Office of Institutional Effectiveness

2016-2017

SUSTAINABILITY SURVEY

OF CAMPUS AND COMMUTER STUDENTS

SUMMARY REPORT

May 2017

VISION

We seek to become recognized for providing bright and curious students
a holistic learning experience that occurs both in and out of the classroom;
for being relentlessly focused on learning outcomes;
for embracing and solving today's greatest educational challenges;
and for bringing fresh and pragmatic thinking to the problems
facing communities, businesses, and governments in Indiana and beyond.

Executive Summary

- The survey was conducted in both Fall and Spring Semesters of the 2016-2017 academic year. The Fall 2016 survey was distributed anonymously. The Spring 2017 survey was sent to a random sample of 750 freshmen, seniors, and graduate students. A total of 98 responses were collected—28 anonymous responses in Fall 2016 and 68 from a random sample of freshmen, seniors, and graduate students in Spring 2017.

- Nearly three-quarters of all respondents (73%) live off-campus, while slightly over one-quarter (27%) report on-campus residence. Some survey items are specifically for on or off campus students.

- On the Spring 2017 survey administration, where background data were associated with each response, we can see that respondents were predominantly seniors (40%) and graduate students (32%). About 44% of Spring 2017 respondents were males and 56% were females. Spring 2017 respondents were predominantly white (93%) with approximately seven percent minority, foreign, or unknown race/ethnicity.

On Campus Residents

- Among on-campus residents, where demographic data were available, 89% were Freshmen. Among commuter students, where background data were available, 96% were seniors or graduate students.

- The vast majority (95%) of all on-campus respondents indicate turning off lights when leaving a room at least "most of the time", but less than one-quarter (24%) indicate that they use Energy Star appliances most of the time.

- Among on-campus students, about 18% report unplugging unused appliances either "most of the time" (14%) or "always" (5%) to eliminate phantom loads on the electrical grid.

- Only slightly more than one-quarter of all on-campus residents have heard of the Ball State Energy Action Team (BEAT). One-half of those who are aware of BEAT also participated in it.

Commuter Students

- Among commuter students, only about one third view their commuting as having a significant (28%) or very significant (5%) impact on Ball State's carbon footprint.

- Among commuter students, only about one third primarily drive alone to campus, while seven percent carpool and five percent take mass transit. Over one-half (55%) report carbon-free commuting (biking or walking to campus).

- Among commuter students, only about one third primarily drive alone to campus, while seven percent carpool and five percent take mass transit. Over one-half (55%) report carbon-free commuting (biking or walking to campus).

- The 19 commuters who indicated that they primarily drive alone to campus were asked a follow-up question about the reason they do not use alternative transportation. Nearly one-half (47%) of those who primarily commute alone indicated that they do so for time and convenience reasons. Sixteen percent indicated health reasons, and about 11% indicated they do not take alternative transportation due to lack of infrastructure. Another 11% indicated that the reason they primarily drive alone was in case of emergencies where they may need a vehicle.

- The survey asked commuter students about the number of trips they make to and from campus each week. Nearly one-half (46%) of commuter students report less than six trips to campus each week. One in five (21%) indicate making six trips to campus each week, while one third (33%) indicate 8 or more trips to and from campus each week.

Sustainability Efforts (All Respondents)

- Over eight out of ten respondents agree (46%) or strongly agree (36%) they make an effort to be knowledgeable about environmental issues.

- Nearly three-quarters of all respondents agree (44%) or strongly agree (29%) they make an effort to be knowledgeable about sustainability issues.

- About six in ten respondents agree or strongly agree their daily behavior reflects a concern about sustainability issues (58%), value knowing that food is grown locally (56%), think about the carbon footprint of their choices (60%), and would like to learn more about sustainability while in college (60%).

Importance of Sustainability Efforts (All Respondents)

- When asked about the importance of sustainability issues, respondents were most concerned with renewable energy and access to clean water--at least 9 out of ten respondents felt they were important or very important. Clean water was seen as the most important issue--85% view access to clean water as very important.

- Next, recycling and access to health care were viewed as important or very important by nearly 9 out of 10 (88%) of respondents.

- A third tier of importance was shared by conserving energy, protecting and restoring habitat, gender equality, and racial equality were seen as important or very important by at least 85%.

- More than 8 out of 10 respondents viewed alternative transportation (83%), and sustainable agriculture (84%), as important or very important.

- About three-quarters of all respondents viewed socially and environmentally responsible investing (76%), fair trade (73%), and carbon offsets (74%) as important or very important.

- Sixty-three percent viewed composting as important (37%) or very important (26%)—the least important sustainability issue.

Differences in Response of On Campus and Commuter Residents

- Some differences were observed between the responses of on campus residents and commuter students. As shown in Table 1, on campus students were largely comprised of Freshmen, while off campus residents were typically seniors or graduate students, so differences observed may be due to age or growth during college, rather than residence per se.

- Over twice the percentage of off-campus (38%) as opposed to on-campus (18%) residents were aware of the Ball State Sustainability Guide, however, the difference was not statistically significant.

- Two-thirds of (predominantly freshmen) on-campus respondents (67%) reported having so far taken no classes at Ball State that address sustainability issues, while among commuters, nearly as many (63%) reported having taken one or more classes covering sustainability issues.

- Off campus residents were more likely to agree or strongly agree they make an effort to be knowledgeable about *environmental* issues (88%) than do residence hall students (65%). The difference is statistically significant.

- Similarly, about 8 in 10 off campus students agreed or strongly agreed they make an effort to be knowledgeable about *sustainability* issues, compared with a bare majority of students in residence halls.

- Two-thirds of all non-resident students agreed (40%) or strongly agreed (27%) they would like to learn more about sustainability in college, compared with only 41% of on-campus residents.

- A higher percentage of residence hall students (85%) felt it was important or very important for Ball State to reduce it's carbon footprint, than did commuter students (75%). The difference was not statistically significant.

- Nearly three-quarters of all off-campus respondents consider recycling to be very important (72%) compared with only about 4 out of 10 (41%) of on-campus respondents. On campus residents are equally likely to view recycling as important (41%) or very important (41%).

