SUSTAINABILITY CULTURAL INDICATORS PROGRAM:
SECOND YEAR REPORT

MONITORING THE CULTURE OF SUSTAINABILITY AT THE UNIVERSITY OF MICHIGAN: FALL 2013

Issued: September 2014

Revised: July 22, 2015

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This is a Graham Sustainability Institute report and is available at:
http://graham.umich.edu/leadership/scip

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 2 and provide a comparison for 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 2013, more than 3200 students including a panel of current undergraduate students who completed the 2012 survey, 750 staff, and 750 faculty participated in the survey representing a 22 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 2012 are compared against the results from 2012.

First, the travel behavior of students continues to be more in line with the goal of greenhouse gas reduction than travel to and from campus by 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. None of these items changed significantly between 2012 and 2013.

Second, compared to students and staff, faculty continue to report acting in a more sustainable matter 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.

Third, compared to 2012, the University community is generally more knowledgeable about sustainability. Indicator scores for 2013 are significantly higher reflecting a greater awareness of natural environment protection, sustainable foods, and waste prevention. However, levels of commitment and the behaviors of students, staff, and faculty are largely unchanged.

Finally, data for the panel of undergraduates suggest that individual students learned more about sustainability and were more engaged in sustainability activities between the 2012 and 2013 surveys. Panel index scores show a significantly greater understanding of both waste prevention practices and sustainable foods. These students also reported a significantly higher level of engagement in sustainability activities on campus. At the same time, the student panel was less disposed that they were in 2012 to pay for sustainability initiatives on campus.

Based on SCIP results, meetings were held with more than a dozen campus groups, which have already led to action to address items for which respondents reported low levels of awareness or sustainable behavior.

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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 second year (2013) of the Sustainability Cultural Indicators Program (SCIP). SCIP is a multi-year project 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 2 measures as well as changes from Year 1 (2012) results. 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 the 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 selected 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 2013 surveys. These Year 2 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 2013 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 several interventions aimed at advancing progress towards U-M's sustainability goals based on SCIP results as well as 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 problems.

B. BACKGROUND

Campus Sustainability Integrated Assessment

In October 2009, 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.*

[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

The Sustainability Cultural Indicators Program

U-M cultural change initiatives stem from the principles outlined under CSIA theme of Community Awareness. They indicate that the U-M will "pursue evaluation strategies toward a campus-wide ethic of sustainability" as articulated in 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 2013, 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] Between September 2013 and June 2014 there were over 1000 views of this website and the Year 1 report was one of the top ten file downloads from the Graham Institute website. Meetings were held with more than a dozen campus groups to discuss Year 1 results, and these have already led to action. For example, a Campus Town Hall was organized around the SCIP findings that staff are less aware of climate change than students or faculty. Also, Planet Blue Ambassadors newsletters have addressed topics such as alternative transportation options and office computer energy conservation settings – two items for which respondents reported low levels of awareness and participation. A meeting was also held in late 2013 for faculty and graduate students interested in further analysis of 2012 SCIP data. In terms of broader SCIP reach, more than 40 institutions across the US and in other countries have requested copies of the survey instruments. Three book chapters and one journal article have been produced on the SCIP process and results. SCIP has been accepted for presentation at 10 major conferences.

[3] To read 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. 2013 POPULATION AND SAMPLE

Data from the U-M's Registrar's Office indicate that 43,710 full-time students were enrolled for classes at the Ann Arbor Campus in fall, 2013. At the same time, records from U-M's Office of Human Resources show that 6,431 faculty and 35,846 staff were employed half-time or more.[6]

In order to ensure proportional representation from all segments 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 1000 respondents from the freshmen class, 330 respondents from each of the sophomore, junior, and senior classes, and 400 graduate student respondents.[7] Additionally, all students from the current sophomore, junior, and senior classes who completed the 2012 survey were selected and those who responded in 2013 were designated as a panel. The panel of student respondents was included in the research design so as to measure individual changes in behaviors, levels of awareness, commitment, and other attitudes. These students will be contacted annually though their senior year.[8] Finally, a stratified sample was selected by the University's Office of Human Resources with a target of 750 staff and 750 faculty members.[9]

The actual number of respondents and the response rates are shown in Table 2.[10] The table indicates that, with the exception of freshmen and the student panel, the targeted number of participants was reached or exceeded.[11] Response rates were lower than those reported in 2012 and reflect timing issues in questionnaire administration.[12] Nonetheless, completion of questionnaires was attributable to several factors including the personalized invitation to participate in the survey from President Mary Sue Coleman, a series of reminder emails including one from Mike Bottom, head coach of the U-M's men's and women's swimming and diving teams, and an offer of a possible monetary incentive.[13]

[6] Most U-M staff and faculty are full-time employees. For purposes of the survey, it was decided to draw samples of the Ann Arbor campus faculty and staff personnel who were eligible for full fringe benefits.

[7] During the first year of SCIP (2012), the sample design aimed at 1000 respondents from each of the sophomore, junior, and senior classes.

[8] Panel members who were seniors in 2013 will be dropped from the panel while a sub-set of the 2013 freshmen will become new panel members.

[9] In order to reach the target numbers, larger samples of staff, faculty and students were elected from their respective lists of names (e.g. sampling frame). See Appendix A for a discussion of the sample selection process.

[10] Calculation of response rates for students is based on their official Registrar's Office designation as opposed to their self-reported status.

[11] The numbers represent the sample of students and the samples of staff and faculty that completed at least 80 percent of their respective questionnaires. Appendix A describes what is considered a "completed questionnaire" and discusses differences between the official U-M designation and student's self-identification of their status. Whereas the targeted number of undergraduate and graduate students was achieved, there is concern about the lower than expected number of participants in the panel and it potential impact on future the future analysis of the panel data. Additional incentives for panel participants are being considered so as to minimize panel attrition in future SCIP surveys.

[12] The relatively lower response rates may be attributable to U-M's transition to Gmail during the period of the SCIP data collection and the fact that emails with links to questionnaires were often redirected to Google SPAM. Additional analyses of non-responses are currently underway to better understand the circumstances associated with the 2013 survey.

[13] For a discussion of past efforts to ensure respectable response rates, see Appendix A.

Table 2

NUMBER OR RESPONDENTS AND RESPONSE RATES

2013	Number of Respondents	Response Rates (%)
Students	2396	16.5
Fresh	936	20
Soph	333	15
Junior	345	12
Senior	397	13
Graduate	407	27
Staff	765	41
Faculty	782	37
Student Panel	841	29
Soph	310	30
Junior	236	29
Senior	292	34
All Campus	4784	22

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.[14]

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 (18 percent) of the respondents are international students with most international students (85 percent) coming from China or other Asian countries. Of the U.S. students, nearly two-thirds (63 percent) are from Michigan; half of them are from Southeast Michigan (Wayne, Oakland, Macomb, and Washtenaw counties).

[14] Details covering weighting are presented in Appendix A and in the Year 2 Methodology Report (Weise, 2014) found on the SCIP Materials website; http://graham.umich.edu/leadership/scip/materials.

Table 3

STUDENT CHARACTERISTICS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Status (self-report)***							
First-year (Freshmen)	18						
Sophomore	12						
Junior	17						
Senior	18						
Graduate	35						
Total	**100**						
Number of respondents	2396						
U.S.-International Student?							
U.S.	82	93	92	87	94	92	66
International	18	7	8	13	6	8	34
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2367	915	330	373	340	1958	405
Permanent Residence of U. S. Student#							
Michigan							
Wayne, Oakland, Macomb Co (incl. Detroit)	31	38	35	38	34	36	16
Washtenaw Co	9	9	13	10	11	11	5
Other MI Countries MI	23	27	31	24	28	27	14
Great Lakes States (IL,WI,MN,OH,IN,)	11	10	8	10	8	9	17
Northeast (NY,NJ,MD,PA)	8	7	5	7	7	7	10
South (TX,OK,TN,KY,VA,NC,SC,FL,GA,AL,LA,AK,PR)	7	3	3	4	5	4	16
West (CA, OR,WA,AZ,NM,HI,AK)	9	5	4	7	6	5	17
Elsewhere	2	1	1	0	1	1	5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1935	810	279	299	298	1686	248
Home Country of International Students							
China (incl. Hong Kong)	41	33	42	72	28	49	37
India	17	16	0	6	11	8	21
Other Asian countries (excl.China & India)	27	24	40	17	33	26	27
European countries	7	14	7	3	7	7	7
Carrabean countries	3	8	7	2	0	3	4
Elsewhere (incl. Middle East countries)	5	5	4	0	21	7	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	269	49	26	46	19	140	127
College/School							
LSA	40	60	63	56	52	57	9
Engineering	23	25	22	24	28	25	19
Ross Business	5	1	3	2	3	2	11
Rackham Graduate	4	0	0	0	0	0	10
Education	2	0	**	2	2	1	4
Other colleges/schools (2% each of all students)[a]	9	7	6	6	7	7	13
Other colleges/schools (1% each of all students)[b]	2	1	2	2	2	2	3
Public Health	4	**	0	0	0	**	11
Dual degree	10	4	4	7	4	5	19
Not Ascertained	1	2	**	1	2	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2396	933	332	375	345	1985	405

a Includes Schools and Colleges of Architecture & Urban Planning, Kinesiology, Music Theater & Dance, Nursing, Natural Resources & Environment, & Social Work.

b Includes Schools of Art &Design, Dentistry, Pharmacy, Public Policy, Information, and Medicine.

Major (in LSA & Engineering)							
LSA							
Humanities	14	6	10	14	14	11	31
Natural Sciences	31	25	32	35	36	32	28
Social Sciences	28	11	26	34	38	27	34
Other	12	14	11	14	12	13	7
Undecided	15	44	21	3	0	17	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1361	627	225	241	203	1296	65

Table 3 (continued)

STUDENT CHARACTERISTICS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
*Status (self-report)****							
Engineering							
Electrical & Computer Science	27	20	31	23	25	24	32
Mechanical	19	10	20	22	24	19	19
Industrial & Operations	10	2	4	14	17	10	10
Aerospace	7	6	10	7	7	7	8
Chemical	7	6	10	7	6	7	6
Biomedical	7	9	7	4	6	7	7
Materials Science	4	3	1	5	2	3	5
Other	12	5	14	18	13	12	13
Undecided	7	39	3	0	0	11	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	509	187	67	81	84	419	90

*****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.**

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 a third of the LSA undergraduate students and nearly two-thirds of the LSA graduate students were in either the social or natural sciences; 15 percent of the LSA undergraduates noted *undecided* when asked about their major. When asked to specify their major, a quarter of the Engineering students mentioned programs in the Department of Electrical and Computer Science.

In fall 2013, nearly 3 in 10 student respondents lived in a U-M resident hall or Northwood apartments (see Table 4 and Appendix F, Figures F1 and F2).[15] 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. Student respondents living off-campus increased from 69 percent in 2012 to 81 percent in 2013. Overall, about 6 in 10 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 9 percent of the sophomores had lived in their current residence for a year or more, 21 percent of the juniors and 39 percent of the seniors gave this response. A quarter of the graduate students and 7 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 Mary Markley and East Quad.[16] The table also shows that for

[15] 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 19.

[16] In the 2012 survey, East Quad was unoccupied during remodeling and therefore not mentioned as a place or residence. South Quad which had the second largest number of respondents in 2012 was not mentioned in the 2013 survey due to remodeling activities.

Table 4

STUDENT RESIDENTIAL CHARACTERISTICS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Type of Residence							
U-M resident hall	22	87	38	7	3	34	0
Northwood community apartments	7	10	5	4	2	5	12
Off-campus house	26	1	28	33	42	26	28
off-campus apartment	42	1	26	54	50	33	57
Parent's house	2	1	3	1	2	2	2
Other	1	0	0	1	1	0	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2396	933	332	375	345	1989	407
Length of Residence							
Less than 3 months	36	63	40	38	28	43	24
3-11 months	36	35	51	41	33	39	30
1-2 years	18	0	6	18	32	15	24
More than 2 years	10	2	3	3	7	3	22
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2396	933	332	375	345	1989	407
Residence Hall							
Bursley-Baits	25	30	11	28	0	25	
South Quad	0	0	0	0	0	0	
Mary Markley	15	20	0	5	9	15	
West Quad	13	14	10	21	9	13	
Mosher-Jordan	6	7	5	0	0	6	
Couzens	7	6	11	0	9	7	
North Quad	3	0	7	17	36	3	
Alice Lloyd	7	6	6	5	18	7	
Stockwell	5	0	22	11	0	5	
Other (Barbour, Cambridge, Cook, Fletcher, Henderson, Newberry)	19	17	28	13	19	19	
Total	**100**	**100**	**100**	**100**	**100**	**100**	**-**
Number of respondents	951	792	124	25	10	951	
Place of Residence(locale)***							
Ann Arbor area	91	84	93	96	96	95	86
Ypsilanti area	4	0	2	2	2	2	5
Other Washtenaw Co. cities, townships, villages	1	4	1	1	0	1	2
Other Michigan cities, townships, villages	3	12	4	1	2	2	5
Elsewhere	1	0	0	0	0	0	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1248	33	188	334	327	885	363
***Number of Household Occupants**[#]*							
One	13	8	6	5	7	6	22
2-3 persons	45	36	29	32	35	34	60
4-6 persons	29	53	37	43	34	38	17
More than 6 persons	13	3	28	20	24	22	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Number of Occupants							
Number of respondents	1243	32	188	333	326	881	362
Availability of Car in Household							
Yes	47	11	21	38	60	34	70
No	53	89	79	62	40	66	30
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2363	913	330	373	340	1960	403

[#]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 zipcode. Students who reported living in a residence hall or in Northwood apartments were not asked to report zipcodes. Ann Arbor area zipcodes include: 48103, 48104, 48105, 48108, & 48109. Ypsilanti area zipcodes 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.**

students who indicated they lived off-campus, most lived in the Ann Arbor area with small percentages commuting to the Ann Arbor campus.[17] Figure 1 on the next page shows the places where students lived in the fall 2013. 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 6 persons per household. For sophomores, many of whom reported living in a fraternity, sorority or co-op (based on open-ended responses), averaged over 13 people at their place of residence.

Finally almost 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. Overall, three-quarters identified Central Campus with most of the remainder saying North Campus.[18] Freshmen were least likely to mention North Campus (7 percent) while the proportion of juniors and seniors identifying North Campus for most classes was significantly higher (28 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 (43 percent) of the undergraduate students and most (84 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.[19] 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 Ann Arbor 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, 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.).[20] With few exceptions, the distribution of respondents parallels that of the 2012 student respondents. One noticeable difference is more respondents indicating the northern sub-region of North Campus (24 percent versus 19 percent).

[17] 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.

[18] 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.

[19] 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.

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

Figure 1

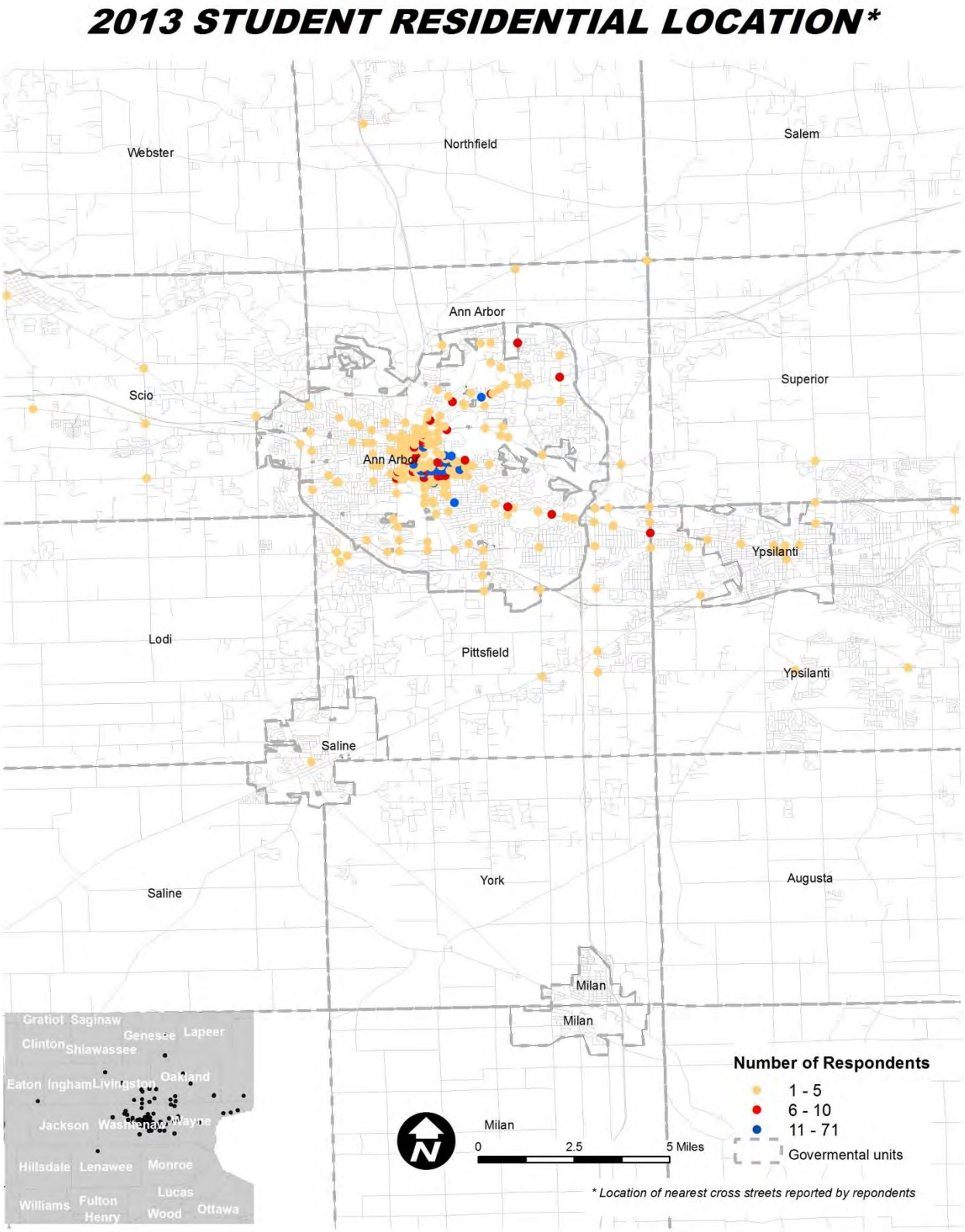
2013 STUDENT RESIDENTIAL LOCATION*
Webster
Northfield
Salem
Ann Arbor
Scio
Superior
Ann Arbor
Ypsilanti
Lodi
Pittsfield
Ypsilanti
Saline
Saline
York
Augusta
Milan
Milan
Gratiot
Saginaw
Genesee
Lapeer
Clinton
Shiawassee
Eaton
Ingham
Livingston
Oakland
Jackson
Wayne
Hillsdale
Lenawee
Monroe
Lucas
Williams
Fulton
Henry
Wood
Ottawa
Milan
0
2.5
5 Miles
Number of Respondents
1 - 5
6 - 10
11 - 71
Govermental units
* Location of nearest cross streets reported by repondents

Figure 2

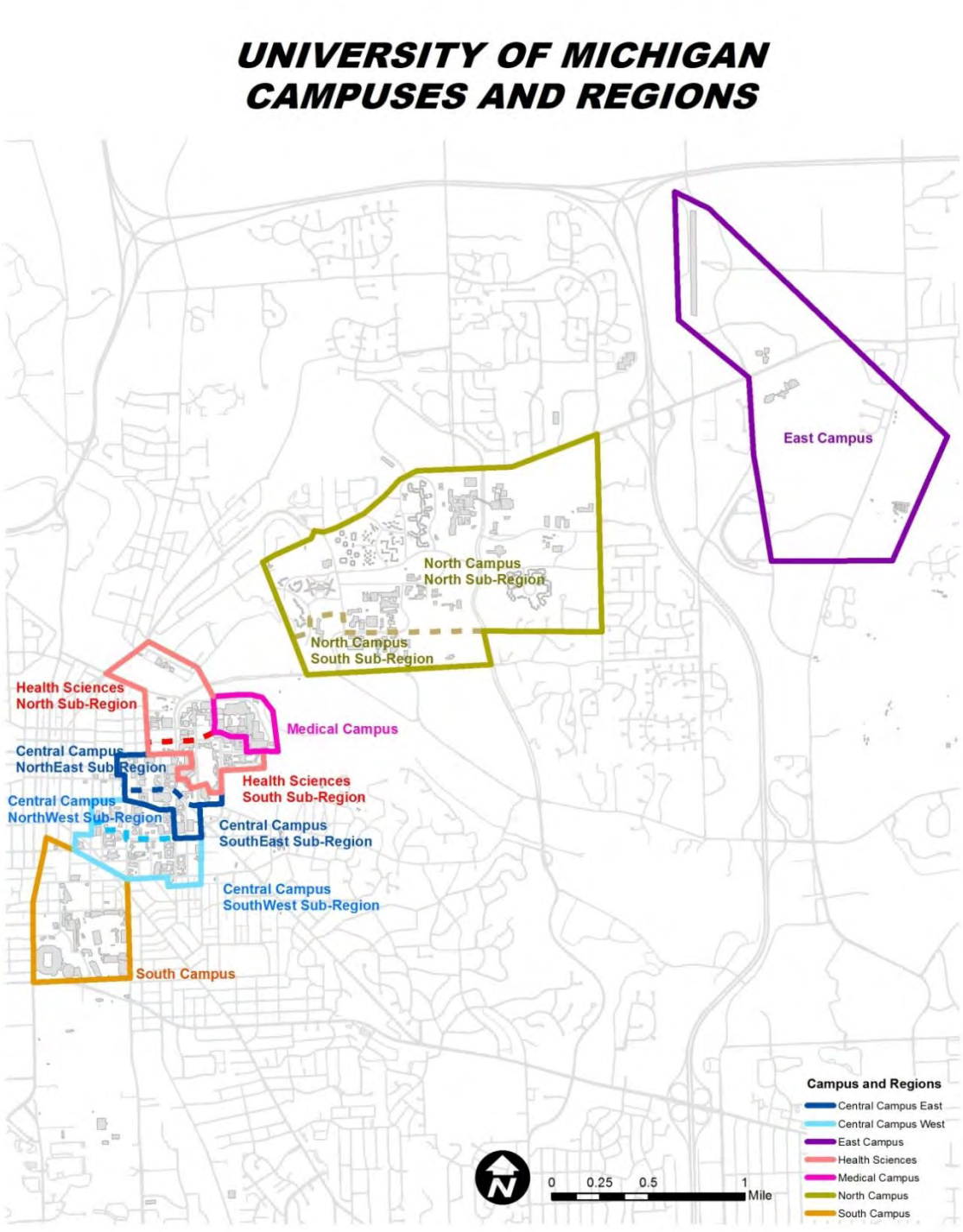
UNIVERSITY OF MICHIGAN
CAMPUSES AND REGIONS
East Campus
North Campus
North Sub-Region
North Campus
South Sub-Region
Health Sciences
North Sub-Region
Medical Campus
Central Campus
NorthEast Sub-Region
Health Sciences
South Sub-Region
Central Campus
NorthWest Sub-Region
Central Campus
SouthEast Sub-Region
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)*

2013	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Location of Most Classes (self-reports)							
Central Campus	73	93	81	71	67	78	63
North Campus	24	7	18	28	32	21	30
Elsewhere	3	0	1	1	1	1	7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2367	915	330	373	340	1958	405
R spends more than half time in non-residential building?							
No	42	71	62	52	46	57	16
Yes	58	29	38	48	54	43	84
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2365	914	330	372	339	1955	406
Building (non-reside) where R spent most time							
Ross School of Business Building	8	**	8	8	5	6	11
Chemistry & Dow Lab.	6	20	11	5	5	9	3
Angell Hall	5	6	6	11	11	9	2
Duderstadt Center	5	3	7	9	7	7	4
School of Public Health	5	**	0	0	0	**	9
East Hall	4	3	1	5	7	5	2
Other bldgs (less than 3%)[a]	32	35	34	30	31	32	33
Other bldgs (less than 2%)[b]	6	5	8	5	7	6	6
Other bldgs (less than 1%)	29	28	25	27	27	26	30
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1097	285	127	177	173	768	327

[a]Includes Shapiro Library. Mason Hall, Electrical Engineering. & Computer Science, School of Education, Art & Architecture, Med Science, School of Social Work, Moore Building, Dana, G.G.Brown, and Computer Science.

