**SUSTAINABILITY CULTURAL INDICATORS PROGRAM:
THIRD YEAR REPORT**

MONITORING THE CULTURE OF SUSTAINABILITY AT THE UNIVERSITY OF MICHIGAN: FALL 2014

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EXECUTIVE SUMMARY

The Sustainability Cultural Indicators Program (SCIP) is a multi-year project designed to measure and track the *culture of sustainability* on the University of Michigan's (U-M) Ann Arbor campus. It is intended to inform U-M administrators and others responsible for day-to-day operations of the University including its academic programs. Furthermore, it is intended to serve as a model demonstrating how behavioral research can be used to address critical environmental issues within universities generally and in other organizational settings. Culture of sustainability is meant to reflect a set of attitudes, behaviors, levels of understanding and commitment, degrees of engagement, and dispositions among a population such as members of a university community.

The findings presented in this report represent the results from Year 3 and provide a comparison to the Year 1 results (baseline measures). The findings are largely descriptive in that all survey responses are reported for the three key groups of the University community---its students, staff, and faculty. Two separate web questionnaires are used for SCIP --- one for staff and faculty, and one for students --- with questions built around the U-M sustainability goal areas - *Climate Action*, *Waste Prevention*, *Healthy Environments*, and *Community Awareness.* In fall 2014, more than 4100 students including a panel of current undergraduate students who first completed the 2012 survey, 869 staff, and 1276 faculty participated in the survey representing a 30 percent overall response rate. Summaries of key findings, response distribution tables for nearly all questions, and index scores for 15 key indicators are provided in this report.

Several key items can be identified when the indicators for 2014 are compared against the results from 2012.

First, there is considerable room for improvement with regard to pro-environment behavior, levels of awareness, degrees of engagement and expressed commitment to sustainability among members of the University community.

Second, the travel behavior of students is more in line with the goal of greenhouse gas reduction than travel to and from campus by the staff and faculty. Not surprisingly, students are most likely to walk, bike, or bus to campus. Similarly, students are likely to know more about transportation options available to them and are more engaged than either staff or faculty in sustainability activities on campus.

Third, compared to students and staff, faculty tend to act in a more sustainable manner with respect to conserving energy, preventing waste, purchasing food , and more generally, engaging in pro-environmental activities outside the University. Faculty members also express a higher level of commitment to sustainability than staff or students.

Fourth, students tend to be less knowledgeable than staff or faculty about protecting the natural environment, preventing waste, and sustainable foods. But they know as much as faculty about sustainability at the University. Nonetheless, staff is most aware of the full range of the University's sustainability initiatives.

Finally, members of the University community tend to be more knowledgeable about sustainability. In some instances, indicator scores for 2014 are significantly higher than 2012 scores and/or higher than the 2013 scores. In the case of sustainable foods, significant positive changes between the 2014 score for students and both the 2012 and 2013 scores reflect a growing understanding of sustainable foods over the 3 years.

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A. INTRODUCTION

This report presents findings from surveys of University of Michigan (U-M) students, staff and faculty conducted during the third year (2014) of the Sustainability Cultural Indicators Program (SCIP). SCIP is a multi-year initiative designed to measure and track the *culture of sustainability* on the U-M's Ann Arbor campus. It is intended to inform U-M administrators and others responsible for day-to-day operations of the University including its academic programs. Furthermore, it is intended to serve as a model demonstrating how behavioral research can be used to address critical environmental issues within universities generally and in other organizational settings. Culture of sustainability is meant to reflect a set of values, behaviors, levels of understanding and commitment, degrees of engagement, and dispositions among a population such as members of a university community.

The findings cover Year 3 results as well as changes that have occurred since SCIP data were first reported in 2012.   The findings are largely descriptive in that all survey responses are reported for the three key groups of the University community---its students, faculty, and staff. Demographic, environmental, and other factors that might explain findings have not been fully analyzed and therefore are not covered in this report. The potential for such analyses is great and it is anticipated that much of it will occur in future years as more users of the findings and academic researchers see the richness of the data and opportunities to explore them.

Organization of the Report

The report is organized in five sections. Following this introduction, the next section (B) provides a brief overview on the background to SCIP. Section C describes the survey design including the sampling plan and discusses salient characteristics of the respondents. For students, these characteristics include select information about their U-M status such as year in school, where they are from (domestic or international), their housing situation, and their college or school within the U-M. For staff and faculty, information about their job, their housing situation, and their place of employment within the University is presented. Basic demographic information about the respondents is covered in Appendix B.

The fourth section (D) summarizes findings from the fall 2014 surveys. These Year 3 findings draw from detailed tables showing all survey responses for each undergraduate cohort and graduate students as well as for staff and faculty. The section concludes with a summary of the sustainability indicators characterizing the culture of sustainability at the U-M in 2014 and the changes, if any that have taken place since 2012. Finally, Section E discusses ongoing work that is expected to take place over the next few years. Specifically, it outlines plans for future analyses and discusses an intervention that is currently underway in one geographical area of campus. It also discusses efforts aimed at seeing programs similar to the U-M's SCIP replicated at other universities and in organizations and communities. Such programs aimed at changing the culture of sustainability in places and monitoring those changes are seen as critical to addressing complex and pressing environmental issues.

B. BACKGROUND

Campus Sustainability Integrated Assessment

In October 2009, former U-M President Mary Sue Coleman elevated the University's commitment to sustainability in teaching, research, operations, and engagement by creating the U-M Environmental

Sustainability Executive Council.[1] One of the first actions of the Council was endorsing a Campus Sustainability Integrated Assessment (CSIA) to analyze the U-M's sustainability efforts to date, benchmark against other institutions, and chart a course for the future through identifying long term goals for sustainable operations on the U-M Ann Arbor campus, including the Athletic Department and the Health System. The CSIA builds on a long history of sustainability commitments in U-M campus operations, such as implementing cogeneration technology at the Central Power Plant in the 1960s, adopting the EPA Green Lights and Energy Star programs in the 1990s, and more recently establishing LEED (Leadership in Energy and Environmental Design) Silver certification as the standard for new non-clinical construction projects where the construction value exceeds $10M.

The final CSIA report outlines four high level themes – *Climate Action*, *Waste Prevention*, *Healthy Environments*, and *Community Awareness*. Accompanying the themes are Guiding Principles to direct the U-M's long-range strategy and 2025 Goals that are time-bound and quantifiable.[2] Table 1 provides an overview of the U-M's 2025 Sustainability Goals.

Table 1

CSIA Themes, Guiding Principles, and 2025 Goals

THEME	GUIDING PRINCIPLE	2025 GOALS
Climate Action	We will pursue energy efficiency and fiscally-responsible energy sourcing strategies to reduce greenhouse gas emissions toward long-term carbon neutrality.	Reduce greenhouse gas emissions *(scopes 1&2)* by 25% below 2006 levels. Decrease carbon intensity of passenger trips on U-M transportation options by 30% below 2006 levels.
Waste Prevention	We will pursue purchasing, reuse, recycling, and composting strategies toward long-term waste eradication.	Reduce waste tonnage diverted to disposal facilities by 40% below 2006 levels.
Healthy Environments	We will pursue land and water management, built environment, and product sourcing strategies toward improving the health of ecosystems and communities.	Purchase 20% of U-M food from sustainable sources. Protect Huron River water quality by: • minimizing runoff from impervious surfaces *(outperform uncontrolled surfaces by 30%),* & • reducing the volume of land management chemicals used on campus by 40%
Community Awareness	We will pursue stakeholder engagement, education, and evaluation strategies toward a campus-wide ethic of sustainability.	*There is no goal recommendation for this theme. However, the report recommends investments in multiple actions to educate our community, track behavior, and report progress over time.*

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[1] The Council is comprised the University President, the Provost and Executive Vice President for Student Affairs, the Vice Presidents for Research, Student Affairs, Development, and Global Communications & Strategic Initiatives, the Executive Vice President for Medical Affairs, and the Executive Vice President and Chief Financial Officer.

[2] More information on the CSIA process, outcomes, and evaluation can be found at: http://graham.umich.edu/knowledge/ia/campus. Information on progress towards the 2025 Climate Action, Waste Prevention, and Healthy Environments goals can be found at: http://www.ocs.umich.edu/goals.html

In the fall of 2014 U-M President Mark Schlissel initiated a review of U-M's sustainability goals in three key areas – waste prevention, climate action, and culture. Teams of students, staff, and faculty were charged with reviewing current programs and their impacts on goal progress; identifying a range of options for making significant progress toward the goals, and developing high-level plans for achieving the goals. SCIP results were used to inform the work of the teams and the culture team's report included suggestions for additional ways SCIP results could be used to inform and evaluate campus sustainability efforts.

The Sustainability Cultural Indicators Program

U-M cultural change initiatives stem from the principles outlined under the CSIA theme of Community Awareness. They indicated that the U-M will "pursue evaluation strategies toward a campus-wide ethic of sustainability" as articulated in former President Coleman's September 2011 speech announcing the sustainability goals. Specifically, she stated that "we will scientifically measure and report our progress and behavior as a community…ISR (Institute for Social Research) researchers will measure the sustainability attitudes and activities of students, faculty and staff, as well as identify where we can improve."[3] Combined with the education and leadership development initiatives of the Planet Blue Ambassadors program, the evaluation strategies of the Sustainability Cultural Indicators Program (SCIP) involve a groundbreaking program for monitoring the U-M's progress in moving toward a culture of sustainability.[4] Progress is determined by tracking a set of cultural indicators derived from responses to campus-wide sustainability questionnaires over time.

Two separate questionnaires are used for SCIP --- one for staff and faculty, and one for students. While many of the questions are similar, different time frames and sequences are used in the two versions. For example, the staff and faculty survey asks questions within a time frame of the past year while students are asked to answer questions based on their experience since the start of the fall semester. Also, students are asked several demographic questions at the start of the survey such as whether they live in campus housing or not in order to skip certain questions which do not apply to students living in campus housing while staff and faculty demographic questions are asked at the end of the survey. In order to retain members of the undergraduate student panel, several questions were eliminated for the student questionnaire so as to shorten the time required to complete it. In 2014, most respondents completed the survey in about 15 minutes. As a primary objective of SCIP is to work closely with the goals of the CSIA, questionnaire modules were developed with questions focusing on transportation, waste prevention, the natural environment, food, climate change, as well as U-M sustainability efforts, and respondent demographics.

Following the release of the Year 1 report a program website was developed to share key results and materials.[5] During FY 2014 there were over 1000 views of the program website and the Year 2 report was one of the top ten file downloads from the Graham website. More than 100 requests have been received for copies of the survey instruments from other institutions. Three book chapters and three journal articles have been produced and discussion of SCIP and its findings has been presented at 12 major conferences.

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[3] To read former President Coleman's address and other information on the U-M's sustainability goals, please visit: http://sustainability.umich.edu/commitment.
[4] For an overview of the Planet Blue Ambassadors Program, please visit: http://graham.umich.edu/leadership/pba
[5] The program website can be found at: http://graham.umich.edu/leadership/scip

C. 2014 POPULATION AND SAMPLE

Records from the U-M's Office of the Registrar indicate that 42,844 full-time students were enrolled for classes at the Ann Arbor campus in fall 2014. At the same time, the U-M's Human Resources' Information and Data Services report that 5,855 faculty and 34,661 staff were employed at least half-time at the University.

In order to ensure proportional representation from all segment of the University community and from all geographic parts of the Ann Arbor campus, the sample design aimed at obtaining relatively large numbers from the entire student body and from the population of staff and faculty. Specifically, a stratified sample was selected by the Registrar's Office so as to yield approximately 1,000 respondents from the freshmen class, 350 respondents from each of the sophomore, junior and senior classes, and 400 graduate student respondents. The sample design also includes a panel of individual undergraduate students who responded to the initial survey in 2012. That is, the panel in 2013, was designated as the freshmen, sophomores, and juniors who completed the 2012 survey. In order to retain the panel each year, graduating seniors are replaced with the freshmen from the prior year. The 2014 panel therefore includes 2012 freshmen and sophomores who responded in previous years and 2013 freshmen. The panel was included in the research plan so as to determine if and how the behaviors and views of individual students change during their period of undergraduate study at the University. Finally, a stratified sample was selected by the University's Office of Human Resources with a target of 750 staff and 750 faculty members.[6]

The actual number of respondents and the response rates are shown in Table 2.[7] The table indicates that the targeted number of participants was exceeded in each cohort. Response rates were higher than reported in 2013. Completion of questionnaires was attributable to several factors including the personalized pre-notification email encouraging participation from President Schlissel, a series of reminder e-mails including one from women's head softball coach Carol Hutchins, and an offer of a possible monetary incentive.

Table 2

NUMBER OR RESPONDENTS AND RESPONSE RATES

2014	Number of Respondents	Response Rates (%)
Students	3,182	23.9
Fresh	1,201	30.1
Soph	530	19.8
Junior	457	17.4
Senior	456	17.5
Graduate	538	37.5
Staff	869	44.2
Faculty	1,276	42.5
Student Panel	957	38.2
All Campus	6284	30.0

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[6] See Appendix A for a more detailed discussion of the sample selection procedure.
[7] The calculation of response rates for students is based on their official status as determined by the Registrar's Office rather than the students' self-reported status. Some students who believe they are seniors may not have enough credits and according to official records, they are juniors. Similarly, other students may think they are sophomores but have enough credits to officially classify them as juniors.

Weighting

In order to ensure that data reported herein represent accurate estimates for the correct proportions of undergraduate and graduate students and for the staff-faculty ratios, sample weights were developed and applied when analyzing the survey data. These weights are used when reporting data covering *all* students and undergraduate students, and when reporting data for faculty and staff separately and together. Weights take into account not only the true proportion of students from each cohort and the staff to faculty ratio, but also gender and the proportion of University staff and faculty employed within the U-M's Health System.

Who are the Student Respondents?

Table 3 presents weighted distributions for several student characteristics. The table indicates that, as in the general student population, graduate students make up somewhat more than a third of the student body. Nearly a fifth (17 percent) of the respondents are international students with most international students (77 percent) coming from China or other Asian countries. Of the U.S. students, nearly two-thirds (62 percent) are from Michigan; half of them are from Southeast Michigan (Wayne –including Detroit, Oakland, Macomb, and Washtenaw counties).

Table 3

STUDENT CHARACTERISTICS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Status (self-report)*							
First-year (Freshmen)	18						
Sophomore	14						
Junior	16						
Senior	17						
Graduate	35						
Total	**100**						
Number of respondents	3179						
U.S.-International Student?							
U.S.	83	93	93	87	91	91	67
International	17	7	7	13	9	9	33
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3141	1342	452	431	380	2605	536
Permanent Residence of U. S. Student#							
Michigan							
Wayne, Oakland, Macomb Co (incl. Detroit)	30	31	38	37	36	35	16
Washtenaw Co	9	8	10	9	11	10	6
Other MI Countries MI	23	27	26	25	27	27	15
Great Lakes States (IL,WI,MN,OH,IN,)	9	9	6	9	6	7	14
Northeast (NY,NJ,MD,PA)	14	14	11	10	11	12	19
South (TX,OK,TN,KY,VA,NC,SC,FL,GA,AL,LA,AK,PR)	6	4	3	5	3	3	14
West (CA, OR,WA,AZ,NM,HI,AK)	6	5	4	4	5	4	11
Elsewhere	3	2	2	1	1	2	5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2697	1227	411	369	341	2348	349
Home Country of International Students							
China (incl. Hong Kong)	40	25	44	50	57	46	37
India	13	10	8	0	0	3	18
Other Asian countries (excl.China & India)	24	42	33	32	39	36	17
European countries	9	7	6	5	0	4	11
Mexico, Latin American, Central American, Carrabean countries	4	6	0	4	0	3	5
Elsewhere (incl. Middle East countries)	10	10	9	9	4	8	12
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	376	85	33	55	33	206	170
College/School							
LSA	41	60	52	49	50	53	17
Engineering	26	27	29	28	26	28	23
Ross Business	5	1	5	4	4	3	9
Public Health	3	0	0	0	0	0	9
Med	2	**	0	**	0	**	4
Other colleges/schools (2% each of all students)[a]	10	7	7	8	8	7	16
Other colleges/schools (1% each of all students)[b]	7	1	2	5	4	3	16
Dual degree	4	3	4	4	5	4	4
Not Ascertained	2	1	1	2	3	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3179	1352	457	440	389	2638	541

a Includes Schools and Colleges of Education, Kinesiology, Fine Art, nursing, and Social Work

b Includes Schools of Architecture and Urban Planning, Art &Design, Dentistry, Information, Natural Environment, Pharmacy, and Public Policy.

Major (in LSA & Engineering)							
LSA							
Humanities	14	7	12	10	15	11	30
Natural Sciences	28	24	28	33	28	28	31
Social Sciences	29	13	24	37	44	29	30
Other	13	10	15	16	13	13	9
Undecided	16	46	21	4	**	19	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1728	907	255	240	227	1629	99

Table 3 (continued)

STANDARD CHARACTERISTICS

STUDENT CHARACTERISTICS
(percentage distribution)*

2014	**All Students**	**Undergraduate Students**					**Graduate Students**
		Fresh	**Soph**	**Junior**	**Senior**	**All**	
*Status (self-report)****							
Engineering							
Electrical & Computer Science	29	23	31	25	36	29	30
Mechanical	16	7	20	24	11	15	17
Industrial & Operations	8	4	9	8	13	8	7
Aerospace	6	6	6	7	8	7	5
Chemical	10	8	12	13	12	11	7
Biomedical	6	10	2	7	3	6	6
Materials Science	4	**	4	5	4	3	4
Other	14	5	12	11	13	10	24
Undecided	7	37	4	0	0	11	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	737	288	127	113	89	617	120

***The student sample was selected from the population of students listed for each cohort in U-M's Registrar's Office. The proportion of respondents in each class differs slightly from official university records. For instance, students who said they are juniors may have enough credits to officially classify them as seniors.

Permanent residence is based on the zip code of the student during their last year in high school.

** Less than one half of one percent.

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents.

As in previous SCIP surveys, student respondents represent all schools and colleges of the University with the majority coming from Literature, Science and the Arts (LSA) or Engineering. Graduate student respondents were more evenly distributed throughout the entire University than undergraduates. More than half of the LSA undergraduate students and nearly two-thirds of the LSA graduate students majored in the social or natural sciences; 19 percent of the LSA undergraduates noted *undecided* when asked about their major. When asked to specify their major, a quarter of the Engineering undergraduate students and nearly a third of the graduate students mentioned programs in the Department of Electrical and Computer Science.

In fall 2014, nearly 3 in 10 student respondents lived in U-M housing - a resident hall or Northwood apartments (see Table 4 and Appendix F, Figures F1 and F2).[8] The majority of resident hall students were freshmen and sophomores. Most upper classmen (juniors and seniors) and graduate students said they lived in an off-campus house or apartment. Overall, about half of the students moved to their current residence prior to the start of the new semester. Table 4 shows that the proportion of upper classmen who remained in their residence for a year or more increases with each subsequent cohort. Whereas 10 percent of the sophomores had lived in their current residence for a year or more, 24 percent of the juniors and 46 percent of the seniors gave this response. A fifth of the graduate students and 12 percent of the seniors were long-term residents having lived in their current residence for more than 2 years.

The third panel in Table 4 shows that the most frequently named residence halls among freshmen were Bursley-Baits on North Campus followed by South Quad and Mary Markley and East Quad.[9] The table also

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[8] Appendix figures show the number and spatial distribution of resident hall respondents in the Central Campus regions and sub-regions, South Campus, the Health Science sub-region, and the North Campus sub-region. Delineation of regions and sub-regions is discussed more fully in Footnote 12.

[9] In the 2012 survey, East Quad was unoccupied during remodeling and therefore not mentioned as a place of residence. South Quad was not mentioned in the 2013 survey due to remodeling activities. In fall 2014, West Quad was unoccupied due to remodeling.

Table 4

STUDENT RESIDENTIAL CHARACTERISTICS

(percentage distribution)*

2014	**All Students**	**Undergraduate Students**					**Graduate Students**
		Fresh	**Soph**	**Junior**	**Senior**	**All**	
Type of Residence							
U-M resident hall	22	88	36	5	3	34	0
Northwood community apartments	8	9	8	4	2	6	12
Off-campus apartment	42	1	32	52	51	33	57
Off-campus house	26	1	22	37	42	25	28
Parent's house	2	1	2	2	2	2	2
Other	**	0	0	0	0	0	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3178	1352	456	440	389	2637	541
Length of Residence							
Less than 3 months	54	93	74	57	40	66	32
3-11 months	17	6	16	19	14	14	22
1-2 years	19	0	8	18	34	15	26
More than 2 years	10	1	2	6	12	5	20
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3173	1350	457	440	388	2635	538
Residence Hall							
Bursley-Baits	25	33	3	22	16	25	-
South Quad	15	15	18	0	0	15	-
Mary Markley	13	18	2	0	0	13	-
East Quad	10	9	9	11	39	10	-
Couzens	6	4	11	0	17	6	-
Alice Lloyd	6	6	6	7	0	6	-
Mosher-Jordan	7	7	7	4	19	7	-
North Quad	4	0	16	17	0	4	-
Stockwell	5	**	18	11	0	5	-
Other (Betsy Barbour, Cambridge, Newberry, Martha Cook, Fletcher, Henderson, Oxford)	9	8	10	28	9	9	-
Total	**100**	**100**	**100**	**100**	**100**	**100**	**-**
Number of respondents	1345	1151	160	24	10	1345	
Place of Residence(locale)*							
Ann Arbor area	94	99	98	97	95	97	87
Ypsilanti area	2	**	1	**	2	1	3
Other Washtenaw Co. cities, townships, villages	**	0	**	**	**	**	1
Other Michigan cities, townships, villages	4	1	1	2	3	2	8
Elsewhere	**	0	**	1	0	**	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3179	1352	457	440	389	2638	541
Number of Household Occupants#							
One	15	5	6	7	8	7	24
2-3 persons	43	47	29	31	36	33	56
4-6 persons	31	30	38	45	39	41	18
More than 6 persons	11	18	27	17	17	19	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Number of Occupants	**5.2**	**10.1**	**12.7**	**7.6**	**4.7**	**7.4**	**2.6**
Number of respondents	1536	39	254	396	366	1055	481
Availability of Car in Household							
Yes	46	12	24	43	57	34	68
No	54	88	76	57	43	66	32
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3128	1333	449	431	379	2592	536

#Students who reported living in a residence hall or in Northwood apartments were not asked to report number of people in current residence.

*** Residential location based on reported zip code & name of city or township. Students who reported living in a residence hall or in Northwood apartments were not asked about place of residence. Ann Arbor area zip codes include: 48103, 48104, 48105, 48108, & 48109. Ypsilanti area zip codes include: 48107 and 48108.

** Less than one half of one percent.

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents.

shows that for students who indicated they lived off-campus, most lived in the Ann Arbor area with small percentages commuting to the Ann Arbor campus.[10] Figure 1 on the next page shows the places where students lived in the fall 2014. The places are based on responses to a question about the major street intersection near the place of residence.

Having roommates was common for students who said they lived off-campus. On average, there were over 5 persons per household. Sophomores, many of whom reported living in a fraternity, sorority or co-op (based on open-ended responses), averaged 12.7 people at their place of residence.

Finally nearly half of the student respondents said there was at least one car in their household. Not surprisingly, graduate students, many of whom lived relatively far from campus were most likely to have a car available to them. Table 4 shows that having use of a car increases with each undergraduate cohort.

As part of the questionnaire, students were asked where they had attended most of their classes since the beginning of the fall semester. Nearly three-quarters identified Central Campus with most of the remainder saying North Campus.[11] Freshmen were least likely to mention North Campus (8 percent) while the proportion of juniors and seniors identifying North Campus for most classes was significantly higher (34 percent and 32 percent, respectively), (see Table 5).

When asked if they spend more than half their time in a particular campus building other than campus housing, less than half (44 percent) of the undergraduate students and most (82 percent of the graduate students) responded affirmatively. For those who did so, they were then asked to name the building. As seen in Table 5, students spent considerable time in buildings located throughout campus. The third panel in Table 5 shows that, for undergraduates, the Chemistry building and the Angell Hall were popular locations whereas for graduate students, the Ross Business School building was most often mentioned.

The buildings identified have been grouped together for analytical purposes by campus, regions within the campuses, and sub-regions.[12] These places are shown in Figure 2. The groupings also enable U-M officials working in areas related to energy conservation, transportation, recycling, property maintenance, etc. to better understand (and hopefully use) responses of building occupants (students, faculty, and staff) associated with different parts of the campus.

Groupings of buildings mentioned by students are shown by Campus, Region and Sub-Region in panels 4, 5, and 6 of Table 5. The panels reveal that, for students who identified a building where they spent more than half time, most were either in the southwestern part of the Central Campus (i.e. Ross Business School, Michigan Union, Social Work, Hutchins Hall, etc.), the northern sub-region of North Campus (i.e. Duderstadt Center, College of Engineering buildings, Pierpont Commons, etc.), and the southeastern part of Central Campus (i.e. Chemistry, Natural Science, East Hall, etc.).[13] For the most part, the distribution of respondents parallels that of the 2013 student respondents with the largest number of respondents attending classes in the North Campus-North sub-region.

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[10] Students living off-campus were asked, "What is the zip code of your current residence?" Ann Arbor area zip codes include: 48103, 48104, 48105, 48108, and 48109. Ypsilanti area zip codes are 48197 and 48198.

[11] Of the students who said their classes were elsewhere, several mentioned the medical campus or noted that they were in an off-campus location including overseas for the semester.

[12] Regions are delineations of the Central Campus and the Medical Campus created as maintenance zones by the U-M's Planet Blue Operations Team. Sub-regions have been delineated by the SCIP team based on either number of respondents to either the student questionnaire or the faculty questionnaire. Planet Blue Operations Team had separated selected medical and other buildings from the U-M's Medical Center and parts of Central Campus to create a Health Sciences Region. South Campus includes the Ross Athletic Campus.

[13] See Appendix F, Figures F3 and F4 for the numbers and spatial distribution student respondents by building, campus region, and sub-region.

Figure 1

2014 STUDENT RESIDENTIAL LOCATION*

Number of Respondents
- 1 - 5
- 6 - 10
- > 10
- Govermental units

*Location of nearest cross streets reported by repondents

Figure 2

UNIVERSITY OF MICHIGAN
CAMPUSES AND REGIONS

East Campus

North Campus
North Sub-Region

North Campus
South Sub-Region

Health Sciences
North Sub-Region

Medical Campus

Central Campus
NorthEast Sub-Region

Health Sciences
South Sub-Region

Central Campus
NorthWest Sub-Region

Central Campus
SouthEast Sub-Region

Central Campus
SouthWest Sub-Region

South Campus

Campus and Regions
- Central Campus East
- Central Campus West
- East Campus
- Health Sciences
- Medical Campus
- North Campus
- South Campus

0   0.25   0.5   1 Mile
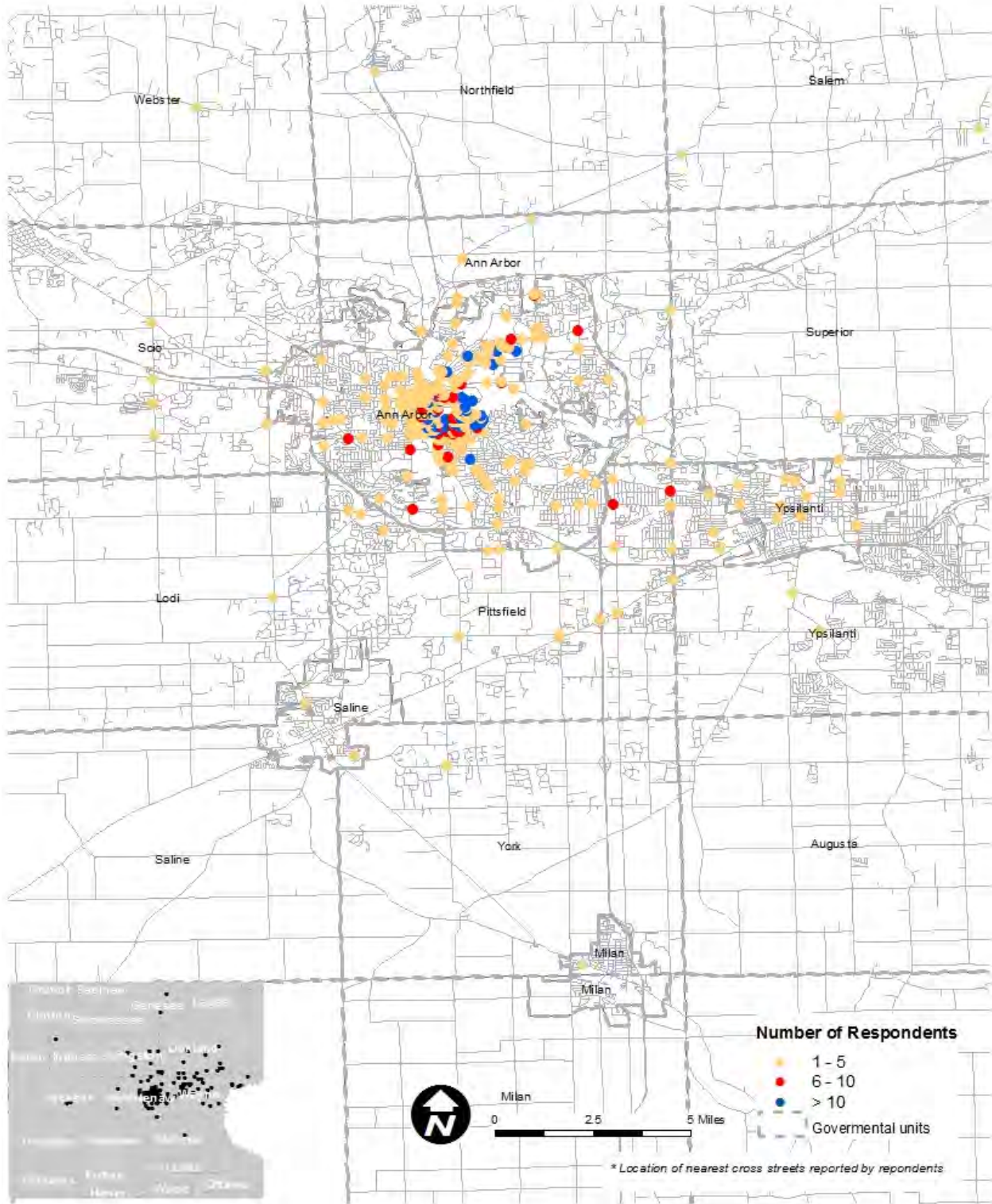
Table 5

STUDENT CLASS/STUDY LOCATIONAL CHARACTERISTICS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students
		Fresh	**Soph**	**Junior**	**Senior**	**All**	
Location of Most Classes (self-reports)							
Central Campus	71	91	77	65	67	75	62
North Campus	26	8	20	34	32	23	32
Elsewhere	3	1	3	1	1	2	6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	3138	1342	451	431	380	2604	534
R spends more than half time in non-residential building?							
No	42	66	63	49	57	56	18
Yes	58	34	37	51	53	44	82
Total	**100**	**100**	**100**	**100**	**110**	**100**	**100**
Number of respondents	3137	1341	451	429	379	2600	537
Building (non-reside) where R spent most time							
Ross School of Business Building	8	1	11	6	8	6	10
Chemistry & Dow Lab.	5	19	7	6	6	9	2
Angell Hall	5	7	7	9	8	8	2
Duderstadt Center	6	2	3	11	8	7	5
Mason Hall	3	10	5	4	4	6	**
Shapiro Library	4	12	10	9	5	9	0
Moore Building	3	5	3	3	3	3	3
Art & Architecture	5	4	4	5	3	4	5
Other bldgs (less than 3%)[a]	61	40	50	47	55	48	73
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1508	480	171	221	198	1070	438

[a]Includes Shapiro Library. Mason Hall, Electrical Engineering. & Computer Science, School of Education, Med Science, School of Social Work, Dana, G.G.Brown, ,Modern Language (MLB), Francois-Xavier Bagnoud (FXB), and North Quad.