- More than 9 out of 10 (91%) off-campus respondents consider conserving energy to be important or very important, compared with about three-quarters (76%) of all on-campus respondents.

- Well over one-half of all off campus respondents (58%), compared with less than 3 in ten on campus residents indicated that socially and environmentally responsible investing was very important.

- The vast majority of residence hall respondents indicated that alternative transportation was important or very important (94%), compared with 78% of off campus residents.

- On campus respondents were most likely to indicate that alternative transportation was important, whereas off campus respondents were most likely to indicate alternative transportation was very important.

- In this section, students were asked about their awareness of 29 sustainability initiatives at Ball State. (28 in Fall 2016—the Zip Car initiative was added to the survey in Spring 2017.)

- When asked about their awareness of specific Ball State Sustainability Initiatives, respondents were most familiar (90%) with aquifer recharge or rain garden areas, followed by bicycle garages, lockers, and racks (75%), and bio-swales for storm water management (75%).

- Nearly two-thirds (65%) report awareness of bio-diesel fueled campus shuttles. Nearly one-half (47%) were aware of campus reforestation plans.

- Slightly more than one-third report awareness of geothermal heating and cooling of campus buildings (38%), the north district energy station location (37%).

- About one-third indicated awareness of the south district energy station location (33%), or the green roof for storm water management (32%). Less than one-third reported awareness of the remaining 20 sustainability initiatives listed.

- On the Spring 2017 survey, students were asked to rank order the importance of the Ball State Sustainability Initiatives with which they were aware. Table 20 is a listing of sustainability issues in mean rank order of their importance.

- Geothermal heating and cooling of campus buildings had the highest mean rank order (2.63) of all sustainability initiatives. (This can be interpreted as the average rank of the item being 2.63.)

- The next most important sustainability issue, according to respondents, was recycling bins (3.33), followed by LEED certification of buildings (4.13), and MadJax Food Hub (4.25), green roof for storm water management (4.50), and bio-diesel fueled campus shuttles (4.56).

- Finally, twelve respondents volunteered suggestions for improving Ball State's sustainability efforts, covering a wide range of potential sustainability improvements.

Section 1
Characteristics of Respondents

The survey was conducted in both Fall and Spring Semesters of the 2016-2017 academic year. The Fall 2016 survey was distributed anonymously, while the Spring 2017 survey was sent to a random sample of 750 freshmen, seniors, and graduate students. A total of 98 responses were collected—28 anonymous responses in Fall 2016 and 68 from a sample of 250 freshmen, 250 seniors, and 250 graduate students in Spring 2017.

- Nearly three-quarters of all respondents (73%) live off-campus, while slightly over one-quarter (27%) report on-campus residence. Some survey items are specifically for on or off campus students. (Table 1)

- On the Spring 2017 survey administration, where background data were associated with each response, we can see that respondents were predominantly seniors (40%) and graduate students (32%). About 44% of Spring 2017 respondents were males and 56% were females. Spring 2017 respondents were predominantly white (93%) with approximately seven percent minority, foreign, or unknown race/ethnicity. (Table 1)

Table 1. Background Characteristics

		N	Percent
Do you live in a residence hall?	Yes	24	27.0
	No	65	73.0
	Total	89	100.0
Class Level (Spring 2017 Survey Only)	Freshmen	19	27.9
	Seniors	27	39.7
	Graduate Students	22	32.4
	Total	68	100.0
Gender (Spring 2017 Survey Only)	Male	30	44.1
	Female	38	55.9
	Total	68	100.0
Race (Spring 2017 Survey Only)	White	63	92.7
	Foreign	2	2.9
	Hispanic	1	1.5
	Unknown	2	2.9
	Total	68	100.0

Section 2
On Campus Residents

This section describes on campus students and contains results from questions which were only asked of respondents who reported living in a residence hall.

- Among on-campus residents, 89% of respondents were freshmen. Among commuter students, 96% were seniors or graduate students.
- The vast majority (95%) of all on-campus respondents indicate turning off lights when leaving a room at least "most of the time", but less than one-quarter (24%) indicate that they use Energy Star appliances most of the time. (Table 2)

Table 2. Frequency of Residence Hall Students Environmental Actions

How frequently do you…		N	Percent
Unplug unused appliances to eliminate 'phantom loads' on the electrical grid	Never	6	27.3
	Rarely	10	45.5
	About half the time	2	9.1
	Most of the time	3	13.6
	Always	1	4.5
	Total	22	100.0
Turn off lights when leaving a room	About half the time	1	4.5
	Most of the time	6	27.3
	Always	15	68.2
	Total	22	100.0
Use low wattage (Energy Star) appliances	Never	2	9.5
	Rarely	3	14.3
	About half the time	11	52.4
	Most of the time	3	14.3
	Always	2	9.5
	Total	21	100.0

- Among on-campus students, about 18% report unplugging unused appliances either “most of the time” (14%) or “always” (5%) to eliminate phantom loads on the electrical grid. (Table 2)

- Only slightly more than one-quarter of all on-campus residents have heard of the Ball State Energy Action Team (BEAT). One-half of those who are aware of BEAT also participated in it. (Table 3.)

Table 3. Residence Hall Student Awareness of and Participation in the Ball State Energy Action Team (BEAT)

		N	Percent
Have you heard of the Ball State Energy Action Team (BEAT)?	Yes	6	26.1
	No	17	73.9
	Total	23	100.0
Have you participated in the Ball State Energy Action Team (BEAT) residence hall energy conservation competition in the past?	Yes	3	50.0
	No	3	50.0
	Total	6	100.0

Section 3
Commuter Students

This section describes on commuter students and contains results from questions which were only asked of those students not living on campus, such as how they commute, how often they commute, and their view of the impact their commuting habits have on the environment.