[b]Includes Modern Language (MLB), Francois-Xavier Bagnoud (FXB), and North Quad.

Location of Building where R spent most time (Campus)							
Central Campus	56	74	64	58	58	63	49
North Campus	31	19	31	38	36	30	32
Medical Campus (including Health Sciences)	12	5	3	3	5	6	18
South Campus	1	2	1	1	1	1	1
East Campus	0	0	0	0	0	0	0
Elsewhere	**	0	1	0	0	**	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1097	250	118	161	173	768	327
Location of Building where R spent most time (Region)							
Central Campus-West Region	35	35	24	32	35	38	31
Central Campus-East Region	21	30	37	25	23	25	18
Health Sciences Region	11	13	5	3	2	4	18
Medical Campus	1	1	0	1	3	1	**
North Campus	31	19	31	38	36	31	32
South Campus	1	2	2	1	1	1	1
East Campus	0	0	0	0	0	0	0
Elsewhere	**	0	1	0	0	**	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1097	250	118	161	173	768	327

Table 5 (continued)

STUDENT CLASS/STUDY LOCATIONAL CHARACTERISTICS

(percentage distribution)*

2013	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	7	11	15	13	12	23
Central Campus-Northwest	16	32	24	28	21	26	8
Central Campus-Southeast	14	23	20	14	20	19	10
Central Campus-Northeast	7	8	9	4	5	6	8
Health Sciences-South	8	7	2	3	1	3	12
Health Sciences-North	4	4	3	0	1	1	6
Medical Campus	1	**	0	1	3	1	**
North Campus-North	24	8	20	28	31	24	25
North Campus-South	7	9	9	7	4	7	7
South Campus	1	2	1	**	1	1	1
East Campus	0	0	0	0	0	0	0
Elsewhere	**	0	1	0	0	**	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1086	285	127	177	179	768	327
Distance between Residence & Campus (sub-region of building where R spends most time)							
Less than .125 mi	1	5	3	0	0	1	0
.125-.249 mi	5	7	9	11	7	9	3
.25-.49 mi	24	25	37	31	33	31	16
.5-..99 mi	23	28	26	24	23	25	22
1.0-.1.99 mi	24	29	15	14	16	18	29
2.0-3.99 mi	15	4	7	15	15	11	18
4.0-5.99 mi	3	0	0	3	3	2	4
6.0 mi. or more	5	2	3	2	3	3	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Distance (Miles)	**2.0**	**1.0**	**1.0**	**1.3**	**1.5**	**1.2**	**2.8**
Number of respondents	1022	278	118	155	168	719	301
Distance between Residence & Building (where R spends most time)							
Less than .125 mi	3	11	8	4	1	5	**
.125-.249 mi	8	10	14	11	11	11	4
.25-.49 mi	21	24	33	31	29	29	14
.5-..99 mi	22	21	22	19	23	22	23
1.0-.1.99 mi	28	31	17	24	22	23	33
2.0-3.99 mi	10	1	4	6	8	5	15
4.0-5.99 mi	3	0	0	2	3	2	3
6.0 mi. or more	5	2	2	3	3	3	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Distance (Miles)	**2.0**	**0.9**	**0.9**	**1.2**	**1.4**	**1.1**	**2.7**
Number of respondents	1022	278	118	155	168	719	301

**** 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.[21] The last two panels in Table 5

[21] 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

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 2.0 miles. Undergraduates many or whom live in residence halls traveled less (1.1 miles) while graduate students tend to travel the furthest---nearly 3 miles on average.

The demographic makeup of the 2013 student respondents was identical to the makeup of the 2012 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 2013 survey. 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. More than a third of the staff respondents (35 percent) had worked at U-M for more than 10 years and another a third (46 percent) had been employed by the U-M for 5 years or less.

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

As seen in Table 7, faculty members, on average, were twice as likely to live in the Ann Arbor area as staff (74 percent versus 37 percent).[22] In fact, more than a third (38 percent) of the staff 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 (81 percent versus 71 percent). About 1 in 5 staff respondents live in an apartment building or a condominium whereas 15 percent of the faculty respondents live in these residences. Irrespective of residential type, more faculty than staff own rather than rent their dwellings (85 percent versus 71 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 2012 survey.

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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.

[22] 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)*

2013	Staff	Faculty
Type of Staff		
Professional	24	
Managerial	8	
Administrative	18	
Research	17	
Medical, Nursing	23	
Service	4	
Other	6	
Total	**100**	
Type of Faculty		
Teaching- Tenured		20
Teaching-Non-tenured		7
Research- Tenured		13
Research-Non-tenured		19
Clinical instructional- Tenured		2
Clinical instructional-Non-tenured		18
Lecturer		10
Other		11
Total		**100**
Years at U-M		
Less than a year	9	7
1-2 years	17	8
3-5 years	20	15
6-10 years	19	21
11-20 years	21	26
More than 20 years	14	23
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	**741**	**748**

As in the 2012 survey, 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)*

2013	Staff	Faculty
Place of Residence(locale)***		
Ann Arbor area	37	74
Ypsilanti area	12	4
Other Washtenaw Co. cities, townships, villages	11	9
Other Michigan cities, townships, villages	38	12
Elsewhere	2	1
Total	**100**	**100**
Type of Residence		
Single family house	71	81
2-family house/duplex	3	2
Rowhouse/townhouse	3	2
Apartment building	15	7
Condominium	7	8
Other	1	**
Total	**100**	**100**
Owner or Renter?		
Own	71	85
Rent	28	15
Other	1	**
Total	**100**	**100**
Length of Residence:		
Less than a year	13	11
1-2 yeas	16	11
3-5 years	19	19
6-10 years	18	20
More than 10 years	34	39
Total	**100**	**100**
Median Length of Residence (years)	**6.6**	**8.3**
Number of Household Occupants		
One	16	12
Two	36	33
Three	20	21
Four	17	24
Five or more	11	10
Total	**100**	**100**
Mean Number of Occupants	**2.8**	**2.9**
Number of Cars in Household		
None	2	1
One	26	25
Two	48	56
Three	16	14
Four or more	8	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	**716**	**728**

Figure 3

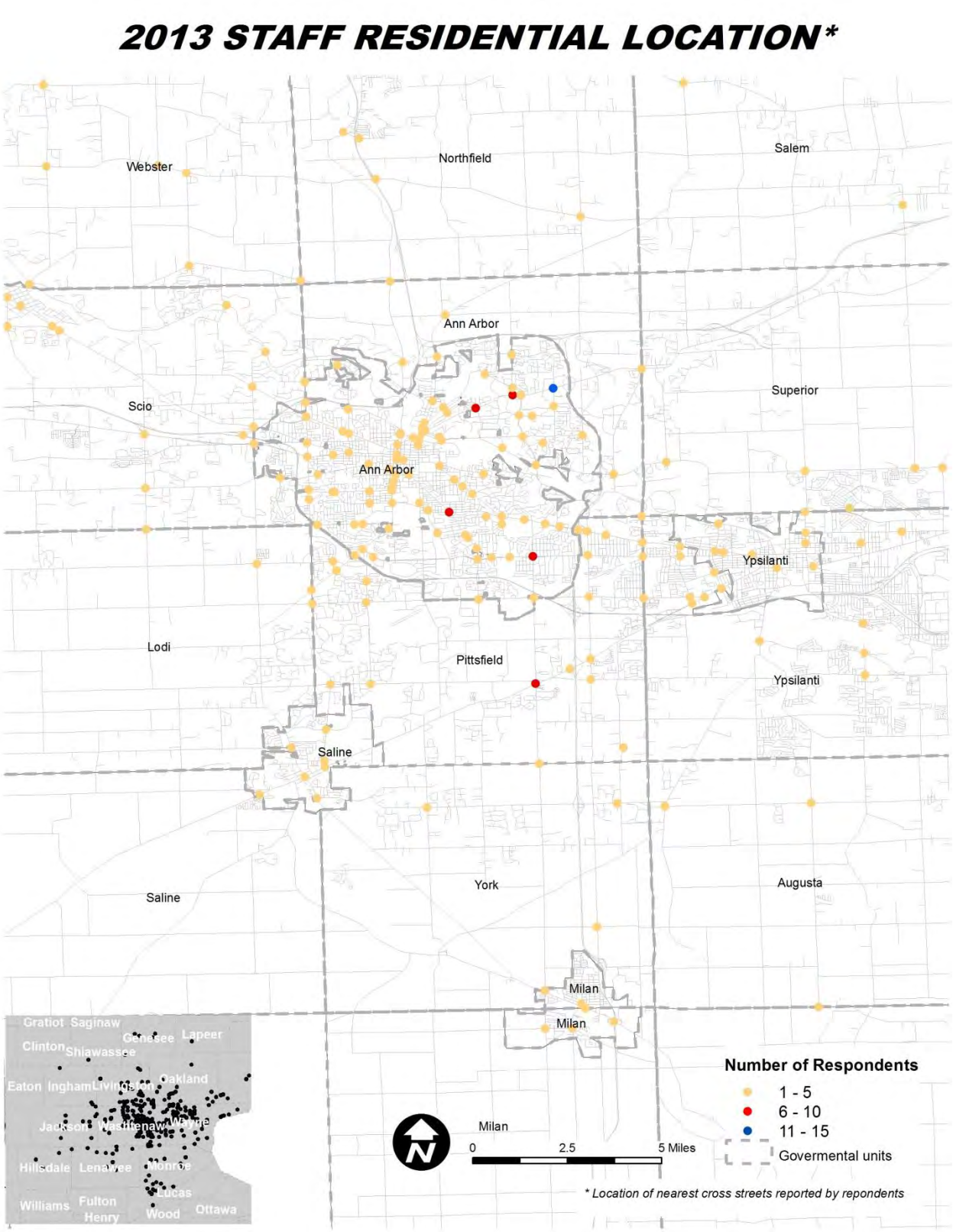
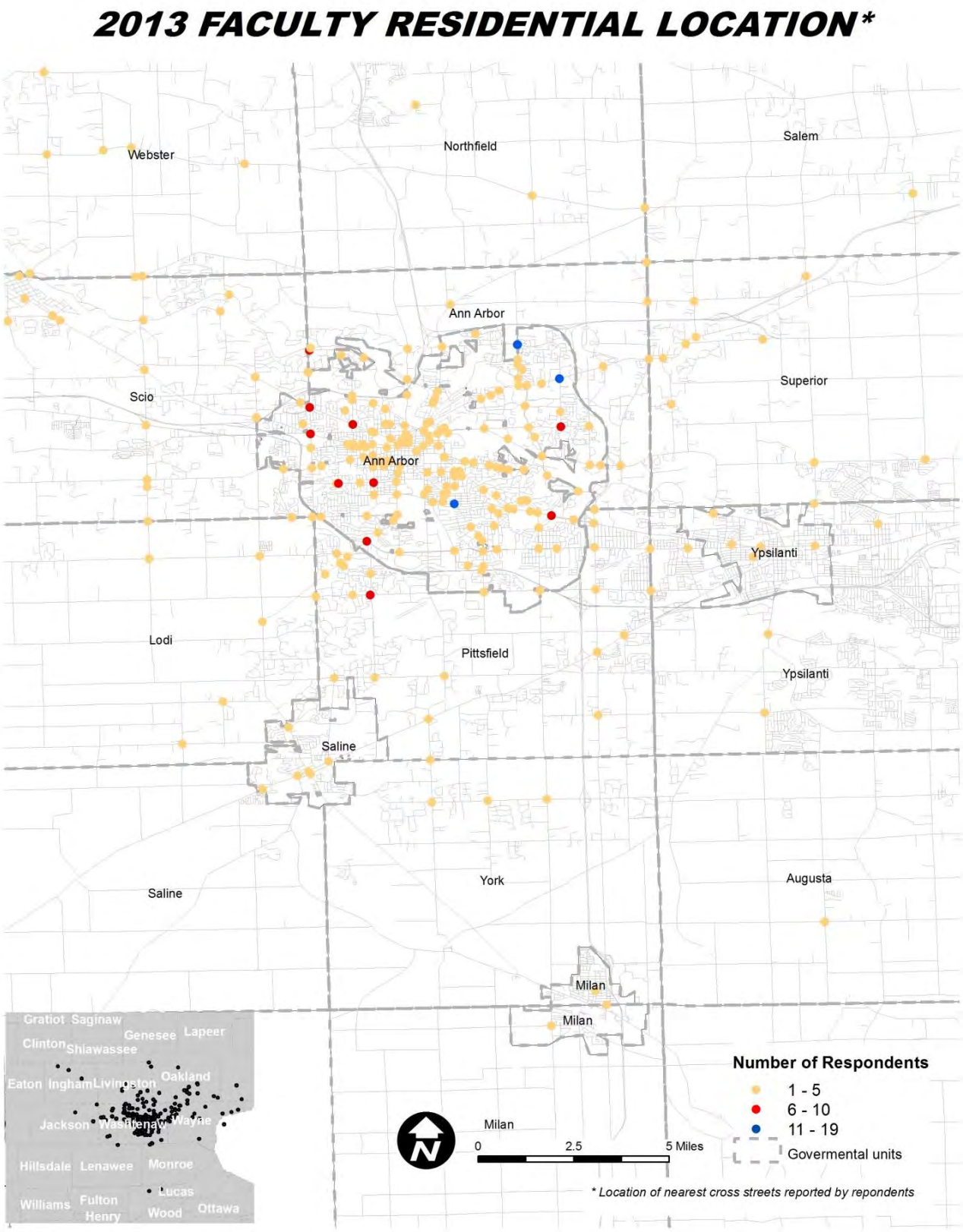

2013 STAFF RESIDENTIAL LOCATION*
Webster
Northfield
Salem
Ann Arbor
Scio
Superior
Ann Arbor
Ypsilanti
Lodi
Pittsfield
Ypsilanti
Saline
Saline
York
Augusta
Milan
Milan
Gratiot
Saginaw
Genesee
Lapeer
Clinton
Shiawassee
Eaton
Ingham
Livingston
Oakland
Jackson
Washtenaw
Wayne
Hillsdale
Lenawee
Monroe
Lucas
Williams
Fulton
Henry
Wood
Ottawa
Milan
0
2.5
5 Miles
Number of Respondents
1 - 5
6 - 10
11 - 15
Govermental units
* Location of nearest cross streets reported by repondents

Figure 4


2013 FACULTY RESIDENTIAL LOCATION*
Webster
Northfield
Salem
Ann Arbor
Scio
Superior
Ann Arbor
Ypsilanti
Lodi
Pittsfield
Ypsilanti
Saline
Saline
York
Augusta
Milan
Milan
Milan
0
2.5
5 Miles
Number of Respondents
1 - 5
6 - 10
11 - 19
Govermental units
* Location of nearest cross streets reported by repondents
Gratiot
Saginaw
Genesee
Lapeer
Clinton
Shiawassee
Eaton
Ingham
Livingston
Oakland
Jackson
Washtenaw
Wayne
Hillsdale
Lenawee
Monroe
Lucas
Williams
Fulton
Henry
Wood
Ottawa

Campus and East Campus. Finally, 12 percent of the staff worked off-campus in University-owned or leased space near the Central Campus or near Briarwood (i.e. Wolverine Tower).[23]

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.[24] 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 2013 sample show that on average, employees who are staff travel twice as far as faculty in their journey to work (11.4 miles versus 5.7 miles). Whereas somewhat more than a third of staff members live within 4 miles of campus, two-thirds of the faculty travel this relatively short distance. In contrast, staff respondents are 3 times more likely than faculty to commute more than 15 miles to the University (27 miles versus 9 miles). Compared to the 2012 sample, both the 2013 staff and faculty respondents live further away from campus. The 2013 staff travelled about 1 mile more on average while the 2013 faculty traveled about a mile and a half more to campus.

Table 8

STAFF/FACULTY WORK LOCATION CHARACTERISTICS

(percentage distribution)*

2013	Staff	Faculty
Location of Work (Building)		
University Hospital	14	7
Mott Children's Hospital	8	5
North Campus Research Complex	6	3
Taubman Bioscience	2	3
Ross Business	1	3
School of Nursing	0	2
East Hall	1	2
Medical Science Research	1	3
Other U-M owned or leased buildings	67	72
Total	**100**	**100**
Number of respondents	698	719
Location of Work (Campus)		
Central Canpus	19	40
North Campus	5	3
Medical Campus (including Health Sciences)	44	39
South Campus	14	15
East Campus	5	1
Elsewhere	13	2
Total	**100**	**100**
Number of respondents	698	719

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

[24] 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)*

2013	Staff	Faculty
Location of Work (Region)		
Central Campus-East	6	14
Central Campus-West	12	23
Health Sciences	5	3
Medical Campus	12	20
North Campus	34	22
South Campus	14	15
East Campus	6	1
Elsewhere	11	2
Total	**100**	**100**
Number of respondents	697	719
Location of Work (Sub-Region)		
Central Canpus-Northeast	3	7
Central Canpus-Southeast	3	7
Central Canpus-Northwest	8	13
Central Campus-Southwest	4	10
HealthSciences- South	8	3
Health Scences-North	4	13
Medical Campus	34	7
North Campus-North	13	22
North Campus-South	1	11
South Campus	6	4
East Campus	5	1
Elsewhere	11	2
Total	**100**	**100**
Number of respondents	697	719
Distance between Residence & Campus (location of work: Sub-Region)		
Less than 1 mi	7	11
1.0-1.99 mi	10	21
2.0-3.99 mi	18	32
4.0-5.99 mi	12	10
6.0-9.99 mi	13	11
10-14,99 mi	13	6
15-19.99 mi	8	3
20 mi. or more	19	6
Total	**100**	**100**
Mean Distance (miles)		
Number of respondents	508	573

Table 8 (continued)

STAFF/FACULTY WORK LOCATION CHARACTERISTICS

(percentage distribution)*

2013	Staff	Faculty
Distance between Residence & Building (where R works)		
Less than 1 mi	7	11
1.0-1.99 mi	10	22
2.0-3.99 mi	17	31
4.0-5.99 mi	11	10
6.0-9.99 mi	14	11
10-14,99 mi	13	6
15-19.99 mi	9	3
20 mi. or more	19	6
Total	**100**	**100**
Mean Distance (miles)		
Number of respondents	578	584

*** 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.**

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 a graduate or a professional degree (see Appendix B, Table B2).

D. 2013 FINDINGS

Section B of this report reviewed the U-M's established goals for 2025 under the themes of *Climate Action*, *Waste Prevention,* and *Healthy Environments*. Another goal discussed was creating and enhancing a culture of sustainability on campus through a fourth 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.[25]

As in the first year report, findings for Year 2 are organized around these four themes and are presented in two ways. First, selected findings from the fall 2013 survey within each thematic area are discussed.[26]

[25] For discussions of efforts to raise awareness about sustainability, see Shriberg et.al, 2013; Shriberg and MacDonald, 2013; and Marans, Shriberg, and Callewaert, 2014.