	All Students	Fresh	Soph	Junior	Senior	All	Graduate Students
Location of Building where R spent most time (Campus)							
Central Campus	57	71	69	52	57	61	54
North Campus	32	16	22	40	39	31	32
Medical Campus (including Health Sciences)	9	10	7	5	3	6	12
South Campus	1	2	2	2	1	2	1
East Campus	0	0	0	0	0	0	0
Elsewhere	1	1	0	1	0	**	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1514	481	171	221	198	1071	443
Location of Building where R spent most time (Region)							
Central Campus-West Region	36	45	45	35	39	40	32
Central Campus-East Region	19	27	23	18	19	21	17
Health Sciences Region	11	10	8	4	2	5	17
Medical Campus	1	0	0	1	**	**	1
North Campus	32	16	22	40	40	32	32
South Campus	1	2	2	2	**	2	1
East Campus	0	0	0	0	0	0	0
Elsewhere	0	0	0	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1506	478	171	221	198	1068	438

Table 5 (continued)

STUDENT CLASS/STUDY LOCATIONAL CHARACTERISTICS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Location of Building where R spent most time (Sub-Region)							
Central Campus-Southwest	18	12	17	10	17	14	22
Central Campus-Northwest	18	32	28	26	22	26	9
Central Campus-Southeast	14	22	14	13	13	15	12
Central Campus-Northeast	5	5	9	4	6	6	4
Health Sciences-South	8	8	4	3	1	4	13
Health Sciences-North	3	3	4	1	1	2	5
Medical Campus	1	0	0	1	**	**	1
North Campus-North	23	7	15	31	33	24	23
North Campus-South	9	9	7	9	6	8	10
South Campus	1	2	2	2	1	1	1
East Campus	0	0	0	0	0	0	0
Elsewhere	0	0	0	0	0	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1506	478	171	221	198	1068	438
Distance between Residence & Campus (sub-region of building where R spends most time)							
Less than .125 mi	1	6	1	1	1	2	**
.125-.249 mi	5	16	16	4	7	10	1
.25-.49 mi	23	21	32	29	28	28	17
.5-.99 mi	26	26	25	25	22	24	27
1.0-1.99 mi	22	29	18	20	21	22	23
2.0-3.99 mi	13	1	5	18	15	11	15
4.0-5.99 mi	3	**	1	0	3	1	5
6.0 mi. or more	7	1	2	3	3	2	12
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Distance (Miles)	**2.8**	**0.9**	**1.1**	**1.4**	**1.9**	**1.4**	**4.2**
Number of respondents	1429	466	159	208	189	1022	407
Distance between Residence & Building (where R spends most time)							
Less than .125 mi	3	19	4	2	3	6	**
.125-.249 mi	6	9	10	5	7	8	3
.25-.49 mi	22	23	36	27	31	29	15
.5-.99 mi	24	20	24	25	20	22	26
1.0-1.99 mi	25	27	20	29	25	26	24
2.0-3.99 mi	10	1	3	9	8	6	15
4.0-5.99 mi	3	**	1	0	3	1	5
6.0 mi. or more	7	1	2	3	3	2	12
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Distance (Miles)	**2.7**	**0.8**	**1.0**	**1.3**	**1.7**	**1.3**	**4.2**
Number of respondents	1429	466	159	208	189	1022	407

** Less than one half of one percent.

* Percentage distributions are based on the weighted number of respondents to each item. The actual number of respondents for each differs since not all questions were answered by all respondents. The number of respondents for the building and distance measures reflects non-responses to questions asking where R lives, the building where R spends more than half time, or both.

The identification of specific University buildings where students spend more than half their time (and the corresponding region and sub-region) together with the student residential location provide a good approximation of the distance traveled between residence and campus.[14] The last two panels in Table 5 show the how far students travel from their home to campus (sub-region and building). Students who identified a building where they spent more than half of their time while on campus and provided residential information traveled on average 2.7 miles. Undergraduates many or whom live in residence halls traveled less (1.3 miles) while graduate students tend to travel the furthest---4.2 miles on average.

The demographic makeup of the 2014 student respondents was identical to the makeup of the 2012 and 2013 SCIP respondents. They were nearly equally divided between female and male and undergraduates were 20 years old on average while the mean age of graduate students was 27 (see Appendix B, Table B1).

Who are the Staff and Faculty Respondents?

Table 6 presents employee characteristics of the staff and faculty who responded to the 2014 survey. More than half of the former indicated they were in professional, administrative, or managerial positions and nearly a quarter said they were either a nurse or member of the medical staff. Four in 10 staff respondents had worked at U-M for more than 10 years and a quarter (25 percent) had been employed by the U-M for 2 years or less.

Among the faculty respondents, half were affiliated the University for a more than 10 years whereas 14 percent had been employed for 2 years or less. Nearly a third identified themselves as teaching faculty although a number also mentioned their role as researchers. An additional 1 in 5 were clinical instructors and a tenth of the faculty respondents were lecturers. Thirty-one percent of them said they were primarily researchers and 4 in 10 of all faculty were tenured.

As seen in Table 7, faculty members, on average, were twice as likely to live in the Ann Arbor area as staff (80 percent versus 38 percent).[15] In fact, 4 in 10 staff respondents said they lived outside of Washtenaw County. Places of residence of staff and faculty respondents are shown in Figures 3 and 4, respectively.

Table 7 also shows faculty respondents are more likely than staff to live in a single family house (83 percent versus 72 percent). More than 1 in 5 staff respondents live in an apartment building or a condominium whereas 13 percent of the faculty respondents live in these types of residences. Irrespective of residential type, more faculty than staff own rather than rent their dwellings (86 percent versus 72 percent).

More than a third of the respondents from both groups lived at their current residence for more than 10 years and each averaged slightly less than 3 persons per household and typically had 2 or 3 cars in the household. For the most part, these finding covering residential characteristics are comparable to those reported in the two previous SCIP surveys.

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[14] For students living in residence halls, the precise location of their place of residence is known. For students living elsewhere, they were asked the zip code and the nearest major street intersection of their place of residence. Because travel routes can vary greatly between any two points depending on mode of travel, straight-line distances between the two points were calculated. Distance measures are only available for students who a) said they spent more than half of their time in a University building and named the building, and b) identified their zip code and major street intersection near home.

[15] The Ann Arbor area includes the following zip codes: 48103, 48104, 48105, 48108, and 48109. Ypsilanti area zip codes are 48197 and 48198.

Table 6

STAFF/FACULTY
EMPLOYEE CHARACTERISTICS
(percentage distribution)*

2014	Staff	Faculty
Type of Staff		
Professional	26	
Managerial	10	
Administrative	18	
Research	15	
Medical, Nursing	23	
Service	3	
Other	5	
Total	**100**	
Type of Faculty		
Teaching- Tenured		22
Teaching-Non-tenured		8
Research- Tenured		13
Research-Non-tenured		18
Clinical instructional- Tenured		3
Clinical instructional-Non-tenured		19
Lecturer		9
Other		8
Total		**100**
Years at U-M		
Less than a year	11	5
1-2 years	14	9
3-5 years	18	14
6-10 years	16	20
11-20 years	24	27
More than 20 years	17	25
Total	**100**	**100**

* Percentage distributions are based on the weighted number of respondents to each question. The actual number differs since not all questions were answered by all respondents. The minimum number of respondents for faculty and staff is shown below.

Number of respondents	**882**	**1210**

As in previous surveys, faculty and staff were also asked about the building on campus where they most often worked. Data for the places of employment is shown in Table 8 and cover buildings and the campus, region, and sub-region where those buildings are located.

The first panel shows that while more respondents worked at the University Hospital than in any other single building on campus, staff and faculty respondents were distributed widely throughout the entire University. This is clearly demonstrated in the second panel where 40 percent of the faculty respondents and half as many staff respondents worked on Central Campus. Significant numbers of both groups also worked on North Campus whereas fewer respondents worked in the less populated South

Table 7

STAFF/FACULTY
RESIDENTIAL CHARACTERISTICS
(percentage distribution)*

2014	Staff	Faculty
Place of Residence(local)***		
Ann Arbor area	38	80
Ypsilanti area	11	4
Other Washtenaw Co. cities, townships, villages	10	7
Other Michigan cities, townships, villages	40	8
Elsewhere	1	1
Total	**100**	**100**
Type of Residence		
Single family house	72	83
2-family house/duplex	2	2
Rowhouse/townhouse	2	2
Apartment building	15	6
Condominium	7	7
Other	2	**
Total	**100**	**100**
Owner or Renter?		
Own	72	86
Rent	27	14
Other	1	**
Total	**100**	**100**
Length of Residence:		
Less than a year	13	9
1-2 yeas	18	11
3-5 years	18	18
6-10 years	15	20
More than 10 years	36	42
Total	**100**	**100**
Median Length of Residence (years)	**6.3**	**9**
Number of Household Occupants		
One	15	13
Two	39	35
Three	19	19
Four	18	23
Five or more	9	10
Total	**100**	**100**
Mean Number of Occupants	**3.1**	**2.9**
Number of Cars in Household		
None	2	2
One	24	25
Two	46	55
Three	18	14
Four or more	10	4
Total	**100**	**100**
Median Number of Cars in HH	**2.5**	**2.4**

***Location of residence is based on the respondents' reported zip code and the nearest major street intersection. Figures cover unweighted data.

** Less than one half of one percent.

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each differs since not all questions were answered by all respondents. The maximum number of respondents for faculty and staff is shown below.

Number of respondents	**852**	**1164**

Figure 3

2014 STAFF RESIDENTIAL LOCATION*

Number of Respondents

- 1 - 5
- 6 - 10
- > 10
- Govermental units

* Location of nearest cross streets reported by repondents

Figure 4

2014 FACULTY RESIDENTIAL LOCATION*

Number of Respondents

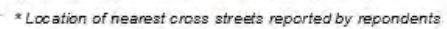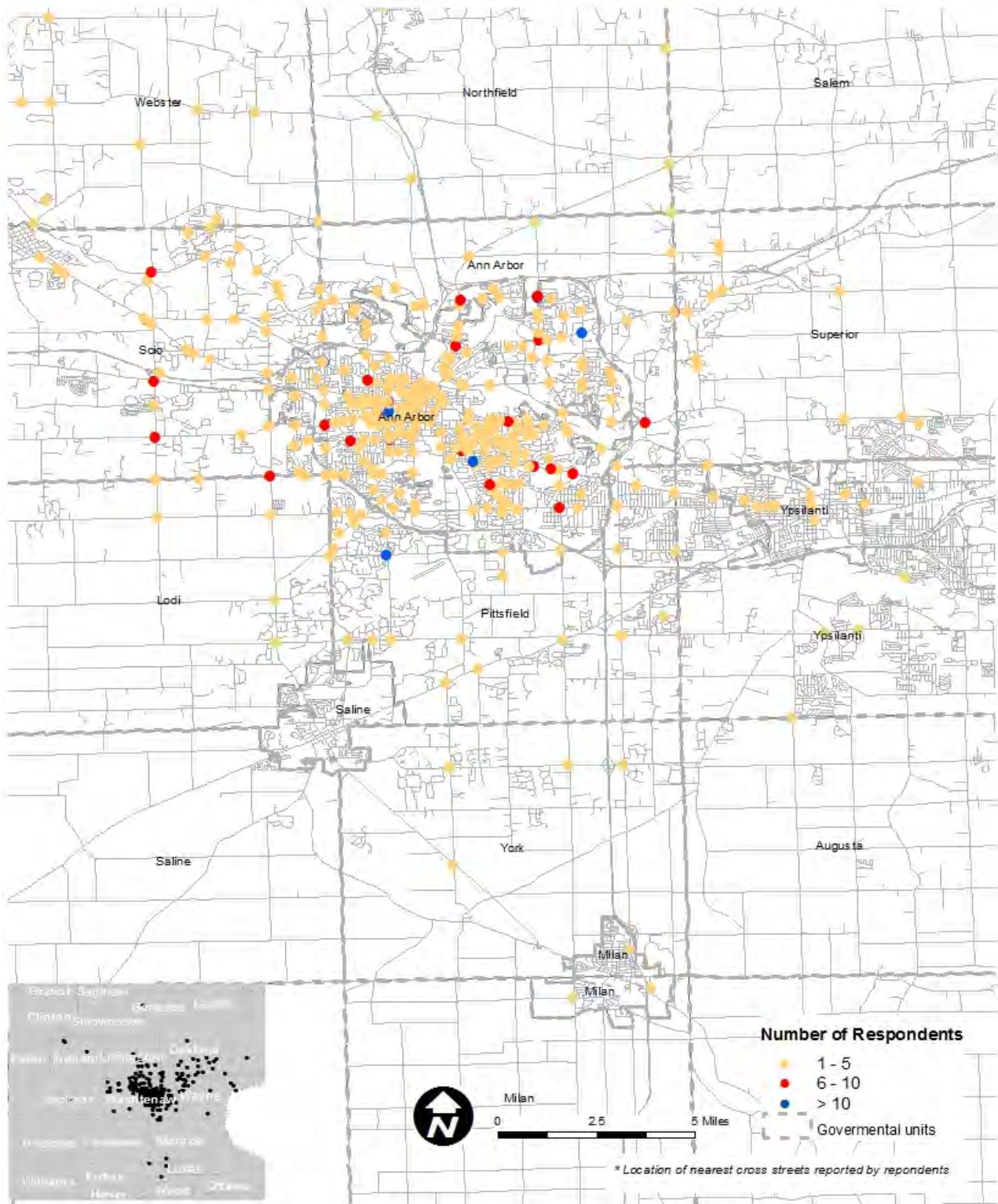- 1 - 5
- 6 - 10
- > 10
- Govermental units

Location of nearest cross streets reported by repondents

Campus and East Campus. Finally, 11 percent of the staff and 4 percent of the faculty worked off-campus in University-owned or leased space near the Central Campus or near Briarwood (i.e. Wolverine Tower).[16]

The identification of specific University buildings where staff and faculty worked and their corresponding campus, region and sub-region was used together with their residential location in measuring the distance between residence and campus.[17] The last two panels in Table 8 show the how far the staff and faculty travel from their place of residence to campus (sub-region and building).

The data from the 2014 sample show that on average, staff travel more than twice as far as faculty in their journey to work (11.4 miles versus 4.7 miles). Whereas more than a third of staff members (37 percent) live within 4 miles of campus, two-thirds of the faculty travel this relatively short distance. In contrast, staff respondents are 6 times more likely than faculty to commute more than 15 miles to the University (28 percent versus 5 percent). Compared to the 2013 sample, the 2014 faculty respondents live closer to campus. The 2014 faculty travelled about 1 mile less on average while the 2014 staff traveled the same distance in both years.

Table 8

STAFF/FACULTY
WORK LOCATION CHARACTERISTICS
(percentage distribution)*

2014	Staff	Faculty
Location of Work (Building)		
University Hospital	13	7
Mott Children's Hospital	8	6
North Campus Research Complex	6	3
Taubman Bioscience	3	3
Medical Science Unit (Med Sci)	2	4
Biomedical Science Research Building (BSRB)	2	4
East Hall	1	4
Medical Science Research	3	4
Other U-M owned or leased buildings***	62	65
Total	**100**	**100**
Number of respondents	822	1149
Location of Work (Campus)		
Central Campus	20	42
North Campus	17	15
Medical Campus (including Health Sciences)	43	37
South Campus	5	**
East Campus	4	2
Elsewhere	11	4
Total	**100**	**100**
Number of respondents	897	1227

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[16] Appendix F, Figures F5 and F6 show the number and spatial distribution of staff/faculty respondents in buildings, campuses, regions, and sub-regions.

[17] Faculty and staff were asked the zip code and the nearest major street intersection of their place of residence. Because travel routes can vary greatly between any two points depending on mode of travel, straight-line distances between the two points were calculated. As in the case of students, distance measures are only available for respondents who gave complete locational information. For staff and faculty, that information was a) the name of the University building where they worked, and b) the zip code and major intersection near their place of residence.

Table 8 (continued)

STAFF/FACULTY
WORK LOCATION CHARACTERISTICS
(percentage distribution)*

2014	Staff	Faculty
Location of Work (Region)		
Central Campus-East	7	16
Central Campus-West	11	24
Health Sciences	14	21
Medical Campus	33	20
North Campus	16	15
South Campus	6	**
East Campus	7	3
Elsewhere	6	1
Total	**100**	**100**
Number of respondents	818	1149
Location of Work (Sub-Region)		
Central Campus-Northeast	4	8
Central Campus-Southeast	3	8
Central Campus-Northwest	7	15
Central Campus-Southwest	4	9
Health Sciences- South	4	8
Health Sciences-North	10	13
Medical Campus	33	20
North Campus-North	14	11
North Campus-South	3	4
South Campus	5	**
East Campus	7	3
Elsewhere	6	1
Total	**100**	**100**
Number of respondents	818	1149
Distance between Residence & Campus		
(location of work: Sub-Region)		
Less than 1 mi	7	9
1.0-1.99 mi	11	25
2.0-3.99 mi	19	35
4.0-5.99 mi	9	14
6.0-9.99 mi	13	7
10-14.99 mi	13	5
15-19.99 mi	9	2
20 mi. or more	19	3
Total	**100**	**100**
Mean Distance (miles)	**11.4**	**4.7**
Number of respondents	599	880

Table 8 (continued)

STAFF/FACULTY
WORK LOCATION CHARACTERISTICS
(percentage distribution)*

2014	Staff	Faculty
Distance between Residence & Building (where R works)		
Less than 1 mi	7	10
1.0-1.99 mi	11	23
2.0-3.99 mi	19	36
4.0-5.99 mi	9	13
6.0-9.99 mi	13	8
10-14.99 mi	14	5
15-19.99 mi	9	2
20 mi. or more	18	3
Total	**100**	**100**
Mean Distance (miles)	**11.4**	**4.7**
Number of respondents	636	892

* Percentage distributions are based on the weighted number of respondents to each item. The actual number of respondents for each differs since not all questions were answered by all respondents. The number of respondents for the building and distance measures reflects non-responses to questions asking where R lives, the building where R works, or both.
** Less than one half of one percent.

***Other U-M owned or leased buildings are those containing less than 2 percent of all employees.

Demographically, staff respondents were more likely to be female and younger than male respondents. Faculty respondents on the other hand, were more likely to be male and older than staff. A significant number of staff members were college graduates or had a graduate or professional degree whereas nearly all the faculty had either graduate or a professional training. (see Appendix B, Table B2).

D. 2014 FINDINGS

Section B reviewed the U-M's established goals for 2025 under the themes of *Climate Action*, *Waste Prevention*, and *Healthy Environments*. A fourth goal discussed was creating and enhancing a culture of sustainability on campus under the theme, *Community Awareness*. That is, the University would strive to raise the level of awareness about all aspects of sustainability through various programs and other initiatives targeting its students, faculty and staff.[18] The annual SCIP surveys are designed in part to measure movement toward this fourth goal[19]

As in previous SCIP reports, findings for the Year 3 assessment are organized around these four themes and are presented in two ways. First, selected findings from the fall 2014 survey within each thematic area are discussed along with changes, if any, that occurred in survey responses from the baseline year

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[18] For discussions of efforts to raise awareness about sustainability, see Shriberg et.al, 2013; Shriberg and MacDonald, 2013; and Marans, Shriberg, and Callewaert, 2014.
[19] Another key purpose of SCIP is to inform the University's leadership and Plant Operations personnel about the effectiveness of their sustainability initiatives.

(2012) and 2013.[20] Second, Sustainability Indicator scores are then presented for Year 3 (2014) as well as the degree to which they differ from previous indicator scores.[21] Whether or not there are changes in responses to individual questions and the indicator scores reflects the extent to which the culture of sustainability on campus has changed. Furthermore, the amount of change in any score, should it occur, indicates the magnitude of shift toward a sustainability culture. In addition to considering scores for cohorts of students, staff, and faculty, cultural change is examined for individual undergraduate students. These individuals constitute a panel of students that completed the SCIP survey in previous years.

Climate Action

Prior to discussing the actions being taken by members of the University community in dealing with greenhouse gas reductions, consideration is given to their thoughts about and understanding of climate change. In 2013, a new set of questions was asked to determine how the U-M community compares to the population of the U. S. as a whole.[22]

As in 2013, most respondents believe that climate change is real. Whereas 9 in 10 U-M respondents said that climate change *is happening*, somewhat less than two thirds of the U. S. population responded in this manner. A small but significant proportion of the U-M community expressed uncertainty. When asked whether they thought climate change was happening, about 1 in 20 students and the same proportion of faculty said they "don't know"-- one in 10 staff members gave this response. Among those who said climate change is happening, three-quarters of the faculty (77 percent), nearly two-thirds of the students (64 percent) and more than half the staff said they were "extremely sure" it was occurring.[23] These numbers are significantly higher than the 2013 data with staff members showing the greatest gain (47 percent to 54 percent; p<.01) in those saying they were "extremely sure". Students too were more certain that climate change was happening (60 percent to 64 percent; p<.01) although this was largely driven by graduate student responses (63 percent to 71 percent; p<.05).

In order to determine how much they know about climate change, U-M respondents were asked "How well could you explain climate change to someone?" As in the previous two years, significant numbers of faculty, students, and staff believe they understand the issue. About three-quarters of the faculty and two-thirds of students said they could explain climate change "very well" or "fairly well". Half of the staff gave these responses.

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[20] Key findings covering the 2014 questionnaires are drawn from the 16 tables in Appendix C. The tables show the percentage distributions to all survey questions (except those shown in Section C of this report dealing with the Population and Sample). Percentage distributions cover all staff, faculty and students as well as differential responses among different student cohorts ranging from freshmen to graduate students. The tables largely follow the organization and question-sequencing within the questionnaires. That is, they address Travel and Transportation, Waste Prevention and Conservation, Natural Environment, Sustainable Foods, Climate Change, Sustainability Engagement, and the U-M's Sustainability Initiatives. Within the first four topics, tables are organized by the sequence of questions covering *awareness*, *behavior*, and *other* questions. Miscellaneous questions addressing behaviors and opinions are covered in the last table. Distributions of responses to individual questions asked each year are available in a composite working document and can be found on the SCIP website under SCIP Materials. See http://graham.umich.edu/leadership/scip

[21] Sustainability Indicators are composite measures derived from two or more survey questions about a topic or concept. In a few instances, an indicator consists of a single question. We have referred to indicators associated with the themes of Climate Action, Waste Prevention, Healthy Environments, and Community Awareness as primary while the remaining indicators are noted as secondary. Nonetheless, all indicators are viewed as important in defining the culture of sustainability. For a discussion of procedures and items used to create sustainability indicators, see Appendix D.

[22] Selected questions were drawn from the fall 2013 national survey conducted by the Yale Project on Climate Change Communication (http://environment.yale.edu/climate).

[23] Respondents in the national sample were not as convinced as the U-M respondents: just 6 in 10 Americans who believed in climate change indicated they were extremely or mostly sure it was occurring.

In the earlier SCIP surveys, faculty respondents were much more likely than students or staff to say that climate change is *caused mostly by human activity*. Findings from the 2014 survey were similar although slightly up for faculty and students. Nearly 6 in 10 faculty (58 percent) gave this response in 2014 compared to 54 percent in 2013 whereas for students, the percent saying that climate change is *caused mostly by human activity* increased from 39 percent in 2012 to 43 percent in 2014. The majority of staff (57 percent) and students (52 percent) continue to believe that *climate change is caused by both human activity and natural causes*; 38 percent of the faculty gave this response. Students who participated in the panel were more likely to think that climate change was caused mostly by human activity in 2014 than they were in 2012 (42 percent versus 36 percent).

Finally, members of the university community were of mixed minds when asked about the importance of climate change to them personally. For faculty, two-thirds said climate change was "extremely important" or "very important" while just 7 percent said it was "not too important" or "not at all important". Students were more divided in their views; nearly half (47 percent) said climate chance was "extremely important" or "very important" , up from 42 percent in 2013 whereas 16 percent said it was "not at all important" or "not too important". For staff, the feelings were also mixed; 44 percent said it was "extremely important" or "very important" and 16 percent said it was "not too important" or "not at all important".

Despite strong beliefs in climate change and feelings among many that human activity is its main cause, faculty, staff, and students varied in the manner in which they act to address the challenge. Whereas significant numbers make efforts to decrease their carbon footprint, others do not. For example, most faculty (85 percent) said they "always" turned off the lights when leaving their work place. Yet three-quarters of them drive to and from work. Similarly, 90 percent of the students reported turning off lights when leaving a room and 7 in 10 "never" or "rarely" drive a car and park on campus. Yet only half of the students living off-campus adjust their thermostats to conserve energy during cold or hot weather months. Faculty and staff are more inclined to conserve energy at home. Nearly three-quarters said they set their thermostats to *78 degrees or higher during warm or hot weather* and more than a third said they always *lower their thermostats to 65 degrees or lower in cool or cold weather*. They are also more inclined than students to sometimes or always *use power saving settings on their home computers* (83percent versus 74 percent) and say they always "limit their time in the shower" (42 percent versus 26 percent).[24] For the most part, the distribution of responses to these questions in 2014 is similar to response distributions reported in 2012 and 2013.

In one item addressing efforts to conserve energy, a significant and positive change was identified. In 2014, a third of the faculty (37 percent) and staff members (33percent) reported using a motion sensor/"smart" power strip at work "sometimes" or "always/most of the time". This is an increase from the 2012 data where slightly more than a quarter (27 percent) of the staff and faculty gave these responses.

In 2014, new questions of interest to U-M Plant Operations were added to the faculty-staff questionnaire. One asked University employees, "How important is your behavior to conserving energy in the building where you work?" For both staff and faculty, nearly 4 in 10 said it was "very important" whereas nearly half as many (16 percent) of the respondents said their behavior was 'not that important" or "not important at all" to conserving building energy.[25]

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[24] Data presented in this section are gleaned for Appendix C, Table 5 (conservation behavior) and Table 2 (travel and transportation behavior). For questions not asked of selected students (e.g. freshmen living in residence hall were not asked about changing thermostat settings), the table report the percentage of "not applicable" responses. In these instances, the percentages reported in the text reflect recalculated distributions without the "not applicable" respondents.