- Among commuter respondents, only about one-third view their commuting as having a significant (28%) or very significant (5%) impact on Ball State's carbon footprint. Well over one-third of all commuters (38%) described the impact of their commuting on Ball State's carbon footprint as limited, while over one-quarter (26%) described it as 'Insignificant'. (Table 4)

- Among commuter respondents, only about one third primarily drive alone to campus, while seven percent carpool and five percent take mass transit. Over one-half (55%) report carbon-free commuting (biking or walking to campus). (Table 5)

- Among commuter students, only about one third primarily drive alone to campus, while seven percent carpool and five percent take mass transit. Over one-half (55%) report carbon-free commuting (biking or walking to campus). (Table 5)

- The seven respondents who carpool or use mass transit were more likely to indicate they were having a significant or very significant impact on Ball State's carbon footprint than were those who drive alone, walk, or bicycle. Those who bike or walk to campus were the most likely group (42%) to describe their impact on Ball State's carbon footprint as insignificant. (Table 5B)

Table 4. Commuter Students Primary Mode of Transportation to Campus

		N	Percent
What is your primary mode of transportation to campus?	Drive alone	19	32.8
	Carpool	4	6.9
	Mass Transit	3	5.2
	Carbon free (walk, bike)	32	55.2
	Total	58	100.0

Table 5. Commuter Students Opinion of Their Commuting Habits on Ball State's Carbon Footprint

		N	Percent
How much impact, if any, do you think your commuting habits have on Ball State's carbon footprint?	Insignificant	15	25.9
	Limited	22	37.9
	Significant	16	27.6
	Very Significant	3	5.2
	Unsure / Don't Know	2	3.4
	Total	58	100.0

Table 5B. Commuter views of Environmental Impact by Primary Mode of Transportation

			What is your primary mode of transportation to campus?			Total
			Drive alone	Carpool or Mass Transit	Carbon free (walk, bike)	
How much impact, if any, do you think your commuting habits have on Ball State's carbon footprint?	Insignificant	N	2	0	13	15
		Percent	10.5%	0.0%	41.9%	26.8%
	Limited	N	9	2	11	22
		Percent	47.4%	33.3%	35.5%	39.3%
	Significant or Very Significant	N	8	4	7	19
		Percent	42.1%	66.7%	22.6%	33.9%
Total		N	19	6	31	56
		Percent	100.0%	100.0%	100.0%	100.0%

Two cases set missing where impact is stated as "uncertain/don't know."

- Those who drive alone typically described their impact on Ball State's carbon footprint as 'limited' (47%), while an additional 42% described it as significant or very significant. Only about 11% considered their commuting to campus to have an insignificant impact on our carbon footprint. (Table 5B)

- The 19 commuters who indicated that they primarily drive alone to campus were asked a follow-up question about the reason they do not use alternative transportation. Nearly one-half (47%) of those who primarily commute alone indicated that they do so for time and convenience reasons. Sixteen percent indicated health reasons, and about 11% indicated they do not take alternative transportation due to lack of infrastructure. Another 11% indicated that the reason they primarily drive alone was in case of emergencies where they may need a vehicle. (Table 6)

Table 6. Commuter Students Main Reason Cited for Not Using Alternative Transportation

		N	Percent
What is the main reason that you do not use alternative transportation (mass transit, walk, bike, etc.)?	Time/Convenience -- Using alternative transportation would take too long	9	47.4
	Lack of Infrastructure -- Bicycle lanes, sidewalks, bus routes, etc.	2	10.5
	Personal Reasons -- My health, taking children to school/day care/home, etc.	3	15.8
	Emergencies -- I need a vehicle in case I have to go somewhere unexpectedly	2	10.5
	Other (please specify)*	3	15.8
	Total	19	100.0

* I don't go to campus
I live 40 miles away
I live in Parker City, there is no other mode of transportation that could get me to campus

Table 7. Commuter Students Estimated Trips / Week To and From Campus

		N	Percent
On average, how many trips do you make to and from campus each week?	One	1	1.9
	Two	6	11.5
	Three	4	7.7
	Four	4	7.7
	Five	9	17.3
	Six	11	21.2
	Seven	0	0.0
	8 or More	17	32.7
	Total	52	100.0

- Finally, commuter students were asked about the number of trips they make to and from campus each week. Nearly one-half (46%) of commuter students report less than six trips to campus each week. One in five (21%) indicate making six trips to campus each week, while one third (33%) indicate 8 or more trips to and from campus each week. (Table 7)

Section 4

Student's Attitude and Opinions Regarding Sustainability Efforts and the Importance of Environmental Sustainability

This section of the report shows attitudinal items for all students, both on campus students and commuter students. Most items where not statistically significant by residence. Those attitudes that were significantly different between on campus and commuter student respondents are discussed in Section 5.

- Over eight out of ten respondents agree (46%) or strongly agree (36%) they make an effort to be knowledgeable about environmental issues. (Table 8)
- Nearly three-quarters of all respondents agree (44%) or strongly agree (29%) they make an effort to be knowledgeable about sustainability issues (Table 8)
- About six in ten respondents agree or strongly agree their daily behavior reflects a concern about sustainability issues (58%), value knowing that food is grown locally (56%), think about the carbon footprint of their choices (60%), and would like to learn more about sustainability while in college (60%). (Table 8)

Table 8. Sustainability Efforts and Concerns (All Respondents)

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I make an effort to be knowledgeable about environmental issues.	Percent	1.5%	7.6%	9.1%	45.5%	36.4%
	N	1	5	6	30	24
I make an effort to be knowledgeable about sustainability issues.	Percent	1.5%	9.1%	16.7%	43.9%	28.8%
	N	1	6	11	29	19
My daily behavior reflects a concern about sustainability issues.	Percent	3.1%	12.3%	26.2%	46.2%	12.3%
	N	2	8	17	30	8
I value knowing that my food is grown locally.	Percent	3.0%	12.1%	28.8%	40.9%	15.2%
	N	2	8	19	27	10
I think about the carbon footprint of my choices.	Percent	4.6%	10.8%	24.6%	40.0%	20.0%
	N	3	7	16	26	13
I would like to learn more about sustainability while in college.	Percent	3.1%	10.8%	26.2%	38.5%	21.5%
	N	2	7	17	25	14

- When asked about the importance of sustainability issues, respondents were most concerned with renewable energy and access to clean water--at least 9 out of ten respondents felt they were important or very important. Clean water was seen as the most important issue--85% view access to clean water as very important. (Table 9)