[26] Key findings 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 [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

Second, summaries of *key* findings are reported as Sustainability Indicators for the second year (2013). Changes in selected questions and indicator scores between 2013 and the 2012 baseline measures are then presented.[27] By repeatedly measuring and reporting the indicators each year, the U-M can determine if and by how much the culture of sustainability on campus is changing. We are also able to determine if change is happening among individual students by looking at responses of sophomores, juniors, and seniors who participated in the panel.

Sustainability Indicators are composite measures derived from two or more survey questions about a topic or concept.[28] Although indicators reported under the themes of Climate Action, Waste Prevention, Healthy Environments, and Community Awareness are designated as primary and the remaining indicators are noted as secondary, all indicators are viewed as important to defining the culture of sustainability on the U-M campus.

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 U-M's population compares to the population of the U. S. as a whole.[29]

We were not surprised to see that U-M respondents are more likely than the U. S. population to believe that climate change is real. Whereas 9 in ten U-M respondents said that climate change *is happening*, somewhat less than two thirds of the U. S. population responded in this manner. U-M faculty members were the most likely believers (93 percent) while students (90 percent) and staff respondents (81 percent) were somewhat least likely to say that climate change is happening. At the same time, 10 percent of the staff said they "don't know" whether or not climate change is happening and only 5 percent of students and faculty expressed uncertainty. Among the staff who indicated climate change is happening, more than three-quarters said they were "extremely sure" or "mostly sure" it was occurring whereas nine in ten students (88 percent) and most of the faculty (95 percent) expressed the same degree of certainty. Respondents in the national sample were not as convinced as the U-M respondents: just six in ten Americans who believed in climate change also indicated they were extremely or mostly sure it was occurring.[30]

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questions covering *awareness*, *behavior*, and *other* questions. Miscellaneous questions addressing behaviors and opinions are covered in the last table.

[27] Findings covering 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

[28] In a few instances, a sustainability indicator consists of a single question. For a discussion of procedures used to create sustainability indicators and their components, see Appendix D.

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

[30] We suspected that differences between U-M respondents and the national sample were attributable to many factors including local weather conditions, Ann Arbor's reputation as a relatively liberal political community, and the high level of educational attainment in the Ann Arbor area. Although we have no data on climatic conditions and the political climate in places where respondents in the national sample were living, we were able test the supposition about educational attainment. First, our colleagues at Yale provided data on the climate change questions for respondents with different levels of educational attainment. There were no significant differences in the belief that climate change is happening between respondents with high school degrees and those with college degrees. However, when, the level of certainty that climate change is happening was examined for the U.S. respondents having different levels of education, a relationship was found. That is, the proportion of respondents in the national sample who said they were "very sure" and extremely sure" increased dramatically from 46 percent for those with less than a high school degree to 57 percent (high school degree) to 73 percent (bachelor's degree or higher). The same significant relationship was found among the U-M staff; the higher the educational attainment of respondents, the more certain they were that climate change is happening.

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 2012, significant numbers of faculty, students, and staff believe they understood the issue. About three-quarters of the faculty said they could explain climate change "very well" or "fairly well". Two-thirds of the students gave these responses as did half of the staff.

In 2012, faculty respondents were much more likely than students or staff to say that climate change is *caused mostly by human activity*. Findings from the 2013 survey were similar. More than half of the faculty gave this response compared to 31 percent of the staff and 40 percent of the students. The majority of staff (59 percent) and students (55 percent) indicated that *climate change is caused by both human activity and natural causes*; 43 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 2013 than in 2012 (38 percent versus 34 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 8 percent said it was "not too important" or "not at all important". Students and staff were more divided in their views; about 4 in 10 from each group said climate chance was extremely or very important whereas less than 2 in 10 said it was not at all or not very important to them.

Despite their strong belief in climate change and feelings among many that human activity is its main cause, faculty, staff, and students varied greatly in the manner in which they act to address the issue. Whereas significant numbers make efforts to decrease their carbon footprint, others are not. For example, most faculty and staff (95 percent) said they turned off the lights when leaving their work place. Yet three-quarters of them drive to and from work. Similarly, more than 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. But 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. Two-thirds said they set their thermostats to *78 degrees or higher during warm or hot weather* and three-quarters *lower their thermostats to 65 degrees or lower in cool or cold weather*. They are also more inclined than students to *use power saving settings on their computer* (85 percent versus 75 percent) and always "limit their time in the shower" (42 percent versus 21 percent).[31] For the most part, the distribution of responses to these questions in 2013 is similar to response distributions reported in 2012.

In one item addressing efforts to conserve energy, a significant and positive change was identified. In 2013, a third of the faculty (33 percent) and staff members (36 percent) 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.

Travel behavior among members of the U-M community continues to be a source of greenhouse gas emissions. As in 2012, three-quarters of the 2013 staff and faculty respondents said the "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 used alternative modes of travel to get to and from campus were small; less than 10 percent rode an

[31] 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.

Ann Arbor Area Transportation Authority (AAATA) bus and just 4 percent of the staff said they carpooled. More faculty than staff reported using non-motorized forms of transportation (15 percent versus 5 percent).

As expected, students were much less likely to drive to campus than U-M employees. 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 (55 percent) typically walked or biked to campus and somewhat less than half said they rode the bus.

Two indicators - Conservation Behavior and Travel Behavior – represent summaries of individual actions to address climate change. The 2013 indicator scores suggest that opportunities remain for U-M's students, staff, and faculty to do more to reduce greenhouse gas emissions.

Conservation Behavior Index. As in 2012, responses to four questions were combined to create a summary indicator showing the status of conservation behavior among the 2013 student, faculty and staff respondents.[32] 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 6.9, slightly lower for staff, and significantly lower for students at 6.2. The table also presents the distribution of grouped scores (in quartiles) for each respondent group. When comparing the 2013 conservation behavior indicator scores with those reported in 2012. There were no significant changes.

Table 9

CONSERVATION BEHAVIOR INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	11	23	24
(5.01-7.50)	59	49	56
(2.51-5.00)	26	22	17
Low (0-2.50)	4	6	3
Total	**100**	**100**	**100**
Mean Score	**6.2**	**6.7**	**6.9**
Number of respondents (unweighted)	2385	709	747

Travel Behavior Index. As in 2012, 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 (2013), 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.[33] The index reflects the degree to which the mode of travel impacts the environment. Carbon-free travel (walking,

[32] 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.

[33] 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?" Response distributions to the two questions for faculty and staff were identical

biking) was assigned the highest score while "drive a car" received the lowest score.[34] 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 (7.5) whereas staff had the lowest score (1.3). Several factors such as the price of fuel, schedule changes in the University and AAATA bus systems, and campus pricing and parking policies could alter these scores in subsequent years.

Overall, indicator scores for travel behavior in 2013 are somewhat lower than the 2012 scores. The scores are lower for staff and faculty in part due to fewer walkers, bikers, and bus riders among the 2013 respondents.[35]

Table 10

TRAVEL BEHAVIOR INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013		Students	Staff	Faculty
High	(7.51-10)	55	5	14
↕	(5.01-7.50)	29	8	8
↕	(2.51-5.00)	3	8	2
Low	(0-2.50)	13	79	76
Total		**100**	**100**	**100**
Mean Score		**7.5**	**1.3**	**2.0**
Number of respondents (unweighted)		2387	740	751

Waste Prevention

Recycling and reuse of material by U-M faculty, staff, and students plays a critical role in the University's efforts to divert waste tonnage to disposal facilities. To a large extent, staff and faculty are behaving in an environmentally responsible manner while at work. Similarly, they and U-M students contribute to waste reduction at home.

Nearly all faculty and staff members said they *always* "recycle bottles, containers, and paper products" during the past year or did so *most of the time*.[36] A similarly high proportion (94 percent) 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 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", less than a third said they *sometimes or regularly* used the services.[37]

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

[35] It should be noted that the proportion of staff respondents living outside the Ann Arbor-Ypsilanti area was greater in 2013 than in 2012.

[36] The findings in this section are drawn from Appendix C, Table C5, dealing with waste prevention

[37] 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.*

A significant number of staff and faculty said they had reduced waste at home during the past year. Eight in 10 staff and 95 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 2012, 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" (64 percent versus 56 percent).

Many students engage in waste reduction activities but they are not as active as staff and faculty. For instance, 70 percent of the students (compared to 80 percent of staff and 90 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 past year, just 1 in 8 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 *39* percent said they *always* or *sometimes* "shop for things with minimal packaging".

Waste Reduction Behavior Index. As in 2012, 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.[38] 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, etc. 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 7.3; for students, it is 6.6. The table also presents for each group, the proportion of respondents whose scores are high in the top quartile on the index, those with relatively low scores, and the proportion in the middle quartiles. Index scores were identical to those reported in 2012.

Table 11

WASTE PREVENTION BEHAVIOR INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	9	24	29
↕ (5.01-7.50)	71	60	62
↕ (2.51-5.00)	18	15	9
Low (0-2.50)	2	1	**
Total	**100**	**100**	**100**
Mean Score	**6.6**	**7.0**	**7.3**
Number of respondents (unweighted)	2390	742	754

**** Less than onehalf of one percent.**

[38] As in the case of conservation behavior, the waste reduction questions for staff and faculty asked about behaviors during the past year while at work 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.

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 at places where they live. Accordingly, questions related to protecting the natural environment at home 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.[39] For faculty and staff who had lawns and did respond, 4 in 10 said they "water their lawns" regularly or sometimes and about 1 in 6 regularly "use lawn fertilizer". The number who had used "commercial herbicides or pesticides" was smaller; just 1 in 12 said they used these substances regularly and another 16 percent said they sometimes used them.

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 (17 percent) regularly or sometimes watered the lawn, just 3 percent regularly used lawn fertilizers, and 2 percent said they had used a commercial herbicide or pesticide during the past year. Three-quarters (72 percent) 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 fifth (21 percent) had taken this action.

With respect to obtaining sustainable foods, questions were asked about household purchases and growing ones' own fruits and vegetables.[40] Among the staff and faculty, 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 nearly twice as likely as staff to say they did so *always* or *most of the time* (24 percent versus 15 percent). About 1 in 7 of the 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 said *all/most* or *more than half* and 1 in 5 said they *don't know*. Staff members and students were less likely to purchase sustainable foods. One in 4 staff members and a fifth of the students purchased sustainable foods at least half of the time and another 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 3 in 5 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.

[39] 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.

[40] 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.

Sustainable Food Purchases Index. This index consists of responses to three questions. Two dealt with the frequency of buying "locally grown or processed food" and "organic food" during the past year while the third asked 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 (6.2) with students being somewhat lower (5.3) on average than staff (5.8). Modest differences were found between these 2013 index scores with those compiled in 2012 (faculty-6.3; students-5.5; staff-5.7).[41]

Table 12

SUSTAINABLE FOOD PURCHASING INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	16	20	27
(5.01-7.50)	49	50	52
(2.51-5.00)	26	26	18
Low (0-2.50)	9	4	3
Total	**100**	**100**	**100**
Mean Score	**5.3**	**5.8**	**6.2**
Number of respondents (unweighted)	1061	549	538

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 (8.9) while faculty respondents have the lowest (6.1). The index scores for faculty and staff are about the same as in 2012. However, the score for students is significantly higher in 2013 that the score in 2012. [8.9 versus 8.6 ($p<.05$)]

Similarly, the index scores for all students who participated in the panel increased significantly. For example, the score for students who were juniors in 2012 increased from 8.6 in 2012 to 8.9 in 2013 when they were seniors. Without further analysis, it is unclear whether the relatively high student scores during the two years reflect a (growing) concern for protecting the environment, or a laissez faire attitude about property maintenance, time limitations, or indifference about the appearance of one's property.

Table 13

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

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	83	45	41
(5.01-7.50)	8	25	24
(2.51-5.00)	7	19	20
Low (0-2.50)	2	11	15
Total	**100**	**100**	**100**
Mean Score	**8.9**	**6.4**	**6.1**
Number of respondents	2390	602	649

[41] The 2013-2012 differences in sustainable food purchases for faculty, staff and students are statistically insignificant.

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". Questions about awareness were asked in both the 2012 and 2013 surveys and dealt with travel and transportation, waste prevention and conservation practices, protecting the natural environment, sustainable foods, and climate change. Respondents were also asked in both surveys about their awareness of the 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 (47 percent) said they know "a lot" or "a fair amount". Graduate students know more about AAATA than undergraduates (54 percent versus 37percent).

Similarly, staff and faculty are generally 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 (30 percent) of the student body.

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 13 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.

For the most part, low levels of awareness about these modes of transportation were comparable to those reported in 2012. However, staff respondents tended to know significantly more about Greenride/iShareaRide in 2013 than they knew in 2012($p<.001$). In 2012, just 8 percent indicated some level of awareness; in 2013, that number increased to 17 percent.[42] 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.

Waste Prevention. Staff, faculty, and students varied in the degree to which they know about recycling. At least 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 somewhat higher in 2013 than in 2012. In fact, differences between the two years for faculty knowing glass and plastic recycling were significant. For example, 84 percent said they know something about recycling glass in 2012; in 2013, 89 percent of the faculty knew about glass recycling.

All groups know considerably less about recycling electronic waste and the U-M's Property Disposition services. Whereas somewhat 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 14 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.*

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

Protecting the Natural Environment. Levels of awareness about protecting the natural environment differ 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; 14 percent responded "not much or nothing". Students know even less; a quarter said they know "not much or nothing" and 38 percent said they know "a little". Compared to the 2012 sample, staff respondents in 2013 were significantly more likely to know something about protecting waterways (86 percent versus 81 percent; $p<.01$).

Nearly half of staff and faculty (45 percent) 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 responded in this manner; just a third of the students gave these responses. Nonetheless, the 2013 sample of students were more likely to report knowing something about sustainable ways of maintaining property than the 2012 sample (73 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 (73 percent) of faculty members know "a lot" or "a fair amount" about *organic foods* compared 62 percent of the staff and 57 percent of the student respondent.

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 8 percent to 15 percent. For staff, the range was 12 to 30 percent, and among students, between 18 percent and 33 percent said they know "not much or nothing" about the other types of sustainable food.

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[43]. For example, if respondents said they know "a lot" about each individual type

[43] 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.

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 Year 2. The distribution of index scores for 2013 , 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)

2013	Students	Staff	Faculty
High (7.51-10)	5	2	3
(5.01-7.50)	24	16	16
(2.51-5.00)	44	31	35
Low (0-2.50)	27	51	46
Total	**100**	**100**	**100**
Mean Score	**4.3**	**3.0**	**3.3**
Number of respondents (unweighted)	2387	738	752

Table 15

WASTE PREVENTION AWARENESS INDICES , for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	7	18	19
(5.01-7.50)	29	33	35
(2.51-5.00)	41	34	35
Low (0-2.50)	23	15	11
Total	**100**	**100**	**100**
Mean Score	**4.2**	**5.1**	**5.4**
Number of respondents (unweighted)	2396	743	754

Table 16

AWARENESS OF NATURAL ENVIRONMENT PROTECTION INDICES, for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	5	8	12
(5.01-7.50)	15	26	26
(2.51-5.00)	32	36	34
Low (0-2.50)	48	30	28
Total	**100**	**100**	**100**
Mean Score	**3.3**	**4.3**	**4.6**
Number of respondents (unweighted)	2394	740	754

Table 17

SUSTAINABLE FOOD AWARENESS INDICES , for STUDENTS, STAFF, FACULTY

(percentage distributions and mean scores)

2013	Students	Staff	Faculty
High (7.51-10)	13	18	23
(5.01-7.50)	27	31	37
(2.51-5.00)	37	33	31
Low (0-2.50)	23	18	9
Total	**100**	**100**	**100**
Mean Score	**4.5**	**5.1**	**5.7**
Number of respondents (unweighted)	2394	743	753

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 (3.0 and 3.3 versus 4.3).With respect sustainable foods, students know the least (4.5) while faculty members are most knowledgeable (5.7).

For the most part, levels of awareness, based on index scores increased between 2012 and 2013. However, these increases were not uniform for all segments of the university community. For example, significant increases in awareness of waste prevention practices were reported among students (4.0 to 4.2; $p<.01$) and faculty (5.1 to 5.4; $p<.05$) but not among the staff (5.0 to 5.1; ns). There was also a significant increase in staff and student awareness of sustainable foods between 2012 and 2013 while there was no change in the faculty's awareness scores. Staff scores increased from 4.7 to 5.1 over the year ($p<.01$) while student scores increased from 4.3 to 4.5 ($p<.05$).

Indicator scores for the panel of students that participated in the both the 2012 and the 2013 surveys also suggest that there is more awareness of sustainability issues on campus. Among the 2013 sophomores who participated in the survey (as freshmen in 2012), awareness indicator scores for travel and transportation, waste prevention, and sustainable foods increased significantly. For instance, their waste prevention scores increased from 4.0 in 2012 to 4.4 in 2013. Similarly, junior panel members increased from 3.9 (as sophomores) to 4.1 while seniors increased from 4.0 in 2012 to 4.3 in 2013. Without further

analysis, it is unclear whether these increases for individual students are attributable to their intrinsic interest in sustainability, to U-M's efforts to raise levels of awareness, or other factors.

U-M Sustainability Initiatives. In 2012, 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 2013 surveys.

In 2013, 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).

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 *conserving energy*, *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.* Not surprisingly, students knew less than either faculty or staff about the U-M's efforts to *promote ride-sharing* 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 2013 data. Mean scores were then calculated for students, staff, and faculty and are shown in Table 18. The Table clearly indicates that staff was most knowledgeable about what the U-M was doing about sustainability (5.6) whereas faculty and students were less knowledgeable (5.1 each).

Table 18

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

(percentage distributions and mean scores)

2013	All Students	Staff	Faculty
High (7.51-10)	12	17	9
(5.01-7.50)	38	40	41
(2.51-5.00)	36	34	40
Low (0-2.50)	14	9	10
Total	**100**	**100**	**100**
Mean Score	**5.1**	**5.6**	**5.1**
Number of respondents (unweighted)	2374	741	750

A comparison of these indicator scores with the 2012 scores suggests that levels of awareness among students remained the same while staff awareness increased somewhat and awareness among faculty increased significantly (4.9 to 5.1; $p<.05$).

Among all undergraduate students participating in the panel, levels of awareness of campus sustainability activities did not change between 2012 and 2013 years. However, awareness of the U-M's sustainability efforts by the 2012 freshmen panel members increased from 5.6 to 6.0 in their sophomore year.

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.[44] 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.*[45]

The numbers of faculty, staff, and students that said they participated in one of these activities or events was low. Faculty and staff members were most engaged through participation in a Planet Blue Open House and an *e-Waste Recycling event* where just 1 in 5 responded affirmatively. For each of the remaining U-M events or activities included in the questionnaires, less than10 percent or less of the faculty and staff gave an affirmative answer when asked whether or not they participated. As was learned from the 2012 survey, U-M students indicated limited engagement in sustainability activities on campus. In fact, just 15 percent said they participated in one of the many *sustainability organizations on campus* and less than 1 in 5 (18 percent) said they had taken a *course that addressed sustainability.* For the most part, there was little if any change between 2012 and 2013 in the proportion of students who were engaged in sustainability activities on campus. However, detailed data indicate that among juniors, a higher percentage in 2013 indicated they had taken a course dealing with sustainability than in the 2012 juniors (26 percent versus 21 percent)

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 1.4 and staff and faculty having a value of 0.7 each.[46]

[44] With the exception of the newly established Planet Blue Ambassadors Certificate Program, participants in the 2012 surveys were also asked about their involvement in each of these activities.

[45] The Sustainability Workplace Certificate Program was not included in the 2012 staff/faculty questionnaire.

[46] Alternative indices were created that take into account the new 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 index scores are somewhat lower –1.2 for students, 0.6 for staff, and 0.5 for faculty. It is anticipated that both the original U-M Sustainability Engagement Indices and the alternative indices will be reported in the future so as to determine the full extent of change in U-M engagement activities.

Table 19

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

2013	Students	Staff	Faculty
High (7.51-10)	2	1	**
(5.01-7.50)	3	1	1
(2.51-5.00)	8	3	2
Low (0-2.50)	87	95	97
Total	**100**	**100**	**100**
Mean Score	**1.2**	**0.7**	**0.7**
Number of respondents	2359	740	742

**** Less than onehalf of one percent.**

When comparing engagement in sustainability activities on campus between 2013 and 2012, there were no significant differences. Nonetheless, staff respondents reported lower levels of engagement in 2013 than they did in 2012 (0.9 to 0.7). Students who participated in the panel were more engaged in the second year of the survey than in the first. The U-M Sustainability Engagement index score increased from 1.4 to 1.8 ($p<.001$).

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, 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, somewhat less than half (48 percent) answered "yes" when asked whether they had given money *to an organization or advocacy group* during the past year and 54 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, just 1 in 10 had volunteered for an *environmentally-related organization or advocacy group.*

For staff, a quarter had contributed money while 4 in 10 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. More than 1 in 5 said they had *volunteered for an organization or advocacy group during the past year and* somewhat less than 1 in 5 had *given money to an organization or advocacy group* supporting an environmental issue during the past year. Finally, *a third had voted for a candidate for public office because of his/her position* on environmental issues.

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

2013	Students	Staff	Faculty
High (7.51-10)	2	1	2
(5.01-7.50)	4	4	4
(2.51-5.00)	13	16	32
Low (0-2.50)	81	79	62
Total	**100**	**100**	**100**
Mean Score	**1.8**	**1.9**	**2.9**
Number of respondents	2393	741	754

When comparing general engagement on sustainability issues between 2013 and 2012, there were no significant differences for staff and faculty. However, engagement among students declined over the year from 1.9 to 1.8 ($p<0.05$). This decline was also reflected in data covering the student panel. Students who participated in the panel were less engaged in the second year of the survey than in the first year; the General Sustainability Engagement Index decreased from 2.0 to 1.8 ($p<0.05$).