[25] Although responses among faculty and staff were similar, differences in responses were found for University employees working in different parts of campus. For example, those working in the Central Campus Southeast sub-region were most likely to say "very important" (45 percent) whereas employees in the Medical Center were least likely to give this response (35

Travel behavior among members of the U-M community continues to be a source of greenhouse gas emissions. As in 2012 and 2013 three-quarters of the 2014 staff and faculty respondents said they "always" *drive a car to* their work place or did so "most of the time". In contrast, the numbers of staff and faculty who said they most often used an alternative mode of travel to get to and from campus were small; less than 10 percent regularly rode an Ann Arbor Area Transportation Authority (AAATA) bus and just 2 percent of the staff said they carpooled. Yet faculty more so than staff said they most often walked or biked to work (12 percent versus 6 percent).

Despite the predominance of automobile use for work trips, there are encouraging signs that for at least during part of the year, staff and faculty partake in other modes when traveling to campus. For instance, when asked how often they take an AAATA bus to work during the past year, 19 percent of the staff and 20 percent of the faculty said "sometimes" or "always/most of the time". These numbers are significantly higher than what was reported by these groups in 2013 (16 percent and 14 percent, respectively). Similarly, when asked how often they walk to work to/from work during the past year, 18 percent of the staff and 23 percent of the faculty said "sometimes" or "always/most of the time". For staff, this was a 7 percentage point increase from 2013 while for the faculty, the increase is 4 percentage points. Future SCIP surveys will determine whether these non-automotive work trips will continue to increase in future years.

As expected, students were much less likely to drive to campus than faculty and staff. Nonetheless, when asked how they *most often* traveled to/from campus since the beginning of the fall semester, 9 percent of undergraduates and 20 percent of graduate students said they drove a car. More than half (53 percent) typically walked or biked to campus and somewhat over a quarter (28 percent) said they rode the bus.

Two indicators - Conservation Behavior and Travel Behavior – represent summaries of individual actions to address climate change. The 2014 indicator scores suggest that opportunities remain for U-M's students, staff, and faculty to do more to reduce their carbon footprint.

Conservation Behavior Index. As in earlier years, responses to four questions were combined to create a summary indicator showing the status of conservation behavior among the 2014 student, faculty and staff respondents.[26] That is, for each individual respondent, responses to each question were added to create a composite score. Questions dealt with the frequency of turning off lights, turning off the computer when not in use, using power-saving settings on the computer, and using a motion sensor power strip. Table 9 shows that on a scale from 0 to 10, the index score for faculty is 7.0, but lower for staff (6.5) and for students (6.1). The table also presents the distribution of grouped scores (in quartiles) for each respondent group. When compared to conservation behavior scores from previous years, the actions of U-M students, staff, and faculty to conserve energy are unchanged.

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percent). Two other questions addressed staff and faculty awareness of energy consumption and energy conservation features in the building where they worked. Responses to these questions are discussed in the section on Community Awareness.

[26] For staff and faculty, the questions asked about their behaviors during the past year while at work whereas students were asked about their behaviors without reference to whether it occurred on campus or elsewhere.

Table 9

CONSERVATION BEHAVIOR INDICES,
for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	11	22	27
(5.01-7.50)	54	49	52
(2.51-5.00)	30	21	18
Low (0-2.50)	5	8	3
Total	**100**	**100**	**100**
Mean Score	**6.1**	**6.5**	**7.0**
Number of respondents (unweighted)	3170	824	1256

Travel Behavior Index. As in previous years, a single question is used to summarize the travel behavior among students and a similar question to capture the travel behavior of staff and faculty. For students the question was: "Since the start of the fall semester (2014), how do you most often travel to and from campus?" The question asked of staff and faculty was: How do you most often travel to and from your home to your campus work place?" Response categories for both questions were identical.[27] The index reflects the degree to which the mode of travel impacts the environment. Carbon-free travel (walking, biking) was assigned the highest score while "drive a car" received the lowest score.[28] Travel by bus, the combination of bus and bike, or motorcycle was given the second highest score while respondents who car pooled, vanpooled or used Rideshare were given the third highest score.

Table 10 shows the mean scores and the proportion of students, staff and faculty representing each quartile on the 0 to 10 scale. Not surprisingly, students, most of whom live on or close to campus, had the highest score (7.4) whereas staff had the lowest score (1.7). Several factors such as the price of fuel, schedule changes in the University and AAATA bus systems, and campus pricing, marketing efforts, and parking policies could alter these scores in subsequent years.

When compared to previous years. 2014 indicator scores for travel behavior are somewhat lower for students and faculty and moderately higher for staff. The 2014 faculty travel behavior score decreased significantly since 2012 (1.8 versus 2.2; $p<.05$), an indication that faculty place a greater reliance on the personal automobile to get to and from the campus. At the same time, the scores are lower for faculty in part due to fewer regular walkers, bikers, and bus riders among the 2014 respondents.[29]

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[27] Because of the slight difference in wording between the student and faculty/staff questionnaires, it was suggested that comparisons between students and U-M employees may be inappropriate. Accordingly, the 2013 faculty/staff questionnaire asked a second travel behavior question, "Since the beginning of the fall semester, how do you most often travel to/from home to your workplace?" As was demonstrated in 2013, response distributions to the two questions for faculty and staff were identical. Therefore, the 2014 questionnaire asked the single question that was asked in 2012.

[28] Differentiation was not considered for drivers of electric or hybrid vehicles since the type of vehicle used was not asked in the questionnaires.

[29] It should be noted that the proportion of faculty respondents living outside the Ann Arbor-Ypsilanti area was greater in 2014 than in 2013.

Table 10

___TRAVEL BEHAVIOR INDICES,___
___for STUDENTS, STAFF, FACULTY___
(percentage distributions and mean scores)

2014	**Students**	**Staff**	**Faculty**
High (7.51-10)	54	8	13
(5.01-7.50)	28	10	7
(2.51-5.00)	5	8	2
Low (0-2.50)	13	74	78
Total	**100**	**100**	**100**
Mean Score	**7.4**	**1.7**	**1.8**
Number of respondents (unweighted)	3167	869	1271

Waste Prevention

Recycling and reuse of materials by U-M faculty, staff, and students play a critical role in the University's efforts to divert waste to disposal facilities. Material reuse also impacts University purchasing decisions. To a large extent, staff and faculty are behaving in an environmentally responsible manner while at work. Similarly, they and U-M students report sound waste reduction practices while at home.

Significant numbers of faculty (91 percent) and staff members (84 percent) said the *always* "recycle bottles, containers, and paper products" during the past year or did so *most of the time* during work.[30] About three-quarters of the sample from each group offered the same responses when asked how often they "use a reusable water bottle, coffee cup, or travel mug" while three-quarters of the staff and 80 percent of the faculty said they either *always* or *sometimes* "print double-sided". Yet, when asked about whether they "use U-M Property Disposition services to obtain items such as computers, furniture, and equipment", about a third from both groups said they *sometimes or regularly* used the services.[31]

A significant number of staff and faculty said they had reduced waste at home during the past year. Eight in 10 staff and 94 percent of the faculty said they regularly "recycle bottles, containers, and paper products" while 6 in 10 regularly "recycle their electrical waste". And as in previous years, three quarters of the faculty said they *sometimes, most of the time, or always* "bring reusable bags to the store" whereas two-thirds of the staff responded in this manner. Faculty members were also more likely than staff to *always* or *sometimes* "shop for things with minimal packaging" (65 percent versus 53 percent).

Many students engage in waste reduction activities, but they are not as diligent as staff and faculty. For instance, 68 percent of the students (compared to 79 percent of staff and 94 percent of faculty) said they regularly "recycle bottles, containers, and paper products" during the past year. And two-thirds of the students (compared to 85 percent of the faculty and staff) gave the same response when asked how often they "used a reusable water bottle, coffee cup, or travel mug". When asked about how often they "use U-M Property Disposition services to obtain items such as computers, furniture, and equipment" during the

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[30] The findings in this section are drawn from Appendix C, Table C5, dealing with waste prevention. Percentages are adjusted to eliminate the not applicable respondents.
[31] Unless otherwise noted, the use of "regularly" in the text refers the response option, *Always/Most of the time*. Similarly, the use of the term, "always" in the text is meant to connote the *Always/Most of the time response.*

past year, just 1 in 10 said *sometimes, most of the time,* or *always.* And when students were asked how often they "bring reusable bags to the store" when shopping, less than half said *always* or *sometimes* and just *40* percent said they *always* or *sometimes* "shop for things with minimal packaging".

Waste Reduction Behavior Index. As in 2012 and 2013, individual responses to four questions were combined to create a summary indicator showing the status of waste prevention behavior among U-M students, faculty and staff.[32] That is, for each respondent, their responses to each question were added to create a composite score. Questions dealt with the frequency of recycling, the use of reusable cups, the use of U-M Property Disposition, and printing double-sided when sending work to a printer. Table 11 shows that on a 10-point scale, the index score for staff is 7.0 and for faculty, it is 7.4; for students, it is 6.7. The table also presents for each group, the proportion of respondents whose scores are high in the top quarter of the index, those with relatively low scores, and the proportion in the middle quarters. Index scores were nearly identical to those reported in 2012.

Table 11

WASTE PREVENTION BEHAVIOR INDICES, for STUDENTS, STAFF, FACULTY
(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	11	26	35
(5.01-7.50)	74	57	56
(2.51-5.00)	14	15	8
Low (0-2.50)	1	2	1
Total	**100**	**100**	**100**
Mean Score	**6.7**	**7.0**	**7.4**
Number of respondents (unweighted)	3172	848	1273

** Less than onehalf of one percent.

Healthy Environments

Students, faculty, and staff are likely to support U-M's goals of protecting water quality in the Huron River and purchasing or obtaining food from sustainable sources. However, there are few direct actions that students, faculty and staff can take to achieve these goals. Nonetheless, individuals who are members of the University community can act to create healthy environments through their actions at home. Accordingly, questions related to protecting the natural environment at the place where they live and purchasing sustainable foods were asked of respondents.

Staff, faculty and students were asked a series of questions about lawn care and disposing of hazardous materials during the past year.[33] For faculty and staff who had lawns and did respond, nearly 4 in 10 said they "water their lawns" regularly or sometimes and about 1 in 8 regularly "use lawn fertilizer". The

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[32] As in the case of conservation behavior, the waste reduction questions for staff and faculty asked about behaviors during the past year while <u>at work</u> while for students, questions about behaviors within the past year were without reference to place. That is, the behaviors may have occurred on campus or elsewhere.

[33] Respondents who lived in an apartment or other multi-family housing were given the option of checking "Not applicable" whereas students living in a residence hall or Northwood apartments were not asked about lawn care or purchasing sustainable foods.

number who had used "commercial herbicides or pesticides" was smaller; just 1 in 10 said they used these substances regularly and a quarter said they sometimes used them. Staff and faculty respondents were significantly less likely to report watering their lawns in 2014 than the 2012 respondents.

Not surprisingly, students living off-campus and responded to the series of questions about lawn care had less of an impact on the environment; about 1 in 6 (15 percent) regularly or sometimes watered the lawn, just 2 percent regularly used lawn fertilizers, and 2 percent said they regularly had used a commercial herbicide or pesticide during the past year. Three-quarters of the staff and faculty said they had "disposed of hazardous materials by taking them to a designated disposal facility" and for students who responded to this question, a quarter had taken this action.

With respect to obtaining sustainable foods, questions were asked about household purchases and growing ones' own fruits and vegetables.[34] Among the staff and faculty, more than 1 in 5 said he/she (or someone in their household) always purchased "locally grown or processed food" during the past year. When asked about the purchase of "organic food", faculty members were somewhat more likely than staff to say they did so *always* or *most of the time* (25 percent versus 20 percent). One in 5 students gave the same response. When asked to estimate how much of their grocery purchases during the past year were sustainable food, a third of the faculty and staff said *all/most* or *more than half* and one in 5 said they *don't know*. Students were less likely to purchase sustainable foods. One in 4 students purchased sustainable foods at least half of the time and more than a quarter didn't know if they made such purchases.

The purchase of locally grown foods varied among staff, faculty and students. When asked if they had shopped at a farmers market or food stand during the past year, more than 4 in 5 staff and faculty members and 2 in 3 students said *yes*. And more than half of the staff and faculty said they had grown their own fruits and vegetables in a "home garden" or "community garden" during the past year. Somewhat more than 1 in 4 students also said they had grown their own fruits and vegetable at home or in a community garden.

Two indices measure progress toward creating healthier environments. One index deals with the purchase of sustainable foods and the other covers protecting the natural environment including the Huron River.

Sustainable Food Purchases Index. This index consists of responses to three questions. Two deal with the frequency of buying "locally grown or processed food" and "organic food" during the past year while the third asks respondents to estimate how much of their food purchases during the previous year consisted of sustainable foods. As shown in Table 12, faculty had the highest index score (6.3) with students being somewhat lower (5.6) on average than staff (5.8). Although differences in mean scores between 2014 and earlier years are modest, there appears to be a shift toward more sustainable food purchases among all groups over the past year. For example, the percentage of staff who scored more than 5.0 on the index increased from 70 percent to 73 percent between 2013 and 2014. While for students, 69 percent scored more than 5.0 in 2014 compared 65 percent in 2013.[35]

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[34] Nearly a one-third of student respondents who said they ate most of their meals in campus dining facilities were not asked questions about sustainable food purchases. When asked about the frequency of purchasing different types of food, the remaining students as well as staff and faculty had the option of reporting, "don't know". Data reported here exclude these responses. Frequencies for each question including "don't know" are shown in Appendix C, Table C11.

[35] The 2013-2014 difference in sustainable food purchases among students is statistically significant as is the 2012-2014 difference for staff.

Table 12

SUSTAINABLE FOOD PURCHASING INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	19	19	24
(5.01-7.50)	50	54	58
(2.51-5.00)	24	22	16
Low (0-2.50)	7	5	2
Total	**100**	**100**	**100**
Mean Score	**5.6**	**5.8**	**6.3**
Number of respondents (unweighted)	1365	836	1238

Protecting the Natural Environment Index. This index is based on responses to questions dealing with lawn/garden maintenance and therefore covers only respondents with these characteristics at their place of residence. The questions dealt with the frequency of watering lawns, using fertilizers, and using herbicides or pesticides during the past year. Table 13 shows that students have the highest index scores (8.8) whereas faculty respondents have the lowest (6.4). The index score for staff is slightly higher than the 2013 score and significantly higher for faculty (6.4 versus 6.1; p<.05). However, the score for students is about the same as it was in previous years.

The index scores for students who participated in the panel had increased significantly between 2012 and 2013 but was did not change in 2014. However, the change scores differed for panel members who as freshmen living in a residence hall in 2012 and for panel members who were sophomores in 2012 and seniors in 2014. For the latter, the average index score did not change between 2013 and 2014. For the 2013 sophomore panel members, their index scores increased from 8.9 to 9.5. Without further analysis, it is unclear whether these differences reflect a concern for protecting the environment, a laissez faire attitude about property maintenance, time limitations, indifference about the appearance of one's property, or a change in the type of their off-campus housing.

Table 13

PROTECTING the NATURAL ENVIRONMENT INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	81	47	44
(5.01-7.50)	11	25	24
(2.51-5.00)	5	17	20
Low (0-2.50)	3	11	12
Total	**100**	**100**	**100**
Mean Score	**8.8**	**6.6**	**6.4**
Number of respondents	670	690	1098

Community Awareness

As part of the U-M's guiding principle within the Community Awareness theme, the University intends to "pursue strategies toward creating a campus-wide culture of sustainability." Since the initial SCIP surveys in 2012, questions have been asked about awareness of travel and transportation options, waste prevention and conservation practices, protecting the natural environment, sustainable foods, and climate change. Additionally, respondents have been asked how much they know about specific actions being taken by the U-M in each of these domains.

Sustainable Travel and Transportation. With few exceptions, a significant proportion of staff, faculty and students know relatively little about the range of options for traveling to and from campus and around Ann Arbor. When asked about the AAATA a third of the staff-faculty said they know "not much or nothing", nearly a third said "a little" and the remaining third said they know "a lot" or "a fair amount." Students tend to know more about AAATA; nearly half (45 percent) said they know "a lot" or "a fair amount". Graduate students know more about AAATA than undergraduates 66 percent versus 35 percent). Whereas awareness of AAATA among faculty and staff has not changed over the 3-year period, students in 2014 are significantly less likely to know about public transportation than students in the 2012 sample.

Staff and faculty are also uninformed about the U-M bus system; when asked how much they know about it, about two-thirds responded "not much or nothing" or "a little" compared to less than a third (29 percent) of the student body. Nonetheless, staff's understanding of the campus bus system increased over the past year from 38 percent to 43 percent ($p<.05$).

As in 2012 and 2013, few survey respondents knew about Zipcars (an hourly car rental), Vanpools, ExpressRide, and Greenride/iShareaRide (a U-M carpooling network). Less than 10 percent of the staff and faculty and 12 percent of the student body know "a lot" or "a fair amount" about Zipcars whereas the proportion knowing about other transportation options is even smaller.

As noted, low levels of awareness of these modes of transportation have not changed since 2012. However, staff respondents tended to know significantly more about Greenride/iShareaRide in 2014 than they knew in 2012 ($p<.001$). In 2012, just 8 percent indicated some level of awareness; in 2014, that number increased to 17 percent.[36] In part, this increase in awareness of Greenride/iShareaRide was attributable to the marketing efforts of the Office of Parking and Transportation, the program's administrative unit. Nonetheless, there was no change in Greenride/iShareaRide awareness between 2013 and 2014.

Waste Prevention. Staff, faculty, and students varied in the degree to which they understand or know about recycling. Approximately half of the respondents from each group said they knew "a lot" or "a fair amount" about *recycling glass* while higher proportions gave these responses when asked about *recycling plastic*. Even more respondents expressed an awareness of *paper recycling*. Three-quarters of faculty members and staff said they know "a lot" or "a fair amount" and two-thirds of the students gave these responses to the question about recycling paper. These proportions were comparable to those reported in 2013.

In 2014, awareness of composting was added to the questionnaires for student, faculty and staff. For each group, about one in 7 said they know "a lot" or "a fair amount" while the majority from each group said they know "a little" or "not much/nothing" about composting.

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[36] These are respondents who said they know "a lot", "a fair amount", or "a little" about Greenride/iShareaRide.

As in previous years, the 2014 respondents knew considerably little about recycling electronic waste and the U-M's Property Disposition services. Whereas more than a third of staff-faculty respondents said they know "a lot" or "a fair amount" about *recycling electronic waste*, just one-fifth of the students gave these responses. Students too tended to be unaware of the services of Property Disposition. Only 15 percent said they know "a lot" or "a fair amount" about it whereas 40 percent of the staff and faculty gave these responses when asked about the U-M's *Property Disposition services*.

Protecting the Natural Environment. Knowing about ways to protect the natural environment differs greatly within each group. For instance, nearly half of the staff and faculty said they know "a lot" or "a fair amount" about *protecting rivers, streams, and lakes including their tributaries, native species and habitat* with the Huron River given as an example; yet one in 7 responded "not much or nothing". Students know even less; a quarter said they know "not much or nothing" and more than a third said they know "a little". These levels of understanding were comparable to those found in the 2013 sample.

Nearly half of staff and faculty indicated that they know "a lot" or "a fair amount" about *taking care of residential property in an environmentally-friendly* way whereas half of the faculty and staff responded in this manner; just a third of the students gave these responses. The 2014 sample of students were more likely to report knowing something about sustainable ways of maintaining property than the 2012 sample (74 percent versus 68 percent; p<.01).

Staff and faculty respondents were most knowledgeable about *disposing of hazardous waste materials*. More than half said they know "a lot" or "a fair amount" whereas the other half said they know "a little" or "not much or nothing". Students knew even less; those indicating they know "a little" or "nothing" about hazardous waste disposal outnumbered those knowing "something" by 3 to 1.

Finally, respondents from each group were least knowledgeable about invasive plant species. About 4 in 5 staff respondents said they know "a little" or "not much or nothing" about *recognizing invasive plant species; 7 in 10 faculty and even more students* gave these responses (85 percent).

Sustainable Foods. Within the context of SCIP, Sustainable foods is defined as foods that were organic, locally-grown, or were fair-trade foods, food from humanely-treated animals or animals that have not been given hormones or antibiotics, grass-fed beef, and fish from sustainable fisheries. In general, faculty tended to know more about each of these items than staff. Students were likely to know less than both groups. For instance, two-thirds of the faculty and staff said they know "a lot" or "a fair amount" about *locally grown or processed food* compared to half of the students. Similarly, nearly three-quarters (72 percent) of faculty members know "a lot" or "a fair amount" about *organic foods* compared 61 percent of the staff and 59 percent of student respondents.

For other types of sustainable foods, there were substantial numbers from each respondent group who said they know "not much or nothing". For faculty, this response ranged from 3 percent to 15 percent. For staff, the range was 6 to 28 percent, and among students, between 8 percent and 29 percent said they know "not much or nothing" about the other types of sustainable food.

Following discussions with Plant Operations personnel, two additional awareness questions were added to the 2014 staff/faculty questionnaire. The questions were intended to find out how much U-M employees knew about energy consumption and the University's energy reduction features in the particular building where respondents worked. When asked about energy use in their buildings, less than one in 5 (19% of faculty and 18 percent of staff) said they know "a lot" or "a fair amount". The numbers were equally low when asked about the energy conservation features in the respondents' buildings. Just 20 percent said they know "a lot" or "a fair amount" whereas nearly half (46 percent) said they know "not much or nothing at all".

Awareness Indices. In the first year of SCIP, separate awareness indicators were developed for Sustainable Travel and Transportation, Waste Prevention, Natural Environment Protection, and Sustainable Foods. For each, index scores were created for each respondent by summing responses to all items within the domain[37]. For example, if respondents said they know "a lot" about each individual type of sustainable food, they would receive the highest score; if they said "not much or nothing" about each type, the lowest score would be assigned to those respondents. Since levels of awareness for individuals vary among the items within each domain, their index scores are distributed between the highest levels of awareness and the lowest levels. The same procedure was followed in subsequent years. The distribution of index scores for 2014, based on a standardized or common scale, together with the mean values are shown in Tables 14 thought 17 for students, staff, and faculty.

Table 14

SUSTAINABLE TRAVEL AWARENESS INDICES , for STUDENTS, STAFF, FACULTY
(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	4	3	4
(5.01-7.50)	24	15	17
(2.51-5.00)	45	33	34
Low (0-2.50)	27	49	45
Total	**100**	**100**	**100**
Mean Score	**4.2**	**3.2**	**3.4**
Number of respondents (unweighted)	3169	867	1273

Table 15

WASTE PREVENTION Awareness INDICES, for STUDENTS, STAFF, FACULTY
(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	8	16	21
(5.01-7.50)	27	32	36
(2.51-5.00)	41	33	30
Low (0-2.50)	24	19	13
Total	**100**	**100**	**100**
Mean Score	**4.2**	**5.0**	**5.5**
Number of respondents (unweighted)	3179	868	1276
**** Less than onehalf of one percent.**			

[37] The Sustainable Travel and Transportation Awareness Index has 4 items: knowledge of AAATA, U-M buses, Biking, and Zipcar rentals. The Waste Prevention Awareness Index consists of 5 items: knowledge about recycling glass, plastic, paper, electronic waste, and the U-M's Property Disposition facility. Four items dealing with Natural Environment Protection include knowledge about disposing of hazardous waste materials, recognition of invasive plant species, knowing how to take care of residential property in an environmentally-friendly way, and knowing about protecting rivers, etc. The Sustainable Foods Awareness Index contains 7 items: knowledge about locally grown/processed foods, organic foods, fair trade food, food from humanely-treated animals, food from hormone-free and antibiotic-free animals, grass-fed beef and fish from sustainable fisheries.

Table 16

AWARENESS OF NATURAL ENVIRONMENT PROTECTION INDICES, for STUDENTS, STAFF, FACULTY
(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	5	9	12
(5.01-7.50)	16	22	25
(2.51-5.00)	32	40	37
Low (0-2.50)	47	29	26
Total	**100**	**100**	**100**
Mean Score	**3.4**	**4.3**	**4.6**
Number of respondents (unweighted)	3178	865	1274

Table 17

SUSTAINABLE FOOD AWARENESS INDICES, for STUDENTS, STAFF, FACULTY
(percentage distributions and mean scores)

2014	Students	Staff	Faculty
High (7.51-10)	16	18	23
(5.01-7.50)	29	30	37
(2.51-5.00)	34	33	29
Low (0-2.50)	21	19	11
Total	**100**	**100**	**100**
Mean Score	**4.8**	**5.0**	**5.7**
Number of respondents (unweighted)	3178	869	1276

The tables reveal that compared to staff and faculty, students are more aware of sustainable travel options but less aware of efforts to prevent waste and protect the natural environment. With respect sustainable foods, students know the least (4.8) while faculty members are most knowledgeable (5.7).

In general, levels of awareness about sustainability, based on index scores, modestly increased over the three years of SCIP. However, there are significant changes for some indicators for selected groups. For example, significant increases in awareness of waste prevention practices were reported between 2012 and 2014 for students (4.0 to 4.2; $p<.05$) and faculty (5.1 to 5.5 $p<.001$) but there was no change among staff. There was also a significant increase in staff and student awareness of sustainable foods between 2012 and 2014 while there was no change in the faculty's awareness scores. Staff scores increased from 4.7 to 5.0 over the two year period ($p<.05$) while student scores increased from 4.3 to 4.8 ($p<.001$).

Indicator scores for the panel of students that participated in the surveys each year also suggest that there is greater awareness of sustainability issues on campus. Among the 2014 students who participated in the survey in earlier years, awareness indicator scores for travel and transportation, waste prevention, and sustainable foods increased significantly. For instance, their waste prevention scores increased from 4.1 in 2012 to 4.5 in 2013 to 4.6 in 2014. Similarly, awareness of sustainable foods increased from 4.2 in 2012

to 4.5 in 2013 to 4.9 in 2014. The data clearly show that, the longer students are on campus, the more they know about waste prevention and sustainable foods. Although the panel data reveal a similar pattern of learning about travel and transportation in Ann Arbor and around campus, the panel data suggest that the awareness of the 2012 sophomores did not increase when they became seniors. Without further analysis, it is unclear whether changes for individual students are attributable to their intrinsic interest in sustainability, to U-M's efforts to raise levels of awareness, or other factors.[38]

U-M Sustainability Initiatives. In previous years, respondents were also asked the extent to which they were aware of specific sustainability initiatives or actions taken by the U-M. These included the University's efforts to *conserve energy, reduce greenhouse gas emissions, encourage people to take a bus or bike, maintain campus grounds in an environmentally-friendly manner, promote ride-sharing, promote recycling, promote food from sustainable sources,* and *protect the Huron River.* Questions about people's understanding of these sustainability initiatives were repeated in the 2014 surveys.

In 2014, members of the University community were most likely to be "very aware" or "somewhat aware" of the U-M's efforts to *promote recycling* (8 in 10) and least likely to give these responses to *protect the Huron River* (3 in 10). The 2014 questionnaire also asked respondents about the University's efforts to promote composting, a relatively new initiative on campus. Three in 10 students and the same proportion of staff said they were "very aware" or 'somewhat aware" and just one in 5 faculty gave these responses about composting.

In general staff tended to be more aware of U-M's sustainability initiatives than faculty or students. Higher levels of awareness were reported by staff for *encouraging people to take a bus or bike, maintaining the campus grounds in an environmentally-friendly manner, promoting ride-sharing, promoting food from sustainable sources, and protecting the Huron River.* Unlike previous years, staff respondents were less aware than faculty of the University's efforts to conserve energy. In fact, only 66 percent of 2014 staff respondents said they were "very aware" or "somewhat aware" compared to 76 percent in 2013 and 71 percent in 2012.

In 2014, students were likely to know less than either faculty or staff about the U-M's efforts to *conserve energy promote ride-sharing and recycling* but more aware than staff or faculty about U-M's work to *promote food from sustainable sources.*

U-M Sustainability Initiatives Awareness Index. This indicator was developed in 2012 using a similar approach to that employed in creating the other awareness indicators. The process was repeated with the 2014 data. Mean scores were then calculated for students, staff, and faculty and are shown in Table 18. The Table clearly indicates that staff were most knowledgeable about what the U-M was doing about sustainability (5.3) whereas faculty and students were less knowledgeable (5.0 each).

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[38] The panel data reported here cover only undergraduate students who participated in 2012, 2013, and 2014. Additional panel data are available for students who participated in 2012 and 2014 but did not participate in 2013. The analysis of indicators for these 297 students reveal patterns of behavior and their levels of awareness similar to panel members who participated in all three years. Data covering a new panel of students, that is, the 2013 freshmen who participated in 2014 as sophomores (n=375) are also available. With few exceptions, differences in indicator scores for these students between 2013 and 2014 are comparable to differences in indicator scores for the 2012 freshmen. The new panel of students showed a significant decrease in their waste prevention behavior compared to a slight increase among the earlier panel. At the same time, the new panel was significantly more aware of travel and transportation options that the earlier panel members. Continuing SCIP surveys will enable us to examine, over time, student changes in behaviors and awareness as the move from their freshman year on campus to their sophomore year and beyond.

