtration, treatment, and use where applicable (e.g. irrigation, toilets).

East Garage Stormwater Project. Reconstruct the entire system at the south entrance of East Parking Garage to Elmwood Park with larger pipes.[8]

Student Center Plaza Stormwater Project. Upsize the existing 8" pipe at the student center plaza to 15" and provide an overflow outlet pipe.[9]

Notes

1. "Bioswales." United States Department of Agriculture Natural Resources Conservation Service. 24 Nov. 2012.
2. "Green Guide for Health Care Operations Pilot." Practice Greenhealth (2008).
3. Joseph, Anjali. "Sound Control for Improved Outcomes in Healthcare Settings." The Center for Health Design 4 (2007). Web. 28 Nov. 2012.
4. "Understanding and Assessing Climate Change: Implications for Nebraska." University of Nebraska-Lincoln (2014). Web. 26 Sep. 2014.
5. "Energy Star for Wastewater Plants and Drinking Water Systems." U.S. Environmental Protection Agency. Web. 24 Nov. 2012.
6. UNO Facilities Development Plan (2013): 30. SmithGroup JJR.
7. Ibid. 30.
8. Ibid. 24.
9. Ibid. 24.

Materials, Waste, & Recycling

"Reduce, Reuse, Recycle" is a slogan often associated with sustainability, and for many in the general public it represents the first step to acting in a sustainable manner. It is simple, catchy, and a good place to start. However, sustainability and the environmental issues of today have become more complex since this slogan was coined decades ago.

A more modern vision of sustainable materials management embraces "rethink", the concept of manufacturing every material item as something that can be "broken down and circulated indefinitely in industrial cycles", including products that are repairable rather than disposable.[1] Until society, and especially large organizations, embrace this new paradigm, the concepts of reduce, reuse, and recycle will play an important role in reducing human damage to our natural environment.

As one considers the environmental impact of material and waste, it is important to remember there is a much greater impact than material physically taking up space in landfills. Landfills are federally regulated because they can threaten the quality of nearby ground and surface water, air quality, and soil quality.[2]

Landfills also release methane gas, which contributes to climate change and negatively impacts human health. Methane (CH_4) is an extremely potent greenhouse gas: it is 20 times more effective at trapping heat in the atmosphere than the most well-known greenhouse gas, carbon dioxide (CO_2). In the U.S., landfills were the third largest contributor of methane gas into the atmosphere, releasing 117.5 million metric tons of CO_2 equivalent during 2009, around 17% of U.S. emissions of methane.[3]

The University of Nebraska at Omaha's (UNO) campus operations are extensive, which naturally results in a significant amount of waste and recycling. In FY2013, UNO produced 696 tons of waste and recycling, which is the equivalent of 174 Asian male elephants.

> *UNO disposes of 696 tons of materials per year, 23% of which is recycled.*

Students and employees all noted waste and recycling as the most important area that UNO should focus on in its attempts to be more sustainable. Such a desire is no surprise; waste and recycling is tangible and visible, which means it is often the one thing people pay the most attention to. While the financial benefits aren't as substantial as those related to energy, UNO should nevertheless pursue strategies related to materials, waste, and recycling.

Successes
UNO has considerably ramped up its sustainable waste management efforts in the last several years, and stakeholders on campus have taken note. Comments related to waste management were the most oft-cited when stakeholders were asked about recent UNO successes on campus.

Figure 46: UNO recently attached garbage "saddles" (seen here in black) to many of its deskside recycling bins, further asserting recycling as the primary and preferred choice for waste disposal.

The single-stream recycling program, which was launched in 2008–2009, has dramatically increased the amount of material that's been diverted from the landfill. The program is generally very well done: signage is clear in most cases, recycling containers are prevalent and often paired with waste containers, and desk-side recycling containers are now prominent rather than secondary to waste containers.

Efforts to reduce materials purchased and used have also been successful. The water refill stations garnered significant praise from students and employees alike. And several efforts to reduce paper and toner were noted across campus.

Figures 47 & 48: UNO has added several water bottle refill stations across campus. Students and employees enjoy using the stations because they help eliminate waste in the form of disposable plastic water bottles. In fact, each station displays a running count of how many disposable plastic water bottles it has displaced.

Vision, Baselines, & Goals

UNO identified three important metrics related to Materials, Waste, & Recycling. Because significant efforts have been made in the last 2 – 3 years to reduce waste and recycle more, the baseline for metrics one and two reflect averages from FY2009 - 2011.

Materials, Waste, & Recycling

Vision: UNO reduces, reuses, and recycles nearly all materials to the extent that very few waste products are sent to the landfill. All purchasing decisions include lifecycle cost and closed loop considerations.

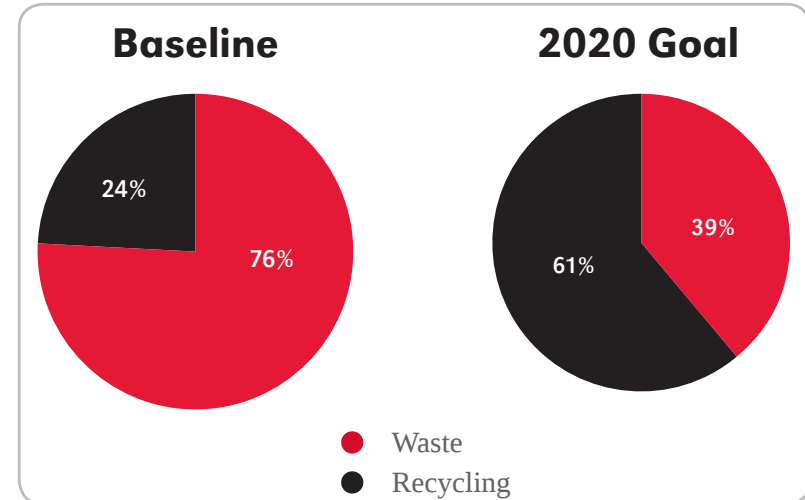| Metric	Baseline (Avg FY' 09-11)	Current (FY'13)	2025 Goal	2050 Dream
% diverted from landfill	24%	23% (-4.2%)	61% (2020)	zero waste
tons of waste + recycling per weighted campus user	0.176	0.173 -1.7%	0.132 (25% reduction)	0.088 (50% reduction)
% of purchases that are green	26% (FY'13)		50%	100%

Landfilled vs. Recycled Materials

Figure 49: UNO's goal (right) to divert 61% of its materials from the landfill is an aggressive yet achievable goal. The 2050 zero waste goal sets an important long-term vision for how UNO will be thinking of and handling its materials and associated waste streams in the future.

Achieving Zero Waste

Reaching the 2050 goal of zero waste requires a campus-wide, holistic approach to materials handling at all points in the process: selection and purchase, use, and disposal. Each step in the process costs the University money so streamlining will save dollars and reduce waste. A detailed waste audit was not performed as part of this process, but there are likely a few large waste streams that will be critical to create a closed-loop system. Namely, the food and other biodegradeable waste streams currently go to the landfill and are likely very large. Diverting them from the landfill will have a dramatic effect on UNO's waste profile.
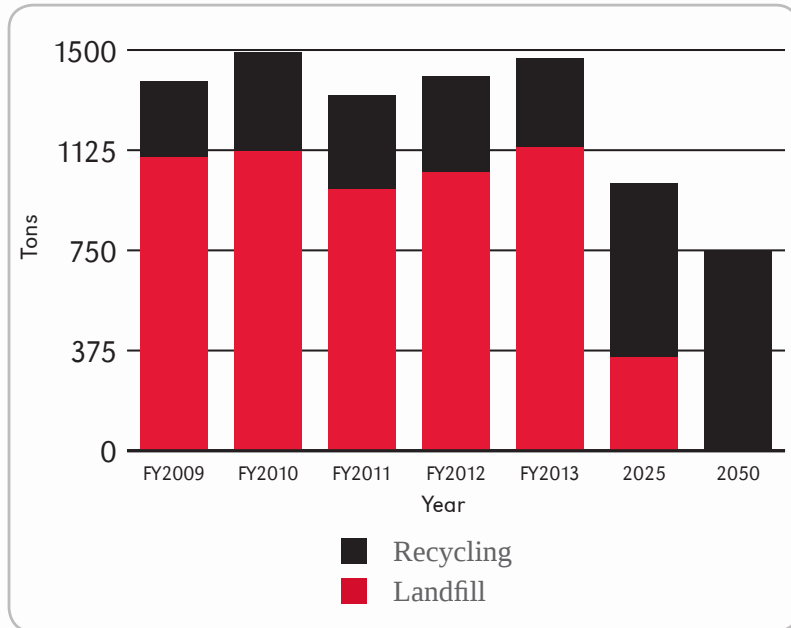
Annual Waste & Recycling

Figure 50: Total tons of waste and recycling departing campus has been increasing the last two academic years.

UNO uses Office Depot for its office supply purchases. Office Depot tracks the "greenness" of its customers' purchases through its GreenerOffice™ Ratings program, which makes it very straightforward for UNO to measure its progress toward achieving its third goal related to materials.

In FY2013, 26 percent of UNO's total Office Depot expenditures were green. The breakdown is as follows:

Office Depot's GreenerOffice™ Category	% of Total Spend
Non-green or unknown	60%
Meets industry environmental norms	14%
Light green	11%
Medium green	14%
Dark green	1%

Figure 51: 26 percent of UNO's FY2013 Office Depot purchases were classified as green in Office Depot's GreenerOffice™ Rating program. UNO intends for 50% of 2025 purchases and 100% of 2050 purchases to be green.