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 most influential in shaping your views about sustainability?"[47]

Faculty members were most committed to sustainability with more than a quarter of them saying they were *very committed*. About 1 in 7 students and the same proportion of staff gave this response. While the majority of respondents from each group said they were somewhat committed, there was a significant number who said they were *not very committed* or *not committed at all to* sustainability; 10 percent of faculty, 21 percent of the staff and 24 percent of the student body indicated they were uncommitted. Among all students, those in graduate school reported the highest level of commitment; one in 5 said they are very committed to sustainability.

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 level of commitment. Media was also mentioned by half of the staff and a third of the student respondents. Friends, classmates, and family were also mentioned as most influential is shaping the views of students. As in 2012, the influence of U-M professors and instructors on student views increased in importance for

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

each cohort of undergraduates. Only 5 percent of freshmen identified the role of faculty in shaping their views while 11 percent of sophomores, 17 percent of juniors and 19 percent of seniors mentioned U-M professors/instructors as being influential.

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

2013	Students	Staff	Faculty
High (7.51-10)	17	15	28
(5.01-7.50)	59	64	62
(2.51-5.00)	21	19	9
Low (0-2.50)	3	2	1
Total	**100**	**100**	**100**
Mean Score	**6.3**	**6.4**	**7.2**
Number of respondents	2394	740	749

For students, the degree of commitment and reflected by the indicator scores did not change between 2012 and 2013 whereas the commitment index scores for staff and faculty are marginally higher in 2013. For students participating in the panel, commitment is unchanged from 2012.

Dispositions. In addition to behavioral, awareness, and commitment questions, a third 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 driving to work or moving to their current residence. During the initial administration of the questionaires in 2012, a series of "people should" questions were asked across multiple modules. Respondents were asked to consider a range of attitudes such as whether they disagreed or agreed with statements like people should recycle even if it is inconvenient or that people should use public transportation, like buses or trains, even if it is less convenient. While the initial responses to these questions were interesting, the questions were determined to be less important for providing insights on key campus sustainability goal areas than other questions so they were deleted in the 2013 surveys.[48] 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.

[48] Deletion of questions was also prompted by a desire to shorten the length of the questionnaire creating less of a burden for respondents.

Once set of disposition questions reveals interesting change scores between 2012 and 2013. 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 2013, fewer than 3 in 10 students responded that they "strongly support" or "moderately support" such a policy. Staff, however, indicated greater support for this item in 2013 with 6 in 10 reporting "strongly support" or "moderately support" compared with 5 in 10 in 2012. All these differences were found to be significant whereas faculty support remained the same in both years (7 in 10 said "strongly support" or "moderately support"). Student support for the other items in the set of questions also decreased while faculty and staff support increased or remained 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*. In 2013, support for these items decreased slightly for students, and stayed the same or decreased slightly for staff and faculty at the $41-$50 level. At the opposite end of the scale ($0) slightly higher responses rates were found for most items among students, staff, and faculty.

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 than in 2012 for all three groups. Differences in scores were statistically significant (faculty, $p<.01$; students and staff, $p<.05$). Similar declines were found in panel responses with the all student score falling from 3.4 to 3.0 ($p<.001$). This could indicate less support for campus sustainability initiatives or a sentiment that it is not the responsibility of individuals to fund these campus initiatives.

Table 22

DISPOSITION TOWARD SUSTANABILITY INDEX , BY STUDENTS, STAFF, FACULTY

2013	Students	Staff	Faculty
High (7.51-10)	9	9	27
(5.01-7.50)	12	10	17
(2.51-5.00)	32	18	22
Low (0-2.50)	47	63	34
Total	**100**	**100**	**100**
Mean Score	**3.3**	**2.6**	**4.8**
Number of respondents (unweighted)	2379	731	741

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. While the proportions of students and staff report knowing about what was happening at U-M were the same as they were in 2012, faculty respondents reporting knowing significantly more about sustainability initiatives in 2013. 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 2013 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 foods from sustainable sources.*

In 2012, slightly better grades were assigned by students than by staff with faculty giving the lowest grades. In, 2013, students who knew about U-M's sustainability efforts tended to rate some efforts more favorably than staff or faculty (recycling, sustainable foods), but ratings of other initiatives were either on par with or below those of staff and faculty.

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.[49] Table 23 shows that, the overall performance ratings of the U-M's sustainability initiatives were fairly comparable for the 2013 samples although staff respondents were somewhat more favorable in their grading.
The table also reveals that the ratings of students declined significantly from those given by students in 2012 (6.6 to 6.4; $p<.001$). For students participating in the panel, their ratings in 2012 and 2013 were comparable. In both years, the average rating of these students was 6.8.

Table 23

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

(percentage distributions and mean scores)

2013	All Students	Staff	Faculty
High (7.51-10)	22	22	17
(5.01-7.50)	56	63	64
(2.51-5.00)	21	14	18
Low (0-2.50)	1	1	1
Total	**100**	**100**	**100**
Mean Score	**6.4**	**6.8**	**6.5**
Number of respondents (unweighted)	1918	583	549

Summary

Table 24 summarizes the 2013 indicator mean scores and changes, if any, for students, staff, and faculty. The table reveals several things. 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.

[49]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 24

SUMMARY SUSTAINABILITY CULTURAL INDICATORS for STUDENTS, STAFF, FACULTY

(mean scores & change from 2012)

2013	Students	Staff	Faculty
PRIMARY			
Climate Action			
Conservation Behavior	6.2	6.7	6.9
Travel Behavior	7.5	1.3	2.0
Waste Prevention			
Waste Prevention Behavior	6.6	7.0	7.3
Healthy Environments			
Sustainable Food Purchases	5.3	5.8	6.2
Protecting the Natural Environment	8.9 ↑	6.4	6.1
Community Awareness			
Sustainable Travel & Transportation	4.3	3.0	3.3
Waste Prevention	4.2 ↑	5.1	5.4 ↑
Natural Environment Protection	3.3 ↑	4.3 ↑	4.6 ↑
Sustainable Foods	4.5 ↑	5.1 ↑	5.7
U-M Sustainability Initiatives	5.1	5.6	5.1 ↑
SECONDARY			
Sustainability Engagement at U-M	1.4	0.7	0.7
Sustainability Engagement Generally	1.8 ↓	1.9	2.9
Sustainability Commitment	6.3	6.4	7.2
Sustainability Disposition	3.3 ↓	2.6 ↓	4.8 ↓
Rating U-M Sustainability Initiatives	6.4 ↓	6.8	6.5

Significant changes are based on analyses the of the 2012 and 2013 mean scores shown in Appendix F, Table F2.

↑ significant change (p<.001)

↑ significant change (p<.01)

↑ significant change (p<.05)

Second, the travel behavior of students is more in line with the goal of greenhouse gas reduction than travel to and from campus by 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 matter 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, members of the staff are most aware of the range of the U-M's sustainability initiatives.

Finally, the table shows that compared to 2012, members of the University community tend to be more knowledgeable about sustainability. Indicator scores for 2013 are significantly higher reflecting a greater

awareness of natural environment protection, sustainable foods, and waste prevention. However, levels of commitment and the behaviors of students, staff, and faculty are unchanged. And each group is less disposed to do anything about it.[50]

Data covering index scores for the panel of undergraduates suggest that individual students learned about sustainability and were more engaged in sustainability activities between the 2012 and 2013 surveys. Table 25 shows a significantly greater understanding of both waste prevention practices and sustainable foods. These students also reported a significantly higher level of engagement in sustainability activities on campus. That is, significant numbers joined an organization addressing sustainability issues, signed up for a course that dealt with sustainability, and participated in EarthFest. At the same time, the student panel was less disposed that they were in 2012 to pay for sustainability initiatives on campus.

Table 25

STUDENT PANEL SUSTAINABILITY INDICES - 2012-2013

(mean scores)

INDICES	Undergraduate Panel							
	All		Fr-Soph		Soph-Jr		Jr-Sr	
	2012	2013	2012	2013	2012	2013	2012	2013
PRIMARY								
Climate Action								
Conservation Behavior	**6.2**	**6.1**	6.2	6.1	6.0	6.1	6.2	6.2
Travel Behavior	**8.1**	**8.3**	7.7	8.4	8.5	8.4	8.2	8.4
Waste Prevention								
Waste Prevention Behavior	**6.5**	**6.6**	6.4	6.5	6.6	6.7	6.6	6.7
Health Environments								
Sustainable Food Purchases	**5.2**	**4.9**↓	4.9	5.0	5.8	5.0	4.9	4.8
Protecting the Natural Environment	**8.5**	**9.0**↑	[b]	8.8	8.5	9.1	8.6	9.1
Community Awareness								
Sustainable Travel and Transportation	**4.3**	**4.3**	4.0	4.3	4.1	4.1	4.6	4.5
Waste Prevention	**4.0**	**4.3**⬆	4.0	4.4	3.9	4.2	4.0	4.3
Natural Environment Protection	**3.1**	**3.0**	3.2	3.3	2.9	3.0	3.1	2.9
Sustainable Foods	**4.0**	**4.3**⬆	4.1	4.4	3.9	4.1	4.0	4.5
U-M Sustainability Initiatives	**5.7**	**5.7**	5.9	6.0	5.5	5.6	5.6	5.5
SECONDARY								
Sustainability Engagement at U-M	**1.4**	**1.8**⬆	1.0	1.9	1.5	1.7	1.6	1.7
Sustainability Engagement Generally	**2.0**	**1.8**↑	2.3	2.0	2.1	1.8	1.8	1.5
Sustainability Commitment	**6.2**	**6.1**	6.3	6.3	6.0	5.9	6.3	6.1
Sustainability Disposition	**3.4**	**3.0**↓	3.8	3.2	3.3	3.0	3.1	2.6
Rating U-M Sustainability Initiatives	**6.8**	**6.8**	7.1	7.0	6.7	6.6	6.7	6.7
number of respondents[a]	838	838	313	313	231	230	263	263

[a] The total number of respondents include 31 students who participated in the panel as seniors in both 2012 and in 2013.

[b] 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 (p<.001)**

⬆ **significant change (p<.01)**

↑ **significant change (p<.05)**

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

The sustainability indicators can be summarized in other ways based on the interests of academic researchers and administrative and operations personnel representing different units within the University. One way is to determine if and how indicators differ for respondents associated with different parts of the U-M Ann Arbor campus. For example, index scores can be calculated for University employees whose primary work place is located in the different campuses and regions making up the U-M.[51] Table 26 summarizes indicators for respondents (staff and faculty together) by the campus where they have their primary office or place of employment. In part, these campuses (and the Health Sciences region) are defined by the Plant Operation Office as maintenance zones. It should be noted that the numbers of respondents from South Campus and from East Campus 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 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 2012, faculty and staff working in the Central Campus' east region and 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 is South Campus and elsewhere is low.

Table 26 also shows if and where there are significant changes in the index scores. For instance, awareness of waste prevention, sustainable foods, and natural resource protection among staff and faculty was greater among those employed in buildings in the Health Sciences region during 2013 than in 2012. And despite a relatively high level of engagement, employees from the South Campus reported significantly lower levels of engagement in 2013 than in 2012.[52]

[51] Regions are defined by the U-M Plant Blue Operations Team for administrative/operational purposes. Several buildings within the Health Sciences region are often included in as part of the Medical Campus.
[52] Appendix E Table E2 shows the 2012 and 2013 index scores for the 15 indicators.

Table 26

SUMMARY SUSTAINABILITY CULTURAL INDICATORS for STAFF/FACULTY, by CAMPUS AND REGION

(mean scores & change from 2012)

2013	Central Campus West	Central Campus East	North Campus	Medical Campus	Health Sciences	South Campus	East Campus
PRIMARY							
Climate Action							
Conservation Behavior	**6.9**	**6.9**	**7.0**	**6.1**	**6.8**	**7.6**	**6.9**
Number of respondents	259	147	214	378	230	50	54
Travel Behavior	**3.2**	**2.7**	**2.4**	**0.8**	**2.1**	**0.6**	**0.2**
Number of respondents	262	149	217	397	234	50	53
Waste Prevention							
Waste Prevention Behavior	**7.3**	**7.3**	**7.4**	**6.6**	**7.1**	**7.2**	**7.1**
Number of respondents	263	149	217	400	234	50	54
Healthy Environments							
Sustainable Food Purchases	**6.4**	**5.5**	**5.9**	**5.6**	**5.9**	**5.5**	**6.4** ↑
Number of respondents	196	109	156	287	162	35	38
Protecting the Natural Environment	**7.1**	**6.4**	**7.1**	**6.2**	**6.0**	**6.1**	**6.0**
Number of respondents	220	122	166	350	188	40	48
Community Awareness							
Sustainable Travel & Transportation	**4.1**	**3.4**	**4.0**	**2.6**	**3.6**	**2.8**	**2.3**
Number of respondents	262	148	216	398	234	50	54
Waste Prevention	**5.4**	**5.7**	**5.6**	**4.4**	**5.7** ↑	**4.9** ↓	**6.0**
Number of respondents	263	149	217	400	235	50	54
Natural Environment Protection	**4.3** ↑	**4.5**	**4.6**	**4.0**	**4.9** ↑	**4.2**	**4.6**
Number of respondents	263	149	217	398	235	50	54
Sustainable Foods	**5.8**	**5.1**	**5.4**	**4.8**	**5.6** ↑	**4.9**	**5.0**
Number of respondents	263	149	217	400	234	50	54
U-M Sustainability Initiatives	**5.4**	**5.4**	**5.7**	**5.3**	**5.7**	**6.1**	**5.6**
Number of respondents	262	148	217	399	234	50	54
SECONDARY							
Sustainability Engagement at U-M	**1.5**	**1.1**	**0.8**	**0.2**	**0.9**	**1.6** ↓	**0.6**
Number of respondents	257	146	209	394	229	48	51
Sustainability Engagement Generally	**2.6**	**2.4**	**2.1**	**1.7**	**2.3**	**2.0**	**2.2**
Number of respondents		149	217	400	234	50	54
Sustainability Commitment	**7.1**	**7.0**	**6.9**	**6.0**	**6.7**	**6.3**	**6.3**
Number of respondents	262	148	217	396	235	50	54
Sustainability Disposition	**3.7**	**3.1**	**3.1** ↓	**2.6**	**3.4**	**3.3**	**3.2**
Number of respondents	256	146	215	395	232	50	52
Rating U-M Sustainability Initiatives	**6.6**	**6.7**	**6.6**	**6.8**	**6.9**	**6.6**	**6.9**
Number of respondents	192	105	162	309	186	45	43

Significant changes are based on analyses the of the 2012 and 2013 mean scores shown in Appendix E, Table E2

↑ **significant change (p<.001)**

↑ **significant change (p<.01)**

↑ **significant change (p<.05)**

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 second year including cultural indicator scores and their changes, if any that occurred since 2012. These changes by no means represent trends nor do they portray a shift in sustainability culture on campus. They simply represent dimensions of culture during the first two years of the program.

In a few months, a third wave of data will be collected from new samples of U-M's students, staff and faculty and from the panel of undergraduate students.[53] Findings from the 2014 survey will indicate if there is a pattern to the changes that occurred between 2012 and 2013 and if any new changes have taken place as a result of specific University initiatives or other factors. In October, 2014, a web-survey, similar in content will be launched with the targeted number of respondents. The target numbers will be the same as in the 2012 survey. Additional efforts will be made to maintain the 2013 freshmen, sophomores, and juniors who participated in the panel so that individual changes and their causes can be analyzed and reported in 2015 and beyond.[54]

On-Going Analysis of 2012 and 2013 Data

As mentioned earlier, findings covered in this report are primarily descriptive showing differential responses among the U-M's students, staff, and faculty. It is expected that the data will be further examined in order to test hypotheses and consider factors that may be associated with individual question responses, indicator scores or changes of either. The panel data might also be examined to determine if certain antecedent conditions affect individual change. For instance, it is possible that, for students participating in both the 2012 and 2013 surveys, their 2012 place of residence or selected academic major may contribute to their increased level of engagement in campus sustainability activities which in turn, impacts their growing knowledge about sustainable foods and waste prevention practices. And for faculty and staff, characteristics such as gender, housing tenure and length of residence may be associated with their behavior vis-à-vis protecting the natural environment. 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. While some 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 on one or more facets of sustainability may want to examine the data. Finally, the data offer a rich resource to graduate students throughout the University who are looking for thesis or dissertation topics. In anticipation of such requests, mechanisms are available for individuals to make inquiries about the data and access them

It is also planned to analyze the 2012 and 2013 SCIP data in conjunction with contextual 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.[55] Environmental indicators for individual buildings can be merged with survey data covering respondents from those buildings allowing relationships to be examined between specific environmental measures and associated behaviors and attitudes. Currently, we are compiling such data for

[53] The panel will be supplemented by a new set of sophomores who were freshmen in 2013whereas 2013 seniors will be dropped from the panel.
[54] Current plans are to eliminate questions so as to shorten the length of the 2014 questionnaire administered to the panel. Additionally, consideration is being given to increasing the incentives offered to panel members.
[55] See http://sustainability.umich.edu/report/2013/ and http://www.ocs.umich.edu/reporting.html

each year on building energy costs per square foot, tonnage of recycled material, and tonnage of waste going to landfills for the different regions and sub-regions of the campus. In subsequent years when longitudinal survey data are available, it will be possible to look at the degree to which changes in environmental conditions impact changes in behaviors and vice versa. Such work could contribute to the development of predictive models demonstrating how changes in behavior impact operating expenditures. For instance, it would be possible to develop a model 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 U-M campus, the Planet Blue Operations Team's regions, and in some cases, sub-regions. This presents opportunities to conduct experiments or trial programs in some places and not in others in order to determine the impact of a new initiative. For example, consideration might be given to launching a new form of recycling or a new marketing strategy for energy conservation in some regions (or sub-regions) and not in others. Examining relevant behavioral responses in the two types of regions (experimental and non-experimental) could help in determining the degree to which the new initiative has been successful. Currently, we are working with the Planet Blue Operations Team and others to initiate 2014-2015 programs that are geographically targeted so that their impacts can be assessed using data from the 2015 and earlier surveys

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 U-M 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 second year report is available on the web.[56] Second, we are making efforts to discuss our work at professional and academic meetings and will continue to do so in the months ahead. In 2012 and 2013, we presented an overview of SCIP and the 2012 findings at venues in India, Ireland, and Taiwan in addition to groups throughout the U.S. These international presentations have continued to date (Brazil, Great Britain) and several are planned later in 2014 and in 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.

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

APPENDICES

Appendix A: Methodology

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

The staff and faculty sample was drawn by the U-M's Human Resources Records and Information Services. To be eligible employees had to meet two criteria. They had to be 1) eligible for benefits, and 2) employed on September 1, 2013 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 14,500 students, 2,100 faculty and 1,850 staff were contacted during the fall semester, 2013. In addition to the annual cross-section, several steps were taken in selecting a panel of undergraduate students to be surveyed annually until graduation. First, uniqnames of all undergraduates who completed the 2012 survey were compiled and sent to the Office of the Registrar. The Office of the Registrar then produced a list of these students who were registered as full-time undergraduate students in fall 2013. This included 2012 seniors who were still registered as seniors in 2013. Finally, all listed students were sent an e-mail inviting them to participate in the 2013 survey as members of the panel. All were contacted and asked to participate in the survey

Every case was first sent an e-mail from U-M President Mary Sue Coleman inviting them to participate in the survey. The initial e-mail containing the link to the web survey was sent during the first week of November, 2013. Over the next few days, a follow-up e-mail was sent to non-respondents instructing them how to search for the invitation e-mail in their Google SPAM folder.[57] One week later, an email video reminder from U-M Swim and Diving coach Mike Bottom (additional description is provided below in Inducements and Incentives) was sent to all non-responders immediately followed by a standard ISR reminder containing a link to the survey. During the last week in November a final email reminder from ISR with the link to the survey was sent to all faculty and staff non-responders. The same information was sent to all student non-responders in early December.

In order to achieve the targeted number of respondents, a supplemental sample of 6,000 undergraduate students (1,500 for each class), 500 graduate students, 350 staff, and 100 faculty was sent President Coleman's invitation email containing a link to the survey. The survey was closed just prior to the end of the fall semester.

Completed Questionnaires: 4,197 students accessed the survey with 4,018 (95.7%) answering enough questions (more than 80 percent of the questions to be considered a completed interview. Among the staff and faculty, 1,782 accessed the survey, with 1,549 (86.9%) answering enough questions be considered a completed interview.

[57] Early in the emailing process, it was learned that some designated respondents were receiving the emailed letter from President Coleman, but they were not receiving the email with the link to complete the survey. A plain text email was sent out to all non-responders providing instructions on how to search for the link in their SPAM folder, if recipients were still unable to find it, they were asked to send an email to ISR and the link would be manually emailed to him/her.