Table 18

U-M SUSTAINABILITY INITIATIVES AWARENESS INDICES, for STUDENTS, STAFF, FACULTY

2014	Students	Staff	Faculty
High (7.51-10)	15	14	13
(5.01-7.50)	36	33	38
(2.51-5.00)	37	38	39
Low (0-2.50)	12	15	10
Total	**100**	**100**	**100**
Mean Score	**5.0**	**5.3**	**5.0**
Number of respondents	3152	863	1268

A comparison of the 2014 indicator scores with those from earlier samples indicate that levels of awareness among students and faculty about U-M's sustainability initiatives have not changed. Similarly, staff awareness which had increased significantly from 2012 to 2013 dropped back to the 2012 levels in 2014.

Among all undergraduate students participating in the panel, levels of awareness of the University's overall campus sustainability activities have not changed since 2012.

Other Key Findings and Indices

Among the other dimensions that define culture of sustainability on campus are the degree to which students, faculty, and staff are engaged in sustainable activities beyond the individual behaviors reported earlier, the extent to which they are committed to a sustainable lifestyle, and their inclinations or disposition toward establishing a more sustainable lifestyle. These dimensions of sustainability culture were measured as part of the student and faculty-staff questionnaires.

Engagement. There are numerous ways that people can be involved or engaged in sustainability activities, both on campus and elsewhere. In addition to the individual activities that have been explored thus far such as buying sustainable foods, turning off lights, using non-motorized or public transportation, students, faculty and staff can participate or engage in organized sustainability activities alone or in a group setting. In order to determine how much of this was taking place on campus, respondents were asked whether or not they had participated in a U-M sustainability organization, in events including a *Planet Blue Open House*, *Earthfest, RecycleMania,* in other events dealing with *Zero Waste* or *e-Waste Recycling*, and the *Planet Blue Ambassadors Certificate Program*. Staff and faculty were also asked about their engagement in the *Sustainability Workplace Certificate Program* while students were also asked if they had participated in the *Kill-a-Watt program* and if they had taken *a U-M course that addressed sustainability.*

The numbers of faculty, staff, and students that said they participated in one of these activities or events were low. Faculty and staff members were most engaged through their participation in an *e-Waste Recycling event* although just 1 in 5 responded affirmatively. For each of the remaining U-M events or activities included in the questionnaires, less than 10 percent of the faculty and staff gave an affirmative answer when asked whether or not they participated. As was demonstrated in the earlier surveys, U-M students tend to be more engaged than staff or faculty but also with low levels of involvement. In fact, less than 1 in 5 (16 percent) said they participated in a *sustainability organization on campus* and 1 in 5

(20 percent) said they had taken a *course addressing sustainability.* Nonetheless, it is encouraging to see a modest increase in engagement from members of the University community than in earlier years. Student enrollment in sustainability courses increased from 17 percent to 18 percent to 20 percent over the 3 years of SCIP and their involvement in a Zero Waste event nearly doubled (from 4 percent to 7 percent) between 2012 and 2014. Faculty and staff also reported more participation in sustainability activities than in previous years. Involvement in the Planet Blue Ambassadors Program increased significantly over the year from 6 percent to 13 percent for staff and from 3 percent to 9 percent for faculty (p<.001). Similarly, faculty participation in an e-Waste Recycling event increased from 19 percent in 2012 to 21 percent in 2013 to 26 percent in 2014 (p<.05) Finally, there was a significant increase in staff participation in the Sustainability Workplace Certificate Program from 5 percent in 2013 to 7 percent in 2014 (p<.05)

U-M Sustainability Engagement Index. Index scores were created for students and for staff and faculty and converted in a common metric ranging from 0 to 10. For students, three items were used; whether or not they were members of any *sustainability organization* on campus, whether or not they had attended an *Earthfest*, and whether or not they had taken a *course that addressed sustainability.* The index for staff and faculty consisted of responses to the first two items dealing with membership in a campus susta*inability organization* and *Earthfest* attendance. As seen by the mean scores in Table 19, the level of engagement for all respondents was relatively low with students having a mean value of 1.6 and staff and faculty having a value of 0.7 each.[39]

<div align="center">Table 19</div>

U-M SUSTAINABILITY ENGAGEMENT INDEX , BY STUDENTS, STAFF, FACULTY

2014	Students	Staff	Faculty
High (7.51-10)	5	3	3
(5.01-7.50)	9	**	**
(2.51-5.00)	15	8	9
Low (0-2.50)	71	89	88
Total	**100**	**100**	**100**
Mean Score	**1.6**	**0.7**	**0.7**
Number of respondents	3134	854	1241

When comparing staff and faculty engagement in sustainability activities on campus between 2014 and 2012, there were no significant differences. However, student engagement showed a modest but significant increase from 1.3 in 2012 to 1.6 in 2014 (p<.01). Students who participated in the panel over the three years were more engaged in 2014 than in previous years. Their U-M Sustainability Engagement Index scores increased from 1.5 in 2012 to 2.9 in 2014 (p<.001).

In addition to examining sustainability engagement on campus, engagement in matters related to sustainability while student, staff, and faculty were not on campus was explored. Accordingly, a brief series of questions was asked about participation in selected sustainability-related activities during the past year. Specifically, staff, faculty and students were asked whether or not they had engaged in any of four activities during the past year to promote sustainability issues such as environmental protection,

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[39] Alternative indices have been created that take into account questions about participation in the Planet Blue Ambassadors Certificate Program (for students, staff and faculty) and the Sustainability Workplace Certificate Program (for staff and faculty). These alternative indicators will be discussed in subsequent reports.

energy or water conservation, open space preservation, non-motorized transportation, and so forth. The four activities were: *given money to an organization or advocacy group* supporting one of the above issues, *volunteered for an organization or advocacy group* supporting one of the above issues, *served in a leadership position for an organization* or advocacy group supporting one of the above issues, and *voted for a candidate for public office because of his/her position* on one of the above issues.

Among the faculty, half (51 percent) answered "yes" when asked whether they had given money *to an organization or advocacy group* during the past year and 56 percent answered affirmatively when asked whether or not they *voted for a candidate for public office because of his/her position* during the same period. On the other hand, only 1 in 10 had volunteered for an *environmentally-related organization or advocacy group.*

For staff, a quarter had contributed money while nearly 4 in 10 (37 percent) said they *voted for a candidate for public office because of his/her position* on an environmental issue. As in the case of faculty, staff members were less likely than students to say they had *volunteered for an organization or advocacy group* or *served in a leadership position in such an organization*.

Students tended to contribute both time and money to support sustainability. Nearly a fifth said they had *given money to an environmental organization* and a quarter said they had *volunteered for an organization or advocacy group during the past year.* Students giving money increased over the past year from 15 percent to 18 percent (p<.05) and volunteering increased significantly since 2012 from 22 percent to 24 percent (p<.05).

General Sustainability Engagement Index. The four items were combined to create another engagement index which in part demonstrates a degree of commitment toward sustainability. The index scores shown in Table 20 suggest that despite relatedly low levels of engagement in sustainability through philanthropy, volunteerism, and voting behavior, members of the University community were more engaged off-campus than while on-campus. Furthermore, faculty members have a higher level of general engagement than staff or students, reflected in large part by their voting behavior and financial contributions.

Table 20

GENERAL SUSTAINABILITY ENGAGEMENT INDEX , BY STUDENTS, STAFF, FACULTY

2014	Students	Staff	Faculty
High (7.51-10)	3	1	2
(5.01-7.50)	5	3	6
(2.51-5.00)	13	16	32
Low (0-2.50)	79	80	60
Total	**100**	**100**	**100**
Mean Score	**2.0**	**1.8**	**3.0**
Number of respondents	3179	868	1276

When comparing general engagement on sustainability issues between 2014 and earlier years, there were no significant changes among staff and faculty. However, engagement among students increased over the year from 18 to 2.0 (p<0.05). This increase occurred despite a decline in the General Sustainability Engagement score between 2013 and 2012.

Commitment. Clearly, commitment to sustainability is demonstrated in part by the actions that people take and their behaviors on a day-to-day basis, both on-campus and off-campus. But the degree to which people believe they are committed to a sustainable way of life can also reflect the culture of sustainability. Accordingly, respondents were asked two questions near the end of the questionnaire. One asked, "Overall, how committed are you to sustainability?" with the following response categories: *very committed, somewhat committed, not very committed,* and *not at all committed*. The second question was, "Who are or what has been <u>most</u> influential in shaping your views about sustainability?"[40]

Faculty members were most committed to sustainability with more than a quarter of them saying they were *very committed*. Nearly a fifth (18 percent) of the students and 14 percent of staff gave this response. While the majority of respondents from each group said they were somewhat committed, there was a sizable number who said they were *not very committed* or *not committed at all to* sustainability; 12 percent of faculty, 22 percent of the staff and 25 percent of the student body indicated they were uncommitted. Graduate students were more committed than undergraduates; 81 percent of the former said they were *very committed* or *somewhat committed to sustainability* compared to 71 percent of undergraduates.

Respondents were given a range of options as to who or what was most influential in shaping their views about sustainability and also the option of writing in a response. More than half of the faculty said that various forms of media (newspapers, TV, books, etc.) had the greatest impact on their views and commitment to sustainability. Media was also mentioned by nearly half of the staff and a quarter of the student respondents. Friends, classmates, and family were also identified as most influential is shaping the views of students. As in previous years, the influence of U-M professors and instructors on student views increased in importance for each cohort of undergraduates. Among all students, 13 percent said that their U-M professors or instructors were most influential in shaping their views about sustainability compared to 10 percent who credited this group in 2013.

Commitment Index. Responses to the commitment question were quantified and the values were recalculated for the 0 to 10 scale. As Table 21 shows, self-reported levels of commitment to sustainability are higher among faculty than among students or staff respondents.

Table 21

COMMITMENT INDEX SCORES, by STUDENTS, STAFF, FACULTY

2014	Students	Staff	Faculty
High (7.51-10)	18	14	27
(5.01-7.50)	57	64	61
(2.51-5.00)	23	19	11
Low (0-2.50)	2	3	1
Total	**100**	**100**	**100**
Mean Score	**6.3**	**6.4**	**7.1**
Number of respondents	3172	862	1272

For students, the degree of commitment reflected by the 2014 indicator scores has not changed over the past 3 years. However, the panel data show a significant increase among student participants since last

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[40] For a complete list of responses to both questions for each student cohort and for staff and faculty, see Appendix C, Table 16.

year. Their 2014 scores averaged 6.7 compared to their 2013 average of 6.4 (p<.05). The commitment index scores for staff and faculty are comparable over the three year period.

Dispositions. In addition to behavioral, awareness, and commitment questions, another category of questions asked respondents about their dispositions and related attitudes. Disposition questions were asked in several modules of the questionnaires and covered topics such as asking respondents why they engaged in selected behaviors --- for example, identifying the primary reason a faculty or staff member drives to work or moved to their current residence. Other dispositions questions asked respondents to describe their level of concern about things like population growth, why respondents think buying sustainable food is important, their willingness to support certain policies promoting things such as renewable energy, their willingness to pay for expanded sustainability initiatives at the U-M, and the frequency to which they have encouraged their friends to do certain sustainability related behaviors (recycle, conserve water, use alternative transportation, etc.). Finally, student respondents were asked to consider sustainability scenarios and state how likely things like sustainable transportation or reducing their greenhouse gas emissions will be priorities for them in the future. Responses to these questions can be found in Appendix C, Tables 3, 12, and 16.

One set of disposition questions reveals interesting change scores between 2012 and 2014 for students but not for faculty and staff. Respondents were asked to state whether they supported or opposed four different hypothetical government policies including *a requirement that electric utilities produce at least 40% of their electricity from wind, solar, or other renewable energy sources, even if it costs the average household an extra $100 a year.* In 2012, 5 in 10 students responded that they "strongly support" or "moderately support" an increase in utility rates to support more renewables. In 2014 this rose to 6 in 10 (p<.01). Staff and faculty responses remained essentially the same with 5 in 10 staff responding "strongly support" or "moderately support" and 7 in 10 faculty responding "strongly support" or "moderately support." Similar significant increases were seen for student responses to other questions in this section while faculty and staff responses remained nearly the same.

Respondents were also asked about their willingness to pay for efforts to help promote the following campus sustainability initiatives: *expand waste prevention efforts, such as recycling and green purchasing at U-M; expand alternative transportation efforts such as buses, bikes, and carpools at U-M;* and *expand efforts to lower greenhouse gas emissions at U-M through energy conservation and renewable sources.* Respondents were offered 6 different options of $10 increments from *$0* to *$41-$50.* 2014 results were similar to those from 2013 with support for these items decreasing slightly from responses in 2012 for students, and stayed the same or decreased slightly for staff and faculty at the $41-$50 level. At the same time, the percentage of an students, staff, and faculty were unwilling to pay anything for any of the initiatives increased over the three years.

Disposition Index. Responses to the willingness to pay questions were quantified and the values were recalculated for the 0 to 10 scale. Table 22 shows that, as in 2012, faculty respondents appear to be more disposed than students and staff to pay for the U-M sustainability initiatives described above. However, scores were lower in 2013 and 2014 than in 2012 for all three groups. Differences in 2014 scores from 2012 were statistically significant faculty and staff (faculty, p<.05; staff, p<.01) but not for students. In terms of the student panel, the index score rose from 3.1 in 2013 to 3.3 in 2014 but was still lower than 2012 (3.7, p<.01).

Table 22

DISPOSITION TOWARD SUSTANABILITY INDEX ,
BY STUDENTS, STAFF, FACULTY

2014	Students	Staff	Faculty
High (7.51-10)	10	9	30
(5.01-7.50)	13	9	16
(2.51-5.00)	30	19	21
Low (0-2.50)	47	63	33
Total	**100**	**100**	**100**
Mean Score	**3.4**	**2.6**	**4.9**
Number of respondents (unweighted)	3171	861	1252

Evaluation of the U-M's Sustainability Initiatives. Earlier, we reported the degree to which staff, faculty and students were aware of various efforts put forth by U-M officials to create a more sustainable campus. For those indicating some level of awareness of each of eight initiatives, they were then asked to rate or grade its success or performance in both years. Findings for the 2014 survey are shown in the second part of Appendix C, Table C15 and reveal that, on average, respondents tended to give the University "fair" to "good" grades. Highest grades were given to _promoting recycling_ whereas relatively low grades were given to _promoting composting._[41]

Although ratings of U-M sustainability activities in 2014 tend to be comparable to those reported earlier, ratings of selected activities significantly changed from those reported in earlier surveys. For example, students gave poorer grades to U-M's efforts to conserve energy, to promote ride-sharing and recycling, and to maintaining grounds in an environmentally-friendly manner. On the other hand, they gave better marks to the University's work in promoting sustainable foods and encouraging people to take the bus. The 2014 faculty respondents also gave significantly higher marks to the University for promoting sustainable foods but lower ratings to the University's efforts to promote recycling.

U-M's Sustainability Initiatives Ratings Index. A summary index score was calculated for respondents who indicated some level of awareness for each of the eight U-M sustainability initiatives.[42] Table 23 shows that, the overall performance ratings of the U-M's sustainability initiatives were fairly comparable for the 2014 samples. Current scores are comparable to the 2013 scores for faculty and students but lower for staff; 6.6 in 2014 compared to 6.8 in 2013 (p<.05) For students participating in the panel, their ratings were lower in 2014 than in 2013 (6.6 versus 6.9; p<.05).

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[41] Rating of U-M's efforts to promote composting was asked for the first time in the 2014 SCIP surveys.

[42]As in the case of other indices, respondents who did not rate more than two U-M initiatives were eliminated when creating the ratings index. If the remaining respondents did not rate one or two of the items comprising the index, they were assigned the modal value of those items for their entire group e.g. the modal value for either students, staff or faculty. See Appendix D for a discussion of index construction.

Table 23

U-M SUSTAINABILITY INITIATIVES RATING INDICES, for STUDENTS, STAFF, FACULTY
(percentage distributions and mean scores)

2014		All Students	Staff	Faculty
High	(7.51-10)	24	21	18
	(5.01-7.50)	57	61	59
	(2.51-5.00)	18	17	22
Low	(0-2.50)	1	1	1
Total		**100**	**100**	**100**
Mean Score		**6.5**	**6.6**	**6.4**
Number of respondents (unweighted)		2543	656	943

Summary

Table 24 summarizes the 2014 indicator mean scores and changes, if any, for students, staff, and faculty. The table reveals several things that are similar to what was found in earlier years. First, there is considerable room for improvement with regard to pro-environment behavior, levels of awareness, degrees of engagement and expressed commitment to sustainability among members of the University community.

Second, the travel behavior of students is more in line with the goal of greenhouse gas reduction than travel to and from campus by the staff and faculty. Not surprisingly, students are most likely to walk, bike, or bus to campus. Similarly, students are likely to know more about transportation options available to them and are more engaged than either staff or faculty in sustainability activities on campus.

Third, compared to students and staff, faculty tend to act in a more sustainable manner with respect to conserving energy, preventing waste, purchasing food, and more generally, engaging in pro-environmental activities outside the University. Faculty members also express a higher level of commitment to sustainability than staff or students.

Fourth, students tend to be less knowledgeable than staff or faculty about protecting the natural environment, preventing waste, and sustainable foods. But they know as much as faculty about sustainability at the University. Nonetheless, staff are most aware of the full range of the University's sustainability initiatives.

Finally, the table shows that compared to previous years, members of the University community tend to be more knowledgeable about sustainability. In some instances, indicator scores for 2014 are significantly higher than 2012 scores and/or higher than the 2013 scores. In the case of sustainable foods, significant positive changes between the 2014 score for students and both the 2012 and 2013 scores reflect a growing understanding of sustainable foods over the 3 years.

Table 24

SUMMARY SUSTAINABILITY CULTURAL INDICATORS
for STUDENTS, STAFF, FACULTY

(mean scores & significant changes)[a]

2014	Students	Staff	Faculty
PRIMARY			
Climate Action			
Conservation Behavior	6.1	6.5	7.0
Travel Behavior	7.4	1.7	1.8 ⬇
Waste Prevention			
Waste Prevention Behavior	6.7 ⬆▲	7.0	7.4 ⬆▲
Healthy Environments			
Sustainable Food Purchases	5.6 ▲	5.8 ⬆	6.3
Protecting the Natural Environment	8.8	6.6	6.4 ▲
Community Awareness			
Sustainable Travel & Transportation	4.2 ⬇	3.1	3.3
Waste Prevention	4.2 ⬆	5.0	5.5 ⬆
Natural Environment Protection	3.4 ⬆	4.3 ⬆	4.6 ⬆
Sustainable Foods	4.8 ⬆▲	5.0 ⬆	5.7
U-M Sustainability Initiatives	5.0	5.3	5.0
SECONDARY			
Sustainability Engagement at U-M	1.6 ⬆	0.7	0.7
Sustainability Engagement Generally	2.0 ▲	1.7	3.0
Sustainability Commitment	6.3	6.4	7.1
Sustainability Disposition	3.4	2.5 ⬇	5.0 ⬇
Rating U-M Sustainability Initiatives	6.5	6.7 ▽	6.4

[a]**Significant changes are based on analyses of mean scores for the 3 years and is shown in Appendix E, Table E2**

⬆ significant change from 2012 (p<.001)

⬆ significant change from 2012 (p<.01)

⬆ significant change from 2012 (p<.05)

▲ significant change from previous year (p<.001)

▲ significant change from previous year (p<.01)

▲ significant change from previous year (p<.05)

The change data also reflect a greater awareness of natural environment protection for all three groups and a greater awareness of waste prevention practices among students and faculty, but not for the staff. And while the levels of commitment remained high in 2014, they have not changed over the 3 years. Despite a professed commitment to sustainability, scores reflecting sustainable behaviors of students,

staff, and faculty remain relatively low and constant. Both staff and faculty are less disposed to do anything about it.[43]

Data covering index scores for the panel of undergraduates indicate that individual students know more about sustainability and are more engaged in sustainability activities on campus since 2012. Table 25 shows a significantly greater understanding of travel and transportation services around Ann Arbor, waste prevention practices, and sustainable foods over time but surprisingly no change in their understanding of U-M's campus sustainability initiatives. While their knowledge of what the University does is unchanged, they were significantly more critical in 2014 that they had been in 2013. Although these students reported a significantly higher level of engagement in sustainability activities such as taking a sustainability course or joining an organization addressing sustainability issues, their individual behaviors had not changed. In fact, they had become less diligent in preventing waste. Similarly, the student panel was less disposed that they were in previous years to personally paying a fee for expanding sustainability initiatives on campus.

Table 25

STUDENT PANEL SUSTAINABILITY INDICES - 2012-2013-2014

(mean scores)

INDICES	Undergraduate Panel								
	All			Fr-Soph-Jr			Soph-Jr-Sr		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
PRIMARY									
Climate Action									
Conservation Behavior	6.2	6.2	6.2	6.2	6.2	6.1	6.1	6.1	6.2
Travel Behavior	8.2	8.7↑	8.5	7.8	8.7	8.7	8.8	8.7	8.2
Waste Prevention									
Waste Prevention Behavior	6.5	6.7↑	6.3↓▼	6.5	6.7	6.3	6.6	6.9	6.3
Health Environments									
Sustainable Food Purchases	5.5	4.9	5.2 ▲	a	5.1	5.4	5.7	4.7	5.0
Protecting the Natural Environment	8.6	9.3	9.4	a	8.9	9.5	8.6	9.6	9.4
Community Awareness									
Sustainable Travel and Transportation	4.3	4.3	4.6↑▲	4.2	4.4	4.7	4.5	4.2	4.5
Waste Prevention	4.1	4.5↑	4.6↑	4.1	4.5	4.6	4.1	4.4	4.6
Natural Environment Protection	3.3	3.3	3.0 ▼	3.3	3.4	3.1	3.2	3.1	2.9
Sustainable Foods	4.2	4.5	4.9↑▲	4.2	4.7	5.1	4.3	4.2	4.6
U-M Sustainability Initiatives	5.9	5.9	5.9	5.9	6.0	6.0	5.9	5.6	5.7
SECONDARY									
Sustainability Engagement at U-M	1.5	2.3↑	2.9↑▲	1.3	2.3	2.8	1.8	2.4	3.0
Sustainability Engagement Generally	2.3	2.0↓	2.1	2.4	2.0	2.3	2.2	1.9	1.9
Sustainability Commitment	6.5	6.4	6.7 ▲	6.6	6.6	6.7	6.4	6.2	6.7
Sustainability Disposition	3.7	3.1↓	3.3↓	3.9	3.3	3.6	1.4	2.9	2.9
Rating U-M Sustainability Initiatives	6.8	6.9	6.6 ▼	6.9	7.1	6.6	6.8	6.6	6.7
Number of respondents	285	285	285	167	167	167	118	118	118

a Most U-M freshmen live in residence halls and therefore were not asked questions about purchasing sustainable foods and protecting the natural environment. Consequently, only 25 of the 2012 freshmen selected to participate in the panel answered questions about sustainable food purchases and just 4 answered questions about natural environment protection. Indices for these items were not created in 2012 because of the low numbers.

⬆ significant change from 2012 (p<.001)
⬆ significant change from 2012 (p<.01)
⬆ significant change from 2012 (p<.05)
▲ significant change from previous year (p<.001)
▲ significant change from previous year (p<.01)
▲ significant change from previous year (p<.05)

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[43] Student, staff, and faculty indicator scores for 2012, 2013, and 2014 are summarized in Appendix E, Table E1.

The sustainability indicators can be summarized in other ways based on the interests of administrative and operations personnel representing different units within the University[44]. One way is to determine if and how indicators differ for university employees (staff and faculty) working in buildings in different parts of the U-M Ann Arbor campus. That is, index scores can be calculated for staff and faculty whose primary work place is on different campuses and in different regions making up the U-M.[45] Table 26 summarizes indicators for respondents (staff and faculty together) by the campus or region containing the building where they have their primary office or place of employment. It should be noted that the numbers of respondents from buildings in South Campus and from East Campus buildings are relatively small and therefore the index scores are estimates with large errors (see Appendix F, Figures F5 and F6).

For the most part, there are small variations in the 2014 scores across the different parts of the University. However, many of the index scores for Medical Campus employees tend to be lower than scores for other parts of U-M. It is not surprising to see that the travel behavior index scores are higher for employees working the two Central Campus regions than those working elsewhere. As in previous years, faculty and staff working in South Campus are more engaged in campus sustainability activities than employees working elsewhere at the U-M. Nonetheless, the overall level of engagement among University staff and faculty working throughout the University is low.

Table 26 also shows if and where there are significant changes in the index scores from 2012. For instance, there was greater understanding of sustainable foods and natural resource protection in 2014 among staff and faculty employed in buildings in the Central Campus East region compared to 2012. Similarly, respondents in this region were more likely to purchase sustainable foods in 2014 than in 2012.[46]

Survey data covering different campuses, regions, and sub-regions can be examined in relation to contextual or environmental data derived from other sources. For example, the Office of Campus Sustainability has been collecting and reporting various environmental metrics or indicators covering the entire University and individual buildings for several years.[47] These metrics include building energy use, CO_2 emissions, waste going to landfills and recycled material. As part of SCIP, the first two metrics (BTU/square feet and metric tons of CO_2) have been compiled for buildings within each campus area and are summarized in Table 27 for 2012, 2013, and 2014.[48] The data covering changes between 2012 and 2014 reveal that energy use and CO_2 emissions have increased in most parts of campus while decreasing in other parts, most notably the northern sub-region of Health Sciences.[49] The table also shows for each campus and sub-region, changes in conservation behavior among faculty/staff respondents working in the associated buildings. A preliminary examination of changes in energy use, CO_2 emissions, and occupant behavior reveals that there is no association between how staff and faculty behave in their buildings and total energy use of the campus or sub-region containing the buildings.[50]

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[44] Academic researchers may also be interested in examining indicator data for subgroups of respondents such as gender, length of time at the University, employment status, or other attributes covered in the questionnaires.

[45] Regions are defined by the U-M Plant Operations Team for administrative/operational purposes. Several buildings within the Health Sciences region are often included in as part of the Medical Campus. With few exceptions, the number of respondents from individual buildings on the Ann Arbor campus is too small to make reasonably precise statistical estimates for indicators in each building. Accordingly, buildings have been geographically grouped into campuses, regions, and sub-regions for analysis purposes.

[46] Differences between sub-regions for the 2014 indicators have also been examined and are shown in Appendix Table E2. In a few instances, the indicator scores of the two sub-regions are significantly different. Appendix E Table E3 shows the 2012 and 2014 index scores for the 15 indicators

[47] See http://sustainability.umich.edu/report/2013/ and http://www.ocs.umich.edu/reporting.html

[48] Since buildings vary in size, the data are presented on a square foot basis.

[49] It is recognized that there are many factors that can impact building energy use including climatic conditions, the number of heating/cooling days, energy management retrofits, and types of HVAC equipment in the building.

[50] The relationship between energy use and behavior may be different for any single building. We plan to examine these relationships in selected buildings having large numbers of respondents in each year of SCIP. We also will continue to investigate

Table 26

SUMMARY SUSTAINABILITY CULTURAL INDICATORS
for STAFF/FACULTY, by CAMPUS AND REGION
(mean scores & change from 2012)

2014	Central Campus West	Central Campus East	North Campus	Medical Campus	Health Sciences	South Campus	East Campus
PRIMARY							
Climate Action							
Conservation Behavior	6.8	7.4	6.7	6.1	6.7	7.4	6.0
Number of respondents	421	266	312	394	324	54	70
Travel Behavior	3.0	3.0	1.7	1.1	2.9	0.7	0.1
Number of respondents	428	269	321	423	329	54	73
Waste Prevention							
Waste Prevention Behavior	7.3	7.6	7.5	6.5	7.5	7.3	6.9
Number of respondents	429	269	323	421	328	54	73
Healthy Environments							
Sustainable Food Purchases	6.0	6.5 ⬆	6.0	5.8	5.8	5.4	6.0
Number of respondents	419	261	310	412	315	51	71
Protecting the Natural Environment	6.9	6.9	6.7	6.5	6.6	6.2	6.7
Number of respondents	339	225	244	376	280	47	67
Community Awareness							
Sustainable Travel & Transportation	3.5	3.7	3.8	2.7	3.7	3.6	2.5
Number of respondents	428	270	322	423	328	53	73
Waste Prevention	5.2	5.6	5.5	4.5	5.2	5.9	4.8
Number of respondents	429	270	322	423	329	54	73
Natural Environment Protection	4.2	5.0 ⬆	4.6	4.2	4.2	4.9	4.2
Number of respondents	428	269	322	422	329	54	73
Sustainable Foods	5.2	6.0 ⬆	5.4	5.0	5.2	4.3	4.9
Number of respondents	429	270	323	423	329	54	73
U-M Sustainability Initiatives	5.5	5.5	5.4	4.9	5.6	6.0	4.8 ⬇
Number of respondents	427	270	320	420	328	54	72
SECONDARY							
Sustainability Engagement at U-M	1.1	1.1	1.0	0.2	0.6	1.6	0.6
Number of respondents	418	267	318	414	329	53	73
Sustainability Engagement Generally	2.6	2.5	2.1	1.6	1.9	2.0	1.6
Number of respondents	429	270	322	423	329	54	73
Sustainability Commitment	6.8	7.2	6.7	6.1	6.6	6.6	6.0
Number of respondents	428	270	322	421	326	54	72
Sustainability Disposition	3.8	3.5	2.9 ⬇	2.4 ⬇	3.7	2.2 ⬇	2.3
Number of respondents	419	267	315	422	327	53	71
Rating U-M Sustainability Initiatives	6.8	6.5	6.5	6.4	6.9	6.9	6.5
Number of respondents	325	199	240	308	265	43	53

Significant changes are based on analyses the of the 2012 and 2014 mean scores shown in Appendix E, Table E2

⬆ significant change (p<.001)

⬆ significant change (p<.01)

⬆ significant change (p<.05)

the aggregated data using alternative appr*oaches* (i.e. multi-level modeling) and as additional survey and environmental data become available.