Office Depot's GreenerOffice™ Ratings program is designed to provide a succinct yet comprehensive system for Office Depot's customers to identify green products and track how many green products they purchase. The program uses seventeen different criteria that fall into three different classifications (save resources, save energy, safer chemicals) to determine how sustainable a product is.[4]

The strategies are organized by first, second, and third levels. This manner of organizing strategies generally results in an approximate prioritization based on a process that included subject-matter experts and stakeholders at UNO, the Planning Team, and the Sustainability Master Plan Steering Committee. Decisions were based on the quantitative and qualitative research completed during the Discovery Phase of the Sustainability Master Plan process.

Top Five Priorities
The five strategies listed below are considered the highest priority for pursuit as soon as possible. They are likely to have the largest positive impact and be quickest to complete. Details on each strategy can be found below.
1. Optimize orders and ordering schedule
2. Finalize deskside recycling changes
3. Improve data available from waste/recycling hauler
4. Promote reusable water bottles
5. Enhance recycling container signage

First Level Strategies

IMPLEMENT ENVIRONMENTALLY PREFERABLE PURCHASING
Several decisions are made at the point of purchase that impact how sustainable UNO's materials are and the manner in which they are disposed. As such, it is vitally important to focus on Environmentally Preferable Purchasing (EPP) so as to positively impact the rest of the materials handling system. Fortunately the Nebraska Business Development Center (NBDC) worked closely with UNO Purchasing to take the lead in this effort with their current study focused on office product purchases. The Planning Team worked with NBDC staff to incorporate several strategies and best practices into this Plan.

Create an EPP Plan. Create an EPP plan that articulates the expectation that products purchased are as sustainable as possible. This may include consideration of source reduction strategies, life cycle cost, recycled content, local/sustainable sourcing, environmental impact, and/or sustainability certifications. The EPP plan may evolve into a policy once it has been tested and proven to be effective.

Leverage the NBDC's Work. Leverage the NBDC's Environmentally Preferable Purchasing - Implementation, Motivation, and Measurement study and lessons learned so as to thoroughly deploy them across the broader campus community. Excellent strategies and messaging are already in place for purchases of office products. Encourage and allow the scope to expand to other aspects of purchasing (custodial supplies, repairs & maintenance) and publicize the positive attitudes toward sustainable purchasing.

Optimize Orders and Ordering Schedule. Ensure there is a focus on not ordering more than is necessary so as to reduce costs and minimize waste associated with unnecessary, out-of-date inventory. Enhance inventory assessments and control.

Secondarily, optimize the office supplies ordering schedule. NBDC research indicates that most individuals ordering office supplies are able to plan their orders in advance. Start by eliminating two or three days per week (e.g. encourage individuals to order only on Tuesdays or Thursdays). Expand the program to other areas (e.g. custodial, maintenance) when appropriate. Emergency orders will still be allowed. Benefits include: financial savings, helping people organize, reduces over-buying, reduces packaging waste, and reduces environmental impact of deliveries.

Expand Green Product Availability. Add more "green" products on core purchasing lists and make them defaults for purchasing. Especially higher recycled content paper, EPEAT gold electronics, green cleaners, and green catering. In many cases, these greener items are purchased already; making them the default will simplify and streamline the ordering process.

Office Depot Green Purchasing Program. Work with Office Depot to implement the following changes:

- Turn on "Greener Alternative" when a green alternative pops up before adding an item to the cart
- Identify and eliminate certain non-green purchase options from the list of options
- Share Office Depot's Green Catalog and the related resource website with UNO's purchasers
- Continue working with Office Depot to get more and better green options and to negotiate green purchasing contracts

Communicate to Purchasers. Consistently communicate best practices to purchasers, encouraging them to consider and choose environmental preferability, answering questions they may have, and generally providing guidance and support.
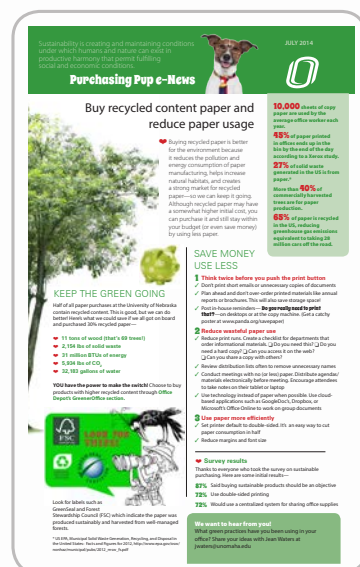

Figure 52: *UNO's Nebraska Business Development Center produces Purchasing Pup e-News that focuses on best practices and opportunities related to purchasing policies, including this Green Purchasing edition.*

REDUCE PRINTING

UNO has made great strides in reducing how much paper is consumed and printing occurs. Several stakeholders noted additional opportunities for improvement.

Print Fewer Syllabi. Develop a communication plan to avoid distributing printed syllabi on the first day of class and allow students to decide if they need a printed syllabus. Encourage faculty to provide course materials, including syllabi, only in digital formats such as PDF and work to increase the number of faculty that use Blackboard. Provide quarterly feedback to instructors on their printing output.

Default Duplex Printing. Set all printers and copiers to automatically default to duplex printing. Request that vendors deliver printing and copying equipment pre-set to duplex printing by default.

ENHANCE RECYCLING COMMUNICATIONS

Recycling systems are far more complicated than most people realize. Creating a well-communicated, consistent, and easy-to-understand system will ensure that users place materials in the correct containers.

Recycling Container Signage. Create and deploy consistent and clear signage on all recycling receptacles. Create labels (similar to those used in Mammel Hall) that educate campus users about what is and is not included in single stream recycling. Signage should include images of materials that are consistently and frequently used on campus.

Broadly Communicate What is Recyclable. Communicate the full list of what is recyclable to all parties through email, newsletter communications, on the website, and through a variety of other mediums.

Figures 53 & 54: Recycling signage varies across campus, as demonstrated by these flyers from the Community Engagement Center (left) and University Village Commons (right). Moving forward, consistency will be important for all of UNO's recycling signage to be effective.

SOURCE REDUCTION OPPORTUNITIES

Reducing consumption at the point of purchase (the source) is the most important waste reduction strategy. Efficiencies gained at the start of the process result in gains and dollars saved at the remaining points in the process.

Promote Reusable Water Bottles. Continue the expansion of water refill stations, which have been very popular. Provide every incoming freshman and transfer student with a reusable water bottle during orientation. Consider providing a new bottle every year for four years. Sell reusable water bottles at all concession or retail locations on campus.

IMPROVE THE WASTE & RECYCLING COLLECTION SYSTEMS

Several opportunities exist to enhance the current waste and recycling collection system. They include:

Waste/Recycling Hauling Contract. The data available to assess and track progress with regard to waste and recycling is poor. Conversations and negotiations with the vendor should occur with a goal for UNO to obtain better and clearer information from the vendor, including but not limited to: monthly data, charge by the ton compactor fees, weight tracking, and improved customer service.

Streamline Waste & Recycling Dumpsters & Schedules. Conduct an evaluation of waste/recycling dumpsters and schedules, and reduce frequencies and/or sizes of dumpsters where possible. Regularly evaluate these aspects for appropriateness. Verify actual dumpster sizes match the indicated dumpster sizes on invoices. If applicable, reduce the number of waste pulls during summer months.

Finalize Deskside Recycling Changes. Finalize and implement the planned changes to adopt a campus wide plan to have deskside recycling containers with a "saddle" for trash.

Grade & Communicate Recycling Performance. Continue the program wherein Custodial Services grades colleges' recycling performance. Conduct grading more frequently and widely communicate results.

Consider Charging Costs for Waste & Recycling to Departments or Colleges. Charging departments and colleges back for their waste and recycling will spur new, proactive programs on their part to reduce the consumption of materials and related waste.

Recycle Antiquated Technology. Properly recycle or surplus antiquated computers and peripherals stored across campus. These unused machines take up storage space and require staff time to manage.

Recycle Construction Debris. Require contractors to reuse or recycle construction and demolition debris. Include relevant language in construction and demolition boiler plate agreements.

Figure 55: The garbage dumpster pictured here, located to the south of Criss Library, contains recyclable materials and other materials (e.g., carpet tiles) that could have been reclaimed during construction or demolition

Second Level Strategies

ENVIRONMENTALLY PREFERABLE PURCHASING

Life-Cycle Cost Assessments. When purchasing new products, conduct a life-cycle cost assessment (LCA) to determine if a more efficient option costs less over the life of the equipment than a lower upfront cost. Start by identifying certain large purchases with significant and obvious environmental impacts. After the program has demonstrated success, consider a policy that requires an LCA for purchases and materials that meet certain criteria.

Reduce Toner Purchases. Pursue the following strategies to reduce toner consumption:
- Pilot remanufactured toner cartridges on necessary machines to ensure there are no problems. If successful, eliminate the option to buy toner in virgin cartridges.
- Set up system with Office Depot to return toner cartridges and earn dollars from Office Depot.

EXPAND GREEN CLEANING

Expand green cleaning practices (using GreenSeal Certified cleaning chemicals and elimination of anything non-uniform from centrally controlled sources) to all parts of campus. Develop a policy that requires green cleaning.

REDUCE PRINTING

Digital W2's. Increase the percentage of student workers and employees that receive digital W2's.

Paperless Meetings. Support paperless meetings through use of information technology, including providing electronic documents rather than printing. Set this as a standard and expectation for all UNO meetings.

ENHANCE RECYCLING COMMUNICATION

Obtain & Share Building-Specific Data. Obtain building-specific waste and recycling data on a monthly basis and share that data with each building noting how it compares to the 2025 goal. Implementation of this strategy depends on recommended improvements in waste and recycling data measurement and tracking.