Response rates: Student response rates for cohorts reported in Table 2 are based on figures provided by the Registrar's office. As noted, some students identified themselves with a higher or lower class than their official designation. For example, 5 students or 0.6 percent of those who were officially designated as freshmen said they were sophomores. And 148 students who identified themselves as freshmen were sophomores according to the Office of the Registrar.[58]

Inducements and Incentives: A key factor influencing response is the set of inducements and incentives for the students, staff, and faculty. The initial personalized e-mail from President Coleman emphasized the importance of the survey and the recipient's participation. Follow-up reminders to those who had not responded were also important in encouraging recipients to participate. In this regard, a second approach was used involving a video by Mike Bottom, head coach of U-M's men's and women's swimming and diving teams. The approach was patterned after the success of the 2012 Beilein experiment involving a one-minute reminder video prepared by U-M's Athletic Department. That video showed Coach Beilein talking about the importance of the sustainability survey and urging the recipient to respond. His message was interspersed with short clip of the basketball team in action. The Beilein video produced an 8 percent increase in the overall response rate. For the 2013 survey, the Athletic Department prepared a video of Coach Bottom conveying the same message. That video was interspersed with a short clip of the men's swimming team celebrating their 2013 NCAA championship. The Bottom video was sent to all non-respondents. Finally, a monetary incentive was offered to those completing the survey. In the initial e-mail from ISR (following the President Coleman e-mail), the following paragraph was included:

> *Once you submit your completed survey, you will be eligible to win a $50 e-certificate to your choice of iTunes, Amazon, or Barnes & Noble. [Ten (10) first year/sophomore/junior/senior students] [Four (4) graduate students] [Seven (7) staff members/faculty], or about 1 of every 100 who complete the survey will win!*

When the survey was completed, an e-mail was sent thanking the participant for completing the survey, indicating a contact for subsequent comments or questions they might have, and finally, telling them that randomly selected $50 e-certificate winners would be notified later in the semester.

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. Detailed tables showing the percent of participants from each key group and the true percent of the corresponding population are shown in (Weise 2014). The true values were used in creating the weights used in analyzing the 2013 data.

[58] A table showing all the mismatches between the official University records of the Registrar's Office and the self-reported status of students is shown in the Year 2 Methodology Report (Weise, 2014) found on the SCIP Materials website; http://graham.umich.edu/leadership/scip/materials. Data presented in this report are based on student self-reports of their status.

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. It is anticipated that these demographic characteristics will be examined more thoroughly in subsequent analysis of the SCIP Year 2 data. The distributions of responses to the student and staff-faculty demographic questions are shown below. Demographic characteristics of the 2013 respondents are similar to characteristics of those who responded in 2012.

Appendix Table B1

STUDENT DEMOGRAPHIC CHARACTERISTICS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students
		Fresh	Soph	Junior	Senior	All	
Gender							
Female	47	50	50	51	45	49	45
Male	52	50	48	49	54	50	54
Chose not to respond, transgender	1	**	2	**	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	**2365**	**913**	**330**	**373**	**340**	**1956**	**405**
Age of student							
18-19	27	99	73	4	1	42	0
20-21	31	1	22	88	72	47	1
22-23	11	0	2	4	20	7	19
24 and older	31	0	3	4	7	4	80
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Age (based on year of birth)	**22.6**	**18.2**	**19.5**	**20.5**	**21.6**	**20.0**	**27.3**
Number of respondents	**2355**	**911**	**328**	**373**	**339**	**1951**	**400**

**** 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**

Number of respondents	**2355**	**911**	**328**	**373**	**339**	**1951**	**400**

Appendix Table B2

STAFF/FACULTY DEMOGRAPHIC CHARACTERISTICS

(percentage distribution)*

2013	Staff	Faculty
Gender		
Female	65	40
Male	33	58
Chose not to respond, transgender	2	2
Total	**100**	**100**
Age of respondent		
Under 25	4	0
25-29	16	2
30-39	24	26
40-49	23	29
50-59	24	25
60-69	9	15
70 and older	0	3
Total	**100**	**100**
Median Age	**42.6**	**47.6**
Educational Attainment		
High school graduate or less	3	0
Some college	13	0
College graduate	44	1
Graduate or professional degree	39	99
Other	1	0
Total	**100**	**100**
Number of respondents	729	741
Household Income (2013)		
Less than $50,000	27	2
$50,000-74,999	25	9
$75,000-$99,000	19	12
$100,000-$149,999	20	22
$150,000-$199,999	6	21
$200,000 or more	3	34
Total	**100**	**100**
Median Household Income (2012)	**$ 73,000**	**$ 161,900**
Number of respondents	701	696

****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 2013

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 questions about the survey participants are presented in Section B and responses to demographic questions are shown in Appendix B.

Appendix Table C 1

TRAVEL & TRANSPORTATION - AWARENESS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Sop	Junior	Senior	All			
How much do you know about:									
AAATA/"The Ride"									
A lot	21	9	9	16	18	13	36	14	14
A fair amount	26	19	26	25	26	24	28	19	22
A little	31	40	40	33	35	37	21	30	30
Not much/nothing	22	32	25	26	21	26	15	37	34
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
U-M buses									
A lot	42	46	44	45	48	46	33	14	9
A fair amount	28	29	34	27	27	29	26	24	24
A little	19	17	16	17	16	16	25	32	34
Not much/nothing	11	8	6	11	9	9	16	30	33
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Biking in Ann Arbor									
A lot	13	7	12	9	16	11	17	8	14
A fair amount	23	19	19	22	27	22	25	18	21
A little	30	32	34	29	27	30	28	30	33
Not much/nothing	34	42	35	40	30	37	30	44	32
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Hourly car rental (e.g. Zip car)									
A lot	5	1	2	3	5	3	8	3	3
A fair amount	8	5	5	6	11	7	11	5	6
A little	26	26	27	26	28	27	25	21	29
Not much/nothing	61	68	66	65	56	63	56	71	62
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
U-M Vanpools									
A lot								5	1
A fair amount								7	3
A little								30	21
Not much/nothing								58	75
Total								**100**	**100**

Appendix Table C 1 (continued)

TRAVEL & TRANSPORTATION - AWARENESS

(percentage distribution)*

2013	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	**	**	1	1	**	**	0	2	**
A fair amount	1	1	1	1	1	1	1	3	1
A little	9	14	8	8	9	10	8	12	7
Not much/nothing	90	85	90	90	90	89	91	83	92
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
AAATA ExpressRide									
A lot								2	1
A fair amount								5	2
A little								15	11
Not much/nothing								78	86
Total								**100**	**100**
U-M Emergency Ride Home									
A lot	3	1	3	4	4	3	3	4	1
A fair amount	9	11	11	7	11	10	8	5	4
A little	31	35	36	36	35	35	23	22	18
Not much/nothing	57	53	50	53	50	52	66	69	77
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.**

**** Less than one half of one percent.**

Number of respondents	2370	927	330	372	343	1973	395	759	767

Appendix Table C2

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2013	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	49	78	64	51	33	56	33		
Rarely	20	11	19	23	23	19	22		
Sometimes	21	7	12	21	32	18	29		
Always/Most of the time	10	4	5	5	12	7	16		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Park and ride									
Never	87	93	87	88	84	88	84		
Rarely	7	3	8	9	9	7	7		
Sometimes	4	2	3	1	5	3	7		
Always/Most of the time	2	2	2	2	2	2	2		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Walk									
Never	14	12	8	6	10	9	27		
Rarely	6	4	4	1	3	3	12		
Sometimes	14	9	11	12	9	10	25		
Always/Most of the time	66	75	77	81	78	78	36		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Bike									
Never	63	77	64	62	57	65	60		
Rarely	11	7	10	10	14	10	11		
Sometimes	15	9	11	13	17	13	18		
Always/Most of the time	11	7	15	15	12	12	11		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Take an AAATA bus									
Never	50	62	56	53	54	56	37		
Rarely	21	23	26	23	22	23	16		
Sometimes	16	11	10	14	16	13	22		
Always/Most of the time	13	4	8	10	8	8	25		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Take a U-M bus									
Never	29	17	18	21	26	21	49		
Rarely	18	18	22	21	22	20	13		
Sometimes	21	18	24	27	21	23	17		
Always/Most of the time	32	47	36	31	31	36	21		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		

Appendix Table C2 (continued)

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2013	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	66	73	64	57	55	62	76		
Rarely	19	16	21	23	24	21	13		
Sometimes	14	10	13	19	19	15	10		
Always/Most of the time	1	1	2	1	2	2	1		
Total	100	100	100	100	100	100	100		
Use U-M Greenride/iShareaRide									
Never	99	99	98	100	99	99	99		
Rarely	1	1	2	**	1	1	1		
Sometimes	**	**	0	0	**	**	0		
Always/Most of the time	0	0	0	0	0	0	0		
Total	100	100	100	100	100	100	100		
Vanpools									
Never	99	99	98	99	99	99	99		
Rarely	1	1	2	**	1	1	1		
Sometimes	**	**	**	1	**	**	0		
Always/Most of the time	0	0	0	0	0	0	0		
Total	100	100	100	100	100	100	100		
AAATA ExpressRide									
Never	98	99	98	98	98	98	99		
Rarely	1	1	2	2	1	1	1		
Sometimes	1	**	**	**	1	1	**		
Always/Most of the time	**	**	0	0	**	**	0		
Total	100	100	100	100	100	100	100		
Use motorcycle, moped, or scooter									
Never	98	98	97	99	96	98	98		
Rarely	1	1	2	0	2	1	1		
Sometimes	1	1	**	1	2	1	0		
Always/Most of the time	**	**	1	**	**	**	1		
Total	100	100	100	100	100	100	100		

Appendix Table C2 (continued)

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2013	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	9	8	7	12	9	20		
Park and ride	1	1	1	1	1	1	2		
Walk	46	46	57	60	59	55	28		
Bike	9	4	9	9	8	7	11		
Ride the bus	26	34	20	19	15	22	32		
Ride the bus and bike	3	1	2	2	2	2	4		
Ride share	1	4	2	0	1	2	1		
Motorcycle, moped, or scooter	**	**	**	1	1	1	1		
Other	1	1	1	1	1	1	1		
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	7
Rarely								9	11
Sometimes								10	11
Always/Most of the time								74	71
Total								**100**	**100**
Park and Ride									
Never								82	91
Rarely								8	6
Sometimes								6	2
Always/Most of the time								4	1
Total								**100**	**100**
Walk									
Never								77	63
Rarely								9	14
Sometimes								8	13
Always/Most of the time								6	10
Total								**100**	**100**
Bike									
Never								85	70
Rarely								6	10
Sometimes								7	10
Always/Most of the time								2	10
Total								**100**	**100**

Appendix Table C2 (continued)

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2013	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	69
Rarely								9	12
Sometimes								11	13
Always/Most of the time								9	6
Total								**100**	**100**
Take a U-M bus									
Never								71	79
Rarely								10	12
Sometimes								10	6
Always/Most of the time								9	3
Total								**100**	**100**
Carpool									
Never								77	86
Rarely								10	10
Sometimes								9	3
Always/Most of the time								4	1
Total								**100**	**100**
Use U-M Greenride/iShareaRide									
Never								98	100
Rarely								1	**
Sometimes								0	0
Always/Most of the time								1	0
Total								**100**	**100**
U-M Vanpools									
Never								96	100
Rarely								1	**
Sometimes								1	0
Always/Most of the time								2	0
Total								**100**	**100**
AAATA ExpressRide									
Never								98	99
Rarely								1	1
Sometimes								**	**
Always/Most of the time								1	0
Total								**100**	**100**

Appendix Table C2 (continued)

TRAVEL & TRANSPORATION - BEHAVIOR

(percentage distribution)*

2013	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								98	98
Rarely								**	1
Sometimes								1	1
Always/Most of the time								1	0
Total								100	100
Worked from home/telecommuted									
Never								79	54
Rarely								12	23
Sometimes								7	23
Always/Most of the time								2	**
Total								100	100
How do you most often travel to/from home to your work place?									
Drive a car								79	75
Walk								3	7
Bike								2	7
Ride the bus								6	7
Ride the bus and bike								1	1
Motorcycle, moped, or scooter								1	0
Park and Ride								2	**
Ride share								4	1
Other								2	2
Total								100	100
Since the beginning of the fall semester, how do you most often travel to/from home to your work place?									
Drive a car								78	74
Walk								3	7
Bike								2	8
Ride the bus								7	7
Ride the bus and bike								1	1
Motorcycle, moped, or scooter								1	0
Park and Ride								2	**
Ride share								4	1
Other								2	2
Total								100	100

Appendix Table C2 (continued)

TRAVEL & TRANSPORATION - BEHAVIOR

*** 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	2253	916	329	363	340	1948	304	551	536

Appendix Table C3

TRAVEL & TRANSPORATION - OTHER

(percentage distribution)*

2013	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	63	61	73	78	70	71	51	10	23
Somewhat important	17	19	13	12	16	15	19	14	19
Not that important	8	6	4	2	6	5	13	14	19
Not at all important	5	2	5	2	5	3	9	21	19
Didn't think about it	7	12	5	6	3	6	8	41	20
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Being able to take the bus to places work/campus									
Very important	38	40	31	29	31	33	50	14	13
Somewhat important	24	25	25	24	24	25	22	18	21
Not that important	13	12	14	18	14	14	10	13	21
Not at all important	9	7	13	10	11	10	7	19	21
Didn't think about it	16	16	17	19	20	18	11	36	24
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Having a lower impact on the environment									
Very important	11	12	10	11	5	9	13	8	15
Somewhat important	23	23	23	20	19	21	25	27	32
Not that important	20	20	20	19	20	20	22	12	15
Not at all important	7	7	6	7	9	7	7	10	9
Didn't think about it	39	38	41	43	47	43	33	43	29
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Which U-M parking permit do you have?									
Gold								1	21
Blue								35	49
Yellow								19	4
Orange								10	2
Daily AVI or Scratch-off								4	6
Shared Carpool Permit; Color?								1	1
No permit								30	17
Total								**100**	**100**
What is the primary reason you drive a car to work?*									
Convenience								31	28
Work schedule								17	22
Home/family schedule								13	16
Length of commute								33	24
Other								6	10
Total								**100**	**100**

**** 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 836 and 799 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.

Number of respondents	2391	933	332	375	343	1985	405	754	767

Appendix Table C4

WASTE PREVENTION & CONSERVATION - AWARENESS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How much do you know about:									
Recycling glass									
A lot	17	11	14	19	18	15	19	20	23
A fair amount	32	26	30	31	35	31	35	33	35
A little	31	37	37	30	33	34	26	28	31
Not much//nothing	20	26	19	20	14	20	20	19	11
Total	100	100	100	100	100	100	100	100	100
Recycling plastic									
A lot	22	19	21	25	22	21	22	24	26
A fair amount	39	41	38	38	40	40	39	37	37
A little	28	30	31	28	29	30	26	27	29
Not much//nothing	11	10	10	9	9	9	13	12	8
Total	100	100	100	100	100	100	100	100	100
Recycling paper									
A lot	26	24	25	30	24	26	26	34	37
A fair amount	40	40	41	37	43	41	41	40	39
A little	25	28	25	26	26	26	21	21	21
Not much//nothing	9	8	9	7	7	7	12	5	3
Total	100	100	100	100	100	100	100	100	100
Recycling electronic waste									
A lot	5	3	5	7	4	5	4	13	13
A fair amount	15	10	13	14	15	13	20	23	24
A little	32	35	30	31	33	32	32	31	35
Not much//nothing	48	52	52	48	48	50	44	33	28
Total	100	100	100	100	100	100	100	100	100
Property Disposition services									
A lot	5	2	6	5	3	4	6	16	15
A fair amount	9	6	7	9	7	7	14	24	24
A little	22	21	18	23	24	22	22	27	29
Not much//nothing	64	71	69	63	66	67	58	33	32
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	2388	932	332	373	341	1980	406	764	773

Appendix Table C5

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2013	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	20	22	28	18	19	21	16	14	14
Rarely	19	14	16	22	20	18	21	13	14
Sometimes	24	18	20	25	24	22	28	28	32
Always//Most of the time	20	11	18	19	24	18	24	41	37
Not applicable	17	35	18	16	13	21	11	4	3
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	28	28	38	29	30	31	22	16	16
Rarely	17	15	16	19	18	17	17	15	14
Sometimes	19	16	16	17	18	17	23	25	27
Always//Most of the time	14	5	8	15	14	10	21	35	36
Not applicable	22	36	22	20	20	25	17	9	7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Turn off lights when I leave the room									
Never	**	1	1	*	**	**	1	**	**
Rarely	1	2	1	1	**	1	**	1	**
Sometimes	8	9	7	8	8	8	7	9	11
Always//Most of the time	90	88	89	90	91	90	92	89	89
Not applicable	1	**	2	1	1	1	**	1	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Unplug electrical appliances when not using them									
Never	10	13	8	12	10	11	9	11	18
Rarely	29	28	29	25	33	29	28	27	26
Sometimes	37	38	38	39	37	38	36	35	36
Always//Most of the time	23	20	25	24	20	22	26	25	18
Not applicable	1	1	**	**	**	**	1	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Use the power saving settings on my computer									
Never	8	11	9	10	8	10	5	6	6
Rarely	17	19	14	17	20	18	13	9	7
Sometimes	31	30	30	33	30	30	32	19	20
Always//Most of the time	43	39	45	39	41	41	48	61	65
Not applicable	1	1	2	1	1	1	2	5	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C5 (continued)

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often did you do the following?									
Turn off my computer when not using it#									
Never	10	11	15	13	11	12	7	4	7
Rarely	24	24	19	26	30	25	21	11	15
Sometimes	28	29	31	28	28	29	27	20	22
Always//Most of the time	37	35	34	32	30	33	44	61	52
Not applicable	1	1	1	1	1	1	1	4	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Use a motion sensor/"smart" power strip									
Never	65	65	67	61	65	64	68	58	69
Rarely	11	9	8	13	12	11	11	8	11
Sometimes	7	7	10	8	8	8	4	10	7
Always//Most of the time	8	9	9	10	7	9	7	14	7
Not applicable	9	10	6	8	8	8	10	10	6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Print double-sided									
Never	7	19	7	6	3	9	3	Question asked with reference to the workplace (see below)	
Rarely	8	15	9	6	6	9	4		
Sometimes	20	26	22	24	20	23	16		
Always//Most of the time	64	39	61	64	70	58	76		
Not applicable	1	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	2	2	1	2	2	**	1	0
Rarely	2	1	1	2	2	2	2	1	1
Sometimes	11	11	6	9	12	10	12	12	12
Always//Most of the time	83	82	87	86	80	83	82	85	86
Not applicable	3	4	4	2	4	3	4	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Limit time in the shower									
Never	8	9	7	8	7	8	8	7	5
Rarely	21	26	20	23	25	24	18	14	13
Sometimes	44	44	49	43	47	45	41	38	38
Always//Most of the time	27	21	24	26	21	23	33	41	44
Not applicable	**	**	0	0	**	**	**	**	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C5 (continued)

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
During the past year, how often did you do the following?									
Recycle bottles, containers, and paper products									
Never	2	1	1	3	2	2	2	3	1
Rarely	5	3	7	6	5	5	5	5	1
Sometimes	23	26	21	28	27	26	17	12	3
Always//Most of the time	70	70	71	63	66	67	76	80	95
Not applicable	**	**	0	0	**	**	**	0	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Use a reusable water bottle, coffee mug, etc.									
Never	2	2	1	4	1	2	1	1	2
Rarely	7	6	6	6	7	6	9	2	2
Sometimes	23	23	22	23	29	25	20	12	10
Always//Most of the time	68	68	71	66	63	66	70	85	85
Not applicable	**	1	**	1	**	1	**	**	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Recycle electronic waste									
Never	25	35	26	28	32	29	17	8	5
Rarely	21	17	22	18	23	21	21	10	7
Sometimes	16	19	18	16	14	15	18	16	20
Always//Most of the time	16	13	10	15	12	12	23	57	62
Not applicable	22	16	24	23	19	23	21	9	6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Bring reusable bags to the store									
Never	32	35	33	37	40	36	24	17	13
Rarely	20	17	20	23	20	20	19	15	13
Sometimes	24	19	22	21	25	22	26	38	33
Always//Most of the time	19	13	15	15	13	14	30	29	41
Not applicable	5	16	10	4	2	8	1	1	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Shop for things with minimal packaging									
Never	28	33	36	31	34	33	20	18	13
Rarely	28	28	24	31	26	27	28	24	22
Sometimes	30	24	27	26	28	26	37	40	44
Always//Most of the time	9	6	7	8	5	7	12	16	20
Not applicable	5	9	6	4	7	7	3	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C5 (continued)

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Use U-M Property Disposition Services to obtain items									
Never	73	72	73	74	73	73	71	Question asked with reference to the workplace (see below)	
Rarely	8	7	9	8	11	9	8		
Sometimes	7	5	5	7	6	6	9		
Always//Most of the time	2	1	1	2	1	1	3		
Not applicable	10	15	12	9	9	11	9		
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	24	29	26	28	22	26	19	16	21
Rarely	23	20	20	22	27	23	22	21	32
Sometimes	40	38	39	36	36	37	46	47	37
Always//Most of the time	11	9	12	11	12	11	12	15	9
Not applicable	2	4	3	3	3	3	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Compost food scraps									
Never	63	62	61	62	68	63	63	51	47
Rarely	13	11	14	12	14	13	14	17	15
Sometimes	12	13	12	13	10	12	11	15	14
Always//Most of the time	6	4	5	7	4	5	8	15	22
Not applicable	6	10	8	6	4	7	4	2	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	25	27	28	27	27	28	20	13	12
Rarely	29	28	29	32	32	30	28	28	24
Sometimes	36	35	32	31	32	32	43	48	51
Always//Most of the time	7	5	6	7	5	6	8	9	12
Not applicable	3	5	5	3	4	4	1	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
During the past year, how often did you do the following <u>at work</u> when you had the opportunity?									
Turn off the lights when I leave the room									
Never								3	2
Rarely								3	2
Sometimes								21	12
Always//Most of the time								68	82
Not applicable								5	2
Total								**100**	**100**

Appendix Table C5 (continued)