- Next, recycling and access to health care were viewed as important or very important by nearly 9 out of 10 (88%) of respondents. (Table 9)

- A third tier of importance was shared by conserving energy, protecting and restoring habitat, gender equality, and racial equality were seen as important or very important by at least 85%. (Table 9)

- More than 8 out of 10 respondents viewed alternative transportation (83%), and sustainable agriculture (84%), as important or very important. (Table 9)

- About three-quarters of all respondents viewed socially and environmentally responsible investing (76%), fair trade (73%), and carbon offsets (74%) as important or very important. (Table 9)

- Sixty-three percent viewed composting as important (37%) or very important (26%)—the least important sustainability issue. (Table 9)

Table 9. Importance of Sustainability Issues (All Respondents)

		Very Unimportant	Unimportant	Neutral	Important	Very Important
Recycling	Percent	6.3%	3.1%	3.1%	23.4%	64.1%
	N	4	2	2	15	41
Composting	Percent	6.5%	3.2%	27.4%	37.1%	25.8%
	N	4	2	17	23	16
Conserving Energy	Percent	4.8%	1.6%	6.5%	27.4%	59.7%
	N	3	1	4	17	37
Conserving Water	Percent	4.8%	3.2%	6.5%	30.6%	54.8%
	N	3	2	4	19	34
Socially and Environmentally Responsible Investing	Percent	6.5%	3.2%	14.5%	25.8%	50.0%
	N	4	2	9	16	31
Fair Trade	Percent	6.5%	3.2%	17.7%	37.1%	35.5%
	N	4	2	11	23	22
Alternative Transportation (walking, biking, public transit, ridesharing, carpooling)	Percent	4.8%	3.2%	9.5%	33.3%	49.2%
	N	3	2	6	21	31
Protecting and restoring habitat	Percent	4.8%	3.2%	4.8%	24.2%	62.9%
	N	3	2	3	15	39
Renewable Energy	Percent	6.6%	1.6%	1.6%	21.3%	68.9%
	N	4	1	1	13	42
Sustainable Agricuture	Percent	3.2%	8.1%	4.8%	24.2%	59.7%
	N	2	5	3	15	37
Access to Clean Water	Percent	3.4%	3.4%	0.0%	8.5%	84.7%
	N	2	2	0	5	50
Access to Health Care	Percent	5.0%	1.7%	5.0%	16.7%	71.7%
	N	3	1	3	10	43
Gender Equality	Percent	8.3%	1.7%	3.3%	18.3%	68.3%
	N	5	1	2	11	41
Racial Equality	Percent	8.3%	1.7%	3.3%	20.0%	66.7%
	N	5	1	2	12	40
Carbon Offsets	Percent	6.9%	3.4%	15.5%	27.6%	46.6%
	N	4	2	9	16	27

Section 5
Differences Between On Campus and Commuter Students

Some significant differences were observed between the responses of on campus residents and commuter students, two groups which also differed by age and class standing (in Spring 2017 data, as discussed in Section 2). Commuter respondents report more awareness of the sustainability guide, and self-report more awareness of and interest in sustainability and environmental issues, than do commuter students.

- Campus residents were less than half as likely to indicate they are aware of Ball State's sustainability guide (18%) when compared with commuter students (38%). (Table 10)

- While two-thirds of (predominantly freshmen) on-campus respondents (67%) reported having so far taken no courses at Ball State that address sustainability issues, among commuters, nearly as many (63%) reported having taken one (25%) or more (37.5%) such courses. (Table 11)

- Commuter students (who were mostly seniors and graduate students) were much more likely to agree or strongly agree that they make an effort to be knowledgeable about *environmental* issues (88%) than were campus residents (65%). (Table 11) Also, on a similar item about *sustainability* issues, 80% of commuter respondents agree or strongly agree, compared with only 53% of campus residents. (Table 12)

- Similarly, while fully two-thirds of generally older, more experienced commuter respondents agreed (40%) or strongly agreed (27%) they would like to learn more about sustainability while in college, only 42% of on-campus resident respondents agreed (36%) or strongly agreed (6%). (Table 13)

Table 10. Awareness of Sustainability Guide by Residence

			Do you live in a residence hall?		
			Yes	No	Total
Are you aware of Ball State's Sustainability guide?	Yes	N	4	22	26
		Percent	18.2%	37.9%	32.5%
	No	N	18	36	54
		Percent	81.8%	62.1%	67.5%
Total		N	22	58	80
		Percent	100.0%	100.0%	100.0%

Table 11. Number of Ball State Courses with Sustainability Content by Residence

			Do you live in a residence hall?		
			Yes	No	Total
How many Ball State courses have you taken that have addressed sustainability?	None	N	10	15	25
		Percent	66.7%	37.5%	45.5%
	One	N	3	10	13
		Percent	20.0%	25.0	23.6
	Two or More	N	2	15	17
		Percent	66.7%	37.5%	45.5%
Total		N	15	40	55
		Percent	100.0%	100.0%	100.0%

Table 12. Making an Effort to be Knowledgeable about Environmental and Sustainability Issues by Residence

			Do you live in a residence hall?		
			Yes	No	Total
I make an effort to be knowledgeable about *environmental* issues.	Neutral or Less	N	6	6	12
		Percent	35.3%	12.2%	18.2%
	Agree	N	8	22	30
		Percent	47.1%	44.9%	45.5%
	Strongly Agree	N	3	21	24
		Percent	17.6%	42.9%	36.4%
I make an effort to be knowledgeable about *sustainability* issues.	Neutral or Less	N	8	10	18
		Percent	47.1%	20.4%	27.3%
	Agree	N	6	23	29
		Percent	35.3%	46.9%	43.9%
	Strongly Agree	N	3	16	19
		Percent	17.6%	32.7%	28.8%
Total		N	17	49	66
		Percent	100.0%	100.0%	100.0%