Video: Life of a Recyclable. Conduct an educational campaign (video: the life of a recyclable) to debunk perception that custodians put many recyclables into trash cans.

IMPROVE THE WASTE & RECYCLING COLLECTION SYSTEMS

Large Opportunity Recycling. Expand (primarily through improved publicity) the program wherein 80/90 gallon barrels are provided for employees vacating an office and purging many materials.

Enhance & Expand the Recycling Program. Expand the recycling program to reach all campus areas with uniform containers and signage. The number of recycling containers should at least equal the number of trash containers, especially in common areas. Use joint trash-recycling waste bins that have specially shaped holes for different materials. Pursue grant funding to help with upfront purchase costs of containers.

Figures 56-61: Throughout campus, UNO has many different types of waste and recycling containers. Though their quantity and distribution are impressive, a more consistent appearance paired with consistent communication would most likely result in clearer understanding and, thus, improved landfill diversion.

Waste Audits. Systematically and periodically conduct audits of colleges and operations to assess their waste generation and opportunities for waste prevention.

Recycling at Athletic (and Other Large) Events. Work with venue owners to incorporate recycling and composting programs at athletic events. Proactively incorporate recycling and compost systems into the new arena.

Third Level Strategies

Surplus Shopping. Improve awareness and use of surplus shopping by streamlining surplus furniture reuse and/or craigslist.com sales. Enhance the online surplus store for the furniture materials collection system. Consider a class or student project to research markets, pricing, and promotion channels.

Specific Printing Reduction Opportunities. The following were specifically noted as good opportunities to reduce printing:
  * Electronic Admissions & Transcripts
  * Timesheets

Set Department Printing Goals & Track Progress. Encourage departments to set printing reduction goals and to work with procurement and printing services to track and monitor printing usage.

Special Item Recycling. Evaluate ways to improve and expand on-campus collection and recycling for items such as alkaline batteries, cell phones, eyeglasses, etc.

Computer Recycling. Explore new opportunities for Green IT recycling programs to replace the current Dell program.

Partner with Bottled Water Vendors. Work directly with bottled water vendors to explore ways to reduce the consumption of bottled water. Involve them in discussions to ramp up recycling and to assist with installation of vending machine misers. The end goal should be to discontinue all bottled water use on campus.

Hand Dryers. Expand use of hand dryers to complement and in a few cases replace paper towels.

Compost Landscaping Materials. Use landscaping waste and other organic material collected in the fall for mulch.

Healthy & Sustainable Foods

Many across campus are particularly interested in seeing more healthy and sustainable food options across campus and are actually willing to pay slightly more in order to make it happen. In a recent Sustainability Survey completed as part of this planning process, 81 percent of faculty & staff respondents and 72% of student respondents indicated they would like to see UNO provide more healthy and sustainable foods, even if they are more expensive.

A dining study is currently underway that will identify the current strengths and improvement opportunities and chart a path forward for making UNO's dining services extremely high quality. Future efforts to bring more healthy and sustainable foods to campus should be aligned with the findings of the dining study. Furthermore, alignment should also occur with the wellness efforts underway at UNO.

Healthy foods are fairly well understood, but sustainable foods bears some explanation. For UNO's purposes, the focus should be on local and community-based sourcing (the closer they're produced, the fewer emissions are necessary to transport) and those that meet relevant third-party certifications. The latter doesn't necessarily mean that organic should be the standard; there are other criteria to consider, including whether animal products are humanely raised. STARS provides two excellent credits that could be used to track UNO's progress.

Finally, a university's cafeteria, catering and food services operation is often a major producer of waste. In order for UNO to achieve its goal of zero waste by 2050, significant progress will need to be made in dealing with all materials related to food, food packaging, and food distribution.

Strategies

Healthy & Sustainable Food Plan. Create a sustainable food plan in which a healthy foods taskforce works to source sustainable foods (and reduce waste). The plan also aims to educate campus users about healthy food and promote wellness. Several of the strategies outlined hereafter should be incorporated into the Health & Sustainable Food Plan.

An early emphasis should include healthy foods, especially in cafeteria and dining service areas where health food selections are limited.

Trayless Dining. Implement trayless dining in Scott Residence Hall Cafeteria. Trayless dining reduces consumption of water, energy, and chemical agents, generates less material waste, and results in less food waste. If the food services operation in Milo Bail Student Center ever transitions to meal plans (rather than a la carte dining), implement trayless dining there as well.

Food Waste Reduction. Develop a plan for decreasing food waste that generally tracks the following process:
1. Reduce food waste up front
2. Divert unused food to people inneed
3. Divert unused food to animals
4. Compost food waste either on or offsite

Once the compost stream is established, include compostable dinner ware, paper towels, etc. An onsite composting scenario could include energy recovery.

Bring Agriculture to Campus. Expand the community supported agriculture (CSA) program that launched in the summer of 2014.

Grow More Food on Campus. Expand the amount of food grown on campus to include vegetables, fruits and nuts. Growing food on site is one of the best ways to reduce the greenhouse footprint of the food served and reduce waste associated with packaging and delivery. Infrastructure and systems to use all the food grown should be enhanced so that all produce is used.

Reusables in Catering. Encourage the use of reusables at catering events. When reusables aren't feasible, require the use of recyclables and tweak signage on waste & recycling containers so as to make it easy for attendees to know which materials go in which containers.

On-Campus Groceries. Examine whether offering select grocery offerings in strategic areas on campus is desired by students. Expand if demand exists.

Figures 62 & 63: The herb garden located outside of Scott Cafeteria provides fresh herbs used for cooking, and soon a vegetable garden will be planted in this space immediately south of the Community Engagement Center.

Increase local food sourcing. Set and work toward goals for food sourced from local sources.

Reusable Takeout Containers. Launch a reusable takeout container program that enables cafeteria customers to produce less waste, adds convenience if they're taking food to go, and provides a discount or other incentive for participating.

Food Service Area Signage. Create food service area signage that identifies offerings that are local, organic, healthy, etc. Signage may also include information about sustainable food systems.

Go Styrofoam-Free. Consider eliminating the use of all polystyrene foam products so as to greatly decrease the amount of non-recyclable petroleum-derived plastics. Achieve recognition (or self- recognize) as a styrofoam-free campus.

1. *McDonough, William and Michael Braungart. "Cradle to Cradle: Remaking the Way We Make Things." (2002).*
2. *"Groundwater Monitoring Requirement: Municipal Solid Waste Landfills." U.S. Environmental Protection Agency. Web. 26 Nov. 2012.*
3. *"Sources and Emissions: Methane." U.S. Environmental Protection Agency. Web. 26 Nov. 2012.*
4. *"Office Depot GreenerOffice Rating System – Green Attributes." (2011). Web.*

Campus Culture

Background

Aspiring and current college students increasingly value institutions that value sustainability. Among the more than 9,900 college applicants the Princeton Review surveyed for its "2013 College Hopes and Worries Survey," 62 percent of respondents said they would value having information about a college's commitment to the environment.[1]

University of Nebraska at Omaha (UNO) students aren't any different. The Sustainability Survey revealed broad and overwhelming support from students. Over 87 percent of students indicated it's important that the University of Nebraska at Omaha is committed to sustainability and takes active steps to be more sustainable. It's clear that an effective sustainability initiative at UNO will directly improve the University's ability to achieve its goal to have 20,000 students by 2020.

Research has consistently shown that organizations with engaged employees tend to demonstrate higher levels of productivity, greater profits, and significantly higher retention rates.[2] Fortunately, sustainability and corporate social responsibility have been identified as a top driver for increasing employee engagement at UNO and thus affecting these key business metrics.[3,4] Recent studies have found that employees generally prefer to work for an organization that is environmentally responsible and takes steps beyond regulatory compliance.[5]

This is supported by the Sustainability Survey in which 95 percent of employee respondents indicated that it is important to them that UNO is committed to sustainability and takes active steps to be more sustainable. Furthermore, organizations that are committed to environmental stewardship and that provide opportunities to get involved with sustainability initiatives tend to be more successful at recruiting and retaining highly talented employees and recent college graduates.[5]

Beyond the aforementioned reasons, engaging and educating employees about sustainability also helps embed a sense of environmental consciousness into daily business decisions as well as larger institutional projects. Ultimately, it helps foster an organizational culture that actively supports and is invested in the organization's sustainability goals and initiatives.

Plus, engagement strategies often entail little to no cost other than staff time to implement, and barriers to implementation are often minimal.

Successes

The fact that UNO identified sustainability as one of its top five strategic priorities by Academic and Student Affairs is a clear indication that campus stakeholders understand the importance of sustainability.

The prevalence of groups that are either directly or tangentially involved with sustainability efforts has also grown recently. The creation of the Chancellor-appointed Sustainability Committee shows a clear dedication on the part of campus leadership to embed sustainability into UNO's culture.

Student groups have played a major role in advancing sustainability initiatives across campus as well. Green Basis and the Student Government Sustainability Committee are the leading student organizations that direct most student sustainability-focused activities.

Activities for incoming freshman and transfer students have recently improved as well. Students new to campus are encouraged to participate in campus orientation, during which all students are familiarized with sustainability efforts on campus.

Many students and employees already participate in everyday sustainable behaviors while on campus. A sustainable culture has already infiltrated UNO, and an exciting opportunity exists to further integrate sustainability into the University's identity.

Figures 64 & 65: 1.) Students pick up their free plant outside the student center plaza on Earth Day. This event has become a tradition in recent years and is a great example of sustainable programming that engages the student body. 2.) Green Basis is one of UNO's leading sustainability student groups (photo credit: UNO).