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Use the power saving settings on the									
Never								8	5
Rarely								13	8
Sometimes								19	18
Always//Most of the time								54	66
Not applicable								6	3
Total								**100**	**100**
Turn off my computer when I leave work									
Never								16	14
Rarely								10	15
Sometimes								12	13
Always//Most of the time								51	52
Not applicable								11	6
Total								**100**	**100**
Use a motion sensor/"smart" power strip									
Never								43	52
Rarely								8	7
Sometimes								7	8
Always//Most of the time								21	21
Not applicable								21	12
Total								**100**	**100**
Print double-sided									
Never								10	9
Rarely								13	14
Sometimes								30	26
Always//Most of the time								39	49
Not applicable								8	2
Total								**100**	**100**
Recycle bottles, containers, and paper products									
Never								1	1
Rarely								3	**
Sometimes								13	6
Always//Most of the time								83	92
Not applicable								**	1
Total								**100**	**100**
Use a reusable water bottle, coffee cup, travel mug, etc.									
Never								2	3
Rarely								4	4
Sometimes								18	19
Always//Most of the time								75	72
Not applicable								1	2
Total								**100**	**100**

Appendix Table C5 (continued)

WASTE PREVENTION & CONSERVATION - BEHAVIOR

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Use U-M Property Disposition Services to obtain items such as computers, furniture, and equipment									
Never								41	39
Rarely								17	21
Sometimes								14	18
Always//Most of the time								9	9
Not applicable								19	13
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	2386	929	331	373	342	1979	404	756	766

Appendix Table C6

WASTE PREVENTION & CONSERVATION - OTHER

(percentage distribution)*

2013	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	91	89	91	92	90	84	97
No	8	2	7	10	8	7	9	15	3
Don't know	1	1	2	1	1	1	1	1	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Compost bin									
Yes	18	11	15	21	16	16	22	29	42
No	68	56	65	67	78	66	70	68	57
Don't know	14	33	20	12	6	18	8	3	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Programmable thermostat									
Yes	51	31	64	55	58	51	51	75	81
No	40	52	30	34	37	39	41	24	18
Don't know	9	17	6	11	5	10	8	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Water-saving items (e.g. low-flow faucets)									
Yes	29	26	30	22	26	26	35	66	67
No	44	30	38	48	48	41	48	26	28
Don't know	27	44	32	30	26	33	17	8	5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Energy Star appliances									
Yes	30	17	28	23	29	24	40	77	82
No	37	29	30	42	42	36	39	15	9
Don't know	33	54	42	35	29	40	21	8	9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Motion sensor for shutting off electronics									
Yes	11	14	15	12	10	12	8	11	9
No	76	61	66	74	84	72	85	86	88
Don't know	13	25	19	14	6	16	7	3	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Compact fluorescent light bulbs or LED light bulbs									
Yes	57	40	51	50	60	50	70	86	91
No	25	22	23	32	27	26	21	12	8
Don't know	18	38	26	18	13	24	9	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Renewable energy systems, like solar or geothermal									
Yes	3	3	3	4	2	3	3	6	5
No	75	50	65	77	85	69	85	91	93
Don't know	22	47	32	19	13	28	12	3	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 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	2389	931	332	373	343	1981	406	765	771

Appendix Table C7

NATURAL ENVIRONMENT - AWARENESS

(percentage distribution)

2013	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	3	3	6	5	4	8	15	16
A fair amount	19	16	21	15	17	17	22	37	37
A little	35	35	31	35	37	35	37	34	36
Not much/nothing	40	46	45	44	41	44	33	14	11
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Recognizing invasive plant species									
A lot	4	4	2	4	6	4	4	5	9
A fair amount	12	13	14	13	8	12	11	16	20
A little	27	27	29	29	27	28	26	32	33
Not much/nothing	57	56	55	54	59	56	59	47	38
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Taking care of residential property in an environmentally-friendly way									
A lot	8	8	8	7	6	7	9	13	14
A fair amount	27	31	31	29	19	27	27	32	36
A little	38	40	33	36	44	39	37	39	36
Not much/nothing	27	21	28	28	31	27	27	16	14
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Protecting rivers, streams, & lakes - tributaries, habitat quality, & native species									
A lot	10	10	9	9	10	10	11	14	16
A fair amount	28	34	28	29	22	28	28	33	33
A little	38	36	37	37	43	38	37	39	38
Not much/nothing	24	20	26	25	25	24	24	14	13
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	2389	934	330	372	345	1981	405	762	773

Appendix Table 8

NATURAL ENVIRONMENT - BEHAVIOR

(percentage distribution)*

2013	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	1	1	1	1	13	15
Sometimes	4	23	3	4	3	3	4	19	21
Rarely	2	9	2	2	1	2	3	18	18
Never	37	28	45	39	46	43	30	31	32
Not applicable	56	40	49	54	49	51	62	19	14
Total	100	100	100	100	100	100	100	100	100
Use commercial herbicides or pesticides									
Regularly	1	0	1	1	1	1	1	6	7
Sometimes	3	4	0	2	2	2	4	13	17
Rarely	4	18	4	3	3	3	5	26	24
Never	37	38	46	40	45	43	30	36	38
Not applicable	55	40	49	54	49	51	60	19	14
Total	100	100	100	100	100	100	100	100	100
Water your lawn									
Regularly	3	15	4	4	2	3	2	12	18
Sometimes	5	10	3	5	3	4	6	22	21
Rarely	4	12	5	2	4	4	6	20	22
Never	33	25	38	36	43	39	25	27	25
Not applicable	55	38	50	53	48	50	61	19	14
Total	100	100	100	100	100	100	100	100	100
At your current residence, have you:*									
Installed a rain barrel									
Yes	2	4	1	2	1	1	2	9	13
No	56	50	60	59	60	60	52	73	74
Not applicable	42	46	39	39	39	39	46	18	13
Total	100	100	100	100	100	100	100	100	100
Installed a rain garden									
Yes	1	5	1	1	1	1	1	3	6
No	55	46	58	58	59	59	51	78	81
Not applicable	44	49	41	41	40	40	48	19	13
Total	100	100	100	100	100	100	100	100	100
Eliminated invasive species from your yard or garden									
Yes	6	20	6	4	6	6	7	29	40
No	45	34	48	49	48	48	41	46	43
Not applicable	49	46	46	47	46	46	52	25	17
Total	100	100	100	100	100	100	100	100	100

Appendix Table 8 (continued)

NATURAL ENVIRONMENT - BEHAVIOR

(percentage distribution)*

2013	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	4	2	5	3	3	3	6	29	39
No	47	44	48	49	51	50	42	49	46
Not applicable	49	54	47	48	46	47	52	22	15
Total	100	100	100	100	100	100	100	100	100
Converted all/part of lawn to native/natural plantings									
Yes	4	7	5	3	2	3	4	16	22
No	48	39	49	50	52	50	45	62	63
Not applicable	48	54	46	47	46	47	51	22	15
Total	100	100	100	100	100	100	100	100	100
Disposed of hazardous materials by taking them to a designated disposal facility									
Yes	12	24	7	5	10	8	17	57	61
No	43	24	48	48	48	47	38	21	22
Not applicable	45	52	45	47	42	45	45	22	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	1242	34	188	332	324	880	361	764	773

Appendix Table C9

NATURAL ENVIRONMENT - OTHER

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Items were deleted from the questionnaires in Year 2									

Appendix Table C10

FOOD - AWARENESS

(percentage distribution)*

2013	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	15	13	16	14	12	13	17	23	24
A fair amount	35	33	30	33	34	33	41	41	44
A little	37	38	39	37	43	39	33	32	29
Not much/nothing	13	16	15	16	11	15	9	4	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Organic food									
A lot	18	16	18	18	13	16	22	22	27
A fair amount	39	38	33	36	36	36	45	40	46
A little	33	35	36	34	43	37	26	33	24
Not much/nothing	10	11	13	12	8	11	7	5	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Fair trade food									
A lot	11	7	10	11	9	9	15	12	17
A fair amount	24	21	26	23	23	23	26	27	39
A little	38	36	33	34	40	36	42	31	32
Not much/nothing	27	36	31	32	28	32	17	30	12
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Food from humanely-treated animals									
A lot	12	11	11	12	12	11	14	16	19
A fair amount	28	27	29	25	28	27	29	29	36
A little	38	38	37	39	39	39	36	35	35
Not much/nothing	22	24	23	24	21	23	21	20	10
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Food from animals that were not given hormones or antibiotics									
A lot	15	14	14	15	13	14	17	19	22
A fair amount	31	30	30	28	28	29	34	32	42
A little	36	36	37	37	41	38	33	37	28
Not much/nothing	18	20	19	20	18	19	16	12	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Grass-fed beef									
A lot	13	12	13	12	11	12	15	18	20
A fair amount	28	26	25	24	27	26	31	32	35
A little	34	33	37	34	34	34	34	35	32
Not much/nothing	25	29	25	30	28	28	20	15	13
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Fish from sustainable fisheries									
A lot	10	10	10	10	10	10	11	13	17
A fair amount	23	21	20	22	19	21	26	28	33
A little	34	35	36	30	33	33	36	34	35
Not much/nothing	33	34	34	38	38	36	27	25	15
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	**2388**	**934**	**329**	**372**	**344**	**1981**	**405**	**765**	**768**

*** 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 C11

FOOD - BEHAVIOR

(percentage distribution)*

2013	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	66	7	52	79	85	56	84		
In campus dining facilities	28	92	44	15	6	39	8		
Elsewhere	6	1	4	6	9	5	8		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Number of respondents	2396	935	333	375	345	1988	407		
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	11	15	8	7	7	7	15	18	19
Sometimes	52	46	43	48	56	51	55	65	69
Rarely	18	17	18	19	18	18	17	10	8
Never	4	6	6	6	3	5	4	2	1
Don't Know	14	15	23	18	15	18	9	4	3
I don't eat this	1	1	2	2	1	1	**	1	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Organic Food									
Always/Most of the time	14	19	10	10	9	10	19	15	24
Sometimes	50	44	43	50	55	51	48	54	54
Rarely	19	21	18	20	19	19	19	22	17
Never	7	3	10	7	5	7	7	6	3
Don't Know	8	12	15	10	11	11	5	1	1
I don't eat this	2	1	4	3	1	2	2	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Fair trade food									
Always/Most of the time	6	7	6	5	3	4	7	6	8
Sometimes	30	28	24	30	31	29	32	34	50
Rarely	20	19	18	16	19	18	24	18	15
Never	11	8	10	13	11	11	11	12	9
Don't Know	31	36	39	33	34	35	24	27	17
I don't eat this	2	2	3	3	2	3	2	3	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Food from humanely-treated animals									
Always/Most of the time	10	10	6	6	6	6	16	12	15
Sometimes	25	28	21	25	26	25	25	29	43
Rarely	16	8	11	16	16	15	17	15	13
Never	10	10	10	13	10	11	10	8	6
Don't Know	32	38	45	33	34	36	25	31	17
I don't eat this	7	6	7	7	8	7	7	5	6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C11 (continued)

FOOD - BEHAVIOR

(percentage distribution)*

2013	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									
Always/Most of the time	13	18	8	7	8	8	20	20	24
Sometimes	30	33	26	28	32	30	30	37	44
Rarely	13	7	10	16	14	14	13	12	10
Never	9	6	11	10	10	9	7	6	4
Don't Know	28	31	38	31	28	31	23	21	12
I don't eat this	7	5	7	8	8	8	7	4	6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1206	85	186	322	323	916	289	587	565
Grass-fed beef									
Always/Most of the time	7	5	4	4	5	5	10	10	14
Sometimes	21	29	19	19	21	20	22	30	32
Rarely	14	7	12	16	12	13	16	16	15
Never	14	6	12	14	15	14	15	8	7
Don't Know	29	36	40	33	31	33	21	23	15
I don't eat this	15	17	13	14	16	15	16	13	17
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Fish from sustainable fisheries									
Always/Most of the time	5	8	3	4	4	4	7	10	16
Sometimes	18	29	17	17	12	15	22	24	33
Rarely	13	8	8	12	12	11	15	14	15
Never	14	7	15	13	17	15	13	11	5
Don't Know	32	34	41	34	33	35	28	27	20
I don't eat this	18	14	16	20	22	20	15	14	11
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/most	6	8	4	6	4	5	8	8	10
More than half	13	22	12	10	9	11	15	16	22
Half	15	13	17	14	15	14	15	14	15
Less than half	37	20	31	37	42	38	36	35	30
None	5	6	6	5	5	5	6	3	2
I don't know	24	31	30	28	25	27	20	24	21
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	1197	84	183	320	320	910	286	585	561

Appendix Table C11 (continued)

FOOD - BEHAVIOR

(percentage distribution)*

2013	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	51	63	51	51	53	55	45	40	32
3-4 days	22	18	19	21	21	20	25	32	33
1-2 days	17	11	19	18	16	15	19	21	23
Never	10	8	11	10	10	10	11	7	12
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
During the past year, have you:									
Grown fruits/vegetables in a home garden?									
Yes	22	34	27	18	16	24	20	47	49
No	78	66	73	82	84	76	80	53	51
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Grown fruits/vegetables in a community									
Yes	5	7	5	6	4	6	3	5	5
No	95	93	95	94	96	94	97	95	95
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Shopped at farmers markets/food stands?									
Yes	61	64	57	56	58	59	64	83	85
No	39	36	43	44	42	41	36	17	16
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**101**
Belonged to a CSA?									
Yes	4	2	1	2	4	2	8	5	10
No	96	98	99	98	96	98	92	95	90
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Visited U-Pick farms?									
Yes	15	16	12	9	13	13	19	33	33
No	85	84	88	91	87	87	81	67	67
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Raised animals for food?									
Yes	2	4	2	3	2	3	1	5	2
No	98	96	98	97	98	97	99	95	98
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.**

*****Questions were <u>not</u> 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.**

Number of respondents	2391	931	332	374	343	1984	406	765	768

Appendix Table C12

FOOD - OTHER

(percentage distribution)*

2013	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	63	69	64	65	63	64	63	71	70
Somewhat important	31	27	35	29	31	30	31	28	25
Not that important	5	0	1	5	6	5	5	1	4
Not at all important	1	4	0	1	**	1	1	**	1
Total	100	100	100	100	100	100	100	100	100
Taste									
Very important	66	71	60	67	69	67	64	74	67
Somewhat important	30	25	36	30	26	29	31	25	29
Not that important	4	0	3	3	4	4	5	1	3
Not at all important	**	4	1	0	1	**	**	**	1
Total	100	100	100	100	100	100	100	100	100
Supporting the local community									
Very important	30	31	25	30	23	26	34	51	52
Somewhat important	47	52	55	41	51	48	45	41	40
Not that important	22	17	20	28	26	25	19	7	7
Not at all important	1	0	0	1	0	1	2	1	1
Total	100	100	100	100	100	100	100	100	100
Protecting the environment									
Very important	33	38	32	36	23	30	36	47	50
Somewhat important	46	49	44	39	49	45	47	45	44
Not that important	19	13	23	21	24	22	17	7	5
Not at all important	2	0	1	4	4	3	**	1	1
Total	100	100	100	100	100	100	100	100	100
Avoiding synthetic pesticides/fertilizers, antibiotics/growth hormones									
Very important	46	62	44	42	34	40	53	62	62
Somewhat important	36	25	36	37	42	39	33	31	29
Not that important	15	7	18	16	21	18	12	5	7
Not at all important	3	6	2	5	3	3	2	2	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 were 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	912	57	117	220	227	622	290	552	594

Appendix Table C13

CLIMATE CHANGE

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
Do you think climate change is happening?									
Yes	90	84	88	90	91	89	93	81	93
No	5	7	6	3	5	5	3	9	3
Don't know	5	9	6	7	4	6	4	10	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
If yes, how sure are you that global change is happening?									
Extremely sure	60	48	58	60	65	58	63	47	75
Mostly sure	28	37	29	27	25	29	27	31	20
Somewhat sure	11	14	12	12	8	12	9	21	4
Not at all sure	1	1	1	1	2	1	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	**2110**	**782**	**294**	**337**	**319**	**1732**	**377**	**629**	**717**
If no, how sure are you that global change is not happening?									
Extremely sure	19	19	21	27	32	24	0	27	22
Mostly sure	39	31	54	27	27	34	56	37	31
Somewhat sure	29	35	4	20	41	28	34	30	39
Not at all sure	13	15	21	26	0	14	10	6	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	**119**	**64**	**19**	**11**	**13**	**107**	**12**	**66**	**26**
Assuming climate change is happening, do you think it is:									
Caused mostly by human activity	40	31	40	40	36	37	47	33	54
Caused mostly by natural causes	4	6	5	5	5	5	3	6	2
Caused by both	55	62	54	54	58	57	49	59	43
None of the above because climate change is not happening	1	1	1	1	1	1	1	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
How important is climate change to you personally?									
Not at all important	3	4	4	3	3	3	3	4	2
Not too important	13	17	15	17	14	16	10	12	6
Somewhat important	42	41	41	39	45	42	42	41	26
Very important	29	28	26	30	24	27	32	32	43
Extremely important	13	10	14	11	14	12	13	11	23
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
How well can you explain climate change to someone?									
Very well	18	16	21	22	20	19	17	10	21
Fairly well	49	49	44	43	47	46	53	38	53
A little bit	30	32	33	29	30	31	28	42	25
Couldn't explain it al all	3	3	2	6	3	4	2	10	1
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 except for the second and third items above as respondents only received one of these questions based on their response to the first item.**

Number of respondents	**2392**	**934**	**332**	**373**	**345**	**1985**	**406**	**766**	**775**

Appendix Table C14

SUSTAINABILITY ENGAGEMENT AT U-M & ELSEWHERE

(percentage distribution)*

2013	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	10	9	6	4	7	8
No	95	98	95	90	91	94	96	93	92
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Kill-a-Watt									
Yes	15	11	25	28	18	20	5		
No	85	89	75	72	82	80	95		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Earthfest									
Yes	11	9	15	16	16	14	6	5	6
No	89	91	85	84	84	86	94	95	94
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Planet Blue Open House									
Yes	8	5	7	7	11	8	8	20	19
No	92	95	93	93	89	92	92	80	81
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Zero Waste Events									
Yes	5	2	4	7	10	6	4	5	4
No	95	98	96	93	90	94	96	95	96
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
e-Waste Recycling Event									
Yes	3	1	2	2	4	2	5	18	20
No	97	99	98	98	96	98	95	82	80
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Planet Blue Ambassadors Program									
Yes	7	5	12	9	7	8	4	6	3
No	93	95	88	91	93	92	96	94	97
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Sustainable Workplace Certification Program									
Yes								5	3
No								95	97
Total								**100**	**100**

Appendix Table C14 (continued)

SUSTAINABILITY ENGAGEMENT AT U-M & ELSEWHERE

(percentage distribution)*

2013	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	15	10	17	19	22	17	10	9	9
No	85	90	83	81	78	83	90	91	91
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
A U-M course that addressed sustainability									
Yes	18	8	22	26	30	21	11		
No	82	92	78	74	70	79	89		
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	15	16	15	15	12	15	16	26	48
No	85	84	85	85	88	85	84	74	52
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Volunteered for an organization or advocacy group supporting one of the above issues?									
Yes	22	29	24	27	23	26	15	9	9
No	78	71	76	73	77	74	85	91	91
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	8	9	7	9	8	8	7	2	3
No	92	91	93	91	92	92	93	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	26	13	30	28	30	25	29	38	54
No	74	87	70	72	70	75	71	62	46
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	2351	909	329	368	336	1948	399	754	755

Appendix Table C15

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS

(percentage distribution)*

2013	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	18	21	19	22	18	20	12	22	17
Somewhat aware	50	51	52	48	56	52	48	54	59
Not too aware	23	21	22	20	19	20	28	17	18
Not at all aware	9	7	7	10	7	8	12	7	6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Encourage people to take a bus or bike									
Very aware	21	27	21	25	21	24	16	26	16
Somewhat aware	43	45	48	41	45	44	42	48	48
Not too aware	25	20	22	23	25	23	28	19	27
Not at all aware	11	8	9	11	9	9	14	7	9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Promote ride sharing									
Very aware	12	18	13	15	12	14	8	26	15
Somewhat aware	32	42	33	32	34	36	25	47	44
Not too aware	36	29	39	33	35	33	40	19	32
Not at all aware	20	11	15	20	19	17	27	8	9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Promote recycling									
Very aware	38	44	43	42	39	42	30	39	33
Somewhat aware	41	41	42	38	41	41	41	46	49
Not too aware	15	10	11	11	14	11	21	11	14
Not at all aware	6	5	4	9	6	6	8	4	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Promote food from sustainable sources									
Very aware	14	23	20	19	13	18	6	10	5
Somewhat aware	33	41	37	36	37	38	25	33	29
Not too aware	34	28	33	30	32	31	39	38	43
Not at all aware	19	8	10	15	18	13	30	19	23
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Reduce greenhouse gas emissions									
Very aware	10	13	14	13	9	12	6	10	7
Somewhat aware	34	38	33	35	41	37	29	34	37
Not too aware	37	37	38	33	35	36	39	39	39
Not at all aware	19	12	15	19	15	15	26	17	17
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C15 (continued)