Table 27

CHANGE IN ENERGY USE, CO2 EMISSIONS, & CONSERVATION BEHAVIOR AMONG FACULTY/STAFF, by CAMPUS & SUB-REGION: 2012-2014

Campus, Region, Sub-Region[a]	BTU Per Square Feet[b]				MTCO2 Per Square Feet[b]				Change Conservation Behavior 2012-2014
	2012	2013	2014	Change 2012-2014	2012	2013	2014	Change 2012-2014	
Central Campus Northeast (18)	135,227	129,891	148,072	9%	0.0131	0.0127	0.0139	6%	2.9%
Central Campus-Southeast (7)	258,408	272,592	256,900	-1%	0.0250	0.0259	0.0248	-1%	6.9%
Central Campus-Nothwest (20)	166,397	165,956	162,655	-2%	0.0159	0.0158	0.0156	-2%	-4.2%
Central Campus-Southwest (22)	119,499	119,418	120,402	1%	0.0121	0.0120	0.0122	0%	-2.8%
Medical Campus (12)	208,582	192,313	206,551	-1%	0.0290	0.0270	0.0285	-2%	5.2%
Health Sciences-North (17)	327,107	327,523	301,739	-8%	0.0302	0.0302	0.0286	-5%	-3.0%
Health Sciences-South (20)	291,139	289,438	295,764	2%	0.0292	0.0290	0.0291	0%	6.1%
NorthCampus-North (39)	226,713	254,290	266,928	18%	0.0265	0.0285	0.0277	5%	-4.2%
NorthCampus-South (10)	188,775	198,204	209,583	11%	0.0223	0.0231	0.0238	6%	-5.7%
South Campus (30)	135,721	146,134	159,949	18%	0.0146	0.0152	0.0162	11%	-2.6%
East Campus (5)	136,347	146,638	160,495	18%	0.0333	0.0297	0.0231	-31%	-10.4%

[a] Numbers in parentheses represent the number of buildings within each campus, region, and sub-region in 2012 for which BTU, CO2, and square footage data are available. In any one year, one or two buildings may have been removed and/or new ones built and occupied within a campus, region, or sub-region. These are accounted for in the calculations of BTU and CO2 per square feet in the annual calculations.

[b] Data cover each fiscal year. For example, the 2012 data cover FY2012 running from July 2011 to Jun 2012.

A similar approach was used in comparing annual data on recycled and waste material on the one hand and waste prevention behavior on the other.[51] Table 28 shows changes for each campus, region, and sub-region in the amount of recycled waste and trash, and change in waste preservation behavior among building occupants. Based on the 3 years of data, there appears to be no direct association between change in waste prevention behavior and the hard data obtained by the University. Again, on-going efforts will be made to explore these relationships as additional behavioral data and estimates of waste become available.

Table 28

CHANGE IN RECYCLING, TRASH[#], AND WASTE PREVENTION BEHAVIOR AMONG FACULTY/STAFF, by CAMPUS & SUB-REGION: 2012-2014

Campus, Region, Sub-Region	Recycling Pounds per Square feet				Waste Pounds per Square Feet				Change Waste Preservation Behavior 2012-2014
	2012	2013	2014	Change 2012-2014	2012	2013	2014	Change 2012-2014	
Central Campus Northeast (18)	0.164	0.174	0.177	8%	0.626	0.604	0.627	0	2.8%
Central Campus-Southeast (7)	0.126	0.138	0.157	25%	0.369	0.353	0.392	6%	2.7%
Central Campus-Northwest (20)	0.130	0.130	0.132	1%	0.4454	0.3730	0.3781	-15%	1.4%
Central Campus-Southwest (22)	0.227	0.219	0.227	0	0.6484	0.5819	0.6071	-6%	0
Medical Campus (12)	na	na	na	na	na	na	na	na	-4.2%
Health Sciences-North (17)	0.172	0.167	0.172	0	0.8580	0.7668	0.3613	-58%	2.8%
Health Sciences-South (20)	0.160	0.168	0.161	1%	0.6772	0.6292	0.6384	-6%	4.1%
NorthCampus-North (39)	0.126	0.130	0.135	7%	0.2579	0.2638	0.2729	6%	0
NorthCampus-South (10)	0.149	0.156	0.170	14%	0.4552	0.4007	0.4068	-11%	4.2%
South Campus (30)	0.178	0.183	0.225	26%	0.5646	0.4466	0.5301	-6%	2.8%
East Campus (5)	0.167	0.148	0.165	-1%	0.4686	0.1315	0.1418	-70%	-2.7%

[#] The term, Trash is sometimes referred to as Waste. In The context of The University of Michigan, it refers to non-recyclables that are diverted to disposal facilities (i.e.land fills, etc)

[a] Numbers in parentheses represent the number of buildings within each campus, region, and sub-region in 2012 for which BTU, CO2, and square footage data are available. In any one year, one or two buildings may have been removed and/or new ones built and occupied within a campus, region, or sub-region. These are accounted for in the calculations of BTU and CO2 per square feet in the annual calculations. .

[b] Data cover each fiscal year. For example, the 2012 data cover FY2012 running from July 2011 to Jun 2012.

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[51] Recycling and trash data are collected by the University's Plant Building and Grounds Services and its sustainability program coordinator and cover annual estimates from bins associated with each building on campus. In a few instances when two U-M buildings share a bin and those buildings are located in two adjacent sub-regions, the recycling and trash weights were assigned to each building in proportion to building size.

An indication that there is a relationship between the behaviors of building occupants and University estimates of waste is seen when examining data for selected individual buildings rather than an aggregation of buildings into campus, region, and sub-region groupings. This is shown in Table 29 with data covering waste and change in waste prevention behavior for the major residence halls and for Northwood apartments. Preliminary analysis indicates that a relationship exists among these specific residential structures between the amount of trash sent to disposal facilities, and the waste prevention behavior of student occupants (p<.05)[52]. As in the case of energy use and conservation behavior of building occupants, further analyses of the data are anticipated.[53]

Table 29

CHANGE IN RECYCLING,WASTE & WASTE PREVENTION BHAVIOR AMONG STUDENTS IN U-M HOUSING by PLACE OF RESIDENCE : 2012-2014

U-M Housing[a]	Recycling Tonnage per Square Feet[b]				Waste Tonnage Per Square Feet[b]				Change in Waste Prevention Behavior 2012-2014
	2012	2013	2014	Change 2012-2014	2012	2013	2014	Change 2012-2014	
North Quad	0.24	0.27	0.27	13%	0.51	0.46	0.49	-5%	-3.1%
West Quad*	0.43	0.40	0.35	-18%	1.14	1.07	0.86	-24%	**
South Quad*	0.45	0.44	0.02	-96%	0.68	0.57	0.02	-97%	6.2%
East Quad*	0.29	0.03	0.54	85%	0.83	0.01	0.66	-21%	**
Stockwell	0.20	0.20	0.20	0%	0.94	0.82	0.56	-40%	6.2%
Mosher-Jordan	0.71	0.83	0.86	21%	1.40	1.32	1.30	-7%	3.1%
Mary Markley	0.53	0.53	0.53	1%	1.09	1.12	1.04	-4%	3.1%
Alice Lloyd***	0.04	0.24	0.25	4%	0.03	0.42	0.63	49%	0.0%
Couzens	0.18	0.21	0.19	6%	0.29	0.28	0.24	-18%	7.8%
Bursley-Baits	0.37	0.35	0.38	3%	0.71	0.66	0.52	-28%	6.6%
Northwood Apartments	0.23	0.25	0.26	11%	0.53	0.50	0.52	-3%	1.5%

[a]Data are excluded for the smaller residence halls having small number of respondents. These include: Bestsy Barbour, Martha Cook, Fletcher, Henderson, Newberry, and Oxford.

[b]Data are based on tonnage collected from dumpsters associated with each building for the proceeding 12 months. For example the 2012 data cover the period from September 2011 to August 2012.

*In 2005, U-M launched a long-term program of selective upgrades and complete renovations to its housing stock. In 2012, East Quad was closed for renovations followed by the closure of South Quad in 2013 and the West Quad closure in 2014. Figures for recycling and waste during renovation do not reflect the normal occupancy use.

**During renovations, residence halls were unoccupied. Therefore, East Quad students could not be selected in the 2012 SCIP sample while the 2014 SCIP sample had no West Quad participants. Consequently, survey data covering both 2012 and 2014 were not available to measure change scores for students in these residence halls.

*** 2012 data covering recycling and waste for Alice Lloyd are low since the building was being renovated and therefore unoccupied during the previous year. Change for this building is based on the difference between 2014 and 2013.

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[52] The nonparametric correlation (Spearman's rho) is -.71 and is based on 9 observations-8 residence halls and the Northwood apartments.
[53] University residence hall and Northwood apartments data on energy use, CO2 emissions and change in student conservation behavior for the three years are shown in Appendix Table E4.

E. NEXT STEPS

SCIP is multi-year project designed to measure and track over time the *culture of sustainability* on the Ann Arbor campus of the University of Michigan. This report covers findings from the third year including cultural indicator scores and their changes, if any that occurred since the initial survey in 2012. These changes do not represent trends nor do they portray an overall shift in sustainability culture on campus. They simply represent individual components of an overall culture that have shifted during the first three years of the program.

During the few months, a fourth wave of data will be collected from new samples of U-M's students, staff and faculty, from the original panel of undergraduate students, and from a new panel.[54] Findings from the 2015 survey will reveal if there is a pattern to the changes that have occurred over the past 4 years. The 2015 report will also explore if these changes represent trends, and if they reflect specific University initiatives or other factors that may have prompted changes. In October, 2015, a web-survey, similar in content will be launched with a targeted number of respondents. The target numbers will be similar to those reported in the 2014 survey. Additional efforts will be made to maintain the 2012 freshmen who participated in the panel and will be seniors during the 2015academic year. A key goal of SCIP is to 1) learn about the individual changes that may have occurred during their four undergraduate years and 2) explore factors associated with those changes.[55]

On-Going Analysis of Data

As mentioned earlier, findings presented in this report are primarily descriptive showing differential responses among the U-M's students, staff, and faculty. It is expected that the data from 2014 and earlier years will be further examined in order to address questions posed by operations personnel, test new hypotheses, and consider factors that may be associated with individual question responses, indicator scores, or changes in either. The panel data could also be examined to determine if certain antecedent conditions affect individual changes in behavior. For instance, panel data have recently been used to examine student engagement in University sustainability activities and factors influencing change (if any) in engagement from one year to the next. Findings show that contrary to expectations, there was no difference in level of engagement between sophomores, juniors, and seniors who participated in the panel. Nonetheless, engagement of individual students increased over the one year period. At the same time, students who lived for at least one year in a residence hall as well as those who lived with more people were more likely to be engaged in sustainability activities than those who lived off-campus during the two years. Finally, the analyses show that higher levels of student engagement directly increase awareness of waste prevention behavior which in turn, alter waste prevention and conservation behaviors.[56] There are numerous other opportunities for examining changes in other types of student behavior and identify their causes using the SCIP panel data.

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[54] Our ability to discuss individual change will be enhanced by adding new sophomores who were freshmen in 2014. At the same time, panel members who were seniors in 2014 will be dropped from the initial panel.

[55] The 2014 panel questionnaire had fewer questions than the 2013 student questionnaire so as to shorten the length of time necessary to complete the survey.

[56] For a detailed discussion of these analyses, see Webster, N., R.W. Marans & J. Callewaert. (Forthcoming) Antecedent Conditions Associated with Student Sustainability Engagement. In W. Leal & L. Brandli (Eds.), Engaging Stakeholders in Education for Sustainable Development at the University Level. New York: Springer. Further analysis of the panel data is currently underway. See Webster et al. (work in progress).

It is also possible to analyze cross-sectional data covering faculty and staff to explore other questions of interest to researchers and operations personnel. For example, we can determine whether faculty/ staff characteristics such as gender, housing tenure and length of residence may be associated with say, their behaviors vis-à-vis protecting the natural environment or conservation practices at home in contrast to their conservation practices within the University. Furthermore, the data can also be examined to see if there are differential indicator scores for students and faculty associated with different academic units on campus.[57] While the pursuit of many of these analyses will be determined by the research team, others will emanate from questions posed by potential users of the findings. These users include U-M administrators and staff associated with the Office of Campus Sustainability, Plant Operations, University Housing, Parking and Transportation, the University Hospital, Food Services and others. Similarly, faculty members who teach and/or conduct research covering one or more facets of sustainability may want to mine the data. Finally, the data offer a rich resource for graduate students throughout the University who are looking for thesis or dissertation topics. In anticipation of requests for the many uses of the data, mechanisms are available for individuals to make inquiries about the data and access them.[58]

It is also planned to further analyze the SCIP data in conjunction with contextual or environmental data derived from other sources. As reported above, we have taken an initial look at data collected by the Office of Campus Sustainability and Plant Operations covering individual buildings clustered into campuses and sub-regions[59] The data correspond to our surveys from 2012, 2013, and 2014. We have also examined changes in selected environmental indicators and considered them in relation to changes in our behavioral indicators. These data cover energy use, carbon emissions, recycled material and trash. In the months ahead, we expect to examine other types of environmental information vis-à-vis the survey data.[60] In the future when several years of data are available, it is expected that we will be able to model how changes in environmental conditions impact changes in behaviors and vice versa. For example, it should be possible to develop models showing how an X change in the conservation index score results in a Y savings in annual energy costs. Similarly, modeling the effects of increased waste prevention behavior on tonnage of recycled material is possible.

The relatively large numbers of student, faculty and staff respondents each year enable us to produce index scores for each of Ann Arbor's campuses, regions, and sub-regions of the most populated regions.[61] These different geographic areas present opportunities to conduct experiments or trial programs in some places and not in others in order to determine the impact of a new initiative. In early 2015, Plant Operations identified one geographic area where a concerted program of outreach activities could be launched. The program began in the summer and includes numerous activities designed to better inform university employees working in buildings about various aspects of sustainability. These activities include the placement of a lobby board at the building entrances comparing the building's energy use to that of all campus buildings, floor posters, presentations at departmental faculty and staff meetings within buildings housing those departments, and a "neighborhood" sustainability open house for personnel from all buildings in that sub-region. The open house, co-sponsored by the Office of Campus Sustainability, involved interactive displays from the several sustainability units on campus and free food. Several hundred people attended. SCIP's intent is to examine 2015 indicators covering levels of awareness and behaviors of respondents in buildings within the experimental or trial area and compare the same measures for building respondents in the other (non-experimental) areas. The expectation is that indicator

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[57] The analysis of panel data covering engagement indicates that students in the social sciences were most likely to be engaged in sustainability activities on campus whereas those in humanities were least likely to participate in sustainability activities.
[58] Procedures to follow in requesting SCIP datasets are described on program website at http://graham.umich.edu/leadership/scip/materials
[59] See http://sustainability.umich.edu/report/2013/ and http://www.ocs.umich.edu/reporting.html
[60] Furth discussions are planned with staff from the Office of Campus Sustainability, Plant Operations, the Graham Sustainability Institute and others in order to a) identify other types of environmental phenomena that might be associated with levels of awareness and behaviors and b) the availability of data covering these phenomena for buildings and regions on campus.
[61] See Appendix Figures F1 to F6

scores from the experimental area would be higher and/or show more of an improvement than indicator scores from the non-experimental parts of campus where little or no outreach activities occurred. A similar analysis could be conducted for a "barriers to recycling" analysis competed in 2014 by the Office of Campus Sustainability and the Waste Reduction and Recycling Office. An assessment of recycling resources within thirty administrative and classroom buildings on U-M's Ann Arbor Campus was conducted to evaluate existing conditions and identify barriers to consistency across campus. Several recommendations were made for new resources, processes, and communications.[62] In future rounds of SCIP data collection, comparisons could be made between areas where these recommendations are implemented on campus against where they are not implemented to gauge impact.

Dissemination

Because of the groundbreaking nature of SCIP, its relationship to the many U-M initiatives designed to promote sustainability throughout the University and its importance in addressing cultural issues and behavioral change when dealing with complex and pressing environmental problems, we are eager to see the program replicated elsewhere. We believe that such efforts will be beneficial to other universities and colleges as well as to other types of institutions, corporations, and cities where movements toward a more sustainable future are taking place. It is our belief that in order for those movements to be successful, consideration needs to be given to shifting toward a culture of sustainability. The University of Michigan is doing so as part of its overall sustainability initiative and SCIP is the vehicle for measuring that change and assessing its impacts.

Accordingly, we are eager to share our work with interested parties in several ways. First, material presented in this third year report is available on the web.[63] Second, we are making efforts to discuss our work at professional and academic meetings and will continue to do so in the months ahead. During the past few years, we presented an overview of SCIP and findings at venues in India, Ireland, Taiwan, Brazil, Great Britain in addition to groups throughout the U.S. Other presentations are planned for later in 2015 and in 2016. In addition, two short animated videos have been prepared to succinctly describe SCIP. One is aimed at external audiences such as other universities, corporations, and cities while the second will be used within U-M. These will be available on –line in fall, 2015. Finally, the Graham Institute will be available to address questions concerning the process used in carrying out SCIP, its experiences in communicating findings to University officials and others, and in the ways in which the work has contributed to decision making in University operations and teaching on campus.

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[62] For a copy of the report, please contact the Office of Campus Sustainability, ocs_contact@umich.edu

[63] See: http://www.graham.umich.edu/leadership/scip. The website also includes copies of the 2013 questionnaires.

APPENDICES

Appendix A: Methodology

The 2014 sample selection followed the same procedures used in 2012 and 2013. The student sample was drawn by the U-M Office of the Registrar. To be eligible students had to meet two criteria: 1) be a full-time undergraduate, graduate or professional student, and 2) registered for the fall 2014 semester on the Ann Arbor campus.

The staff and faculty sample was drawn by the U-M Human Resources Records and Information Services. To be eligible employees had to meet two criteria: 1) benefits eligible, and 2) employed on September 1, 2014 at one of the University's Ann Arbor campuses (Central Campus, Medical Campus, East Campus, North Campus, South Campus or an ancillary location in Ann Arbor).

In order to reach the targeted number of students from each undergraduate cohort and from graduate and professional students, names were selected from each group (strata) who were contacted and invited to participate in the survey. Similarly, separate names of staff and faculty were selected and contacted. A total of 15,992 students, 2,999 faculty, and 1,966 staff were invited to participate in the survey during the 2014 fall semester.[64]

The distribution of the questionnaires to the sample was divided into replicates within nine rolling releases. The first release occurred October 19 and the final release November 6, 2014. Each case was first sent a pre-notification e-mail from President Schlissel. The following day an invitation e-mail with a link to the survey was sent from the Institute for Social Research (ISR), Four days later, non-respondents were sent a reminder e-mail. A second reminder was sent to non-respondents 5 to 8 days later. If the designated respondent had still not responded, a final reminder was sent out 6 to 8 days later. There were two versions of the final reminder: one contained a regular e-mail from ISR with a link to the survey whereas the second version contained two links. The first link was to a video reminder from U-M head women's softball coach Carol Hutchins, with the second link going to the survey.

The 2014 questionnaires were optimized for use on mobile devices. This included a reformatting of grid questions for smaller screens.

Completed Questionnaires: 5,231 students accessed the survey with 4,139 (79.1%) answering enough questions (more than 80 percent of the questions) to be considered a completed interview. Among the staff and faculty, 2,406 accessed the survey, with 2,145 (89.1%) answering enough questions be considered a completed interview.

Response Rates: Student response rates for cohorts reported in Table 2 are based on figures provided by the Office of the Registrar. As noted, some students identified themselves with a higher or lower class than their official designation.

Encouragement and Token of Appreciation: A key part of the overall design was the encouragement and follow-up of non-respondents and offering a token of appreciation. All e-mails were personalized. The initial pre-notification e-mail from President Schlissel emphasized the importance of the survey and the recipient's participation. Follow-up e-mails were sent at regular intervals to non-respondents as reminders and encouraged participation. As part of the final reminder a portion of non-respondents received a video of U-M head women's softball coach Carol Hutchins urging participation in the survey. Finally, a token of appreciation for time spent taking the survey was offered to those who submitted a survey. Each participant had an approximately 1 in 100 chance of winning. Surveys submitted by cases from the cross-

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[64] The number of students invited to take the survey include both those selected for the cross-section of each cohort (13,336) and those in the panel (2,656). For a detailed discussion of the sample selection process, see Hupp (2015) located on the SCIP Materials website: http://graham.umich.edu/leadership/scip/materials.

section were offered a $50 token of appreciation and submitted cases from the student panel were offered a $100 token of appreciation.

Weighting: Sample weights have been applied so that results/statistics reported from the surveys correctly represent the populations from which the samples were drawn. This is especially necessary when using a stratified sampling approach. Sample weights were created to adjust for grade and gender differences compared to the entire student population. One weight was created to reflect only the undergraduate and another weight was created to represent the entire student population, including graduate students.

For the staff and faculty samples, weights were created to adjust for gender and whether or not the employee had U-M Health System status. The true values were used in creating the weights used in analyzing the 2014 data.

Appendix B: Demographic Characteristics of the Respondents

In addition to asking about their status at U-M, their housing situation, and where within the campus they studied or worked, students, staff, and faculty were asked a limited number of demographic questions that may be associated with their responses to the substantive questions about sustainability. The demographic questions about gender and age were also asked to ensure that the sample represented all segments of the student and U-M employees. The distributions of responses to the student and staff-faculty demographic questions are shown below. Demographic characteristics of the 2014 respondents are similar to characteristics of those who responded in 2012 and 2013.

Appendix Table B1

STUDENT DEMOGRAPHIC CHARACTERISTICS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Gender							
Female	47	48	52	49	48	49	45
Male	52	52	46	49	51	50	54
Chose not to respond, transgender	1	**	2	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	**3126**	**1332**	**449**	**431**	**380**	**2592**	**534**
Age of student							
18-19	30	99	80	7	**	46	0
20-21	27	1	17	83	66	42	1
22-23	14	0	1	5	27	9	23
24 and older	29	0	2	5	7	3	76
Total	**100**	**100**	**100**	**100**	**100**	**100**	100
Mean Age (based on year of birth)	**22.6**	**18.1**	**19.3**	**20.8**	**21.8**	**20.0**	27.4
Number of respondents	**3114**	**1327**	**447**	**431**	**378**	**2583**	**531**

** Less than one half of one percent.

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The maximum number of respondents for each group of students is shown below.

STAFF/FACULTY
DEMOGRAPHIC CHARACTERISTICS
(percentage distribution)*

2014	Staff	Faculty
Gender		
Female	64	40
Male	33	57
Chose not to respond, transgender	3	3
Total	**100**	**100**
Age of respondent		
Under 25	6	0
25-29	14	1
30-39	22	25
40-49	23	27
50-59	25	26
60-69	10	17
70 and older	**	4
Total	**100**	**100**
Median Age	**43.5**	**48.9**
Educational Attainment		
High school graduate or less	3	0
Some college	16	**
College graduate	42	1
Graduate or professional degree	38	98
Other	1	1
Total	**100**	**100**
Number of respondents	869	1204
Household Income (2013)		
Less than $50,000	24	3
$50,000-74,999	25	9
$75,000-$99,999	18	10
$100,000-$149,999	20	22
$150,000-$199,999	8	18
$200,000 or more	5	38
Total	**100**	**100**
Median Household Income (2013)	**$ 76,400**	**$ 168,800**
Number of respondents	823	1113

**Less than one half of one percent.

* Percentage distributions are based on the weighted number of respondents to each question. The actual number differs since not all questions were answered by all respondents.

Appendix C: Response Distribution Tables for 2014

The following tables show complete survey responses to all questions dealing with travel and transportation, waste prevention and conservation, the natural environment, food, climate change, engagement, and U-M sustainability initiatives. Responses to demographic questions are shown in Appendix B.

TRAVEL & TRANSPORTATION - AWARENESS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
AAATA/"The Ride"									
A lot	17	4	10	13	15	10	30	14	16
A fair amount	28	19	27	28	26	25	33	22	22
A little	32	42	39	31	32	36	24	29	29
Not much/nothing	23	35	24	28	27	29	13	35	33
Total	100	100	100	100	100	100	100	100	100
U-M buses									
A lot	40	41	46	46	48	45	31	15	9
A fair amount	29	31	31	30	26	29	29	27	23
A little	19	18	15	16	17	17	23	32	35
Not much/nothing	12	10	8	8	9	9	17	26	33
Total	100	100	100	100	100	100	100	100	100
Biking in Ann Arbor									
A lot	12	6	8	13	13	10	16	8	15
A fair amount	21	19	18	22	24	21	22	19	22
A little	34	33	37	34	35	35	32	28	33
Not much/nothing	33	42	37	31	28	34	30	45	30
Total	100	100	100	100	100	100	100	100	100
Hourly car rental (e.g. Zip car)									
A lot	4	1	4	4	4	3	6	2	3
A fair amount	8	4	6	6	10	7	11	4	7
A little	26	20	26	25	26	24	29	24	27
Not much/nothing	62	75	64	65	60	66	54	70	63
Total	100	100	100	100	100	100	100	100	100
U-M Vanpools									
A lot								4	**
A fair amount								9	3
A little								32	21
Not much/nothing								55	76
Total								100	100

TRAVEL & TRANSPORTATION - AWARENESS

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
U-M Greenride/iShareaRide									
A lot	**	**	**	**	**	**	0	1	**
A fair amount	1	1	1	1	2	2	1	3	1
A little	8	10	9	7	7	8	7	13	6
Not much/nothing	91	89	90	92	91	90	92	83	93
Total	100	100	100	100	100	100	100	100	100
AAATA ExpressRide									
A lot									
A fair amount									
A little									
Not much/nothing									
Total									
U-M Emergency Ride Home									
A lot									
A fair amount									
A little									
Not much/nothing									
Total									

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

** Less than one half of one percent.

Number of respondents	3150	1341	455	434	386	2617	535	878	1209

TRAVEL & TRANSPORATION - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often did you do the following to travel between where you lived and campus:									
Drive a car and park on campus									
Never	51	78	64	52	38	58	36		
Rarely	20	12	18	23	22	19	23		
Sometimes	18	7	14	18	30	17	21		
Always/Most of the time	11	3	4	7	10	6	20		
Total	100	100	100	100	100	100	100		
Park and ride									
Never	77	82	78	78	76	79	73		
Rarely	10	9	11	8	11	9	10		
Sometimes	7	5	6	8	8	7	9		
Always/Most of the time	6	4	5	6	5	5	8		
Total	100	100	100	100	100	100	100		
Walk									
Never	14	10	6	6	9	8	25		
Rarely	7	4	2	4	4	4	15		
Sometimes	17	12	12	15	13	13	23		
Always/Most of the time	62	74	80	75	74	75	37		
Total	100	100	100	100	100	100	100		
Bike									
Never	67	81	72	64	62	70	63		
Rarely	10	5	9	10	17	10	11		
Sometimes	12	7	10	12	12	10	14		
Always/Most of the time	11	7	9	14	9	10	12		
Total	100	100	100	100	100	100	100		
Take an AAATA bus									
Never	50	68	55	54	58	59	35		
Rarely	20	22	25	21	20	22	17		
Sometimes	17	8	15	15	13	13	24		
Always/Most of the time	13	2	5	10	9	6	24		
Total	100	100	100	100	100	100	100		
Take a U-M bus									
Never	28	20	17	22	24	21	42		
Rarely	18	17	17	21	25	20	15		
Sometimes	21	16	25	25	23	22	19		
Always/Most of the time	33	47	41	32	28	37	24		
Total	100	100	100	100	100	100	100		

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often did you do the following to travel between where you lived and campus:									
Carpool									
Never	64	69	58	57	58	61	71		
Rarely	20	19	25	24	20	22	16		
Sometimes	14	10	15	17	19	15	11		
Always/Most of the time	2	2	2	2	3	2	2		
Total	100	100	100	100	100	100	100		
Use U-M Greenride/iShareaRide									
Never	99	99	99	99	100	99	98		
Rarely	1	1	1	1	**	1	2		
Sometimes	**	**	**	**	0	**	**		
Always/Most of the time	**	**	0	0	0	**	**		
Total	100	100	100	100	100	100	100		
Vanpools									
Never	98	98	98	99	99	98	98		
Rarely	2	2	2	1	1	2	2		
Sometimes	**	**	**	0	**	**	**		
Always/Most of the time	**	**	**	0	0	**	**		
Total	100	100	100	100	100	100	100		
AAATA ExpressRide									
Never									
Rarely									
Sometimes									
Always/Most of the time									
Total									
Use motorcycle, moped, or scooter									
Never	97	98	96	97	96	97	99		
Rarely	2	1	2	2	2	2	1		
Sometimes	**	**	1	1	**	**	**		
Always/Most of the time	1	1	1	**	2	1	**		
Total	100	100	100	100	100	100	100		

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Since the start of the fall semester, how do you most often travel to and from campus?									
Drive a car	13	8	7	8	13	9	20		
Walk	45	50	62	54	56	55	29		
Bike	8	3	5	10	7	6	11		
Ride the bus	25	33	17	23	18	23	29		
Ride the bus and bike	3	1	3	2	2	2	3		
Ride share	2	3	3	**	1	2	1		
Motorcycle, moped, or scooter	**	**	1	1	1	1	0		
Park and ride	3	1	1	2	2	1	5		
Other	1	1	1	**	**	1	2		
Total	100	100	100	100	100	100	100		
During the past year, how often did you do the following travel to/from your home and your U-M workplace?									
Drive a car									
Never								7	6
Rarely								10	8
Sometimes								11	11
Always/Most of the time								72	75
Total								100	100
Park and Ride									
Never								77	87
Rarely								9	7
Sometimes								8	4
Always/Most of the time								6	2
Total								100	100
Walk									
Never								73	60
Rarely								9	17
Sometimes								12	16
Always/Most of the time								6	7
Total								100	100
Bike									
Never								85	70
Rarely								5	12
Sometimes								7	11
Always/Most of the time								3	7
Total								100	100

TRAVEL & TRANSPORTATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often did you do the following travel to/from your home and your U-M workplace?									
Take an AAATA bus									
Never								71	66
Rarely								10	14
Sometimes								10	14
Always/Most of the time								9	6
Total								100	100
Take a U-M bus									
Never								66	77
Rarely								12	12
Sometimes								13	8
Always/Most of the time								9	3
Total								100	100
Carpool									
Never								78	86
Rarely								10	8
Sometimes								7	4
Always/Most of the time								5	2
Total								100	100
Use U-M Greenride/iShareaRide									
Never								99	99
Rarely								1	**
Sometimes								**	**
Always/Most of the time								**	1
Total								100	100
U-M Vanpools									
Never								96	99
Rarely								**	**
Sometimes								1	**
Always/Most of the time								3	1
Total								100	100
AAATA ExpressRide									
Never									
Rarely									
Sometimes									
Always/Most of the time									
Total									

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			

During the past year, how often did you do the following travel to/from your home and your U-M workplace?