UNO identified two important metrics related to Campus Culture, both of which are measured against baselines established in May 2014. An annual or bi-annual activity is recommended to update the metric, either via a survey or submission of data to the Association for the Advancement of Sustainability in Higher Education (AASHE).

UNO was one of 90 schools that piloted STARS in 2008. In May 2014, UNO completed a full report and achieved a Bronze rating. The results from the Campus Engagement section of the 2014 submission are below.

Campus Culture

Vision: Sustainability is an integral part of UNO's culture and identity. Students, faculty, staff, and administrators make decisions that are environmentally friendly, socially responsible, and financially feasible.

Metric	Baseline	Current	2025 Goal	2050 Dream
UNO Sustainability Engagement Index	52% (May 2014)		75%	95%
Campus Engagement STARS points	8.5 of 20 (May 2014)		20	20

Campus Engagement STARS Goal: In Detail

Goals related to Campus Culture are based on the AASHE's Sustainability Tracking, Assessment & Rating System (STARS). STARS is a transparent, self-reported framework for colleges and universities to measure their sustainability progress. It is the most thoroughly vetted and extensively tested international sustainability framework for colleges and universities and provides an excellent way for UNO to compare itself to its peers.

UNO's 2014 Campus Engagement STARS Breakdown

There are a total of 20 points currently available in the Campus Engagement section of STARS. Below is how UNO scored in its May 2014 submission. In most cases, UNO is poised to quickly achieve the remaining points.

Student educators program: peer-to-peer sustainability outreach (0.0 / 4.0)

Student orientation: sustainability included in orientation activities and programming (2.0 / 2.0)

Student life: sustainability programs and initiatives outside the formal classroom (0.5 / 2.0)

Outreach materials & publications: sustainability website, newsletter, social media, signage, etc. (2.0 / 2.0)

Outreach campaign: campus community engaged in sustainability outreach campaign(s) (4.0 / 4.0)

Employee educators program: faculty & staff educate & mobilize their peers around sustainability (0.0 / 3.0)

Employee orientation: sustainability addressed during new employee orientation (0.0 / 1.0)

Staff professional development: sustainability training and/or other professional development (0.0 / 2.0)

Sustainability Engagement Index: In Detail

An anonymous, online Sustainability Survey was made available to UNO employees and students between April 24 - May 8 to quantitatively assess engagement levels and establish a baseline; 1,491 responses were received (981 students and 510 employees).

Because engagement is a multidimensional construct that is typically evaluated according to several different metrics, the survey included items that assessed respondents on four specific dimensions of sustainability engagement:
- Awareness of UNO's sustainability efforts
- Familiarity with sustainability more broadly
- Knowledge about ways to save energy and natural resources on campus
- Frequency of conservation behaviors on campus

Survey results for questions related to these dimensions were combined and averaged to establish a baseline Sustainability Engagement Index, which can range from 0 to 100. A higher score indicates that more employees and students are highly aware of UNO's sustainability efforts, highly familiar with sustainability concepts, highly knowledgeable about how to conserve energy and resources while on campus, and regularly engage in various conservation behaviors on campus.

Figure 66 on the following page graphically summarizes how UNO's Sustainability Engagement Index is calculated and what UNO's goals are for 2025 and 2050.
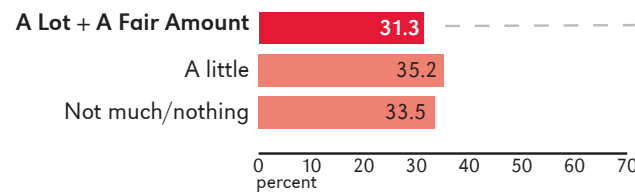
UNO Sustainability Engagement Index

Figure 66: Establishing a baseline for sustainability engagement involves a combination of four metrics related to awareness, familiarity, knowledge, and behavior. Measurements of these four aspects are shown in the lower four graphs. The percent of respondents in the top category for each of these metrics are averaged to determine the baseline Sustainability Engagement Index of 52. The baseline and goal for the Sustainability Engagement Index are shown in the top graph

Sustainability Engagement:
Average of desired responses for awareness, familiarity, knowledge, and behavior
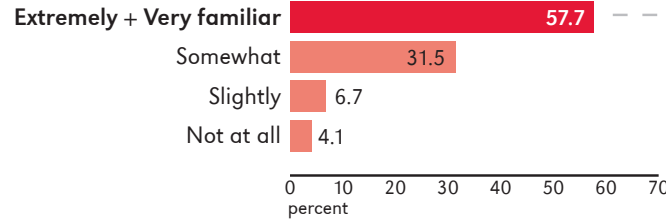
Sustainability Engagement Baseline — 52
2025 Goal — 75
2050 Goal — 95
(score: 0–100)
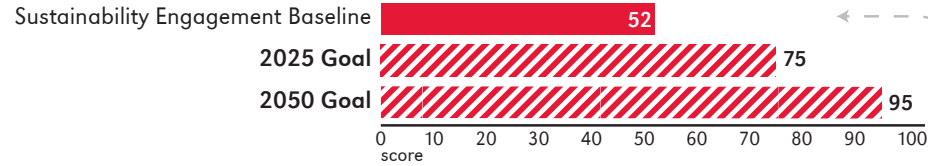
Awareness:
How much do you know about UNO's sustainability efforts*?

A Lot + A Fair Amount — 31.3
A little — 35.2
Not much/nothing — 33.5
(percent: 0–70)

General Familiarity:
How familiar are you with the term/concept sustainability?

Extremely + Very familiar — 57.7
Somewhat — 31.5
Slightly — 6.7
Not at all — 4.1
(percent: 0–70)

Knowledge:
How knowledgable do you consider yourself about the various ways** you can help UNO be more sustainable?

Extremely + Very — 44.4
Somewhat — 34.5
Slightly — 14.8
Not at all — 6.3
(percent: 0–70)
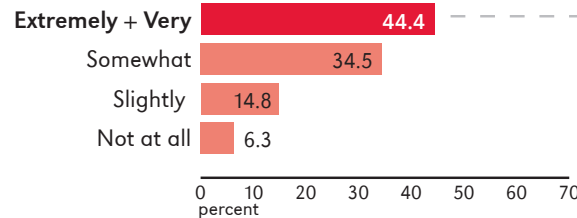
Self-Reported Behavior:
How often do you personally participate in sustainable actions*** when you are on campus?

Always + Most of the time — 74.5
Sometimes — 14.5
Rarely — 6.7
Never — 4.3
(percent: 0–80)
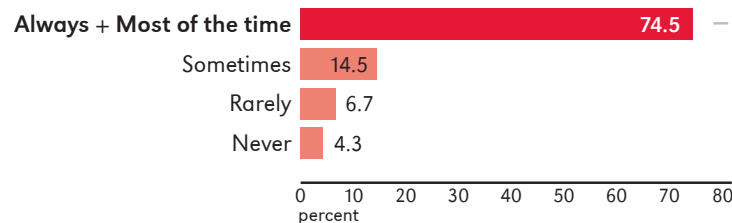
Legend: Baseline / Goal

* Efforts assessed included: conserve energy, reduce unnecessary waste and promote recycling, provide healthy and sustainable food options on campus, provide options for commuting and traveling around campus by means other than driving alone in a personal vehicle, reduce greenhouse gas emissions, maintain campus grounds/landscaping in a an environmentally-responsible manner, conserve water, purchase environmentally-responsible products, and incorporate sustainability topics into curriculum and new programs.

** Actions assessed included: conserve energy on campus beyond just shutting off lights, reduce unnecessary waste of materials on campus, recycle certain items on campus, travel to/from campus in a manner that reduces greenhouse gas emissions and pollution.

*** Behaviors assessed included: turning off the lights, using fewer lights or lowering light levels, using reusable food and beverage containers, printing double sided, opening doors manually, shutting down personal computers, recycling appropriate materials, and using stairs instead of the elevator.

Strategies

The strategies are organized by first, second, and third levels. This manner of organizing strategies generally results in an approximate prioritization based on a process that included subject-matter experts and stakeholders at UNO, the Planning Team, and the Sustainability Master Plan Steering Committee. Decisions were based on the quantitative and qualitative research completed during the Discovery Phase of the Sustainability Master Plan process.

Top Five Priorities

The five strategies listed below are considered the highest priority for pursuit as soon as possible. They are likely to have the largest positive impact and be quickest to complete. Details on each strategy can be found below.

1. Sign the American College and University Presidents' Climate Commitment
2. Improve coordination of efforts
3. Be deliberate about engaging students
4. Sustainability progress dashboard
5. Continue seeking awards and recognition

First Level Strategies

IMPROVE COORDINATION OF EFFORTS

As discussed in the Overarching Strategies section, creating an improved coordination model is important, and it is especially true with regard to engagement. Giving students, employees, and the community a clearer picture for how to get involved, where to go when questions arise, and where and how to offer feedback and suggestions will dramatically improve engagement levels. For additional detail on this particular strategy, please refer to the Overarching Strategies section.

MAINTAIN A FOCUS ON STUDENTS

Conversations with stakeholders from across campus revealed that students have a great deal to gain from UNO's future sustainability efforts. Students are eager to see the University bolster its efforts, and they are ready to take the lead in ensuring progress is made. The following strategies are those that will have the biggest impact on engaging students.

Student Orientation. Sustainability was incorporated into the fall 2014 student orientation; additional progress should be pursued so as to incorporate detailed information about UNO's sustainability efforts and opportunities for involvement into new student orientation. It should be made clear to new students at the outset that sustainability is important to UNO, and campus-wide expectations for acting sustainably are high.