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS

(percentage distribution)*

2013	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	17	17	10	16	8	14	9
Somewhat aware	33	40	36	37	34	37	25	35	38
Not too aware	33	29	31	29	37	31	36	34	35
Not at all aware	21	12	16	17	19	16	31	17	18
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Protect the Huron River									
Very aware	9	11	12	11	10	11	6	11	6
Somewhat aware	23	27	26	22	21	24	20	28	25
Not too aware	38	38	35	40	41	39	38	38	39
Not at all aware	30	24	27	27	28	26	36	23	30
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	2368	922	330	371	338	1964	402	764	764
*How would you rate UM's efforts to:****									
Conserve energy									
(5) Very good (A)	18	25	20	20	16	20	14	16	16
(4) Good (B)	48	50	49	47	46	48	48	50	50
(3) Fair (C)	28	21	25	25	30	25	32	29	29
(2) Poor (D)	5	3	4	6	6	5	5	4	4
(1) Very poor (F)	1	1	2	2	2	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.77***	***3.95***	***3.81***	***3.77***	***3.68***	***3.79***	***3.69***	***3.76***	***3.76***
Encourage people to take bus/bike									
(5) Very good (A)	28	38	27	31	22	30	23	24	15
(4) Good (B)	41	40	39	34	46	40	42	42	40
(3) Fair (C)	24	17	26	26	24	23	27	28	36
(2) Poor (D)	6	4	7	8	8	7	6	5	7
(1) Very poor (F)	1	1	1	1	**	**	2	1	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.89***	***4.10***	***3.84***	***3.86***	***3.82***	***3.93***	***3.78***	***3.83***	***3.59***
Promote ride sharing									
(5) Very good (A)	12	18	12	15	6	13	9	24	15
(4) Good (B)	34	39	32	33	36	35	32	40	37
(3) Fair (C)	39	33	33	36	41	36	44	29	38
(2) Poor (D)	14	9	21	14	16	14	14	6	8
(1) Very poor (F)	1	1	2	2	1	2	1	1	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.42***	***3.64***	***3.31***	***3.45***	***3.3***	***3.43***	***3.34***	***3.80***	***3.55***

Appendix Table C15 (continued)

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How would you rate UM's efforts to:*									
Promote recycling									
(5) Very good (A)	39	50	46	45	33	43	32	34	30
(4) Good (B)	40	34	39	37	45	39	42	43	45
(3) Fair (C)	18	13	14	15	19	15	22	18	19
(2) Poor (D)	3	3	1	3	3	3	4	4	5
(1) Very poor (F)	**	**	**	0	**	**	**	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***4.15***	***4.31***	***4.30***	***4.24***	***4.08***	***4.22***	***4.02***	***4.05***	***3.98***
Promote food from sustainable sources									
(5) Very good (A)	13	22	18	15	8	16	7	8	5
(4) Good (B)	36	40	41	37	35	38	30	35	30
(3) Fair (C)	35	28	28	34	37	32	43	43	49
(2) Poor (D)	14	8	10	11	18	12	18	12	15
(1) Very poor (F)	2	2	3	3	2	2	2	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.44***	***3.72***	***3.61***	***3.50***	***3.29***	***3.54***	***3.22***	***3.35***	***3.23***
Reduce greenhosue gas emissions									
(5) Very good (A)	10	15	11	10	6	10	10	9	7
(4) Good (B)	35	38	33	39	38	37	30	38	37
(3) Fair (C)	43	37	44	37	41	40	49	42	46
(2) Poor (D)	10	9	10	11	12	11	10	10	9
(1) Very poor (F)	2	1	2	3	3	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.41***	***3.57***	***3.41***	***3.42***	***3.32***	***3.42***	***3.38***	***3.44***	***3.40***
Maintain campus grounds in an environmentally friendly manner									
(5) Very good (A)	16	22	19	18	8	17	16	17	12
(4) Good (B)	41	42	45	40	46	43	36	44	46
(3) Fair (C)	34	30	26	32	33	31	40	33	35
(2) Poor (D)	7	5	8	8	11	8	5	5	7
(1) Very poor (F)	2	1	2	2	2	1	3	1	**
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.62***	***3.79***	***3.71***	***3.64***	***3.47***	***3.67***	***3.57***	***3.71***	***3.63***
Protect the Huron River									
(5) Very good (A)	11	15	11	11	7	11	11	10	6
(4) Good (B)	36	37	37	36	33	36	35	41	40
(3) Fair (C)	44	38	40	40	48	41	48	44	46
(2) Poor (D)	8	9	12	10	10	10	5	5	8
(1) Very poor (F)	1	1	**	3	2	2	1	**	0
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Mean Rating	***3.48***	***3.56***	***3.47***	***3.42***	***3.33***	***3.44***	***3.50***	***3.56***	***3.44***

Appendix Table C15 (continued)

U-M SUSTAINABILITY INITIATIVES - AWARENESS & RATINGS

** 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 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	1682	679	234	271	242	1426	255	556	476

Appendix Table C16

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	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	24	22	23	22	25	23	25	39	45
Rarely	17	15	16	16	19	17	16	18	18
Sometimes	31	34	29	32	30	31	32	30	25
Frequently	25	25	27	27	23	25	25	11	10
Don't know	3	4	5	3	3	4	2	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Buy locally sourced or sustainable food									
Never	34	34	40	35	35	35	30	30	36
Rarely	21	21	21	21	24	22	20	15	16
Sometimes	29	26	21	27	27	26	35	35	32
Frequently	12	15	13	12	9	12	12	18	14
Don't know	4	4	5	5	5	5	3	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Conserve water									
Never	22	18	21	15	19	18	28	27	40
Rarely	15	15	14	16	17	16	14	16	17
Sometimes	35	39	32	36	39	37	32	31	26
Frequently	26	26	29	31	22	27	24	25	16
Don't know	2	2	4	2	3	2	2	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Conserve electricity									
Never	17	15	14	11	12	13	23	23	36
Rarely	12	13	12	11	12	12	12	12	16
Sometimes	33	37	32	29	35	34	32	32	27
Frequently	36	33	39	47	39	39	32	32	20
Don't know	2	2	3	2	2	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Reuse or reycle containers or bags									
Never	17	16	15	12	17	15	21	20	32
Rarely	15	13	16	14	14	14	17	13	14
Sometimes	30	30	29	31	30	30	29	29	27
Frequently	36	39	37	42	37	39	32	37	26
Don't know	2	2	3	1	2	2	1	1	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C16 (continued)

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	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	29	27	31	25	30	28	32	31	42
Rarely	23	22	23	24	26	24	21	18	19
Sometimes	28	30	26	30	26	28	27	30	24
Frequently	17	17	16	17	14	16	18	19	13
Don't know	3	4	4	4	4	4	2	2	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Buy things that are better for the environment									
Never	31	27	35	25	33	30	32	28	37
Rarely	23	22	21	25	25	23	23	19	20
Sometimes	29	31	26	31	27	29	30	33	29
Frequently	14	16	14	15	11	14	13	17	12
Don't know	3	4	4	4	4	4	2	3	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Use environmentally-friendly ways of controlling insects, weeds, and pests									
Never	52	46	55	52	60	53	52	37	48
Rarely	19	19	14	19	18	18	20	17	18
Sometimes	13	16	13	11	9	12	13	27	21
Frequently	7	10	8	7	4	7	6	14	10
Don't know	9	9	10	11	9	10	9	5	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Do something in order to reduce his/her greenhouse gas emissions									
Never	42	38	44	37	47	41	44	40	46
Rarely	21	24	18	24	21	22	21	22	22
Sometimes	21	22	20	20	18	20	22	23	21
Frequently	10	11	12	12	7	11	8	9	8
Don't know	6	5	6	7	7	6	5	6	3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C16 (continued)

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	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	17	11	10	13	11	12	27	11	35
Moderately support	27	24	29	27	24	26	30	25	30
Neither support nor oppose	18	22	15	18	19	18	16	17	13
Moderately oppose	20	27	27	22	21	24	14	20	10
Strongly oppose	18	16	19	20	25	20	13	27	12
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	24	21	25	25	20	23	27	25	41
Moderately support	33	35	33	33	31	33	33	34	32
Neither support nor oppose	19	20	18	17	21	19	20	16	12
Moderately oppose	14	15	16	14	16	15	12	12	7
Strongly oppose	10	9	8	11	12	10	8	13	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
A ban on disposable plastic bags									
Strongly support	28	22	28	25	23	24	36	25	35
Moderately support	29	31	26	30	29	29	30	31	30
Neither support nor oppose	19	21	21	23	19	21	16	25	17
Moderately oppose	15	16	15	13	18	16	12	12	12
Strongly oppose	9	10	10	9	11	10	6	7	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	21	16	21	21	17	18	26	15	36
Moderately support	33	31	32	31	30	31	35	29	34
Neither support nor oppose	21	23	20	20	26	23	18	22	15
Moderately oppose	15	19	16	15	14	16	13	16	7
Strongly oppose	10	11	11	13	13	12	8	18	8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C16 (continued)

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	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	26	22	23	26	26	24	28	42	22
$1-$10	33	35	37	37	36	36	29	26	18
$11-$20	22	23	21	18	21	21	23	14	19
$21-$30	8	10	8	8	6	8	9	7	11
$31-$40	3	3	3	3	3	3	2	2	5
$41-$50	8	7	8	8	8	8	9	9	25
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Number of respondents	2379	930	331	372	342	1975	403	761	762
Expand alternative transportation efforts such as buses, bikes, and carpools at U-M									
$0	23	23	27	28	27	26	18	41	25
$1-$10	27	29	32	28	28	29	24	25	14
$11-$20	23	23	22	21	19	21	26	13	17
$21-$30	12	11	9	11	12	11	14	8	10
$31-$40	4	3	3	5	3	4	3	3	6
$41-$50	11	11	7	7	11	9	15	10	28
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	24	24	27	27	26	24	44	23
$1-$10	33	32	33	33	31	32	35	26	18
$11-$20	19	19	21	17	21	20	18	12	16
$21-$30	9	11	9	8	8	9	9	6	11
$31-$40	4	4	4	6	3	4	3	3	6
$41-$50	10	10	9	9	10	9	11	9	26
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C16 (continued)

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	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	63	56	54	65	57	58	72		
Somewhat likely	27	32	32	23	27	29	23		
Not very likely	8	9	11	9	12	10	4		
Not at all likely	2	3	3	3	4	3	1		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Buying sustainable food									
Very likely	37	32	32	35	29	32	45		
Somewhat likely	38	40	37	35	44	39	37		
Not very likely	19	22	24	23	20	22	13		
Not at all likely	6	6	7	7	7	7	5		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Conserving natural resources by reducing waste, reducing things, and recycling									
Very likely	53	48	48	51	49	49	61		
Somewhat likely	37	42	41	38	39	40	32		
Not very likely	8	7	9	8	8	8	7		
Not at all likely	2	3	2	3	4	3	**		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Take care of your home and property in environmentally-friendly ways									
Very likely	48	45	42	48	45	45	54		
Somewhat likely	39	43	43	36	38	40	37		
Not very likely	11	9	13	12	13	12	8		
Not at all likely	2	3	2	4	4	3	1		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		
Reducing your greenhouse gas emissions as much as possible									
Very likely	36	33	34	38	33	34	40		
Somewhat likely	42	45	42	36	41	41	44		
Not very likely	17	17	20	20	20	19	14		
Not at all likely	5	5	4	6	6	6	2		
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**		

Appendix Table C16 (continued)

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	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	23	20	24	25	18	21	26	16	29
Somewhat concerned	54	57	51	47	54	53	55	53	57
Not that concerned	19	18	20	23	22	21	16	26	12
Not at all concerned	4	5	5	5	6	5	3	5	2
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	27	23	25	22	23	23	35	31	40
Somewhat concerned	46	47	44	46	45	46	36	53	50
Not that concerned	22	24	26	26	28	26	16	12	8
Not at all concerned	5	6	5	6	4	5	3	4	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**90**	**100**	**100**
Natural resources - like water and fossil fuels - being used up									
Very concerned	43	43	43	45	38	42	43	36	50
Somewhat concerned	42	45	41	42	40	42	42	49	40
Not that concerned	12	9	13	9	18	12	13	12	8
Not at all concerned	3	3	3	4	4	4	2	3	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
People producing too much waste									
Very concerned	43	41	43	44	35	40	46	40	53
Somewhat concerned	44	45	44	44	46	45	43	49	40
Not that concerned	10	11	11	9	17	12	8	9	6
Not at all concerned	3	3	2	3	2	3	3	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
The loss of open space									
Very concerned	38	39	40	38	34	38	38	39	47
Somewhat concerned	43	44	39	41	43	42	45	46	40
Not that concerned	16	13	18	17	20	17	13	12	11
Not at all concerned	3	4	3	4	3	3	4	3	2
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
The loss of wildlife habitat									
Very concerned	49	51	52	50	47	50	48	50	56
Somewhat concerned	40	39	38	37	38	38	44	39	37
Not that concerned	9	7	9	11	12	10	6	9	6
Not at all concerned	2	3	1	2	3	2	2	2	1
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Appendix Table C16 (continued)

OTHER BEHAVIORS & OPINIONS ABOUT SUSTAINABILITY

(percentage distribution)*

2013	All Students	Undergraduate Students					Graduate Students	Staff	Faculty
		Fresh	Soph	Junior	Senior	All			
How concerned are you about the following things?									
Population growth									
Very concerned	38	38	41	39	36	39	36	29	39
Somewhat concerned	40	41	40	41	44	41	39	46	43
Not that concerned	18	17	15	16	18	17	21	19	14
Not at all concerned	4	4	4	4	2	3	4	6	4
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Overall, how committed are you to sustainability?									
Very committed	17	12	16	15	13	14	21	15	28
Somewhat committed	59	57	53	57	58	57	64	64	62
Not very committed	21	28	26	25	24	26	14	19	9
Not at all committed	3	3	5	3	5	3	1	2	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	19	12	15	21	20	17	23	13	10
Parents or other family members	16	23	16	19	15	18	10	15	11
K-12 teachers	7	18	8	6	5	9	3	2	1
U-M professors/instructors	10	5	11	17	19	13	5	2	2
Childhood experience outdoors	9	8	9	10	7	9	11	11	11
Media--readings, video, movies, TV	32	29	33	23	27	28	40	48	53
Other UM activities	1	1	3	1	2	2	**	1	1
Other	6	4	5	3	5	4	8	8	11
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	2371	925	329	369	340	1967	402	754	755

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.[59] 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.[60] 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 determine the distributions and the mean scores of indicators.[61]

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[59] 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.

[60] 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.

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

Appendix Table D1

SUSTAINABILITY CULTURAL INDICATORS CONSTRUCTION

(names of and number of items)

	Students		Staff/Faculty	
Name of Index	**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

Appendix E: Supplemental Tables - 2013

The following tables show the 2012 and 2013 indicator scores for students, staff, and faculty and for U-M Ann Arbor's different regions and campuses. In both tables, many of the numbers for the two years are identical or slightly different. In instances where there were differences of more than 0.1 in indicator scores, tests were run to determine whether or not the differences were statistically significant. Indicators that are statistically different over the two years for students, staff, and faculty are identified in Table 24. Statistically significant differences in indicators over the two years within regions and campuses are reported in Table 26.

Appendix Table E1

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

(mean scores)

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

Appendix Table E2

CHANGE IN SUSTAINABILITY CULTURAL INDICATORS for STAFF/FACULTY, by CAMPUS AND REGION - 2012 & 2013

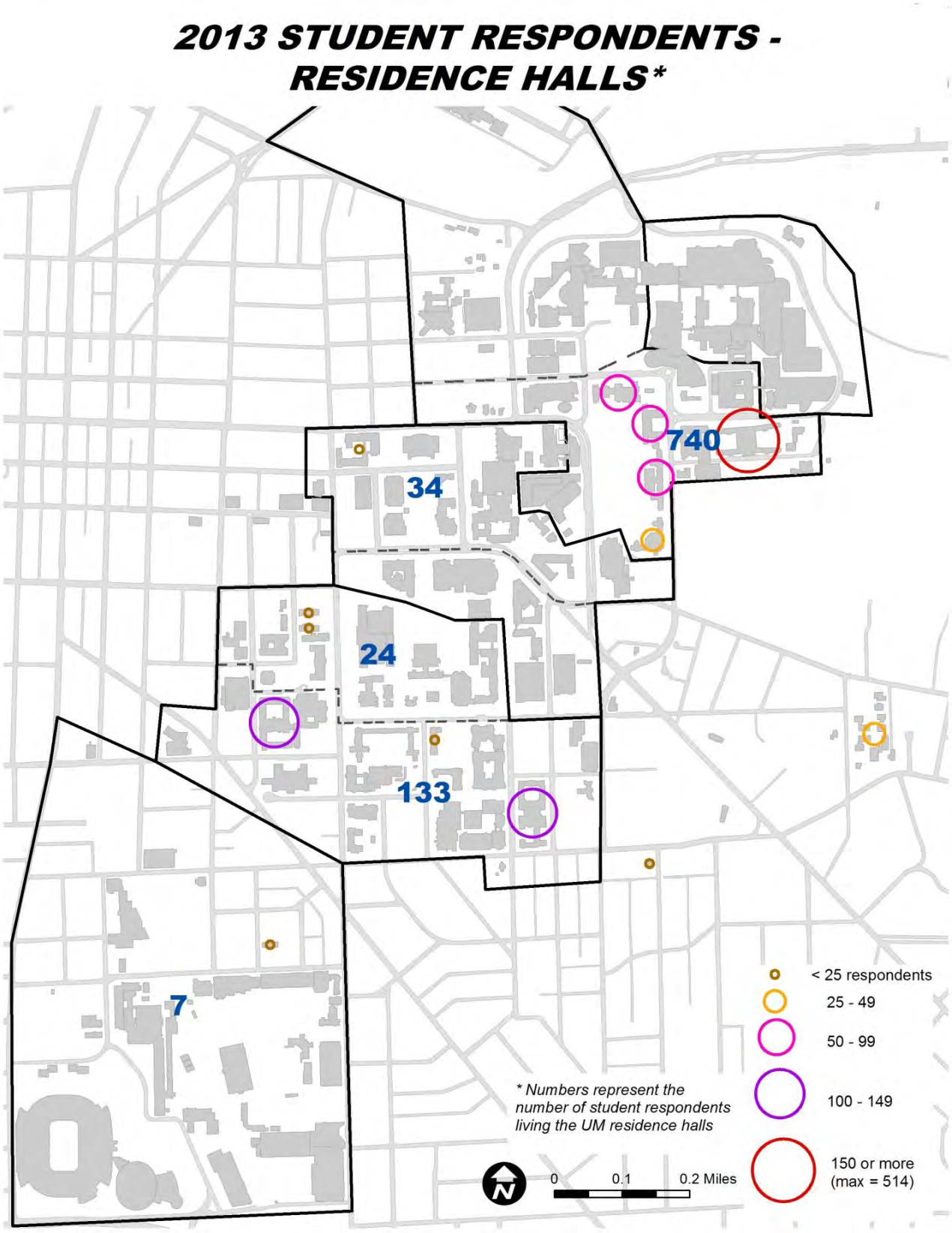
(mean scores)

INDICES	Central Campus West		Central Campus East		North Campus		Medical Campus		Health Sciences		South Campus		East Campus	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
PRIMARY														
Climate Action														
Conservation Behavior	**7.1**	**6.9**	**7.1**	**6.9**	**7.1**	**7.0**	**5.9**	**6.1**	**6.7**	**6.8**	**7.6**	**7.6**	**6.8**	**6.9**
Number of respondents	157	259	220	147	277	214	494	378	320	230	78	50	83	54
Travel Behavior	**3.1**	**3.2**	**3.6**	**2.7**	**1.9**	**2.4**	**1.0**	**0.8**	**2.8**	**2.1**	**0.7**	**0.6**	**0.4**	**0.2**
Number of respondents	364	262	223	149	285	217	525	397	323	234	79	50	85	53
Waste Prevention														
Waste Prevention Behavior	**7.2**	**7.3**	**7.3**	**7.3**	**7.2**	**7.4**	**6.5**	**6.6**	**7.2**	**7.1**	**7.6**	**7.2**	**7.2**	**7.1**
Number of respondents	363	263	223	149	285	217	524	400	323	234	79	50	85	54
Healthy Environments														
Sustainable Food Purchases	**6.0**	**6.4**	**5.8**	**5.5**	**5.9**	**5.9**	**5.6**	**5.6**	**5.8**	**5.9**	**5.9**	**5.5**	**5.5**	**6.4**
Number of respondents	352	196	219	109	274	156	503	287	316	162	75	35	83	38
Protecting the Natural Environment	**6.4**	**7.1**	**7.1**	**6.4**	**6.8**	**7.1**	**6.1**	**6.2**	**6.4**	**6.0**	**6.3**	**6.1**	**6.4**	**6.0**
Number of respondents	289	220	171	122	222	166	456	350	278	188	70	40	75	48
Community Awareness														
Sustainable Travel & Transportation	**3.7**	**4.1**	**4.0**	**3.4**	**3.7**	**4.0**	**2.6**	**2.6**	**3.6**	**3.6**	**3.6**	**2.8**	**2.9**	**2.3**
Number of respondents	363	262	223	148	284	216	521	398	322	234	79	50	85	54
Waste Prevention	**5.2**	**5.4**	**5.5**	**5.7**	**5.2**	**5.6**	**4.4**	**4.4**	**5.0**	**5.7**	**6.4**	**4.9**	**5.6**	**6.0**
Number of respondents	364	263	223	149	285	217	525	400	323	235	79	50	85	54
Natural Environment Protection	**3.8**	**4.3**	**4.1**	**4.5**	**4.1**	**4.6**	**3.9**	**4.0**	**4.2**	**4.9**	**4.9**	**4.2**	**4.3**	**4.6**
Number of respondents	364	263	223	149	285	217	525	398	323	235	79	50	85	54
Sustainable Foods	**5.2**	**5.8**	**5.5**	**5.1**	**5.0**	**5.4**	**4.7**	**4.8**	**4.9**	**5.6**	**5.0**	**4.9**	**4.9**	**5.0**
Number of respondents	364	263	223	149	285	217	525	400	323	234	79	50	85	54
U-M Sustainability Initiatives	**5.3**	**5.4**	**5.3**	**5.4**	**5.3**	**5.7**	**5.1**	**5.3**	**5.5**	**5.7**	**6.2**	**6.1**	**5.8**	**5.6**
Number of respondents	363	262	222	148	284	217	522	399	323	234	79	50	84	54
SECONDARY														
Sustainability Engagement at U-M	**1.1**	**1.5**	**1.3**	**1.1**	**0.8**	**0.8**	**0.3**	**0.2**	**1.0**	**0.9**	**2.5**	**1.6**	**0.8**	**0.6**
Number of respondents	352	257	218	146	278	209	518	394	317	229	78	48	85	51
Sustainability Engagement Generally	**2.5**	**2.6**	**2.5**	**2.4**	**2.3**	**2.1**	**1.7**	**1.7**	**2.4**	**2.3**	**2.3**	**2.0**	**1.8**	**2.2**
Number of respondents	363	257	222	149	285	217	525	400	321	234	79	50	84	54
Sustainability Commitment	**6.8**	**7.1**	**6.8**	**7.0**	**6.5**	**6.9**	**6.1**	**6.0**	**6.7**	**6.7**	**6.8**	**6.3**	**6.5**	**6.3**
Number of respondents	363	262	222	148	282	217	522	396	320	235	79	50	85	54
Sustainability Disposition	**3.8**	**3.7**	**3.9**	**3.1**	**3.8**	**3.1**	**2.8**	**2.6**	**3.7**	**3.4**	**3.6**	**3.3**	**3.2**	**3.2**
Number of respondents	357	256	216	146	278	215	515	395	320	232	79	50	83	52
Rating U-M Sustainability Initiatives	**6.4**	**6.6**	**6.9**	**6.7**	**6.6**	**6.6**	**6.6**	**6.8**	**6.9**	**6.9**	**6.7**	**6.6**	**7.0**	**6.9**
Number of respondents	243	192	153	105	207	162	388	309	245	186	69	45	65	43