Use motorcycle, moped, or scooter

Never								97	52
Rarely								1	23
Sometimes								1	24
Always/Most of the time								1	1
Total								100	100

Worked from home/telecommuted

Never								78	52
Rarely								14	23
Sometimes								7	24
Always/Most of the time								1	1
Total								100	100

How do you most often travel to/from home to your work place?

Drive a car								75	78
Walk								3	5
Bike								3	7
Ride the bus								8	6
Ride the bus and bike								1	1
Motorcycle, moped, or scooter								**	**
Park and Ride								3	1
Ride share								2	1
Other								5	1
Total								100	100

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Since the beginning of the fall semester, how do you most often travel to/from home to your work place?									
Drive a car								75	78
Walk								4	5
Bike								3	7
Ride the bus								8	5
Ride the bus and bike								1	1
Motorcycle, moped, or scooter								**	**
Park and Ride								3	1
Ride share								1	2
Other								5	1
Total								100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents (unweighted) for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

** Less than one-half of one percent

Number of respondents	3124	1332	450	435	383	2600	524	840	1157

TRAVEL & TRANSPORATION - OTHER

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
When you moved to your current residence, how important were each of the following reasons?									
Being able to walk or bike to work/campus									
Very important	62	59	72	74	72	69	50	9	22
Somewhat important	18	18	16	13	14	15	22	13	19
Not that important	8	8	4	6	4	6	12	11	21
Not at all important	4	1	2	2	3	2	7	23	18
Didn't think about it	8	14	6	5	7	8	9	44	20
Total	100	100	100	100	100	100	100	100	100
Being able to take the bus to places work/campus									
Very important	42	40	37	39	30	36	51	15	14
Somewhat important	22	22	25	20	20	22	22	14	19
Not that important	13	13	15	17	17	15	9	11	21
Not at all important	8	5	10	8	12	9	7	18	21
Didn't think about it	15	20	13	16	21	18	11	42	25
Total	100	100	100	100	100	100	100	100	100
Having a lower impact on the environment									
Very important	13	11	12	11	9	11	16	11	14
Somewhat important	24	23	21	19	21	21	30	24	31
Not that important	20	21	22	21	19	21	20	14	18
Not at all important	6	4	6	6	8	6	6	8	8
Didn't think about it	37	41	39	43	43	41	28	43	29
Total	100	100	100	100	100	100	100	100	100
Which U-M parking permit do you have?									
Gold								2	23
Blue								35	47
Yellow								19	4
Orange								7	1
Daily AVI or Scratch-off								4	6
Shared Carpool Permit; Color?								1	0
No permit								32	19
Total								100	100
What is the primary reason you drive a car to work?**									
Convenience								29	34
Work schedule								13	17
Home/family schedule								15	18
Length of commute								36	21
Other								7	10
Total								100	100
Number of respondents	3168	1347	455	439	387	2618	537	665	943

** Question was only asked of staff and faculty who said they most often drove a car to and from home to the work place. Consequently, the number of staff and faculty responding is 665 and 943 respectively.

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

Appendix Table C4
WASTE PREVENTION & CONSERVATION - AWARENESS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
Recycling glass									
A lot	16	11	14	15	17	14	20	21	27
A fair amount	31	28	26	35	30	30	34	30	33
A little	32	33	37	31	38	35	25	28	26
Not much//nothing	21	28	23	19	15	21	21	21	14
Total	100	100	100	100	100	100	100	100	100
Recycling plastic									
A lot	21	20	23	19	23	21	22	24	28
A fair amount	38	39	36	41	36	38	37	34	37
A little	30	29	31	30	33	31	28	28	26
Not much//nothing	11	12	10	10	8	10	13	14	9
Total	100	100	100	100	100	100	100	100	100
Recycling paper									
A lot	27	25	31	25	26	26	27	33	37
A fair amount	39	39	36	42	38	39	40	36	37
A little	26	27	25	27	31	28	23	24	21
Not much//nothing	8	9	8	6	5	7	10	7	5
Total	100	100	100	100	100	100	100	100	100
Recycling electronic waste									
A lot	5	4	5	5	6	5	6	12	14
A fair amount	14	11	12	12	17	13	14	21	27
A little	33	28	34	36	34	33	33	34	34
Not much//nothing	48	57	49	47	43	49	47	33	25
Total	100	100	100	100	100	100	100	100	100
Property Disposition services									
A lot	5	3	5	4	5	4	5	15	15
A fair amount	10	8	6	7	12	9	13	23	27
A little	21	18	19	23	21	20	23	29	30
Not much//nothing	64	71	70	66	62	67	59	33	28
Total	100	100	100	100	100	100	100	100	100
Composting									
A lot	5	4	4	6	6	5	4	5	5
A fair amount	11	12	9	11	10	10	13	9	8
A little	27	26	31	28	32	29	24	23	22
Not much//nothing	57	58	56	55	52	56	59	63	65
Total	100	100	100	100	100	100	100	100	100

WASTE PREVENTION & CONSERVATION - AWARENESS

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
The energy consumption of the building where you work									
A lot								6	5
A fair amount								12	14
A little								25	35
Not much//nothing								57	46
Total								**100**	**100**
The energy conservation features of the building where you work									
A lot								6	5
A fair amount								14	16
A little								32	39
Not much//nothing								48	40
Total								**100**	**100**

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

Number of respondents	3168	1347	455	438	388	2632	536	883	1212

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often did you do the following?									
Set the thermostat to 65 degrees or lower during cool or cold weather									
Never	18	23	22	17	18	20	16	15	15
Rarely	18	14	18	20	20	18	17	12	14
Sometimes	24	16	23	24	27	22	26	28	32
Always//Most of the time	23	11	16	25	28	20	30	42	37
Not applicable	17	36	21	14	7	20	11	3	2
Total	100	100	100	100	100	100	100	100	100
Set thermostat (a/c) to 78 degrees or higher during warm or hot weather									
Never	27	33	33	29	31	31	20	15	16
Rarely	19	13	19	21	18	18	20	15	13
Sometimes	17	11	14	18	20	16	19	27	25
Always//Most of the time	15	7	10	11	15	11	23	33	38
Not applicable	22	36	24	21	16	24	18	10	8
Total	100	100	100	100	100	100	100	100	100
Turn off lights when I leave the room									
Never	**	1	**	**	**	**	**	**	**
Rarely	1	1	1	1	1	1	1	1	1
Sometimes	9	8	10	8	8	9	8	8	10
Always//Most of the time	90	89	89	91	91	90	91	84	89
Not applicable	**	1	**	0	**	**	**	7	0
Total	100	100	100	100	100	100	100	100	100
Unplug electrical appliances when not using them									
Never	11	13	12	8	11	11	10	15	15
Rarely	27	29	28	26	28	28	25	26	28
Sometimes	39	38	40	39	40	39	40	33	35
Always//Most of the time	23	19	20	27	21	22	25	25	21
Not applicable	**	1	0	0	**	**	**	1	1
Total	100	100	100	100	100	100	100	100	100
Use the power saving settings on my computer									
Never	9	12	11	10	9	10	7	10	5
Rarely	17	18	16	16	18	17	16	9	9
Sometimes	31	34	35	33	31	33	29	20	20
Always//Most of the time	42	34	38	41	42	39	48	53	64
Not applicable	1	2	**	**	**	1	**	8	2
Total	100	100	100	100	100	100	100	100	100

WASTE PREVENTION & CONSERVATION - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
During the past year, how often did you do the following?		Fresh	Soph	Junior	Senior	All			
Turn off my computer when not using it[#]									
Never	13	14	16	13	15	15	10	6	9
Rarely	26	24	25	27	33	27	22	10	15
Sometimes	27	27	26	30	22	26	29	18	23
Always//Most of the time	34	34	33	30	30	32	39	60	49
Not applicable	**	1	**	**	0	**	**	6	4
Total	100	100	100	100	100	100	100	100	100
Use a motion sensor/"smart" power strip									
Never	64	63	65	67	65	65	64	61	70
Rarely	11	9	10	11	12	10	11	4	8
Sometimes	8	8	10	6	10	9	7	11	9
Always//Most of the time	8	9	7	9	6	8	8	13	7
Not applicable	9	11	8	7	7	8	10	11	6
Total	100	100	100	100	100	100	100	100	100
Print double-sided									
Never	3	7	3	3	2	4	1	Question asked with reference to the workplace (see below)	
Rarely	6	8	10	6	5	7	6		
Sometimes	21	23	21	22	18	21	20		
Always//Most of the time	69	61	65	69	75	67	72		
Not applicable	1	1	1	**	**	1	1		
Total	100	100	100	100	100	100	100		
Run washer only when I have a full load of clothes									
Never	1	3	1	2	1	2	1	1	1
Rarely	2	2	3	2	2	2	2	1	2
Sometimes	11	12	11	10	9	11	11	10	12
Always//Most of the time	83	80	82	84	83	82	85	86	83
Not applicable	3	3	3	2	5	3	1	2	2
Total	100	100	100	100	100	100	100	100	100
Limit time in the shower									
Never	7	8	8	8	8	8	5	8	6
Rarely	22	27	23	23	21	23	18	13	13
Sometimes	45	46	46	44	43	45	46	37	38
Always//Most of the time	26	19	23	25	27	24	30	42	42
Not applicable	**	**	**	**	1	**	1	**	1
Total	100	100	100	100	100	100	100	100	100

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
During the past year, how often did you do the following?		Fresh	Soph	Junior	Senior	All			
Recycle bottles, containers, and paper products									
Never	2	2	2	2	2	2	1	4	1
Rarely	5	5	6	5	5	5	4	4	1
Sometimes	25	28	31	27	30	29	19	13	4
Always//Most of the time	68	65	61	66	63	64	76	78	94
Not applicable	**	**	**	0	0	0	**	1	**
Total	100	100	100	100	100	100	100	100	100
Use a reusable water bottle, coffee mug, etc.									
Never	2	2	2	2	3	2	1	2	2
Rarely	6	5	5	6	7	6	6	3	2
Sometimes	24	20	27	25	25	24	24	10	13
Always//Most of the time	67	73	65	66	64	67	68	84	82
Not applicable	1	**	1	1	1	1	1	1	1
Total	100	100	100	100	100	100	100	100	100
Recycle electronic waste									
Never	23	29	30	28	22	27	17	9	3
Rarely	21	20	23	18	25	21	19	9	7
Sometimes	18	13	16	19	15	16	21	20	21
Always//Most of the time	16	10	9	12	17	12	23	52	62
Not applicable	22	28	22	23	21	24	20	10	7
Total	100	100	100	100	100	100	100	100	100
Bring reusable bags to the store									
Never	29	29	36	32	38	34	21	20	11
Rarely	20	19	21	22	19	20	20	15	13
Sometimes	25	21	21	26	24	23	27	34	34
Always//Most of the time	21	13	12	16	18	15	31	30	41
Not applicable	5	18	10	4	1	8	1	1	1
Total	100	100	100	100	100	100	100	100	100
Shop for things with minimal packaging									
Never	29	34	38	34	33	35	20	21	13
Rarely	28	30	30	30	30	30	23	25	21
Sometimes	31	25	21	28	27	25	41	38	46
Always//Most of the time	8	4	5	5	6	5	13	14	18
Not applicable	4	7	6	3	4	5	3	2	2
Total	100	100	100	100	100	100	100	100	100

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WASTE PREVENTION & CONSERVATION - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Use U-M Property Disposition Services to obtain items									
Never	68	67	70	73	71	70	65		
Rarely	12	10	11	12	12	11	13	Question asked with reference to the workplace (see below)	
Sometimes	8	6	6	8	7	7	9		
Always//Most of the time	2	1	1	1	3	2	3		
Not applicable	10	16	12	6	7	10	10		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Shop in a second-hand store or online site such as eBay when I have to buy something									
Never	21	24	27	23	23	24	15	17	23
Rarely	25	24	25	26	24	25	27	23	31
Sometimes	42	40	37	42	40	40	45	46	38
Always//Most of the time	10	7	7	8	11	8	12	13	7
Not applicable	2	5	4	1	2	3	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Compost food scraps									
Never	59	58	64	62	64	62	54	51	43
Rarely	18	17	18	18	15	17	19	16	15
Sometimes	11	10	8	13	12	11	12	14	14
Always//Most of the time	7	5	4	6	6	5	11	16	26
Not applicable	5	10	6	1	3	5	4	3	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Buy products (besides food) that carry some type of eco-label or certification									
Never	22	25	27	27	24	25	16	18	11
Rarely	29	29	28	31	28	29	30	26	23
Sometimes	38	34	34	35	37	35	42	46	54
Always//Most of the time	7	5	6	5	8	6	10	9	11
Not applicable	4	7	5	2	3	5	2	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
During the past year, how often did you do the following at work when you had the opportunity?									
Turn off the lights when I leave the room									
Never								3	**
Rarely								4	2
Sometimes								17	12
Always//Most of the time								69	83
Not applicable								7	3
Total								**100**	**100**

WASTE PREVENTION & CONSERVATION - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Use the power saving settings on the computer									
Never								10	6
Rarely								9	7
Sometimes								20	19
Always//Most of the time								53	65
Not applicable								8	3
Total								100	100
Turn off my computer when I leave work									
Never								19	14
Rarely								10	16
Sometimes								12	14
Always//Most of the time								48	48
Not applicable								11	8
Total								100	100
Use a motion sensor/"smart" power strip									
Never								49	48
Rarely								5	7
Sometimes								7	7
Always//Most of the time								20	26
Not applicable								19	12
Total								100	100
Print double-sided									
Never								12	8
Rarely								11	11
Sometimes								28	27
Always//Most of the time								41	52
Not applicable								8	2
Total								100	100
Recycle bottles, containers, and paper products									
Never								1	**
Rarely								3	**
Sometimes								12	8
Always//Most of the time								82	91
Not applicable								2	1
Total								100	100

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Use a reusable water bottle, coffee cup, travel mug, etc.									
Never								3	2
Rarely								5	4
Sometimes								15	21
Always//Most of the time								75	71
Not applicable								2	2
Total								100	100
Use U-M Property Disposition Services to obtain items such as computers, furniture, and equipment									
Never								40	34
Rarely								16	20
Sometimes								16	21
Always//Most of the time								10	11
Not applicable								18	14
Total								100	100
How important is your behavior to conserving energy in the building where you work?									
Very Important								37	38
Somewhat important								48	50
Not that important								12	10
Not at all important								3	2
Total								100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents (unweighted) for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

** Less than one half of one percent.

For Faculty and staff, the item was: "Turn off my home computer when not using it"

Number of respondents	3166	1343	453	438	388	2627	538	875	1208

WASTE PREVENTION & CONSERVATION - OTHER
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Do you have any of the following at your current residence?									
Recycling bins									
Yes	91	97	92	90	89	92	90	83	96
No	7	2	7	9	10	7	7	17	4
Don't know	2	1	1	1	1	1	3	**	**
Total	100	100	100	100	100	100	100	100	100
Compost bin									
Yes	16	11	11	16	18	14	20	31	47
No	67	50	67	73	75	66	68	66	51
Don't know	17	39	22	11	7	20	12	3	2
Total	100	100	100	100	100	100	100	100	100
Programmable thermostat									
Yes	54	33	57	61	58	52	58	76	85
No	35	50	32	29	32	36	34	23	15
Don't know	11	17	11	10	10	12	8	1	**
Total	100	100	100	100	100	100	100	100	100
Water-saving items (e.g. low-flow faucets)									
Yes	31	31	26	28	26	28	36	60	69
No	39	26	34	36	50	37	43	32	26
Don't know	30	43	40	36	24	35	21	8	5
Total	100	100	100	100	100	100	100	100	100
Energy Star appliances									
Yes	29	21	21	23	27	23	40	75	84
No	33	25	29	34	41	32	34	14	8
Don't know	38	54	50	43	32	45	26	11	8
Total	100	100	100	100	100	100	100	100	100
Motion sensor for shutting off electronics									
Yes	12	14	14	13	9	12	11	12	10
No	72	60	67	74	79	70	77	85	88
Don't know	16	26	19	13	12	18	12	3	2
Total	100	100	100	100	100	100	100	100	100
Compact fluorescent light bulbs or LED light bulbs									
Yes	57	40	46	55	54	49	71	86	92
No	21	18	22	24	27	23	19	11	7
Don't know	22	42	32	21	19	28	10	3	1
Total	100	100	100	100	100	100	100	100	100
Renewable energy systems, like solar or geothermal									
Yes	3	4	4	3	3	3	3	5	6
No	71	46	62	72	84	66	81	91	92
Don't know	26	50	34	25	13	31	16	4	2
Total	100	100	100	100	100	100	100	100	100
Number of respondents	3173	1349	455	439	388	2633	538	887	1215

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

NATURAL ENVIRONMENT - AWARENESS
(percentage distribution)

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
Disposing of hazardous waste materials (i.e. engine oil, medications, etc.)									
A lot	6	4	6	6	6	5	8	15	16
A fair amount	19	16	15	21	18	18	22	36	37
A little	36	36	36	31	34	34	40	35	36
Not much/nothing	39	44	43	42	42	43	30	14	11
Total	100	100	100	100	100	100	100	100	100
Recognizing invasive plant species									
A lot	5	4	5	5	4	5	5	7	7
A fair amount	10	13	7	15	8	11	9	15	19
A little	30	27	33	23	31	28	34	33	37
Not much/nothing	55	56	55	57	57	56	52	45	37
Total	100	100	100	100	100	100	100	100	100
Taking care of residential property in an environmentally-friendly way									
A lot	7	7	6	8	6	7	9	13	14
A fair amount	28	31	30	27	24	28	27	31	33
A little	39	41	37	39	37	38	39	39	40
Not much/nothing	26	21	27	26	33	27	25	17	13
Total	100	100	100	100	100	100	100	100	100
Protecting rivers, streams, & lakes - tributaries, habitat quality, & native species									
A lot	11	11	9	10	9	10	12	14	15
A fair amount	29	32	30	32	27	30	27	32	33
A little	37	37	38	34	37	36	39	38	38
Not much/nothing	23	20	23	24	27	24	22	16	14
Total	100	100	100	100	100	100	100	100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

Number of respondents	3168	1348	456	437	387	2629	539	884	1214

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NATURAL ENVIRONMENT - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year at your current residence, how often did you: **									
Use fertilizer on your lawn									
Regularly	1	0	1	0	1	1	2	10	11
Sometimes	4	16	3	4	3	3	4	20	23
Rarely	4	11	4	2	4	4	5	18	20
Never	34	20	35	39	41	38	28	33	33
Not applicable	57	53	57	55	51	54	61	19	13
Total	100	100	100	100	100	100	100	100	100
Use commercial herbicides or pesticides									
Regularly	1	0	**	0	1	1	1	5	6
Sometimes	3	5	4	3	2	3	2	16	18
Rarely	5	11	5	4	5	5	6	25	26
Never	36	28	36	39	42	39	31	36	38
Not applicable	55	56	55	54	50	52	60	18	12
Total	100	100	100	100	100	100	100	100	100
Water your lawn									
Regularly	2	5	2	1	1	1	3	10	14
Sometimes	5	11	3	4	4	4	5	20	20
Rarely	6	11	6	6	5	6	7	21	25
Never	31	24	33	35	40	36	24	31	28
Not applicable	56	49	56	54	50	53	61	18	13
Total	100	100	100	100	100	100	100	100	100
At your current residence, have you: **									
Installed a rain barrel									
Yes	3	0	**	2	2	2	4	10	13
No	53	53	60	58	63	60	44	73	75
Not applicable	44	47	40	40	35	38	52	17	12
Total	100	100	100	100	100	100	100	100	100
Installed a rain garden									
Yes	1	3	**	2	1	1	2	3	5
No	53	51	60	57	61	59	45	79	83
Not applicable	46	46	40	41	38	40	53	18	12
Total	100	100	100	100	100	100	100	100	100
Eliminated invasive species from your yard or garden									
Yes	7	10	4	5	5	5	9	29	40
No	43	39	49	49	52	50	35	47	44
Not applicable	50	51	47	46	43	45	56	24	16
Total	100	100	100	100	100	100	100	100	100

NATURAL ENVIRONMENT - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
*During the past year at your current residence, how often did you:** *									
Intentionally planted native species in your lawn or garden									
Yes	5	8	3	5	4	4	7	26	35
No	45	39	51	51	54	52	37	53	51
Not applicable	50	53	46	44	42	44	56	21	14
Total	100	100	100	100	100	100	100	100	100
Converted all/part of lawn to native/natural plantings									
Yes	3	4	2	4	2	3	4	14	21
No	46	45	52	51	54	52	39	65	66
Not applicable	51	51	46	45	44	45	57	21	13
Total	100	100	100	100	100	100	100	100	100
Disposed of hazardous materials by taking them to a designated disposal facility									
Yes	13	14	8	10	9	9	18	57	63
No	40	27	48	44	51	48	30	22	20
Not applicable	47	59	44	46	40	43	52	21	17
Total	100	100	100	100	100	100	100	100	100

* Percentage distributions are based on the weighted number of respondents to each question.

** Questions were not asked of students living in residence halls or Northwood community apartments resulting in smaller numbers of respondents for freshmen and other undergraduate students. The actual number of respondents (unweighted) for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

| Number of respondents | 1532 | 38 | 252 | 394 | 367 | 1052 | 479 | 886 | 1214 |

NATURAL ENVIRONMENT - OTHER

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Items were deleted from the questionnaires in Year 2									

FOOD - AWARENESS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
Locally grown or processed food									
A lot	17	11	15	16	14	14	21	22	25
A fair amount	37	34	33	34	42	36	38	41	43
A little	36	38	39	38	33	37	36	31	28
Not much/nothing	10	17	13	12	11	13	5	6	4
Total	100	100	100	100	100	100	100	100	100
Organic food									
A lot	20	14	16	19	17	17	25	20	26
A fair amount	39	36	36	37	39	37	43	41	46
A little	33	36	36	36	35	36	28	33	25
Not much/nothing	8	14	12	8	9	10	4	6	3
Total	100	100	100	100	100	100	100	100	100
Fair trade food									
A lot	12	7	14	12	13	11	14	12	18
A fair amount	28	25	23	25	29	26	33	27	37
A little	34	32	33	35	31	33	36	33	32
Not much/nothing	26	36	30	28	27	30	17	28	13
Total	100	100	100	100	100	100	100	100	100
Food from humanely-treated animals									
A lot	15	11	13	15	14	13	19	15	20
A fair amount	29	27	26	25	33	28	30	29	35
A little	35	38	34	39	32	36	34	35	32
Not much/nothing	21	24	27	21	21	23	17	21	13
Total	100	100	100	100	100	100	100	100	100
Food from animals that were not given hormones or antibiotics									
A lot	16	13	13	15	15	14	20	18	23
A fair amount	33	31	30	29	36	32	34	35	39
A little	34	35	37	39	32	35	33	34	30
Not much/nothing	17	21	20	17	17	19	13	13	8
Total	100	100	100	100	100	100	100	100	100
Grass-fed beef									
A lot	15	12	13	15	12	13	19	19	22
A fair amount	29	27	27	24	35	29	30	33	35
A little	35	34	34	40	34	35	34	34	31
Not much/nothing	21	27	26	21	19	23	17	14	12
Total	100	100	100	100	100	100	100	100	100
Fish from sustainable fisheries									
A lot	12	10	9	12	11	11	15	12	18
A fair amount	25	22	24	22	26	23	27	25	33
A little	34	34	33	35	32	33	35	36	34
Not much/nothing	29	34	34	31	31	33	23	27	15
Total	100	100	100	100	100	100	100	100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

Number of respondents	3170	1347	454	437	389	2631	539	885	1215

FOOD - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Where do you eat most of your meals (since the beginning of the semester)?									
At home	64	3	50	77	81	52	87		
In campus dining facilities	30	96	47	17	9	43	7		
Elsewhere	6	1	3	6	10	5	6		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Number of respondents	3176	1351	456	440	388	2635	541		
During the past year, about how often did you (or other household members) buy the following:*									
Locally grown or processed food									
Always/Most of the time	14	20	13	14	9	12	16	20	21
Sometimes	54	32	41	48	50	47	62	63	68
Rarely	16	13	18	13	23	19	13	9	7
Never	4	9	6	5	4	5	2	3	1
Don't Know	11	24	20	19	12	16	6	4	3
I don't eat this	1	2	2	1	2	1	1	1	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Organic Food									
Always/Most of the time	17	25	16	16	17	17	18	17	21
Sometimes	50	34	37	46	46	44	56	54	59
Rarely	20	14	22	17	23	21	18	20	15
Never	5	5	7	6	4	5	4	6	2
Don't Know	7	18	15	13	7	11	3	2	2
I don't eat this	1	4	3	2	3	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Fair trade food									
Always/Most of the time	7	12	7	6	8	7	7	6	9
Sometimes	33	17	23	28	31	28	39	32	48
Rarely	20	21	19	17	20	19	22	19	21
Never	9	4	9	8	8	8	9	14	6
Don't Know	29	43	40	38	30	35	22	27	15
I don't eat this	2	3	2	3	3	3	1	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Food from humanely-treated animals									
Always/Most of the time	11	15	11	11	9	10	12	13	18
Sometimes	29	25	19	24	27	24	35	29	39
Rarely	15	13	15	13	15	15	16	15	16
Never	8	6	9	6	8	7	8	9	5
Don't Know	30	39	39	39	32	36	23	29	17
I don't eat this	7	2	7	7	9	8	6	5	5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

FOOD - BEHAVIOR

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			

During the past year, about how often did you (or other household members) buy the following:***

Food from animals that were not given hormones or antibiotics

	All Students	Fresh	Soph	Junior	Senior	All	Graduate Students	Staff	Faculty
Always/Most of the time	15	12	12	13	11	12	20	20	27
Sometimes	31	25	21	28	30	27	35	36	40
Rarely	15	12	17	13	16	15	14	13	12
Never	7	7	6	6	7	6	7	5	4
Don't Know	25	41	36	32	27	31	18	21	12
I don't eat this	7	3	8	8	9	9	6	5	5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1525	59	242	367	352	1020	505	888	1213

Grass-fed beef

	All Students	Fresh	Soph	Junior	Senior	All	Graduate Students	Staff	Faculty
Always/Most of the time	7	7	8	5	5	6	9	13	12
Sometimes	25	20	17	22	21	21	29	31	30
Rarely	16	13	16	15	17	16	17	18	14
Never	11	11	9	10	11	10	12	8	18
Don't Know	25	42	36	31	29	31	17	21	12
I don't eat this	16	7	14	17	17	16	16	9	14
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Fish from sustainable fisheries