Student Involvement. Involve students in highly visible sustainability efforts such as litter cleanup days, national lights out campaigns, Earth Day, and so on. As the on-campus coordination model is refined and students have a clearer idea as to where and how to get involved, students will be better positioned for and excited about engaging in these activities. Many of the opportunities for on and off-campus involvement should be connected to courses and service learning.

Figure 67: UNO has won recognition as a Tree Campus USA four times now. An engaged student body has been integral in winning these awards, and will be important to ongoing and future sustainability efforts (photo credit: UNO).

Educational Offerings. More widely communicate sustainability concentration/minor to prospective students; current awareness levels of such offerings are fairly limited. Highlight these and future offerings in admissions materials and during new student orientation.

Friendly Competitions. Hold energy reduction or recycling competitions among residence halls or groups of residence halls, and participate in inter-institutional recycling competitions, such as Recyclemania.

Optional Student Sustainability Fee. In the recent Sustainability Survey, 47 percent of student respondents indicated they are supportive of giving students an option to pay an additional $5.00 sustainability fee to support green activities. Conversation with UNO's Student Government should be held to ascertain viability and elements of implementation of such a fee.

DEMONSTRATE LEADERSHIP & SEEK AWARDS

The discovery phase revealed that students and employees desire and expect UNO to be a leader with respect to sustainability. There are two key strategies that will publicly demonstrate such leadership.

> *92% of respondents to the community survey indicated they agree that UNO should strive to be a leader in sustainability and help other organizations and the community as a whole be more sustainable.*

Public Commitment. Sign the American College and University Presidents' Climate Commitment (ACUPCC), which will publicly solidify UNO's commitment to sustainability and climate neutrality. Signatories in essence recognize the existence and dangers of global warming, commit to "creating a climate action plan to achieve climate neutrality as soon as possible," and agree to implement a few tangible actions to reduce greenhouse gasses while a climate action plan is being developed. This Plan likely qualifies as a climate action plan.

Awards & Recognition. UNO has already earned excellent recognition for its sustainability efforts: in May 2014 UNO earned a STARS bronze designation, and in 2013 UNO earned Tree Campus USA designation for the fourth time. While these awards are not why UNO should further its efforts

to be sustainable, they are an important means by which it can and should continue to tell its story and demonstrate its commitment to being a leader.

EXPAND EDUCATION & COMMUNICATION EFFORTS

Intra-campus communication is often a challenge at most higher education institutions, and communicating sustainability information is no exception. There are, however, some key ways by which UNO can and should improve.

Regular Communications. Include regular updates and information in varying mediums regarding UNO's efforts and progress. Maverick Daily (faculty/staff) and Maverick Weekly (students) are the two most important tools to use to regularly communicate. The main methods noted and identified as beneficial for students were: email and e-newsletter; posters, banners, and signs; events and activities; and social media. New communication mechanisms need not be created (except the sustainability listserv or rss feed noted below); rather, current media and channels should be leveraged and extensively used.

Educational Signage. Install signage that indicates why a particular feature is sustainable. Examples include sustainable landscaping, low-flow fixtures, materials with recycled content, and efficient lighting. Most campus users aren't able to identify sustainable features; identifying them will increase awareness of UNO's efforts.
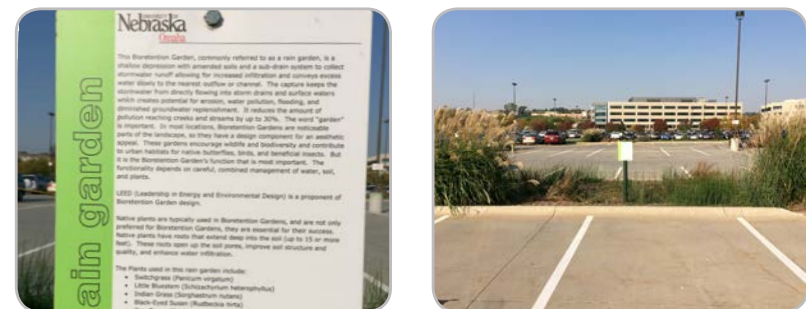

Figure 68 & 69: The College of Business Administration has placed signage in the parking lot between PKI and Mammel Hall that identifies rain gardens and explains why they are important.

Leadership Meetings. Incorporate standard sustainability updates at key leadership meetings (e.g. Chancellor's Cabinet, Dean's Forum, Student and Faculty Senate, etc.). With this Plan in place, regularly and frequently updating stakeholders on progress toward goals is important and fairly straightforward.

Web & Social Media. Refine UNO's sustainability web presence so that all players and programs are more clearly communicated on the web. Develop and execute an appropriate social media strategy.

Listserv. Create a sustainability listserv or RSS feed for staff and students interested in knowing about sustainability efforts and events.

Learning Events. Host sustainability focused lunch and learn events for employees, students, and community members. The Center for Urban Sustainability's Launchpad event provides an excellent template for future events.

Idea Generation. Develop a mechanism for submitting sustainability ideas and feedback that ensures anonymity while still providing the opportunity to track topics and responses.

TRACK & REPORT PROGRESS

As noted in the Overarching Strategies section, tracking and reporting progress is critical to long-term success. There are two important strategies in this realm that directly relate to engagement.

Dashboard. Incorporate an online dashboard on UNO's sustainability webpage that highlights and tracks progress toward UNO's sustainability goals.

Annual Report. Produce an annual sustainability report that is made available to all employees, students, and the community. It should summarize all activities that fall under the UNO sustainability umbrella, including academics, research, operations, campus culture, and community outreach.

Second Level Strategies

Employee Training. Develop online training modules for employees who would like to learn more about sustainability and UNO's environmental efforts. These modules could possibly serve as an official department or college "green ambassador" training program.

Employee Orientation. Incorporate detailed information about UNO's sustainability efforts and opportunities for involvement into new employee orientation.

Sustainability Guide. Develop a simple "sustainability guide" or checklist for departments/buildings that guides their actions. Several straightforward strategies can be extracted from this Plan and incorporated into a simple checklist that departments/colleges can use to organize and priorities their actions.

Annual Awards & Recognition. Establish an annual recognition program that acknowledges the efforts of individual employees and students to save energy and resources. This could include a formal award granted on an annual basis to an employee and student that demonstrate leadership with regard to conservation and helping UNO reach its sustainability goals.

Third Level Strategies

Faculty Leadership. Recruit current faculty to engage in and support the culture and communication of sustainability, such as noting "what they're doing to make the course more sustainable" on the syllabus.

Green Challenge Series. Implement a monthly or quarterly competition series that challenges employees to engage in new environmental behaviors and provides the opportunity to track progress and related environmental benefits.

Point-of-Use Prompts. Install nonpermanent decals and posters in areas that remind employees and students to engage in specific actions that conserve energy and resources.

Model Sustainability Room. Create a model "sustainability room" to show students how they can live sustainably in the residential halls.

First Year Immersion. Create a first year immersion program for students that incorporates faculty and staff experts from various sustainability areas in the community. Such a program will establish sustainability literacy in all students, regardless of discipline or specialization.

Vendor Reporting. Request an annual, formal update from key vendors that highlights their sustainability efforts on campus and quantifies the related impacts.

1. McDonough, William and Michael Braungart. "Cradle to Cradle: Remaking the Way We Make Things." (2002).
2. "Groundwater Monitoring Requirement: Municipal Solid Waste Landfills." U.S. Environmental Protection Agency. Web. 26 Nov. 2012.
3. "Sources and Emissions: Methane." U.S. Environmental Protection Agency. Web. 26 Nov. 2012.
4. "Office Depot GreenerOffice Rating System – Green Attributes." (2011). Web.

Community Engagement

Table of Contents

Background

Sustainability is a holistic proposition that touches on many aspects of everyday life. It also often ignores geographic and legal boundaries. An organization's emissions don't hover above the campus, nor does its waste stay on campus.

Creating and fostering relationships with the community is a critical element to establishing a successful sustainability initiative. There are often unique partnerships that can be formed to help multiple stakeholders be more sustainable.

The community wants and expects the University of Nebraska at Omaha (UNO) to be a leader with respect to sustainability. In a recent sustainability-focused community survey, when asked why it's important for UNO to actively pursue sustainability, three out of four respondents indicated its important for UNO to serve as a leader in the community and model sustainability for other organizations.

Successes
The University of Nebraska at Omaha is nationally known and recognized for its community engagement efforts. For seven consecutive years, UNO has been selected to be on the President's Higher Education Community Service Honor Roll, the highest federal recognition a school can achieve for its civic engagement.

UNO was also in the first group of higher education institutions in the United States to receive the Carnegie Elective Community Engagement Classification for Curricular Engagement and Outreach & Partnership and has maintained classification since 2006. The classification recognizes the mutually beneficial exchange of knowledge and resources between higher education institutions and the larger communities.

The first-of-its-kind Barbara Weitz Community Engagement Center (CEC) provides an exceptional facility for the greater Omaha community to come together and collaborate. The CEC serves as the permanent home of UNO's signature outreach programs, including the Service Learning Academy

and the Student Volunteer and Leadership Collaborative, and it also has workspace dedicated to UNO's sustainability organizations.
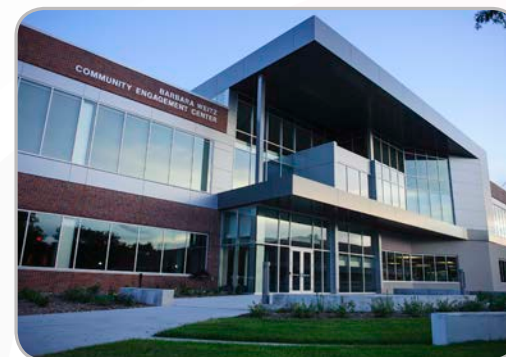

Figure 70: The Barbara Weitz Community Engagement Center provides a headquarters for on- and off-campus sustainability partners to meet, collaborate, and produce outreach programs for students, employees, and community members (photo credit: UNO).