Table 13. Interest in Sustainability Issues by Residence

			Do you live in a residence hall?		
			Yes	No	Total
I would like to learn more about sustainability while in college.	Neutral or Less	N	10	16	26
		Percent	58.8%	33.3%	40.0%
	Agree	N	6	19	25
		Percent	35.3%	39.6%	38.5%
	Strongly Agree	N	1	13	14
		Percent	5.9%	27.1%	21.5%
Total		N	17	48	65
		Percent	100.0%	100.0%	100.0%

Table 14. Importance of Carbon Footprint by Residence

			Do you live in a residence hall?		
			Yes	No	Total
How important is it for Ball State to decrease its carbon footprint?	Neutral or Less	N	3	16	19
		Percent	15.0%	28.1%	24.7%
	Important	N	11	17	28
		Percent	55.0%	29.8%	36.4%
	Very Important	N	6	24	30
		Percent	30.0%	42.1%	39.0%
Total		N	20	57	77
		Percent	100.0%	100.0%	100.0%

- A higher percentage of residence hall students (85%) felt it was important or very important for Ball State to reduce it's carbon footprint, than did commuter students (75%). The difference was not statistically significant. (Table 14)

- A higher percentage of residence hall students (85%) felt it was important or very important for Ball State to reduce it's carbon footprint, than did commuter students (75%). The difference was not statistically significant. (Table 14)

Table 15. Importance of Recycling by Residence

			Do you live in a residence hall?		
			Yes	No	Total
Recycling	Neutral or Less	N	3	5	8
		Percent	17.6%	10.6%	12.5%
	Important	N	7	8	15
		Percent	41.2%	17.0%	23.4%
	Very Important	N	7	34	41
		Percent	41.2%	72.3%	64.1%
Total		N	17	47	64
		Percent	100.0%	100.0%	100.0%

Table 16. Importance of Conserving Energy by Residence

			Do you live in a residence hall?		
			Yes	No	Total
Conserving Energy	Neutral or Less	N	4	4	8
		Percent	23.5%	8.9%	12.9%
	Important	N	6	11	17
		Percent	35.3%	24.4%	27.4%
	Very Important	N	7	30	37
		Percent	41.2%	66.7%	59.7%
Total		N	17	45	62
		Percent	100.0%	100.0%	100.0%

Table 17. Importance of Socially and Environmentally Responsible Investing by Residence

			Do you live in a residence hall?		
			Yes	No	Total
Socially and Environmentally Responsible Investing	Neutral or Less	Count	6	9	15
		Percent	35.3%	20.0%	24.2%
	Important	N	6	10	16
		Percent	35.3%	22.2%	25.8%
	Very Important	N	5	26	31
		Percent	29.4%	57.8%	50.0%
Total		N	17	45	62
		Percent	100.0%	100.0%	100.0%

- Nearly three-quarters of all off-campus respondents consider recycling to be very important (72%) compared with only about 4 out of 10 (41%) of on-campus respondents. On campus residents are equally likely to view recycling as important (41%) or very important (41%). (Table 15)

- More than 9 out of 10 (91%) off-campus respondents consider conserving energy to be important or very important, compared with about three-quarters (76%) of all on-campus respondents. (Table 16)

- Well over one-half of all off campus respondents (58%), compared with less than 3 in ten on campus residents indicated that socially and environmentally responsible investing was very important. (Table 17)

- The vast majority of residence hall respondents indicated that alternative transportation was important or very important (94%), compared with 78% of off campus residents. (Table 18)

- On campus respondents were most likely to indicate that alternative transportation was important, whereas off campus respondents were most likely to indicate alternative transportation was very important. (Table 18)

Table 18. Importance of Alternative Transportation by Residence

			Do you live in a residence hall?		
			Yes	No	Total
Alternative Transportation (walking, biking, public transit, ridesharing, carpooling)	Neutral or Less	N	1	10	11
		Percent	5.9%	21.7%	17.5%
	Important	N	11	10	21
		Percent	64.7%	21.7%	33.3%
	Very Important	N	5	26	31
		Percent	29.4%	56.5%	49.2%
Total		N	17	46	63
		Percent	100.0%	100.0%	100.0%

Table 19. Awareness of Specific Ball State Sustainability Initiatives

		Responses		Percent
		N	Percent	Aware
Awareness of Ball State Sustainability Initiatives[a]	Aquifer Recharge (Rain Garden) Areas	8	1.8%	13.3%
	Bicycle Garages, Lockers, Racks	45	10.2%	75.0%
	Bio-swales for Storm Water Management	14	3.2%	23.3%
	Bio-diesel fueled Campus Shuttles	23	5.2%	38.3%
	Campus Reforestation Plans	9	2.0%	15.0%
	Geothermal Heating and Cooling of Campus Buildings	28	6.3%	46.7%
	North District Energy Station Location	9	2.0%	15.0%
	South District Energy Station Location	5	1.1%	8.3%
	Green Roof for Storm Water Management	10	2.3%	16.7%
	Hybrid-Electric Campus Shuttles	20	4.5%	33.3%
	LEED Certification of Building Performance	22	5.0%	36.7%
	Permeable Concrete Parking	9	2.0%	15.0%
	Princeton Review Green School Listings	8	1.8%	13.3%
	Recycling Bins	54	12.2%	90.0%
	Sierra Club Cool Schools Listings	4	0.9%	6.7%
	Storm Drain Medallions	6	1.4%	10.0%
	Sustainability Website	14	3.2%	23.3%
	Vegetated Creek Banks	4	0.9%	6.7%
	Water Bottle Filling Stations	39	8.8%	65.0%
	Water Conservation Fixtures in Restrooms	16	3.6%	26.7%
	White River Cleanup	45	10.2%	75.0%
	MadJax Food Hub	4	0.9%	6.7%
	Field Station Projects	5	1.1%	8.3%
	Hults Organic Gardening Project	2	0.5%	3.3%
	BSU Ties to Red-Tail Conservancy	6	1.4%	10.0%
	Living Lightly Fair	19	4.3%	31.7%
	Permaculture Group	1	0.2%	1.7%
	Indianapolis Airport Authority Immersive Learning Project	6	1.4%	10.0%
	Zip Car (Car sharing service--not yet available on campus)*	7	1.6%	13.2%
Total		442	100.0%	736.7%

* Initiative added to the Spring 2017 survey.