	All Students	Fresh	Soph	Junior	Senior	All	Graduate Students	Staff	Faculty
Always/Most of the time	6	11	5	4	4	4	8	9	14
Sometimes	19	12	13	17	16	16	23	24	33
Rarely	15	16	15	13	13	13	17	15	12
Never	12	10	10	13	12	12	13	11	13
Don't Know	30	45	37	33	32	34	24	26	19
I don't eat this	18	6	20	20	23	21	15	15	9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

During the past year, about how much of your grocery purchases were sustainable food?***

	All Students	Fresh	Soph	Junior	Senior	All	Graduate Students	Staff	Faculty
All/most	7	14	6	6	7	7	7	6	10
More than half	17	7	12	13	14	13	22	17	22
Half	15	10	11	17	15	15	16	17	18
Less than half	30	26	30	28	33	30	29	33	28
None	3	3	4	3	6	4	2	3	1
I don't know	28	40	37	33	25	31	24	24	21
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1535	59	245	370	355	1029	506	891	1222

Appendix Table C11 (continued)

FOOD - BEHAVIOR
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past week, how often have you included meat as part of your daily diet?									
Daily/almost daily	53	69	58	52	52	51	44	43	31
3-4 days	22	16	22	23	23	23	23	32	33
1-2 days	16	9	12	16	16	16	22	19	26
Never	9	6	8	9	9	10	11	6	10
Total	100	100	100	100	100	100	100	100	100
During the past year, have you:									
Grown fruits/vegetables in a home garden?									
Yes	23	34	22	16	14	23	22	46	45
No	77	66	78	84	86	77	78	54	55
Total	100	100	100	100	100	100	100	100	100
Grown fruits/vegetables in a community garden?									
Yes	5	7	4	5	6	6	5	5	5
No	95	93	96	95	94	94	95	95	95
Total	100	100	100	100	100	100	100	100	100
Shopped at farmers markets/food stands?									
Yes	64	64	59	62	61	62	69	84	84
No	36	36	41	38	39	38	31	16	16
Total	100	100	100	100	100	100	100	100	100
Belonged to a CSA?									
Yes	4	3	2	4	2	3	6	6	9
No	96	97	98	96	98	97	94	94	91
Total	100	100	100	100	100	100	100	100	100
Visited U-Pick farms?									
Yes	17	16	13	15	13	14	21	29	29
No	83	84	87	85	87	86	79	71	71
Total	100	100	100	100	100	100	100	100	100
Raised animals for food?									
Yes	3	4	3	3	2	3	2	4	2
No	97	96	97	97	98	97	98	96	98
Total	100	100	100	100	100	100	100	100	100
Number of respondents	1521	59	238	366	350	1016	504	883	1206

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents (unweighted) for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

** Less than one-half of one percent.

***Questions were not asked of students who said they ate most of their meals in campus dining facilities resulting in smaller respondent numbers for freshmen and other undergraduate students. The actual number of respondents (unweighted) for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

FOOD - OTHER

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How important to you are the following when you buy sustainable food?*									
Nutrition									
Very important	65	76	60	62	63	62	68	70	67
Somewhat important	28	24	35	33	27	30	26	27	28
Not that important	5	0	4	4	8	6	4	2	4
Not at all important	2	0	1	1	2	2	2	1	1
Total	100	100	100	100	100	100	100	100	100
Taste									
Very important	62	78	64	66	64	65	60	72	67
Somewhat important	33	16	32	31	32	31	35	26	29
Not that important	4	6	3	2	4	3	4	1	3
Not at all important	1	0	1	1	0	1	1	1	1
Total	100	100	100	100	100	100	100	100	100
Supporting the local community									
Very important	32	23	25	25	27	26	39	50	48
Somewhat important	44	53	45	45	47	46	42	44	42
Not that important	19	21	23	25	21	23	15	5	8
Not at all important	5	3	7	5	5	5	4	1	2
Total	100	100	100	100	100	100	100	100	100
Protecting the environment									
Very important	35	39	34	26	30	30	39	45	52
Somewhat important	47	47	45	52	47	48	46	47	42
Not that important	15	14	16	18	19	18	13	7	5
Not at all important	3	0	5	4	4	4	2	1	1
Total	100	100	100	100	100	100	100	100	100
Avoiding synthetic pesticides/fertilizers, antibiotics/growth hormones									
Very important	48	44	40	42	42	42	54	59	61
Somewhat important	34	41	34	36	35	35	32	34	31
Not that important	15	15	19	17	19	18	12	6	6
Not at all important	3	0	7	5	4	5	2	1	2
Total	100	100	100	100	100	100	100	100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents (unweighted) for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

** Less than one-half of one percent.

*** The questions were not asked of respondents who said "none" or "I don't know" when asked how much of their grocery purchases during the past year was sustainable food. Consequently, the number of respondents to these questions is smaller than the number of respondents to other food questions. The minimum number of respondents for each group of students and for faculty and staff is shown below.

| Number of respondents | 1038 | 31 | 144 | 242 | 243 | 661 | 376 | 651 | 952 |

CLIMATE CHANGE
(percentage distribution)*

	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Do you think climate change is happening?									
Yes	89	87	86	90	90	88	89	79	93
No	5	5	6	6	6	6	4	10	2
Don't know	6	8	8	4	4	6	7	11	5
Total	100	100	100	100	100	100	100	100	100
If yes, how sure are you that climate change is happening?									
Extremely sure	64	54	60	62	65	60	71	54	77
Mostly sure	24	31	29	27	25	28	19	27	18
Somewhat sure	11	13	10	10	10	11	10	18	4
Not at all sure	1	2	1	1	**	1	**	1	1
Total	100	100	100	100	100	100	100	100	100
Number of respondents									
If no, how sure are you that climate change is not happening?									
Extremely sure	15	15	21	13	11	15	17	37	26
Mostly sure	37	40	44	43	44	43	22	35	37
Somewhat sure	40	40	21	28	42	33	56	20	33
Not at all sure	8	5	14	16	3	9	5	8	4
Total	100	100	100	100	100	100	100	100	100
Number of respondents									
Assuming climate change is happening, do you think it is:									
Caused mostly by human activity	43	37	38	39	45	40	48	33	58
Caused mostly by natural causes	4	6	5	5	3	5	3	7	3
Caused by both	52	56	56	55	51	54	49	57	38
None of the above because climate change is not happening	1	1	1	1	1	1	**	3	1
Total	100	100	100	100	100	100	100	100	100
How important is climate change to you personally?									
Not at all important	3	3	2	3	5	3	1	6	2
Not too important	13	14	14	16	12	14	12	10	5
Somewhat important	37	43	40	36	42	41	30	40	26
Very important	31	27	31	31	25	28	37	32	39
Extremely important	16	13	13	14	16	14	20	12	28
Total	100	100	100	100	100	100	100	100	100
How well can you explain climate change to someone?									
Very well	20	17	19	18	19	18	23	9	22
Fairly well	46	50	44	47	47	47	45	38	52
A little bit	30	29	33	31	31	31	30	42	24
Couldn't explain it at all	4	4	4	4	3	4	2	11	2
Total	100	100	100	100	100	100	100	100	100
Number of respondents	169	74	27	25	21	147	22	76	27

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below except for the second and third items above as respondents only received one of these questions based on their response to the first item.

SUSTAINABILITY ENGAGEMENT AT U-M & ELSEWHERE
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Have you ever participated in any of the following at U-M?									
RecycleMania									
Yes	5	2	5	8	9	6	4	7	6
No	95	98	95	92	91	94	96	93	94
Total	100	100	100	100	100	100	100	100	100
Kill-a-Watt									
Yes	12	7	14	22	23	18	3		
No	88	93	86	78	77	82	97		
Total	100	100	100	100	100	100	100		
Earthfest									
Yes	11	8	12	17	16	13	6	6	5
No	89	92	88	83	84	87	94	94	95
Total	100	100	100	100	100	100	100	100	100
Planet Blue Open House									
Yes									
No									
Total									
Zero Waste Events									
Yes	7	2	5	10	11	7	5	4	3
No	93	98	95	90	89	93	95	96	97
Total	100	100	100	100	100	100	100	100	100
e-Waste Recycling Event									
Yes	4	1	2	4	4	3	5	18	26
No	96	99	98	96	96	97	95	82	74
Total	100	100	100	100	100	100	100	100	100
Planet Blue Ambassadors Online Certificate Program									
Yes	8	8	9	11	10	10	5	13	9
No	92	92	91	89	90	90	95	87	91
Total	100	100	100	100	100	100	100	100	100
Other									
Yes	5	3	6	6	7	5	5	4	4
No	95	97	94	94	93	95	95	96	96
Total	100	100	100	100	100	100	100	100	100
Sustainable Workplace Certification Program									
Yes								7	4
No								93	96
Total								100	100

SUSTAINABILITY ENGAGEMENT AT U-M & ELSEWHERE

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Have you ever participated in any of the following at U-M?									
A U-M organization dealing with sustainability									
Yes	16	11	17	20	23	18	13	9	9
No	84	89	83	80	77	82	87	91	91
Total	100	100	100	100	100	100	100	100	100
A U-M course that addressed sustainability									
Yes	20	10	21	23	37	23	15		
No	80	90	79	77	63	77	85		
Total	100	100	100	100	100	100	100		
During the past year, have you done any of the following to promote environmental protection, energy/water conservation, etc.?									
Given money to an organization or advocacy group supporting one of the above issues?									
Yes	18	19	15	17	13	16	22	24	51
No	82	81	85	83	87	84	78	76	49
Total	100	100	100	100	100	100	100	100	100
Volunteered for an organization or advocacy group supporting one of the above issues?									
Yes	24	32	21	25	26	27	20	8	10
No	76	68	79	75	74	73	80	92	90
Total	100	100	100	100	100	100	100	100	100
Served in a leadership position for an organization or advocacy group supporting one of the above issues?									
Yes	9	10	7	10	10	9	8	2	3
No	91	90	93	90	90	91	92	98	97
Total	100	100	100	100	100	100	100	100	100
Voted for a candidate for public office because of her/his position on any of the above issues?									
Yes	28	18	19	28	31	24	36	37	56
No	72	82	81	72	69	76	64	63	44
Total	100	100	100	100	100	100	100	100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

| Number of respondents | 2665 | 1174 | 383 | 357 | 288 | 2202 | 463 | 678 | 874 |

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How aware are you of UM's efforts to:									
Conserve Energy									
Very aware	15	19	16	17	13	16	12	19	15
Somewhat aware	47	52	52	50	48	50	43	47	55
Not too aware	26	22	22	23	27	24	30	23	23
Not at all aware	12	7	10	10	12	10	15	11	7
Total	100	100	100	100	100	100	100	100	100
Encourage people to take a bus or bike									
Very aware	21	29	24	23	21	24	16	26	15
Somewhat aware	45	46	46	44	44	45	43	45	50
Not too aware	24	18	20	25	24	22	29	19	28
Not at all aware	10	7	10	8	11	9	12	10	7
Total	100	100	100	100	100	100	100	100	100
Promote ride sharing									
Very aware	12	17	10	16	12	14	9	26	15
Somewhat aware	33	40	37	31	32	35	28	46	46
Not too aware	36	31	36	35	36	34	40	19	30
Not at all aware	19	12	17	18	20	17	23	9	9
Total	100	100	100	100	100	100	100	100	100
Promote recycling									
Very aware	34	41	40	35	33	37	29	35	30
Somewhat aware	42	42	42	41	42	42	41	45	50
Not too aware	17	12	12	17	16	14	21	14	16
Not at all aware	7	5	6	7	9	7	9	6	4
Total	100	100	100	100	100	100	100	100	100
Promote food from sustainable sources									
Very aware	14	23	18	14	11	16	9	10	5
Somewhat aware	31	38	40	36	30	36	22	27	27
Not too aware	36	28	28	32	39	32	43	42	44
Not at all aware	19	11	14	18	20	16	26	21	24
Total	100	100	100	100	100	100	100	100	100
Reduce greenhouse gas emissions									
Very aware	11	15	10	12	9	12	10	10	7
Somewhat aware	32	36	38	34	30	34	28	29	33
Not too aware	37	35	34	38	40	37	37	41	43
Not at all aware	20	14	18	16	21	17	25	20	17
Total	100	100	100	100	100	100	100	100	100

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS
(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How aware are you of UM's efforts to:									
Maintain campus grounds in an environmentally-friendly manner									
Very aware	13	19	15	14	10	15	11	13	8
Somewhat aware	33	40	36	36	34	37	26	33	35
Not too aware	33	28	29	31	33	30	38	35	39
Not at all aware	21	13	20	19	23	18	25	19	18
Total	100	100	100	100	100	100	100	100	100
Protect the Huron River									
Very aware	9	10	8	10	10	10	8	9	6
Somewhat aware	24	26	24	26	23	24	22	26	25
Not too aware	37	38	37	33	37	36	39	38	41
Not at all aware	30	26	31	31	31	30	31	27	28
Total	100	100	100	100	101	100	100	100	100
Promote Composting									
Very aware	8	11	7	9	9	9	6	8	4
Somewhat aware	22	27	23	24	20	23	18	20	18
Not too aware	36	34	38	32	32	34	40	42	42
Not at all aware	34	28	32	35	39	34	36	30	36
Total	100	100	100	100	100	100	100	100	100

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

Number of respondents	3144	1342	453	429	383	2609	433	880	1206
How would you rate UM's efforts to:***									
Conserve energy									
(5) Very good (A)	18	24	19	16	12	17	19	18	14
(4) Good (B)	46	52	49	45	45	48	43	43	50
(3) Fair (C)	29	20	29	30	32	27	31	32	30
(2) Poor (D)	6	3	3	7	9	7	6	6	5
(1) Very poor (F)	1	1	**	2	2	1	1	1	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.74	3.95	3.84	3.78	3.58	3.73	3.73	3.71	3.71
Encourage people to take bus/bike									
(5) Very good (A)	30	41	32	26	22	31	29	22	13
(4) Good (B)	38	40	40	35	42	39	36	44	43
(3) Fair (C)	26	16	24	29	26	23	30	29	34
(2) Poor (D)	5	3	4	8	9	6	5	4	9
(1) Very poor (F)	1	**	**	2	1	1	**	1	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.91	4.19	3.68	3.75	3.63	3.93	3.89	3.82	3.58

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How would you rate UM's efforts to:*									
Promote ride sharing									
(5) Very good (A)	14	19	10	14	11	14	14	22	13
(4) Good (B)	31	36	35	25	29	32	31	42	40
(3) Fair (C)	37	33	38	39	33	35	39	29	37
(2) Poor (D)	16	11	16	19	23	17	14	6	9
(1) Very poor (F)	2	1	1	3	4	2	2	1	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.39	3.61	3.37	3.28	3.2	3.39	3.41	3.78	3.55
Promote recycling									
(5) Very good (A)	35	44	41	33	28	36	32	31	28
(4) Good (B)	41	39	41	40	47	42	38	41	42
(3) Fair (C)	20	14	16	21	19	17	24	22	24
(2) Poor (D)	4	3	2	5	5	4	5	5	5
(1) Very poor (F)	**	**	**	1	1	1	1	1	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	4.07	4.24	4.21	3.99	3.96	4.08	3.95	3.96	3.91
Promote food from sustainable sources									
(5) Very good (A)	14	21	15	14	9	15	11	9	4
(4) Good (B)	33	42	39	33	31	36	26	28	31
(3) Fair (C)	39	29	33	38	40	35	48	46	50
(2) Poor (D)	13	7	12	13	18	13	13	15	14
(1) Very poor (F)	1	1	1	2	2	1	2	2	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.46	3.75	3.55	3.44	3.27	3.51	3.31	3.27	3.23
Reduce greenhouse gas emissions									
(5) Very good (A)	10	13	13	9	5	10	11	9	6
(4) Good (B)	36	42	34	35	34	36	34	32	35
(3) Fair (C)	41	35	40	41	42	40	43	48	46
(2) Poor (D)	11	9	12	12	17	12	10	10	11
(1) Very poor (F)	2	1	1	3	2	2	2	1	2
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.41	3.57	3.46	3.35	3.23	3.4	3.42	3.38	3.32
Maintain campus grounds in an environmentally									
(5) Very good (A)	17	23	17	14	13	17	17	14	11
(4) Good (B)	39	44	44	37	39	41	37	43	43
(3) Fair (C)	36	28	33	38	40	34	38	37	39
(2) Poor (D)	7	5	6	8	8	7	7	5	6
(1) Very poor (F)	1	**	0	3	**	1	1	1	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.64	3.85	3.72	3.51	3.57	3.66	3.62	3.64	3.57

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
*How would you rate UM's efforts to:***									
Protect the Huron River									
(5) Very good (A)	12	13	11	11	10	11	12	10	8
(4) Good (B)	35	39	34	28	34	34	36	39	38
(3) Fair (C)	42	38	43	46	42	42	42	43	46
(2) Poor (D)	10	9	10	13	12	11	9	8	7
(1) Very poor (F)	1	1	2	2	2	2	1	**	1
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.47	3.54	3.42	3.33	3.38	3.41	3.49	3.51	3.45
Promote Composting									
(5) Very good (A)	11	13	9	9	8	10	11	8	5
(4) Good (B)	28	35	23	28	26	29	28	29	29
(3) Fair (C)	39	34	44	36	41	38	41	47	50
(2) Poor (D)	18	15	19	21	20	19	17	13	14
(1) Very poor (F)	4	3	5	6	5	4	3	3	2
Total	100	100	100	100	100	100	100	100	100
Mean Rating	3.24	3.4	3.12	3.13	3.12	3.22	3.27	3.26	3.21

** Less than one-half of one percent.

*** Questions were not asked of respondents who said they were "not at all aware" of each corresponding U-M initiative. Consequently, the number of respondents rating each initiative is smaller than those reporting their level of awareness. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

| Number of respondents | 2100 | 949 | 304 | 278 | 233 | 1764 | 336 | 580 | 700 |

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OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often have you encouraged your friends to do the following things?									
Walk, bike, or take the bus rather than drive									
Never	20	20	21	21	20	21	19	42	44
Rarely	17	19	18	18	16	18	16	18	18
Sometimes	33	32	31	30	38	33	33	27	28
Frequently	27	25	26	28	24	25	29	10	8
Don't know	3	4	4	3	2	3	3	3	2
Total	100	100	100	100	100	100	100	100	100
Buy locally sourced or sustainable food									
Never	30	33	36	32	32	33	25	29	37
Rarely	22	21	22	23	24	23	20	17	17
Sometimes	29	28	22	27	27	26	33	34	31
Frequently	15	13	14	13	13	13	18	18	13
Don't know	4	5	6	5	4	5	4	2	2
Total	100	100	100	100	100	100	100	100	100
Conserve water									
Never	18	16	19	20	16	17	19	28	38
Rarely	16	14	14	15	18	15	18	18	18
Sometimes	36	41	32	35	33	36	36	32	26
Frequently	27	26	32	28	30	29	23	20	16
Don't know	3	3	3	2	3	3	4	2	2
Total	100	100	100	100	100	100	100	100	100
Conserve electricity									
Never	14	11	15	13	11	12	16	23	34
Rarely	13	14	12	11	11	12	14	14	17
Sometimes	34	38	32	33	33	35	34	33	27
Frequently	37	35	39	41	43	39	33	28	20
Don't know	2	2	2	2	2	2	3	2	2
Total	100	100	100	100	100	100	100	100	100
Reuse or recycle containers or bags									
Never	16	14	16	15	17	16	17	22	33
Rarely	15	14	14	13	18	15	15	13	15
Sometimes	28	28	28	30	26	28	29	31	27
Frequently	39	42	40	40	37	39	37	33	23
Don't know	2	2	2	2	2	2	2	1	2
Total	100	100	100	100	100	100	100	100	100

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often have you encouraged your friends to do the following things?									
Buy fewer things									
Never	27	24	28	25	30	27	28	33	41
Rarely	23	25	22	23	22	23	23	21	19
Sometimes	29	29	29	30	27	29	29	26	25
Frequently	18	20	17	18	18	18	17	17	12
Don't know	3	2	4	4	3	3	3	3	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Buy things that are better for the environment									
Never	27	22	29	31	29	27	25	31	38
Rarely	23	25	23	23	24	24	22	19	18
Sometimes	32	33	31	28	29	31	35	33	28
Frequently	15	16	13	15	15	15	15	15	14
Don't know	3	4	4	3	3	3	3	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Use environmentally-friendly ways of controlling insects, weeds, and pests									
Never	48	41	48	48	54	48	47	38	47
Rarely	19	21	18	19	20	19	19	18	19
Sometimes	16	19	15	14	13	16	18	24	21
Frequently	8	9	9	9	6	8	8	16	10
Don't know	9	10	10	10	7	9	8	4	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Do something in order to reduce his/her greenhouse gas emissions									
Never	38	32	37	39	41	37	38	43	46
Rarely	20	24	20	22	21	22	19	20	20
Sometimes	25	26	26	23	22	24	27	22	21
Frequently	11	12	10	12	11	11	10	8	9
Don't know	6	6	7	4	5	6	6	7	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Would you support or oppose the following governmental policies?									
A 20 cent increase in the price per gallon of gasoline, if the extra money were used to improve local public transportation									
Strongly support	18	11	15	15	12	13	28	14	37
Moderately support	29	26	25	25	28	26	33	23	28
Neither support nor oppose	20	22	22	24	22	23	15	18	14
Moderately oppose	20	24	22	20	22	22	15	18	11
Strongly oppose	13	17	16	16	16	16	9	27	10
Total	100	100	100	100	100	100	100	100	100
A requirement that electric utilities produce at least 40% of their electricity from wind, solar, or other renewable energy sources, even if it costs the average household an extra $100 a year									
Strongly support	27	24	23	24	26	24	33	21	43
Moderately support	33	33	33	33	32	32	35	33	32
Neither support nor oppose	18	21	21	22	16	20	14	21	12
Moderately oppose	14	14	14	14	16	15	11	14	6
Strongly oppose	8	8	9	7	10	9	7	11	7
Total	100	100	100	100	100	100	100	100	100
A ban on disposable plastic bags									
Strongly support	33	26	30	31	32	29	40	25	40
Moderately support	28	31	28	27	31	29	26	32	29
Neither support nor oppose	20	20	22	22	18	21	20	26	17
Moderately oppose	12	15	13	11	12	13	10	9	8
Strongly oppose	7	8	7	9	7	8	4	8	6
Total	100	100	100	100	100	100	100	100	100
A tax on fuels - like gasoline and natural gas - according to their carbon content, if the extra money were used for clean energy projects									
Strongly support	24	20	19	21	18	19	33	15	41
Moderately support	32	31	32	30	34	32	33	28	31
Neither support nor oppose	22	23	22	25	22	23	19	25	15
Moderately oppose	13	15	16	16	14	15	8	14	6
Strongly oppose	9	11	11	8	12	11	7	18	7
Total	100	100	100	100	100	100	100	100	100

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much would you be willing to pay personally each year to...									
Expand waste prevention efforts, such as recycling and green purchasing at U-M									
$0	24	22	26	25	29	25	22	43	22
$1-$10	33	34	34	34	31	33	31	26	15
$11-$20	21	22	21	21	19	21	23	14	15
$21-$30	10	11	9	9	10	10	11	6	13
$31-$40	3	3	3	3	3	3	3	2	5
$41-$50	9	8	7	8	8	8	10	9	30
Total	100	100	100	100	100	100	100	100	100
Number of respondents									
Expand alternative transportation efforts such as buses, bikes, and carpools at U-M									
$0	25	24	29	27	27	26	22	46	26
$1-$10	28	30	33	30	29	30	25	23	13
$11-$20	21	23	18	22	23	22	21	11	14
$21-$30	11	12	8	9	9	10	12	7	13
$31-$40	4	3	5	3	3	3	5	3	5
$41-$50	11	8	7	9	9	9	15	10	29
Total	100	100	100	100	100	100	100	100	100
Expand efforts to lower greenhouse gas emissions at U-M through energy conservation and renewable sources									
$0	25	23	29	26	29	27	22	45	24
$1-$10	31	32	32	33	29	31	30	23	14
$11-$20	19	20	17	17	17	18	21	13	15
$21-$30	10	11	9	10	9	10	11	6	12
$31-$40	4	4	4	4	4	4	4	4	6
$41-$50	11	10	9	10	12	10	12	9	29
Total	100	100	100	100	100	100	100	100	100

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How likely is it that the following things will be a priority for you, at some point in the future?									
Being able to walk, bike, or take the bus places from where you live									
Very likely	60	52	55	57	61	56	67		
Somewhat likely	30	35	33	33	28	32	26		
Not very likely	8	10	9	8	9	9	6		
Not at all likely	2	3	3	2	2	3	1		
Total	100	100	100	100	100	100	100		
Buying sustainable food									
Very likely	38	31	33	34	32	33	48		
Somewhat likely	41	45	41	41	42	42	38		
Not very likely	17	20	22	20	21	20	12		
Not at all likely	4	4	4	5	5	5	2		
Total	100	100	100	100	100	100	100		
Conserving natural resources by reducing waste, reducing things, and recycling									
Very likely	52	46	50	48	45	47	61		
Somewhat likely	38	42	39	41	43	41	32		
Not very likely	8	10	9	9	10	10	6		
Not at all likely	2	2	2	2	2	2	1		
Total	100	100	100	100	100	100	100		
Take care of your home and property in environmentally-friendly ways									
Very likely	48	44	48	44	42	44	56		
Somewhat likely	41	45	40	44	46	44	35		
Not very likely	9	9	9	9	10	9	7		
Not at all likely	2	2	3	3	2	3	2		
Total	100	100	100	100	100	100	100		
Reducing your greenhouse gas emissions as much as possible									
Very likely	38	34	33	35	35	34	45		
Somewhat likely	42	45	44	42	40	43	39		
Not very likely	17	17	19	20	20	19	14		
Not at all likely	3	4	4	3	5	4	2		
Total	100	100	100	100	100	100	100		

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How concerned are you about the following things?									
The impact that people's travel - by car and plane - has on the environment									
Very concerned	26	22	24	23	23	23	31	16	26
Somewhat concerned	51	54	51	53	49	52	48	51	58
Not that concerned	20	20	21	20	23	21	18	28	13
Not at all concerned	3	4	4	4	5	4	3	5	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Whether food is grown and produced in a way that is good for the environment									
Very concerned	28	22	23	23	24	23	38	32	38
Somewhat concerned	47	47	49	50	47	48	44	53	52
Not that concerned	21	27	24	21	23	24	16	13	8
Not at all concerned	4	4	4	6	6	5	2	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources - like water and fossil fuels - being used up									
Very concerned	44	42	43	42	38	41	50	37	47
Somewhat concerned	41	45	42	43	44	43	37	46	43
Not that concerned	12	11	13	11	15	13	11	15	8
Not at all concerned	3	2	2	4	3	3	2	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
People producing too much waste									
Very concerned	45	40	41	42	44	42	50	40	50
Somewhat concerned	42	47	45	42	40	43	39	47	42
Not that concerned	11	11	11	13	13	12	10	11	7
Not at all concerned	2	2	3	3	3	3	1	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
The loss of open space									
Very concerned	41	38	39	38	34	37	48	39	46
Somewhat concerned	40	44	41	42	40	42	37	41	43
Not that concerned	16	16	17	17	21	18	13	17	10
Not at all concerned	3	2	3	3	5	3	2	3	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2014	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How concerned are you about the following things?									
The loss of wildlife habitat									
Very concerned	51	50	51	52	44	49	56	52	54
Somewhat concerned	39	42	38	39	45	41	36	38	39
Not that concerned	8	7	9	7	8	8	7	9	6
Not at all concerned	2	1	2	2	3	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Population growth									
Very concerned	38	37	35	34	37	36	41	32	36
Somewhat concerned	41	45	43	42	39	42	38	42	42
Not that concerned	18	15	18	21	20	19	18	22	18
Not at all concerned	3	3	4	3	4	3	3	4	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Overall, how committed are you to sustainability?									
Very committed	18	12	13	13	17	14	26	14	27
Somewhat committed	57	60	57	58	53	57	55	64	61
Not very committed	23	26	28	26	27	26	18	19	11
Not at all committed	2	2	2	3	3	3	1	3	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Who or what has been most influential in shaping your views about sustainability?									
Friends or classmates	17	12	14	15	19	15	20	12	9
Parents or other family members	18	23	21	16	15	19	15	16	11
K-12 teachers	8	19	10	7	5	10	4	2	1
U-M professors/instructors	13	5	13	18	26	16	8	2	2
Childhood experience outdoors	8	8	8	9	5	7	9	10	9
Media--readings, video, movies, TV	28	29	27	27	21	26	33	46	55
Other UM activities	**	**	1	1	1	1	**	1	1
Other	8	4	6	7	8	6	11	11	12
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

* Percentage distributions are based on the weighted number of respondents to each question. The actual number of respondents for each question differs since not all questions were answered by all respondents. The minimum number of respondents for each group of students and for faculty and staff is shown below.