UNO's community outreach and engagement efforts specific to sustainability are exceptional as well. UNO is a long-standing partner with the Green Omaha Coalition, with faculty and staff having served on its Board of Directors and as a regular host site for meetings and events.

The Nebraska Business Development Center, located in and partially supported by UNO's College of Business Administration, helps business implement sustainable practices. UNO partners with the Omaha Public Power District to host an Academy of Sustainable Environments & Renewable Energy for students each summer.

The Service Learning Academy provides a means to link students to community organizations interested in sustainability.

Figure 71: *High school student participants in the Academy of Sustainable Environments & Renewable Resources investigate solar photovoltaic technology on a UNO sidewalk (photo credit: OPPD).*

UNO has exceptional relationships and collaborates with other universities in the region. UNO participates with several other local and regional universities in the Midlands Education Sustainability Forum (moderated by Creighton University) that meets several times throughout the year and endeavors to exchange ideas about sustainability.

Finally, UNO is host to the Center for Urban Sustainability, other participants include Metropolitan Community College, Creighton University, the University of Nebraska-Lincoln, and the University of Nebraska Medical Center.

Vision, Baselines, & Goals

UNO identified one metric related to Community Engagement that uses AASHE's STARS framework. The baseline is based on UNO's May 2014 submission. UNO also intends to identify an additional metric that can be incorporated into the University's broader community engagement efforts

Community Engagement

Vision: UNO is a model of dynamic sustainability thinking and practices for the community it serves and is a well-known and ready community resource.

Metric	Baseline	Current	2025 Goal	2050 Dream
Public Engagement STARS points	12.63 of 16 (May 2014)		16 (2020)	16

An additional metric will be considered as part of the University's broader community engagement activities and tracking mechanisms.

UNO's 2014 Public Engagement STARS Breakdown

A total of 16 points are currently available in the Public Engagement section of STARS. Below is how UNO scored in its May 2014 submission.

Community partnerships: with local community to advance sustainability (3.0 / 3.0)

Inter-campus collaboration: collaborate w/ other colleges or universities to advance sustainability (2.0 / 2.0)

Community service: students engaged in volunteerism (3.63 / 5.00) Community stakeholder engagement: engage stakeholders in governance, strategy, etc. (2.0 / 2.0)

Participation in public policy: promote sustainability through public policy advocacy (2.0 / 2.0)

Trademark licensing: apparel bearing UNO's name is produced under fair conditions (0.0 / 2.0)

Public Engagement STARS Metric: In Detail

UNO should be able to quickly achieve the remaining points in the "community service" category within the next few years. The "trademark licensing" credit presents the primary obstacle. Several UNO stakeholders should and will be involved in determining how to proceed with pursuing the steps necessary to earn the credit.

Strategies

UNO is exceptional when it comes to community engagement, and with the establishment of the Center for Urban Sustainability and the completion of the Community Engagement Center to go along with long-standing, successful programs such as the Service Learning Academy and the Student Volunteer and Leadership Collaborative, UNO's sustainability-focused community engagement is poised to thrive.

Quote from 20/20: "Sustainability calls for a multidisciplinary approach that goes beyond the academy to include business, government, and the broad community."

Given UNO's long history of excellent community engagement and the healthy partnerships that UNO's sustainability experts have with UNO's community engagement specialists, the Planning Team did not identify a significant number of new strategies for the University to pursue. In fact, many of the strategies outlined below simply encourage continuation of efforts already underway.

CENTER FOR URBAN SUSTAINABILITY

Foster Partnerships. UNO has a long list of potential sustainability partners, and the Center for Urban Sustainability (CfUS) has already made excellent connections with businesses, public agencies, and non-governmental agencies. The Center should continue its efforts to pursue partnership grants and identify community partners to help fund and coordinate sustainability projects that make the local community more sustainable.

There are two specific partnership opportunities for the CfUS that were identified through the planning process. They include:
- Partnering with environmental organizations/experts to develop on-campus habitat that would serve as stormwater treatment cells, stormwater retention, pollinator habitat, and learning demonstration areas.
- Collaborating with Center for Urban Sustainability partners such as UNMC and OPPD for energy reduction projects (including potential participation in the UNMC/ OPPD interlocal agreement).

EDUCATION, AWARENESS, & ADVOCACY

Be a Leader. Communities often hold their local universities in particularly high esteem, which puts UNO in a position to be a sustainability leader and drive the conversation about sustainability. By leveraging UNO's community engagement specialists, the CEC, faculty with unique sustainability expertise and perspectives, and sustainability-focused entities such as the Sustainability Committee and the CfUS, UNO can and should step out as the convener and local leader on sustainability issues.

There are many ways in which UNO can be a local leader; two important methods are through education and awareness and by advocating for more sustainable policies and programs. Both roles go hand-in-hand, and UNO is well suited to fulfill both. The following strategies fall in these education, awareness, and advocacy categories.
- Organize a sustainability summit/conference - partnerships will be critical to success
- Coordinate activities in conjunction with national environmental awareness days/months, such as Earth Day, Arbor Day, Bike to School Day, and National Energy Awareness Month

Figure 72: UNO has hosted and participated in several sustainability-related events. A flurry of great activity has always occurred around Earth Day (photo credit: UNO).

Figure 73: The Service Learning Academy has a long history of engaging students and community members, and has exceptional potential to engage these groups in sustainability-focused service learning projects.

- Present at neighborhood association meetings to communicate how UNO is taking a leadership role in sustainability, and to share ways that the association and individual community members can be involved
- Continue working with local media to communicate UNO's sustainability efforts and benefits to the community
- Invite community members and community partners to sustainability-focused lunch and learn events on campus.
- Invite community leaders, citizens, and alumni to visit the campus to 1) offer their feedback regarding being more sustainable and 2) to increase their sustainability awareness/literacy
- Work with the Service Learning Academy and the Office of Civic and Social Responsibility to promote sustainability in service learning projects; connect students that have sustainability interests to relevant service learning projects
- Share information on sustainability best practices with local businesses, community groups, and schools
- Engage local entities to create cooperative programs and campaigns to advance policies that promote renewable energy and sustainability

Academics & Research

Background

The prevalence of sustainability-related education and research in higher education has dramatically increased over the last few years. Over the past 25 years, the number of publications on sustainability is growing exponentially, doubling approximately every 8 years.[1]

As the world quickly evolves to better understand and address environmental issues such as climate change, water shortages, species extinction, and pollution, the manner and extent to which college graduates must be prepared is changing as well.

> *"UNO, at the center of the metropolitan region, is well-positioned to be a catalyst for learning, engaged research and community service that allows the metropolitan area to meet its moral responsibility to promote sustainability."*
> *Excerpt from Campus Priorities: Charting a Clear Vision for 20/20*

The impacts on curricular, co-curricular, and research activities aren't isolated to environmental sciences and architectural engineering. Sustainability is being incorporated into disciplines of all types: social sciences, political science, fine arts, business, and public administration, just to name a few.

In its discussions with stakeholders from across campus, the Planning Team found the primary reason why sustainability is important to the University of Nebraska at Omaha (UNO) is because of the impact that it has on students. This includes improving UNO's ability to attract and retain students and educating them on the importance of sustainability so they can find meaningful and relevant work in the world after college. UNO's academic and research activities related to sustainability are critical to their success.

Successes

UNO has made significant and noteworthy progress in the last four years. The most noteworthy effort was the identification of sustainability as one of five priority areas by Academic & Student Affairs in 2012. UNO's Campus Priorities: Charting a Clear Vision for 20/20 document makes a clear and well-articulated case for why UNO should continue to expand its sustainability-related academic offerings and research.[2]

Figure 74 & 75: UNO's Elkhorn River Research Station is an environmental research and education facility located on the banks of the river, and UNO's Zero Net Energy Test House was a model home where students learn about sustainable design and green energy technology photo credit #74: UNO.

On the Academics side, the College of Business Administration established a sustainability concentration as part of the Masters in Business Administration program in 2010. In the spring of 2014, a sustainability concentration was created as part of the Bachelors in General Studies, and later that summer an undergraduate minor in sustainability was approved. A graduate certificate is currently under development.

UNO's Center for Urban Sustainability was formally approved by the Nebraska Board of Regents in the fall of 2012. The Center plays a key role in facilitating and directing research going forward and establishing key partnerships to solve some of the most pressing urban sustainability challenges.

Figure 76: The Center for Urban Sustainability held its first Sustainability Launchpad event on Earth Day 2014: Accelerating Innovative Urban Ideas. The event was a community conversation about energy issues and how the community can make a difference (photo credit: UNO).

The Center for Urban Sustainability

Mission:
To advance urban sustainability education, research, and partnerships across the community, the region and planet.

Goals:
1. Establish strong research partnerships
2. Engage in fundamental and applied research in urban sustainability
3. Celebrate UNO and Omaha as a place fo innovative urban sustainability research and education degree options

Vision, Baselines, & Goals

UNO's vision and goal related to sustainability academics and research are one in the same. The high-level focus areas are sustainability literacy of all graduates, faculty and staff, and national recognition for sustainability research.