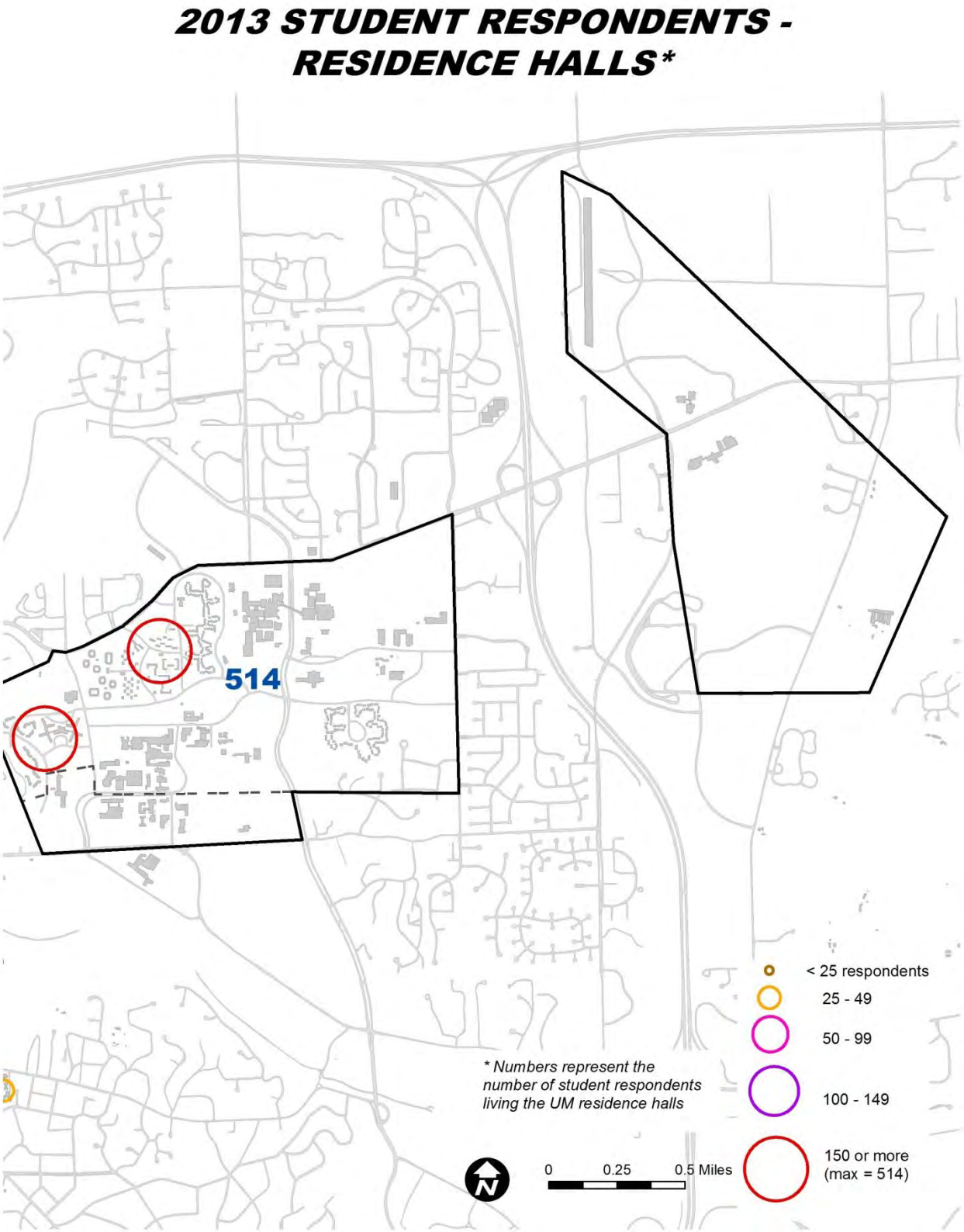
Appendix F. Supplemental Maps - 2013

The following maps show the number and spatial distribution of students, staff, and faculty that responded to the 2013 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.

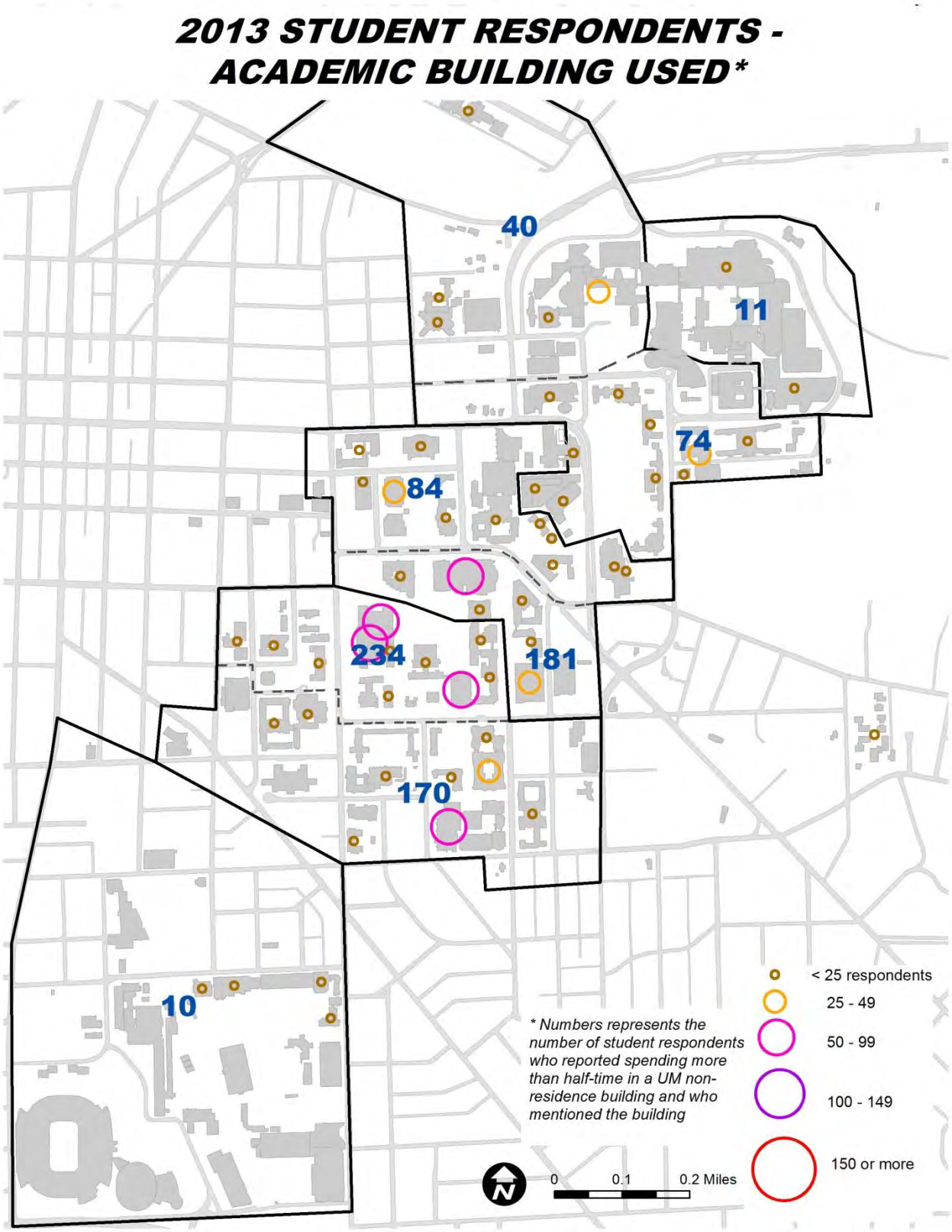
Appendix Figure F1



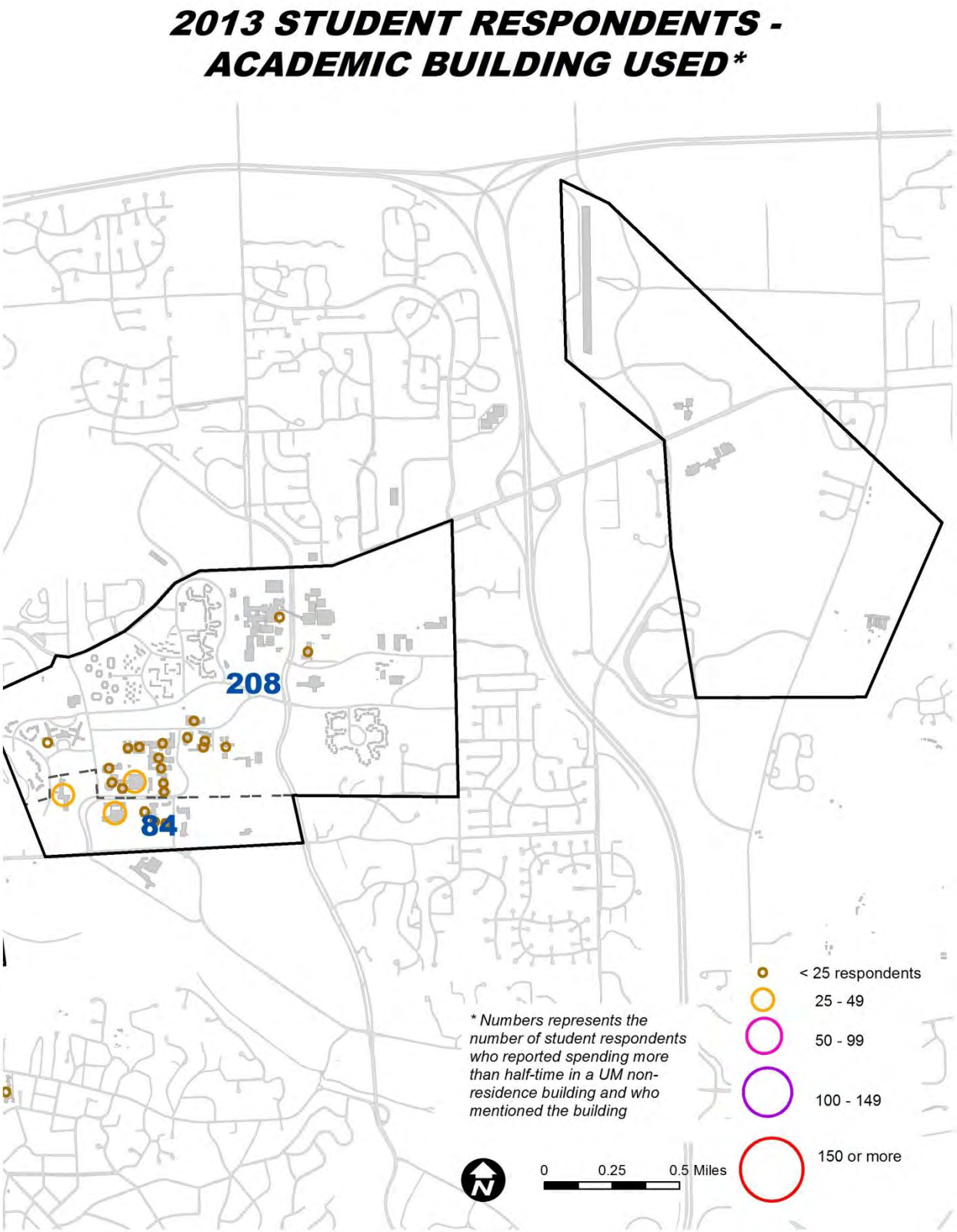
Appendix Figure F2



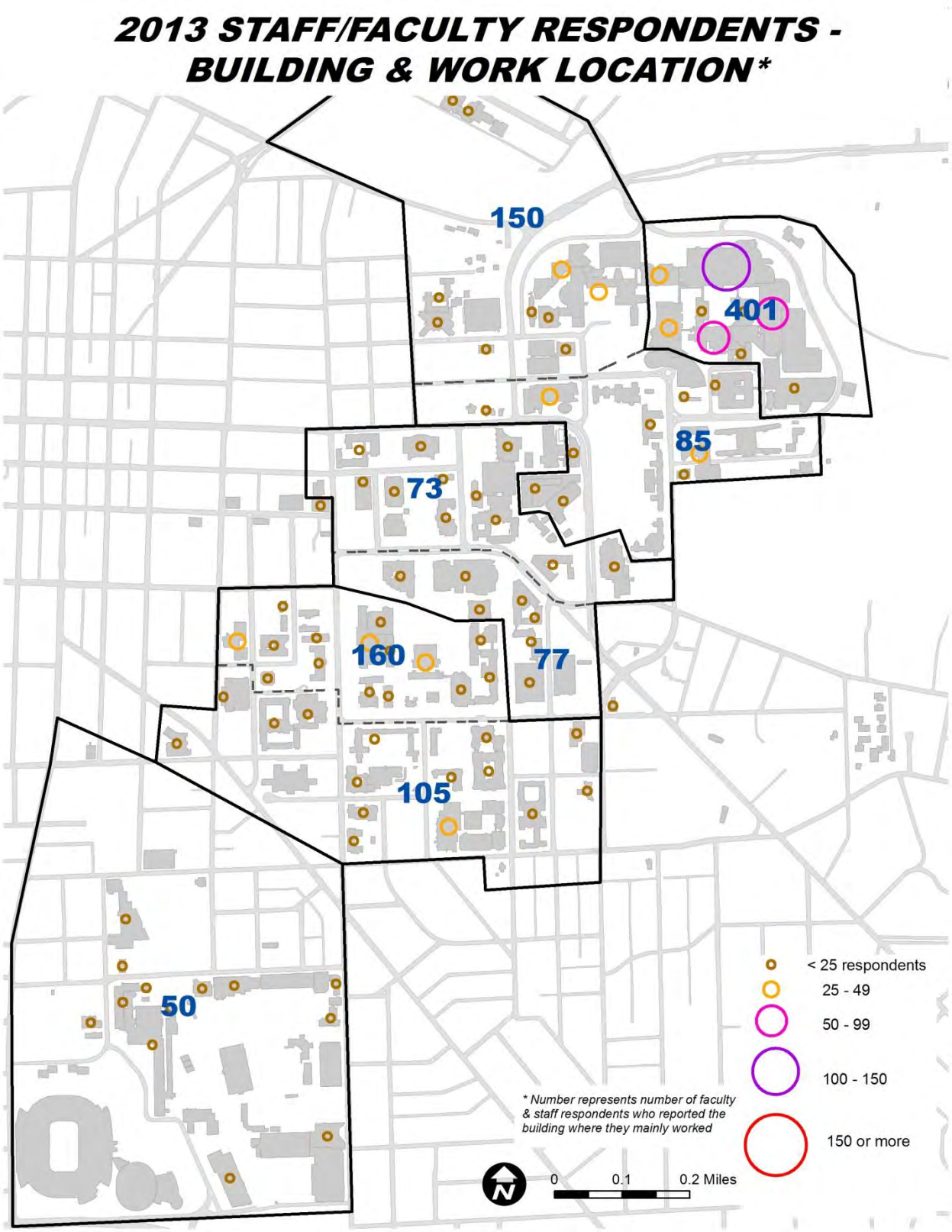
Appendix Figure F3



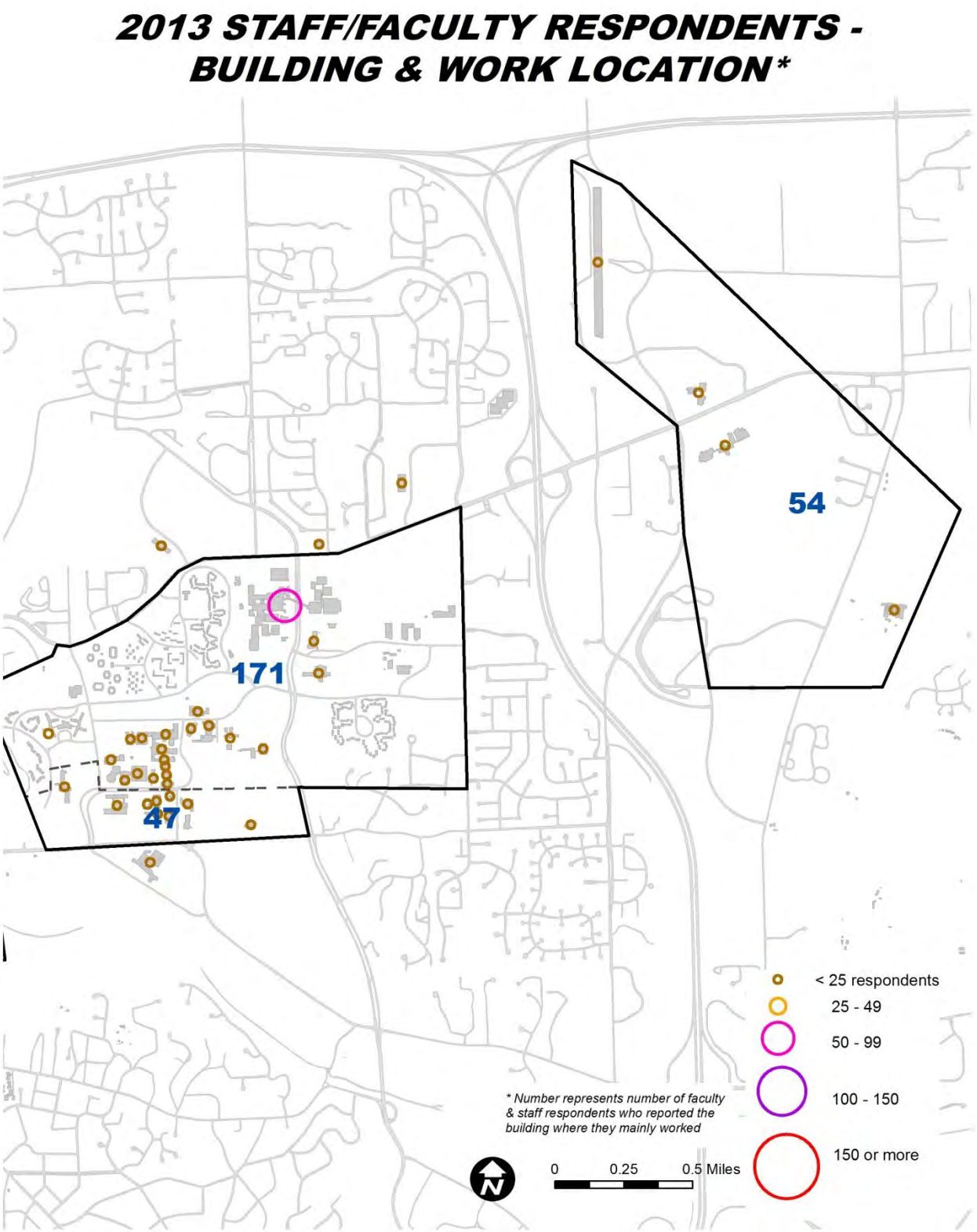
Appendix Figure F4



Appendix Figure F5



Appendix Figure F6



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Acknowledgments

The SCIP analytical work would not have been possible without the assistance of Qiaoxian Hu, Minako Edgar, Will Chan, and Rebecca Guerriero. Ms. Hu and Mr. Chan were instrumental in the preparation of the indicators, Ms. Edgar assumed major responsibility for the GIS mapping and data management and Ms. Guerriero provided key assistance with creating a multi-year composite file of SCIP results. Special thanks are extended to Dr. Anthony Leiserowitz from the Yale Project on Climate Change Communication who provided data from the fall 2013 national survey on attitudes toward climate change among sub-groups of the U.S. population.

We also acknowledge the statistical guidance provided by Brady West and Mike Couper from ISR's Program in Survey Methodology, and Cheryl Wiese, Dan Zahs, Heather Schroeder, and Andrew Hupp from Survey Research Operations (SRO) of ISR's Survey Research Center.

Finally, sincere appreciation must be extended to key leaders at the University of Michigan whose support made SCIP possible. This includes President Mary Sue Coleman and the Office of the President, ISR Director James Jackson, Graham Institute Director Don Scavia, U-M Men's and Women's Swimming and Diving Head Coach Mike Bottom, the U-M Athletic Department, and the Office of the Provost.