Number of respondents	3156	1340	453	435	385	2617	537	871	1195

100

Appendix D: Constructing Indicators

During the initial year of SCIP (2012) indicators or indices were created that combined responses to closely related questions about a common idea, concept, or action. In many instances, responses were statistically correlated. Weakly correlated responses that reflect different dimensions of the same idea, concept, or action were nevertheless combined to create a desired indicator.[65] Items used to create indices are shown in Table D1. In order to summarize findings covering key concepts reflecting the culture of sustainability, several indicators were created. The procedure consisted of two steps. First, conceptually related items were identified and, for each respondent, the coded or numeric values of the responses to each were combined or added together.

For most of the indices, the number of response categories to their respective questions was identical.[66] Numerical values were assigned to responses such that higher values represented the most sustainable forms of behavior or the highest levels of awareness, while the lower values represented the least sustainable behaviors or lowest levels of awareness. For example, for responses to the question, "During the past year, how often did you turn off lights when leaving the room", "always/most of the time" was coded 4, "sometimes" was coded 3, "rarely" was coded 2, and "never" was coded 1. Together with 3 other questions, the maximum summary score for any respondent would be 16 and the minimum score would be 4. The distribution of summary scores for all student and staff/faculty respondents was then tabulated.

Respondents who said "don't know" or "not applicable" to questions used in developing selected indicators were not included when building those indicators. That is, index scores were not calculated for these respondents. On occasion, some of the remaining respondents skipped one of the questions comprising the index. Rather than eliminating these respondents from the analysis and thus reducing the sample size, the modal value of all other respondents to the question was assigned to the non-response item. These respondents were then retained in the sample. The operational rule for dealing with missing values was as follows. For indicators consisting of one or two items, participants with one or two non-responses were excluded from the analysis. For indicators consisting of three items, respondents with one non-response were assigned the modal value to that item. For indicators using four or more than four items, participants who had more than 2 non-responses were eliminated from the analysis. Those with one or two non-response items were assigned the modal value of all responses to those items.

The second step involved the creation of a common metric or scale for all indicators. This was necessary since the range of scores for each indicator varied. Some varied from one to four while others varied from eight to thirty-two. In order to make the indicators comparable and easier to understand, all the indicators were converted to common metric or a zero-to-ten scale. For instance, the summed Waste Prevention Behavior Index for participants ranged from 4 to 16. In this case, the minimum value (4) was subtracted from the maximum value (16) resulting in a scale ranging from 0 to 12. Each value was then divided by the new maximum value (12), so that the new index score would be between 0 to 1. That score was then multiplied by 10, resulting in a value ranging from 0 to 10. SPSS Complex Samples was then used to

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[65] Exploratory factor analysis with a Cronbach Alpha was employed to assess associations and the internal consistency in a set of responses. The alphas for the indices used in the 2012 SCIP survey vary from .32 to .94. The alphas are shown in Table D1 in the 2012 SCIP report.

[66] The exception was Sustainability Food Purchase Index, where one question had five response options while the other two questions had four. These three variables could not be added up immediately. These three variables were first normalized and after normalizing, were added together.

determine the distributions and the mean scores of indicators.[67]

Appendix Table D1

SUSTAINABILITY CULTURAL INDICATORS CONSTRUCTION
(names of and number of items)

Name of Index	Students		Staff/Faculty	
	Name of Items	No. of items	Name of Items	No. of items
PRIMARY				
Climate Action				
Conservation Behavior	turn off lights, use computer power-saver, turn off computer, use motion sensor	4	turn off lights, use computer power-saver, turn off computer, use motion sensor (at work)	4
Travel Behavior	Most often mode of travel to campus since fall sem	1	Most often mode of travel to work	1
Waste Prevention				
Waste Prevention Behavior	print dble-sided, recycle paper, etc., use reusable cups, etc., use property disposition	4	print dble-sided, recycle paper, etc., use reusable cups, etc., use property disposition	4
Healthy Environments				
Sustainable Food Purchases	Buy sustainable food, organic, locally-grown	3	Buy sustainable food, organic, locally-grown	3
Protecting the Natural Environment	use fertilizer, herbicides, water lawn	3	use fertilizer, herbicides, water lawn	3
Community Awareness				
Sustainable Travel & Transportation	AAATA, UM buses, biking, Zipcar rental	4	AAATA, UM buses, biking, Zipcar rental	4
Waste Prevention	recycle glass, plastic, paper, electrical waste, property disposition	5	recycle glass, plastic, paper, electrical waste, property disposition	5
Natural Environment Protection	dispose hazardous waste, recognize invasive species, residential property, protect Huron River	4	dispose hazardous waste, recognize invasive species, residential property, protect Huron River	4
Sustainable Foods	locally grown, organic, fair trade, humanely-treated, hormones-free, grassfed, sustainable fish	7	locally grown, organic, fair trade, humanely-treated, hormones-free, grassfed, sustainable fish	7
U-M Sustainability Initiatives	save energy, encourage bus or bike, promote ride sharing, recycling, sust food, reduce greenhouse gas, maintain grounds, protect Huron River	8	save energy, encourage bus or bike, promote ride sharing, recycling, sust food, reduce greenhouse gas, maintain grounds, protect Huron River	8
SECONDARY				
Sustainability Engagement at U-M	partic in sustain. org., Earthfest, sustain class	3	partic in org., Earthfest	2
Sustainability Engagement Generally	give money, voting, volunteering, serving as officer	4	give money, voting, volunteering, serving as officer	4
Sustainability Commitment	how committed to sustainability	1	how committed to sustainability	1
Sustainability Disposition	willingness to pay items	3	willingness to pay items	3
Rating U-M Sustainability Initiatives	save energy, encourage bus or bike, promote ride sharing, recycling, sust food, reduce greenhouse gas, maintain grounds, protect Huron River	8	save energy, encourage bus or bike, promote ride sharing, recycling, sust food, reduce greenhouse gas, maintain grounds, protect Huron River	8

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[67] SPSS Complex Samples gives more accurate statistical estimates than Base SPSS.

Appendix E. Supplemental Tables - 2014

The following tables present detailed information covering 2012, 2013, and 2014 indicator scores for students, staff, and faculty, 2014 sub-region differences in indicator scores for the larger operational regions of the Ann Arbor campus, and BTU &CO2 data for residence halls and Northwood apartments.

Appendix Table E1

CHANGE IN SUSTAINABILITY CULTURAL INDICATORS
for STUDENTS, STAFF AND FACULTY - 2012, 2013, 2014

(mean scores)

INDICES	Students			Staff			Faculty		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
PRIMARY									
Climate Action									
Conservation Behavior	6.1	6.2	6.1	6.6	6.7	6.5	6.9	6.9	7.0
Travel Behavior	7.6	7.5	7.4	1.6	1.3	1.6	2.2	2.0	1.8 ⬇
Waste Prevention									
Waste Prevention Behavior	6.6	6.6	6.7 ⬆▲	7.0	7.0	6.5	7.3	7.3	7.4 ⬆△
Healthy Environments									
Sustainable Food Purchases	5.5	5.3	5.6 △	5.7	5.8	5.8 ⬆	6.3	6.2	6.3
Protecting the Natural Environment	8.6	8.9 ⬆	8.8	6.5	6.4	6.6	6.1	6.1	6.4 △
Community Awareness									
Sustainable Travel & Transportation	4.4	4.3	4.2 ⬇	3.0	3.0	3.1	3.4	3.3	3.3
Waste Prevention	4.0	4.2 ⬆	4.2 ⬆	5.0	5.1	5.0	5.1	5.4 ⬆	5.5 ⬆
Natural Environment Protection	3.1	3.3 ⬆	3.4 ⬆	4.1	4.3 ⬆	4.3 ⬆	4.3	4.6 ⬆	4.6 ⬆
Sustainable Foods	4.3	4.5 ⬆	4.8 ⬆▲	4.7	5.1 ⬆	5.0 ⬆	5.6	5.7	5.7
U-M Sustainability Initiatives	5.1	5.1	5.0	5.4	5.6	5.3	4.9	5.1 ⬆	5.0
SECONDARY									
Sustainability Engagement at U-M	1.3	1.4	1.6 ⬆	0.9	0.7	0.7	0.7	0.7	0.7
Sustainability Engagement Generally	1.9	1.8 ⬇	2.0 △	1.9	1.9	1.8	3.0	2.9	3.0
Sustainability Commitment	6.3	6.3	6.3	6.3	6.4	6.4	7.0	7.2 ⬆	7.1
Sustainability Disposition	3.5	3.3 ⬇	3.4	2.9	2.6 ⬇	2.5 ⬇	5.3	4.6 ⬇	5.0 ⬇
Rating U-M Sustainability Initiatives	6.6	6.4 ⬇	6.5	6.7	6.8	6.6 ▽	6.4	6.5	6.4

⬆ significant change from 2012 (p<.001)
⬆ significant change from 2012 (p<.01)
⬆ significant change from 2012 (p<.05)
▲ significant change from previous year (p<.001)
▲ significant change from previous year (p<.01)
△ significant change from previous year (p<.05)

SUMMARY SUSTAINABILITY CULTURAL INDICATORS
for STAFF/FACULTY, by CAMPUS SUB-REGIONS
(mean scores)

2014	Central Campus West		Central Campus East		Health Sciences		North Campus	
	North	South	North	South	North	South	North	South
PRIMARY								
Climate Action								
Conservation Behavior	**6.8**	**6.9**	**7.1**	**7.7**	**6.5**	**7.0**	**6.8**	**6.6**
Number of respondents	260	161	140	126	196	128	232	80
Travel Behavior	**2.9**	**3.1**	**2.3****	**3.8****	**2.1*****	**4.6*****	**1.6**	**2.3**
Number of respondents	266	162	143	126	200	129	239	82
Waste Prevention								
Waste Prevention Behavior	**7.5**	**7.1**	**7.4**	**7.7**	**7.4**	**7.6**	**7.5**	**7.3**
Number of respondents	267	162	143	126	199	129	241	82
Healthy Environments								
Sustainable Food Purchases	**6.3**	**5.7**	**6.4**	**6.6**	**5.7**	**6.1**	**6.1**	**5.8**
Number of respondents	260	159	140	121	192	123	230	80
Protecting the Natural Environment	**6.7**	**7.1**	**7.3**	**6.4**	**6.3****	**7.3****	**6.7**	**6.9**
Number of respondents	215	124	118	107	170	110	184	60
Community Awareness								
Sustainable Travel & Transportation	**3.6**	**3.4**	**3.7**	**3.8**	**3.6**	**3.8**	**3.7**	**4.3**
Number of respondents	266	162	143	127	199	129	240	82
Waste Prevention	**5.3**	**5.0**	**5.8**	**5.3**	**5.3**	**5.0**	**5.6**	**5.2**
Number of respondents	267	162	143	127	200	129	240	82
Natural Environment Protection	**4.4**	**3.9**	**4.6**	**5.4**	**4.2**	**4.1**	**4.7**	**4.1**
Number of respondents	266	162	142	127	200	129	240	82
Sustainable Foods	**5.3**	**5.0**	**6.1**	**6.0**	**5.1**	**5.4**	**5.5**	**5.0**
Number of respondents	267	162	143	127	200	129	241	82
U-M Sustainability Initiatives	**5.7**	**5.2**	**5.5**	**5.4**	**5.8**	**5.2**	**5.3**	**5.8**
Number of respondents	266	161	143	127	199	129	238	82
SECONDARY								
Sustainability Engagement at U-M	**1.2**	**0.8**	**0.9**	**1.3**	**0.5**	**0.9**	**1.0**	**0.8**
Number of respondents	261	157	142	125	200	129	236	82
Sustainability Engagement Generally	**2.7**	**2.4**	**2.1**	**3.0**	**1.7**	**2.3**	**2.1**	**2.2**
Number of respondents	267	162	143	127	200	129	240	82
Sustainability Commitment	**6.9**	**6.7**	**6.9**	**7.4**	**6.4**	**6.8**	**6.7**	**6.8**
Number of respondents	267	161	143	127	198	128	241	81
Sustainability Disposition	**3.7**	**4.0**	**3***	**4.2***	**3.4**	**4.3**	**3.0**	**2.6**
Number of respondents	259	160	141	126	198	129	234	81
Rating U-M Sustainability Initiatives	**6.8**	**6.7**	**6.7**	**6.4**	**6.9**	**6.7**	**6.5**	**6.7**
Number of respondents	204	121	106	93	167	98	176	64

*significant difference between sub-regions (p<.05)

**significant difference between sub-regions (p<.01)

***significant difference between sub-regions (p<.001)

CHANGE IN SUSTAINABILITY CULTURAL INDICATORS
for STAFF/FACULTY, by CAMPUS AND REGION - 2012 & 2014
(mean scores)

INDICES	Central Campus West 2012	Central Campus West 2014	Central Campus East 2012	Central Campus East 2014	North Campus 2012	North Campus 2014	Medical Campus 2012	Medical Campus 2014	Health Sciences 2012	Health Sciences 2014	South Campus 2012	South Campus 2014	East Campus 2012	East Campus 2014
PRIMARY														
Climate Action														
Conservation Behavior	7.1	6.8	7.1	7.4	7.1	6.7	5.9	6.1	6.7	6.7	7.6	7.4	6.8	6.0
Number of respondents	157	421	220	266	277	312	494	394	320	324	78	54	83	70
Travel Behavior	3.1	3.0	3.6	3.0	1.9	1.7	1.0	1.1	2.8	2.9	0.7	0.7	0.4	0.1
Number of respondents	364	428	223	269	285	321	525	423	323	329	79	54	85	73
Waste Prevention														
Waste Prevention Behavior	7.2	7.3	7.3	7.6	7.2	7.5	6.5	6.5	7.2	7.5	7.6	7.3	7.2	6.9
Number of respondents	363	429	223	269	285	323	524	421	323	328	79	54	85	73
Healthy Environments														
Sustainable Food Purchases	6.0	6.0	5.8	6.5	5.9	6.0	5.6	5.8	5.8	5.8	5.9	5.4	5.5	6.0
Number of respondents	352	419	219	261	274	310	503	412	316	315	75	51	83	71
Protecting the Natural Environment	6.4	6.9	7.1	6.9	6.8	6.7	6.1	6.5	6.4	6.6	6.3	6.2	6.4	6.7
Number of respondents	289	339	171	225	222	244	456	376	278	280	70	47	75	67
Community Awareness														
Sustainable Travel & Transportation	3.7	3.5	4.0	3.7	3.7	3.8	2.6	2.7	3.6	3.7	3.6	3.6	2.9	2.5
Number of respondents	363	428	223	270	284	322	521	423	322	328	79	53	85	73
Waste Prevention	5.2	5.2	5.5	5.6	5.2	5.5	4.4	4.5	5.0	5.2	6.4	5.9	5.6	4.8
Number of respondents	364	429	223	270	285	322	525	423	323	329	79	54	85	73
Natural Environment Protection	3.8	4.2	4.1	5.0	4.1	4.6	3.9	4.2	4.2	4.2	4.9	4.9	4.3	4.2
Number of respondents	364	428	223	269	285	322	525	422	323	329	79	54	85	73
Sustainable Foods	5.2	5.2	5.5	6.0	5.0	5.4	4.7	5.0	4.9	5.2	5.0	4.3	4.9	4.9
Number of respondents	364	429	223	270	285	323	525	423	323	329	79	54	85	73
U-M Sustainability Initiatives	5.3	5.5	5.3	5.5	5.3	5.4	5.1	4.9	5.5	5.6	6.2	6.0	5.8	4.8
Number of respondents	363	427	222	270	284	320	522	420	323	328	79	54	84	72
SECONDARY														
Sustainability Engagement at U-M	1.1	1.1	1.3	1.1	0.8	1.0	0.3	0.2	1.0	0.6	2.5	1.6	0.8	0.6
Number of respondents	352	418	218	267	278	318	518	414	317	329	78	53	85	73
Sustainability Engagement Generally	2.5	2.6	2.5	2.5	2.3	2.1	1.7	1.6	2.4	1.9	2.3	2.0	1.8	1.6
Number of respondents	363	429	222	270	285	322	525	423	321	329	79	54	84	73
Sustainability Commitment	6.8	6.8	6.8	7.2	6.5	6.7	6.1	6.1	6.7	6.6	6.8	6.6	6.5	6.0
Number of respondents	363	428	222	270	282	322	522	421	320	326	79	54	85	72
Sustainability Disposition	3.8	3.8	3.9	3.5	3.8	2.9	2.8	2.4	3.7	3.7	3.6	2.2	3.2	2.3
Number of respondents	357	419	216	267	278	315	515	422	320	327	79	53	83	71
Rating U-M Sustainability Initiatives	6.4	6.8	6.9	6.5	6.6	6.5	6.6	6.4	6.9	6.9	6.7	6.9	7.0	6.5
Number of respondents	243	325	153	199	207	240	388	308	245	265	69	43	65	53

CHANGE IN ENERGY USE, CO2 EMISSIONS, & CONSERVATION BEHAVIOR
AMONG STUDENTS IN U-M HOUSING, by PLACE OF RESIDENCE: 2012-2014

U-M Housing[a]	BTU Per Square Foot 2012	2013	2014	Change(%) 2012-2014	Metric Tons CO2 Per Square Feet 2012	2013	2014	Change(%) 2012-2014	Change in Conservation Behavior 2012-2014
North Quad	71,363	72,495	72,286	1%	0.0081	0.0080	0.0079	-3%	-1.5%
West Quad*	69,043	77,810	77,942	13%	0.0065	0.0072	0.0072	11%	**
South Quad*	64,238	75,407	58,879	-8%	0.0064	0.0073	0.0046	-28%	-1.6%
East Quad*	71,078	33,561	91,869	29%	0.0065	0.0028	0.0094	43%	**
Stockwell	69,559	76,168	85,011	22%	0.0071	0.0075	0.0081	13%	-1.6%
Mosher-Jordan	170,445	202,095	212,627	25%	0.0182	0.0208	0.0213	17%	-6.3%
Mary Markley	99,301	110,623	120,527	21%	0.0093	0.0100	0.0108	17%	-1.7%
Alice Lloyd***	22,884	33,376	34,063	2%	0.0016	0.0049	0.0052	4%	3.3%
Couzens	83,101	96,892	98,875	19%	0.0085	0.0089	0.0091	7%	-3.3%
Bursley-Baits	114,805	118,627	120,397	5%	0.0098	0.0098	0.0098	0%	0.0%
Northwood Apartments	82,021	82,962	89,469	9%	0.0064	0.0064	0.0067	6%	-3.2%

[a]Data are excluded for the smaller residence halls having relatively small numbers of respondents. These include: Bestsy Barbour, Martha Cook, Fletcher, Henderson, Newl

[b]Data on energy use on CO2 emissions reflect the previous fiscal year. For example the 2012 data cover FY12 (July 2011 to June 2012)

*In 2005, U-M launched a long-term program of selective upgrades and complete renovations to its housing stock. In 2012, East Quad was closed for renovations followed by the closure of South Quad in 2013 and the West Quad closure in 2014. Figures for energy consumption and carbon emissions during renovation do not reflect normal occupancy use.
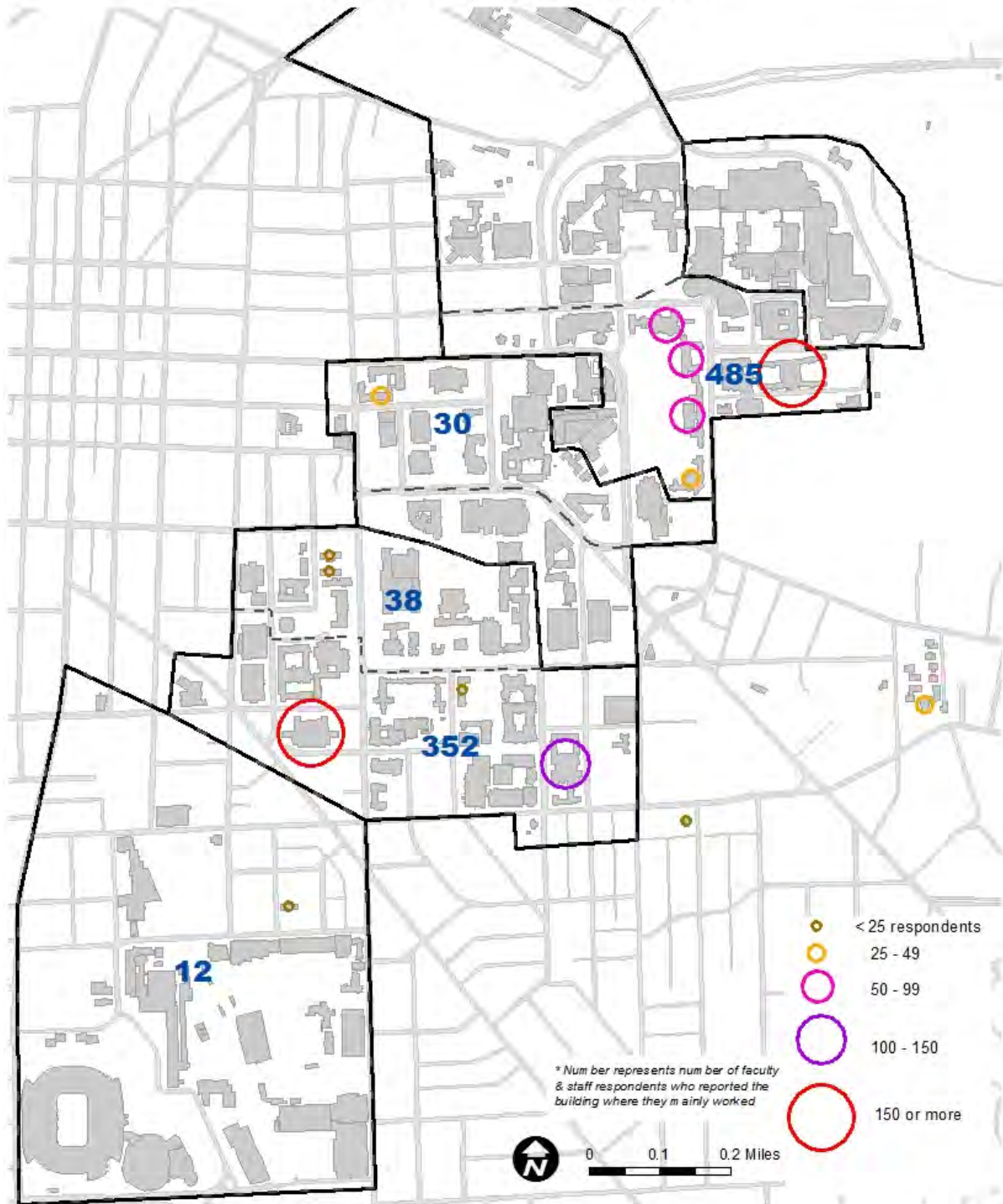
**During renovations, residence halls were unoccupied. Therefore, there were no East Quad students in the 2012 SCIP sample while the 2014 SCIP sample had no West Quad participants. Consequently, survey data covering both 2012 and 2014 were not available to measure change scores for students in these residence halls.

*** 2012 data covering energy use and CO2 emissions for Alice Lloyd are low since the building was being renovated and therefore unoccupied during the previous year. Change for this residence hall is based on the difference between 2014 and 2013.
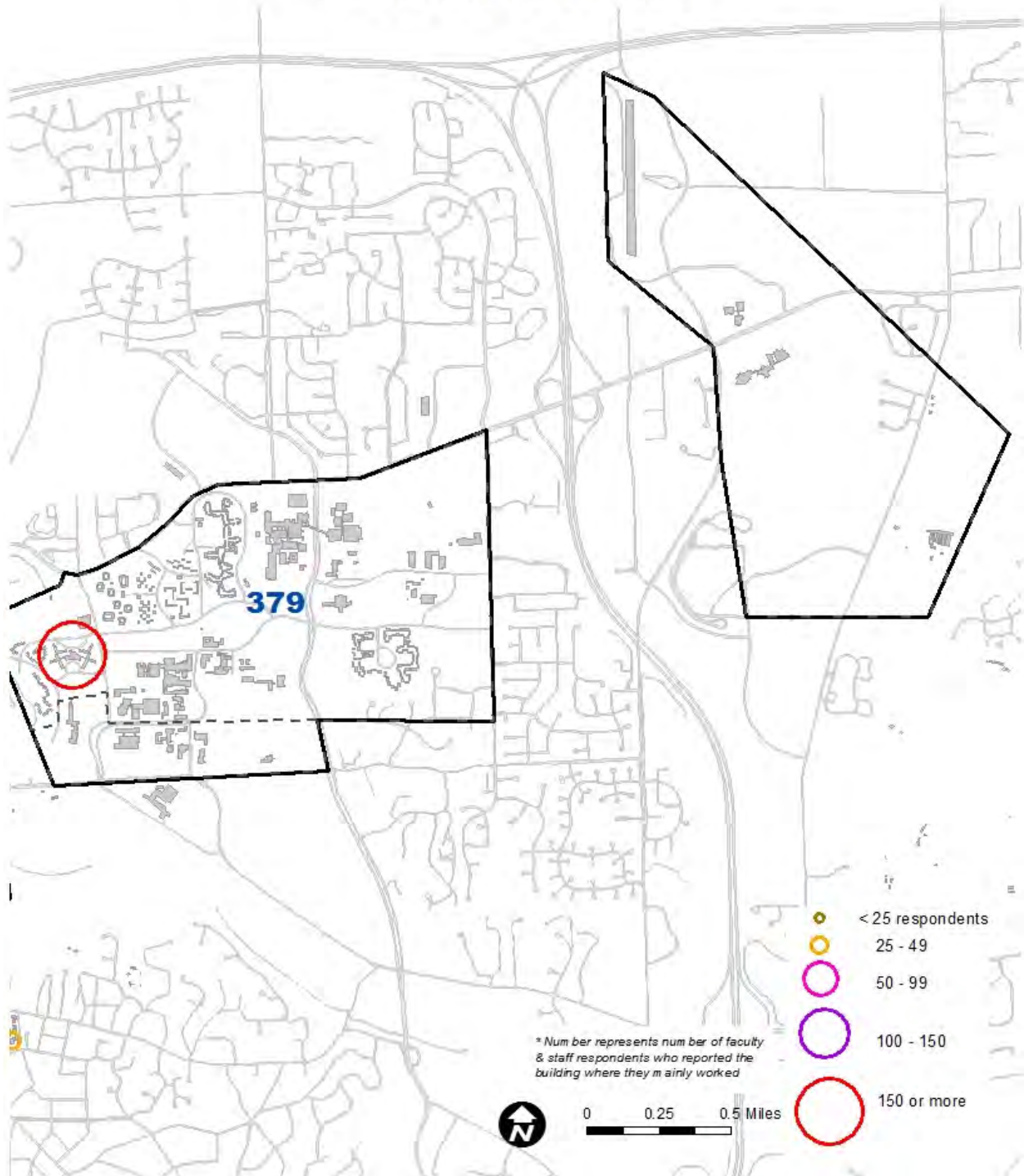
Appendix F. Supplemental Maps - 2014

The following maps show the number and spatial distribution of students, staff, and faculty that responded to the 2014 survey. The maps cover each U-M campus, region, and sub-region in Ann Arbor. The student maps show the location of the residence halls where respondents lived, the U-M building where they spent more than half of their time, and approximate number of respondents in each. The maps covering U-M employees (staff and faculty) show the U-M buildings where they primarily worked and the approximate number of respondents from each building. The maps suggest possible geographic units for subsequent spatial analysis of the survey data. The maps do not show the place of residence for student respondents living off-campus nor the places of employment for staff and faculty respondents working in rented space or in U-M buildings outside Central Campus, North Campus, South Campus, East Campus, and the Medical Campus.

2014 STUDENT RESPONDENTS - RESIDENCE HALLS*

Legend:
- < 25 respondents
- 25 - 49
- 50 - 99
- 100 - 150
- 150 or more

* Number represents number of faculty & staff respondents who reported the building where they mainly worked

0   0.1   0.2 Miles

2014 STUDENT RESPONDENTS - RESIDENCE HALLS*

379

* Number represents number of faculty & staff respondents who reported the building where they mainly worked

< 25 respondents
25 - 49
50 - 99
100 - 150
150 or more

0   0.25   0.5 Miles

2014 STUDENT RESPONDENTS - ACADEMIC BUILDING USED*

Legend:
- < 25 respondents
- 25 - 49
- 50 - 99
- 100 - 150
- 150 or more

* Number represents number of faculty & staff respondents who reported the building where they mainly worked

N

0   0.1   0.2 Miles

2014 STUDENT RESPONDENTS - ACADEMIC BUILDING USED*

247

133

< 25 respondents
25 - 49
50 - 99
100 - 150
150 or more

* Number represents number of faculty
& staff respondents who reported the
building where they mainly worked

0   0.25   0.5 Miles

2014 STAFF/FACULTY RESPONDENTS -
BUILDING & WORK LOCATION*

200

426

129

144

129

268

162

54

< 25 respondents
25 - 49
50 - 99
100 - 150
150 or more

* Number represents number of faculty
& staff respondents who reported the
building where they mainly worked

N

0   0.1   0.2 Miles

2014 STAFF/FACULTY RESPONDENTS - BUILDING & WORK LOCATION*

73

246

84

< 25 respondents

25 - 49

50 - 99

100 - 150

150 or more

* Number represents number of faculty & staff respondents who reported the building where they mainly worked

0   0.25   0.5 Miles

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