ACADEMICS & RESEARCH

Vision/Goal: All graduates, faculty, and staff are sustainability literate. Sustainability literacy is embedded in curricular and co-curricular programs, and it is realized in the (physical and virtual) classroom and through experiential learning on and off campus. UNO is nationally recognized for the advancement of sustainability research.

Secondary Metrics for Academics & Research

The most important goals related to Education and Research are above, but UNO will also continue tracking progress toward earning more STARS points in both categories. In UNO's May 2014 submission, it earned the following points:

• Curriculum: 10.81 of 40.00
• Research: 8.62 of 18.00

The Planning Team expects the University to earn 30.00 Curriculum points and 16.00 Research points by 2025 through improved tracking of existing efforts and expansion of sustainability education and research across the University.

UNO's 2014 Curriculum and Research STARS Breakdown

A total of 40 and 18 points are currently available in the Curriculum and Research sections of STARS. Below is a summary of how UNO scored in its May 2014 submission.

Curriculum
• Academic courses: sustainability courses and courses that include sustainability (4.31/14.00) Learning outcomes: sustainability learning outcomes associated with degrees and/or courses (0.0/8.0)
• Undergraduate program: formal undergraduate-level sustainability degree program (3.0/3.0)
• Graduate program: formal graduate-level sustainability degree program (1.5/3.0) Immersive experience: immersive, sustainability-focused educational study programs (0.0/2.0)
• Sustainability literacy assessment: assessment of students' sustainability literacy (0.0/4.0) Incentives for developing courses: to help faculty expand sustainability course offerings (0.0/2.0)
• Campus as a living laboratory: infrastructure and operations utilized for multidisciplinary learning (2.0/4.0)

Research
• Academic research: faculty and staff conduct research on sustainability topics (3.62/12.00) Support for research: program in place to encourage sustainability research (3.0/4.0)
• Access to research: open access to all new peer-reviewed research produced by UNO (2.0/2.0)

Strategies

Identifying specific educational and research strategies was not a major focus of this planning effort. The Planning Team was not tasked with reviewing UNO's current educational offerings and recommending revisions and additions as a previously formed group has established the undergraduate concentration and minor, along with the currently under-development graduate certificate. Furthermore, the Planning Team was not asked to identify specific research opportunities as this a primary focus of the newly formed Center for Urban Sustainability.

The strategies outlined below are primarily focused on high-level opportunities to connect the operational and engagement-related facets of UNO's sustainability efforts with the academic and research activities of the University.

Data Tracking. Improve data tracking so as to better track (and earn recognition for) sustainability course offerings and research.
- **Curricular:** Utilize Digital Measures to track courses that are either sustainability focused or include sustainability per the definition provided by AASHE STARS.[3]
- **Research:** Utilize Digital Measures to track faculty, staff, and departments that are researching sustainability per the definition provided by AASHE STARS.[4]

Sustainability Course Identification. Once sustainability courses are identified through improved data tracking, create a clear identifier on sustainability courses so students can more easily determine if a course is focused on or pertains to sustainability when enrolling (similar to service learning courses).

Living Lab. UNO should use its infrastructure and operations for multidisciplinary student learning, applied research, and/or practical work that advances sustainability on campus in a specific area such as: air & climate; buildings; dining services & food; energy; transportation; grounds; purchasing; waste; water; coordination,

planning, & governance; diversity & affordability; health; well-being & work; investment; or public engagement. Project examples include: class projects, thesis projects, term papers, and published papers.

An opportunity of particular interest is the Living Lab currently being envisioned by the Center for Urban Sustainability. The Living Lab is a bold and audacious project wherein a family of buildings and spaces would serve as a place that researchers could study with a special focus on the behavioral aspects of sustainability.

Figure 77: UNO is boldly contemplating the creation of a Living Lab, a development model in which mixed use, sustainable spaces are intertwined with classroom and co-curricular education opportunities. For example, mixed use retail, office, and residential spaces would be complimented by adjacent education and research facilities, community gathering places, and agriculture. The entire development presents an opportunity for deep sustainability research.

Faculty Incentives. Develop an ongoing program or programs that offer incentives for faculty in multiple disciplines or departments to develop new sustainability courses and/or incorporate sustainability into existing courses or departments. The program specifically aims to increase student learning of sustainability. Incentives may include release time and/or funding for professional development and trainings.

> *Quote from 20/20: "In its own operations, UNO is a major consumer of energy, food and water; and is a source of traffic congestion, air pollution, stormwater runoff, and solid waste in the Omaha area. Addressing these issues not only makes us better neighbors and stewards of our environment, but it also provides a test bed for applied research and service learning on the viability of innovative practices."*

Research Incentives. Develop an on-going program to encourage students, faculty, and staff to conduct research in sustainability. Incentives may include fellowships, financial support, and faculty workshops.

Impact on Tenure. Formally adopt policies and procedures that give positive recognition to interdisciplinary, transdisciplinary, and multidisciplinary research during faculty promotion and/or tenure decisions.

Sustainability Literacy. Conduct an assessment of the sustainability literacy of UNO students. Conduct a follow- up assessment of the same cohorts using the same instrument. This may be done as part of the first-year immersion.

Immersive Experience. Offer at least one immersive, sustainability-focused educational study program. The program should be at least one week or more in length and may take place off-campus, overseas, or on-campus. Require students to take at least one sustainability- related course. Create a sustainability-themed first year experience course.

Core Learning Outcome. Include sustainability as a core learning outcome across the University. This may be done at the institution, department, program, or course level.
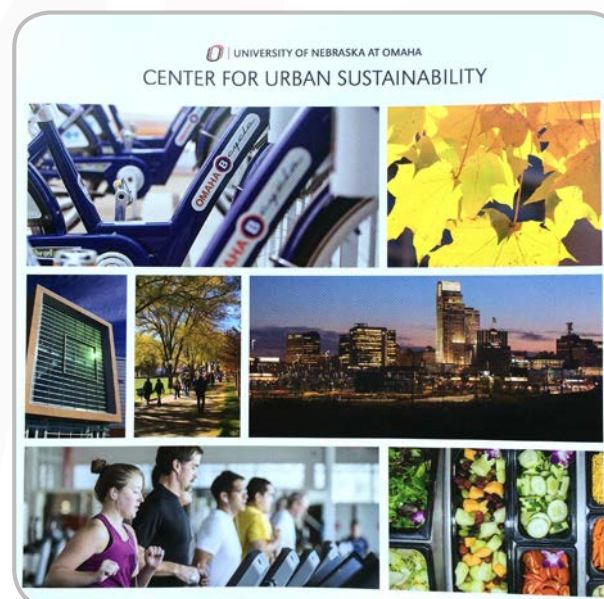

Figure 78: The Center for Urban Sustainability will play a key role in bringing students, faculty, and key community stakeholders together for compelling, collaborative research and community engagement projects.

Notes

1. Bettencourt, L.M.A. and J. Kaur. "Evolution and structure of sustainability science." *Proceedings of the National Academy of Sciences USA* 108.49 (2011): 19540-19545.
2. "Campus Priorities: Charting a Clear Vision for 20/20." *University of Nebraska-Omaha* (2012).
3. "STARS Technical Manual 2.0." *Association for the Advancement of Sustainability in Higher Education* (2013): 25.
4. *Ibid.* 344.

Appendix I: Results of Three Surveys

Introduction

In spring of 2014, 1,756 people took a version of the UNO Sustainability Survey created by Verdis Group: 981 students, 510 employees, 265 alumni and/or community members.

The student survey consisted of 14 closed-ended questions and two open-ended questions. The employee survey consisted of 11 closed-ended questions and one open-ended question. The community survey consisted of four closed-ended questions and two open-ended questions.

UNO advertised the surveys through several means, some including:
- MavDaily and MavWeekly
- Social media
- Meetings and emails of UNO departments, staff groups, committees, and student groups
- Alumni e-newsletter
- Emails to community organizations' listservs
- Emails to community individuals who agreed to disperse the survey to peers, colleagues, and stakeholders

The student and employee surveys were available for two weeks, beginning on April 24. The community survey was available for one month, beginning on April 15. To motivate participation, each respondent had the opportunity to win one of several gift card incentives.

The following overview of results highlights some of the noteworthy findings from the surveys.

Results from Closed-Ended Questions

Importance. The percentage of respondents who indicated it is important or very important to them that UNO is committed to sustainability.
- Students: 87%
- Employees: 95%
- Community: 94%

About 75% of student respondents believe sustainability is important for UNO because it makes the campus and the local community a better place, it protects the environment, and it conserves resources in general. About 60-70% of employee respondents agree, and add that sustainability is "the right thing to do." Most employee and community respondents also believe sustainability is important because it positions UNO to serve as a leader in the community and model sustainability for other local organizations.

Mission. The percentage of respondents who agreed or strongly agreed that being sustainable and conserving energy and resources supports UNO's mission.
- Students: 78%
- Employees: 80%

Focus Areas. About 45-55% of student respondents chose the following as areas where UNO should focus sustainability efforts: material waste reduction & recycling, energy conservation & building efficiency, renewable energy, sustainable food, and water conservation. About 45-65% of employee respondents agreed, but also added "preserving green space and responsible landscaping."

Awareness. Students are highly aware of transportation- sharing and transit subsidy programs. 79%, 70%, and 66% said they are aware of B-cycle, MavRide, and Zipcar, respectively. Only 25% of students are aware that UNO has a sustainability committee and that sustainability is one of UNO's five priority areas. Less than 20% of students are aware that UNO offers a general studies degree with a sustainability concentration, and only 15% are aware of the Center for Urban Sustainability.