- Students were asked about their awareness of 29 sustainability initiatives at Ball State. (28 in Fall 2016--Zip Car initiative was added in Spring 2017) (Table 19)

- When asked about their awareness of specific Ball State Sustainability Initiatives, respondents were most familiar (90%) with aquifer recharge or rain garden areas, followed by bicycle garages, lockers, and racks (75%), and bio-swales for storm water management (75%). (Table 19)

- Nearly two-thirds (65%) report awareness of bio-diesel fueled campus shuttles. (Table 19)

- Nearly one-half (47%) were aware of campus reforestation plans. (Table 19)

- Slightly more than one-third report awareness of geothermal heating and cooling of campus buildings (38%), the north district energy station location (37%). (Table 19)

- About one-third indicated awareness of the south district energy station location (33%), or the green roof for storm water management (32%). (Table 19.)

- Less than one-third reported awareness of the remaining 20 sustainability initiatives in Table 19.

Table 20. Mean Rank Order of Sustainability Initiatives With Which Respondents were Aware (All Spring 2017 Respondents)

	N	Highest Rank	Lowest Rank	Mean Rank	Std. Deviation
1. Geothermal Heating and Cooling of Campus Buildings	19	1.00	8.00	2.63	2.41
2. Recycling Bins	42	1.00	9.00	3.33	2.14
3. LEED Certification of Building Performance	16	1.00	11.00	4.13	3.22
4. MadJax Food Hub	4	1.00	10.00	4.25	4.03
5. Green Roof for Storm Water Management	6	2.00	7.00	4.50	2.07
6. Bio-diesel fueled Campus Shuttles	16	2.00	10.00	4.56	2.68
7. Water Bottle Filling Stations	33	1.00	16.00	4.73	3.20
8. White River Cleanup	37	1.00	18.00	4.73	3.97
9. Hybrid-Electric Campus Shuttles	15	1.00	12.00	4.87	3.42
10. Bicycle Garages, Lockers, Racks	35	1.00	12.00	5.20	3.15

Table 20. Mean Rank Order of Sustainability Initiatives With Which Respondents were Aware (Continued)

	N	Highest Rank	Lowest Rank	Mean Rank	Std. Deviation
11. Aquifer Recharge (Rain Garden) Areas	6	1.00	14.00	5.33	4.59
12. Campus Reforestation Plans	2	2.00	9.00	5.50	4.95
13. Bio-swales for Storm Water Management	8	1.00	10.00	5.63	3.34
14. North District Energy Station Location	3	3.00	9.00	6.00	3.00
15. Water Conservation Fixtures in Restrooms	14	2.00	17.00	6.29	4.01
16. Permeable Concrete Parking	6	3.00	9.00	6.33	1.97
17. Sierra Club Cool Schools Listings	2	5.00	8.00	6.50	2.12
18. South District Energy Station Location	2	4.00	10.00	7.00	4.24
19. Zip Car (Car sharing service--not yet available on campus)	7	1.00	11.00	7.29	3.68
20. Princeton Review Green School Listings	3	2.00	13.00	7.33	5.51
21. Living Lightly Fair	18	4.00	21.00	7.83	3.84
22. Permaculture Group	1	9.00	9.00	9.00	
23. Indianapolis Airport Authority Immersive Learning Project	6	1.00	22.00	9.00	8.07
24. Sustainability Website	8	5.00	14.00	10.13	3.09
25. BSU Ties to Red-Tail Conservancy	6	1.00	15.00	10.33	5.13
26. Hults Organic Gardening Project	2	1.00	20.00	10.50	13.44
27. Field Station Projects	5	5.00	19.00	10.60	5.68
28. Storm Drain Medallions	3	9.00	16.00	11.67	3.79
29. Vegetated Creek Banks	1	15.00	15.00	15.00	

- On the Spring 2017 survey, students were asked to rank order the importance of the Ball State Sustainability Initiatives with which they were aware. Table 20 is a listing of sustainability issues in mean rank order of their importance.
- Geothermal heating and cooling of campus buildings had the highest

mean rank order (2.63) of all sustainability initiatives. (This can be interpreted as the average rank of the item being 2.63.) (Table 20)

- The next most important sustainability issue, according to respondents, was recycling bins (3.33), followed by LEED certification of buildings (4.13), and MadJax Food Hub (4.25), green roof for storm water management (4.50), and bio-diesel fueled campus shuttles (4.56). (Table 20)

Section 6
Written Comments

Twelve respondents volunteered suggestions for improving Ball State's sustainability efforts, as shown in Table 21. There are a lot of suggestions in such few comments.

One respondent left a 12 point plan for improving sustainability at Ball State, and among all 12 respondents, most every aspect of sustainability is addressed, from local produce and green energy to decreasing reliance on fossil fuels and increasing commitment to responsible use and recycling.

Table 21. Written Suggestions for Improving Sustainability Efforts at Ball State

- 1. DIVEST IN FOSSIL FUELS 2. Improve campus landscape design and stop paving over everything simply because they require more maintenance
  3. Increase the number of green roofs and solar panels we utilize
  4. Purchase local produce during the appropriate time of year
  5. Add bike lanes to the campus plan (I think this is already in the future campus plans)
  6. Increase the number of bio-swales and rain gardens on campus...by doing so, the increase in species types of both plants and animals that can be introduced might help reestablish endangered natives (which helps the environment therefore helping our campus become more sustainable by correcting some of our human impact!)
  7. Eliminate plastic bags and silverware in the dining halls. There are alternatives!
  8. Increase the amount of compostable and recyclable materials used through out campus
  9. Pay attention to the materials used in our landscape design. There is a professor on campus that is an EXPERT at utilizing sustainable materials in landscape design. Talk to her; learn from her, she is amazing! (Meg Calkins)
  10. More recycling cans outside of campus buildings near nodes on campus
  11. Composting stations on campus would also be so cool!
  12. Maybe make it known across campus that there is a student garden behind the student center too! Just to name a few!
- Eliminate bottled water for purchase in dining halls/vending machines - More bike lanes on campus - More frequent campus shuttles - More covered/heated campus shuttle stop shelters - Turn off computers, TVs, and lights in campus buildings at night - Update water fixtures in older buildings - Serve more vegetarian options in dining halls - Make it easier for Hults Organic Farm project to supply produce to campus dining - Campus shuttle to Minnetrista farmers market on Saturdays through October/ third Saturday of each month November-April - More moderate heating/cooling temperatures in campus buildings - University divestment from fossil fuels - Increased transparency from board of trustees regarding University's investments - Divestment from Koch/Schnatte agreement - Encourage research into renewable energy, sustainable manufacturing, circular economy, etc. in new Entrepreneurial School - Require an environmental science class as part of core curriculum for all students - Increase funding for sustainability initiatives and research at Ball State - Increase funding and visibility for NREM department - Choose a new president with a vested interest in social and environmental sustainability, with no ties to fossil fuel industry.