Employees are likewise highly aware of B-cycle (85%), Zipcar (71%), and MavRide (68%). 48% of employees are aware that UNO has a sustainability committee, and 43% are aware that sustainability is one of UNO's five priority areas. Only 30% of employees are aware that UNO offers a general studies degree with a sustainability concentration, and 29% are aware of the Center for Urban Sustainability.

Support for Particular Efforts. Between 60-80% of students and employees would support the following sustainability efforts: Provide more sustainable food options even if they are more expensive, Sponsor carpooling and ridesharing programs, Provide on-campus vehicle charging stations at neutral cost to UNO. Additionally, 47% of students would support an option to pay an additional $5 activity fee for green programs, and 66% of employes would support incentives for alternative commuting.

Intra-campus Travel. About 70% of students and employees walk and/or take the shuttle bus to travel throughout campus. Only 1% bike.

Familiarity with Sustainability. 53% of students and 62% of employees were very familiar or extremely familiar with the term/concept of sustainability.

Knowledge about Sustainability Efforts. 70% of students and 67% of employees knew nothing or a little about UNO's existing sustainability efforts (nine examples were listed with this survey question).

Results from Open-Ended Questions

In the student survey, respondents were asked "What are some of the best/preferred methods for ensuring students are better informed about sustainability-related activities and programs at UNO?

172 students mentioned email/e-newsletters, 110 mentioned posters/signs/banners/handouts, 88 mentioned events/activities, 57 mentioned social media, 32 mentioned the UNO website, and 27 mentioned classroom announcements. In the community survey, respondents were asked "From the perspective of helping UNO, your organization, and/or the community be more sustainable, how might UNO partner with or help your organization?"
25 respondents mentioned community outreach and education. This includes:
- Engaging communities or community members in talks, discussions, workshops, etc.
- Collaborating with neighborhoods or neighborhood associations.
- Volunteerism and community service
- Advertising local events

- Advancing sustainable urban agriculture
- Inviting community leaders and citizens to campus

15 respondents mentioned information sharing. This includes:
- Providing an online sustainability information clearing house.
- Raising awareness, providing guidance, telling others how they can help
- Providing information about UNO's sustainability efforts and results, sharing successes, using students to spread information, using athletic events to spread information.
- Asking groups with similar environmental goals to communicate with one another.
- Meeting with partners to share information about sustainable planning, design, construction, and social responsibility.
- Meeting with students and faculty to share information about successful sustainability implementation within campus, other businesses, and public spaces.
- Letting other organizations/universities recommend sustainable practices to UNO.

15 respondents mentioned co-curricular education. This includes research, service learning, internships, class projects, Master's projects, natural study grounds, and hands-on/experiential learning.

10 respondents mentioned sharing information with, educating, engaging, and/or collaborating with a neighborhood association.

Appendix II:
Peer Analysis

PEER ANALYSIS (as of September 2014)

	UN Board of Regents Peer	CUMU	AASHE (STARS rating)	Princeton Review's Green Colleges 2014	ACUPCC	Sustainability Strategic Planning	Sustainability Coordinator (or equivalent)
Institutional Peers							
Cleveland State University	Yes	Yes	Member (rating expired)	No	Yes	Climate Action Plan (2013); Energy Master Plan (2008)	n/a
Indiana University-Purdue University-Indianapolis	No	Yes	Member (Silver - June'13)	No	No	n/a	Director and Assistant Director in sustainability office
Oakland University	No	Yes	Not a Member	No	No	n/a	n/a
Portland State University	Yes	Yes	Member (Gold - Feb'14)	Yes	Yes	Climate Action Plan (2010)	Sustainability Coordinator in sustainability office
University of Texas-San Antonio	Yes	Yes	Member (Bronze - Jan'12)	No	No	n/a	n/a
University of Arkansas-Little Rock	Yes	Yes	Member (Bronze - Sep'12)	No	No	Strategic Energy Plan (2010)	n/a
University of Missouri-Kansas City	No	Yes	Member (Silver - Mar'14)	Yes	Yes	Campus Sustainability Plan (2011)	Sustainability Coordinator in sustainability sffice
University of Missouri-St. Louis	Yes	Yes	Member (no rating)	No	Yes	Sustainability Action Plan (2013)	Sustainability Coordinator in facilities management office
University of North Carolina-Charlotte	Yes	Yes	Member (no rating)	No	Yes	Climate Action Plan (2012)	Sustainability Officer in facilities management office
Wichita State University	Yes	Yes	Not a Member	No	No	n/a	n/a
Northern Illinois University	Yes	No	Not a Member	No	Yes	n/a	n/a
University of Colorado-Denver	Yes	No	Member (Silver - Dec'12)	No	Yes	Climate Action Plan (2010)	Sustainability Officer in facilities management office
University of Northern Iowa	Yes	No	Member (Gold - Mar'13)	Yes	No	n/a	Sustainability Coordinator in sustainability Office

PEER ANALYSIS (as of September 2014)							
	UN Board of Regents Peer	CUMU	AASHE (STARS rating)	Princeton Review's Green Colleges 2014	ACUPCC	Sustainability Strategic Planning	Sustainability Coordinator (or equivalent)
Sustainability Peers							
University of Iowa	No	No	Member (Gold - Aug'13)	Yes	No	2020 Vision - The University of Iowa's Sustainability Targets (2010)	Director in sustainability office
University of Colorado-Boulder	No	No	Member (rating expired)	Yes	Yes	Conceptual Plan for Carbon Neutrality (2009)	n/a
Local Peers							
University of Nebraska-Lincoln	No	No	Member (Bronze - Jan'14)	No	No	Campus Energy Management Plan (2010)	Sustainability Coordinator in facilities management office
Creighton University	No	No	Member (no rating)	Yes	Yes	Climate Action Plan (2013); Energy Conservation Action Plan (2012)	n/a

Appendix III:
Results of Listening Sessions

Introduction

During the Discovery phase of developing this Plan, representatives from Verdis Group and the Project Liaison met with many groups (see below) to engage them in information-gathering. During these meetings, or listening sessions, the discussion was focused around three relatively broad questions:

- What have been some of UNO's major sustainability successes during the past five years?
- Why is sustainability important to UNO?
- In 15-20 years, what does a sustainable UNO look like? What's the vision?

We documented and analyzed the qualitative data amassed during these listening sessions. The results below attempt to summarize some of the most important findings.

Listening Session Groups

- Chancellor's Cabinet
- University Communications
- College of Business Green Team
- Division of Student Affairs leadership team
- Student Government
- Student Government Sustainability Committee
- Barbara Weitz Community Engagement Center leadership team
- Center for Urban Sustainability advisors and leadership team
- Green Basis
- Information Technology leadership team
- Facilities Management leadership team
- Sustainability Curriculum Taskforce
- Nebraska Business Development Center leadership team
- Academic and Student Affairs executive leadership team
- Dean's Forum
- Support Services leadership team
- University Village and Maverick Village resident assistants
- Staff Advisory Council
- Service Learning Academy leadership team
- STEM Education Group
- Mav-Rec Wellness Group
- Athletic Department leadership team
- College of Education administrators
- Scott Hall, Scott Court, and Scott Village resident assistants
- Enrollment Management leadership team
- Faculty Senate Goals and Directions Committee
- Fraternities and Sororities Presidents' Council
- Wellness Master Plan Steering Committee
- Student Housing Planning Committee
- Strategic Planning Forum

Question #1: What have been some of UNO's major sustainability successes during the past five years?

Listening session participants most frequently gave responses related to waste management and recycling (71 times), followed by energy (50), then transportation (47). Food (4) and water (6) were the topic areas mentioned least frequently.

Participants most frequently mentioned the following successes:

- Single-stream, campus-wide recycling system
- Reduced paper consumption, including digitalization
- Water bottle refill stations; fewer plastic water bottles
- Energy-efficient lighting and building operations
- Energy-efficient information technology practices
- B-cycle bike sharing program
- Zipcar car sharing program and green vehicles

Question #2: Why is sustainability important to UNO?

Listening session participants most frequently gave responses related to student impacts (53 times), financial implications (25), and leadership demonstration (24).

Student Impacts. Sustainability will help UNO attract and retain students, educate students about the importance of sustainable practices and behaviors, and prepare students for a future in which sustainable thinking is an important part of their professional and personal lives.

Financial Implications. Sustainability will result in cost savings and cost avoidance. This will allow the University to reallocate funds as appropriate, ultimately making students, employees, taxpayers, and donors more pleased.

Leadership Demonstration. Early and often, the Planning Team heard from stakeholders that being a leader with respect to sustainability was important to UNO. Further research to understand, specifically, what this meant revealed the following:

> UNO uses innovative and collaborative approaches to demonstrate sustainability best practices, and fosters a culture of sustainability that is engrained throughout The University. Additionally, UNO acts as a model for other organizations and institutions to follow, commits to achieving tangible results, and is recognized and awarded for sustainability successes.

Question #3: In 15-20 years, what does a sustainable UNO look like? What's the vision?

Listening session participants most frequently gave responses related to transportation and mobility (85 times), engagement (54), and waste management and recycling (36). Campus planning (24), buildings (23), energy (21), and curriculum (17) were also mentioned moderately frequently.

Participants most frequently mentioned the following in their 15-20 year vision for UNO:
- Convenient, multi-mode transportation options
- Lessened parking demand
- Green vehicles
- Sustainability-literate students and employees
- Sustainability integrated and engrained into campus culture and operations
- External communication, engagement, and recognition
- Paperless; Composting; Zero waste
- Energy-efficient buildings
- Renewable energy generation
- Denser campus with added green spaces
- Sustainability emphasized in core curriculum

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