Table 21. Written Suggestions for Improving Sustainability Efforts at Ball State (Continued)

- Focus more on academics and not social programs/initiatives, thank you.
- Have campus cable cars.
- More recycle bins; next to every trash can should be a recycle bin. Too often I have to carry bottles to a completely different building just to be able to recycle them!!
- The water pressure in most buildings on campus is on too high for sinks in bathrooms. Please can we have someone turn down the water pressure? Thanks!
- To encourage more bike riding on campus, bike lanes would be a great addition to campus traffic. Also, more greenery on campus would help Ball State's green image. Inviting the landscape architecture students to design sparsely planted areas on campus would give students a big say in how our campus goes green.
- Water bottle refilling stations with each water fountain.
- When living in the residence halls, I was very concerned seeing the blue bags meant for recycling in trash cans labeled "trash". I have also seen this around campus. This makes me question how seriously recycling being taken seriously. I think janitors and people should be better trained on blue vs. black bags. I would also love to see Ball State explore solar energy as a means for getting electricity for the buildings on campus. Also expensive at first, there is no reason that every building top on Ball States campus couldn't have solar panels, and they would significantly reduce Ball States carbon foot print. It would also cost Ball State less as less money would be spent on paying for electricity through a company, and potentially solar could be enough o power Ball State that outside electricity did not need to be paid for at all. I also think that many bathrooms around campus need to be updated, such as the bathrooms in cooper science complex and bracken library. These bathrooms have leaky old sinks, and old toilets that waste water. Also there are air driers in the bathrooms in bracken, but not in places like cooper. An efficient hand drier is sanitary and would reduce paper waste. Also think that the dining halls would push better for use of reusable plates as bowls. I have found from eating on campus that the plastic and one time use containers are usually easier to find and more available than reusable plates. I was one time also told I would be charged extra because I used a washable bowl rather tan a plastic container to get yogurt in Woodworth. I also think that starting a composting project would be very cool as well. I also think that the landscaping at Ball State could under go a change as well. I have seen on multiple occasions, perfectly fine flowers, ripped out of the ground and replaced with newer flowers. This makes no sense to me. It's wasteful to keep spending money on new plants, and the energy of the landscaping team to use trucks and equipment.
- We have no efforts addressing solar and wind energy. I believe you could augment the geothermal system with these added technologies to make building temps more comfortable. I love that we have the geothermal system, but academic buildings are rarely at a comfortable temperature. Most academic buildings are/should be capable of having a green roof.

Table 21. Written Suggestions for Improving Sustainability Efforts at Ball State (Continued)

- When I visited Disney world last time I was in Florida, what I noticed about the Epcot food center was everything was recyclable or reusable. Everything from the wrapping on sandwiches, straws, the drink cups, in an effort to generate as little waste as possible. I think that at food centers if an initiative to produce as little waste as possible was taken, paired with the right marketing to make students aware of trying to make zero waste. Busy food courts like the atrium produce too much waste, plates are not reusable and most everything is disposed. I think if the student body was more conscious about their impact with what happens after they toss something in a waste container it would be beneficial.

Section 7
Recommendations

- Improve, promote or re-envision the Ball State Energy Action Team (BEAT) to increase awareness to at least two-thirds of all on-campus residents, and promote wider participation in it. (Only slightly more than one-quarter of on-campus residents have heard of BEAT. More awareness may lead to more participation, as one-half of all respondents who were aware of BEAT also participated in it.

- Promote carbon free commuting to and from campus and for short trips as healthy and impactful on our carbon footprint and campus environment. (Only one-quarter of those who walk or bike to campus feel that their impact is significant, while 42% indicate that walking or biking has an 'insignificant' effect.) Environmental efforts and communications directed at commuting students should recognize the fact that for commuting students, or non-traditional students who are also parents, there may not be a carbon free or environmentally sustainable and affordable option for commuting.

- Implement a suggestion from this survey as an improvement to our overall campus sustainability issues. Then, reissue the survey at a later date and report improvements we've made based on this first year of findings from the Ball State Sustainability Survey.

Appendix A
Survey Instrument

Ball State Sustainability Survey

The Ball State community takes great pride in our university's international reputation in sustainability. In fact, our strategic plan, The Centennial Commitment (18 by '18), specifically identifies our intent to leverage sustainability as a key branding element of Ball State University. Our Board of Trustees, our leadership team across campus, faculty, staff, and especially students are actively involved in sustainability projects and remain critical to the continuing success of our efforts in this area. Your participation in this survey will help us to better serve our collective interests. Thank you!

HALL Do you live in a residence hall?
- ❍ Yes
- ❍ No

C_IMPACT How much impact, if any, do you think your commuting habits have on Ball State's carbon footprint?
- ❍ Insignificant
- ❍ Limited
- ❍ Significant
- ❍ Very Significant
- ❍ Unsure / Don't Know

C_TRANS What is your primary mode of transportation to campus?
- ❍ Drive alone
- ❍ Carpool
- ❍ Mass Transit
- ❍ Carbon free (walk, bike)

C_TRIPS On average, how many trips do you make to and from campus each week?
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ 6
- ❍ 7
- ❍ > 8

Display This Question:

If What is your primary mode of transportation to campus? Drive alone Is Selected

C_REASON What is the main reason that you do not use alternative transportation (mass transit, walk, bike, etc.)?
- ❍ Awareness -- I am unaware of what commuting alternatives are available locally
- ❍ Time/Convenience -- Using alternative transportation would take too long
- ❍ Lack of Infrastructure -- Bicycle lanes, sidewalks, bus routes, etc.
- ❍ Personal Reasons -- My health, taking children to school/day care/home, etc.
- ❍ Emergencies -- I need a vehicle in case I have to go somewhere unexpectedly
- ❍ Personal Safety
- ❍ Other (please specify) _____

R_UNPLUG How frequently do you...

	Never	Rarely	About half the time	Most of the time	Always
Unplug unused appliances to eliminate 'phantom loads' on the electrical grid	❍	❍	❍	❍	❍
Turn off lights when leaving a room	❍	❍	❍	❍	❍
Use low wattage (Energy Start) appliances	❍	❍	❍	❍	❍

R_BEAT Have you heard of the Ball State Energy Action Team (BEAT)?

❍ Yes
❍ No

Display This Question:

If Have you heard of the Ball State Energy Action Team (BEAT)? Yes Is Selected

R_PBEAT Have you participated in the Ball State Energy Action Team (BEAT) residence hall energy conservation competition in the past?

❍ Yes
❍ No

GUIDE Are you aware of Ball State's Sustainability guide?

❍ Yes
❍ No

CARBON How important is it for Ball State to decrease its carbon footprint?

❍ Very Unimportant
❍ Unimportant
❍ Neutral
❍ Important
❍ Very Important
❍ Unsure

EFFORT Please rate your level of agreement with the following statements:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I make an effort to be knowledgeable about environmental issues.	❍	❍	❍	❍	❍
I make an effort to be knowledgeable about sustainability issues.	❍	❍	❍	❍	❍
My daily behavior reflects a concern about sustainability issues.	❍	❍	❍	❍	❍
I value knowing that my food is grown locally.	❍	❍	❍	❍	❍
I think about the carbon footprint of my choices.	❍	❍	❍	❍	❍
I would like to learn more about sustainability while in college.	❍	❍	❍	❍	❍

IMPORT Please indicate the importance of the following sustainability issues:

	Very Unimportant	Unimportant	Neutral	Important	Very Important	Unsure
Recycling	❍	❍	❍	❍	❍	❍
Composting	❍	❍	❍	❍	❍	❍
Conserving Energy	❍	❍	❍	❍	❍	❍
Conserving Water	❍	❍	❍	❍	❍	❍
Socially and Environmentally Responsible Investing	❍	❍	❍	❍	❍	❍
Fair Trade	❍	❍	❍	❍	❍	❍
Alternative Transportation (walking, biking, public transit, ridesharing, carpooling)	❍	❍	❍	❍	❍	❍
Protecting and restoring habitat	❍	❍	❍	❍	❍	❍
Renewable Energy	❍	❍	❍	❍	❍	❍
Sustainable Agricuture	❍	❍	❍	❍	❍	❍
Access to Clean Water	❍	❍	❍	❍	❍	❍
Access to Health Care	❍	❍	❍	❍	❍	❍
Gender Equality	❍	❍	❍	❍	❍	❍
Racial Equality	❍	❍	❍	❍	❍	❍
Carbon Offsets	❍	❍	❍	❍	❍	❍

INIT Which of the following Ball State sustainability initiatives are you aware of? (select all that apply)

- ❑ Aquifer Recharge (Rain Garden) Areas
- ❑ Bicycle Garages, Lockers, Racks
- ❑ Bio-swales for Storm Water Management
- ❑ Bio-diesel fueled Campus Shuttles
- ❑ Campus Reforestation Plans
- ❑ Geothermal Heating and Cooling of Campus Buildings
- ❑ North District Energy Station Location
- ❑ South District Energy Station Location
- ❑ Green Roof for Storm Water Management
- ❑ Hybrid-Electric Campus Shuttles
- ❑ LEED Certification of Building Performance
- ❑ Permeable Concrete Parking
- ❑ Princeton Review Green School Listings
- ❑ Recycling Bins
- ❑ Sierra Club Cool Schools Listings
- ❑ Storm Drain Medallions
- ❑ Sustainability Website
- ❑ Vegetated Creek Banks
- ❑ Water Bottle Filling Stations
- ❑ Water Conservation Fixtures in Restrooms
- ❑ White River Cleanup
- ❑ MadJax Food Hub
- ❑ Field Station Projects
- ❑ Hults Organic Gardening Project
- ❑ BSU Ties to Red-Tail Conservancy
- ❑ Living Lightly Fair
- ❑ Permaculture Group
- ❑ Indianapolis Airport Authority Immersive Learning Project
- ❑ Zip Car (Car sharing service--not yet available on campus)

Display This Question:

If Which of the following Ball State sustainability initiatives are you aware of? (select all that a... q://QID16/SelectedChoicesCount Is Greater Than 1

Carry Forward Selected Choices from "Which of the following Ball State sustainability initiatives are you aware of? (select all that apply)"

INT_RANK Please drag the items below to rank order the initiatives you checked, from '1' as most important, '2' is second most important, and '3' is third most important, etc. (Once you drag or hover over an item, the rank order numbers will appear.) 1 =most important, 2 =second most important, etc.

_____ Aquifer Recharge (Rain Garden) Areas
_____ Bicycle Garages, Lockers, Racks
_____ Bio-swales for Storm Water Management
_____ Bio-diesel fueled Campus Shuttles
_____ Campus Reforestation Plans
_____ Geothermal Heating and Cooling of Campus Buildings
_____ North District Energy Station Location
_____ South District Energy Station Location
_____ Green Roof for Storm Water Management
_____ Hybrid-Electric Campus Shuttles
_____ LEED Certification of Building Performance
_____ Permeable Concrete Parking
_____ Princeton Review Green School Listings
_____ Recycling Bins
_____ Sierra Club Cool Schools Listings
_____ Storm Drain Medallions
_____ Sustainability Website
_____ Vegetated Creek Banks
_____ Water Bottle Filling Stations
_____ Water Conservation Fixtures in Restrooms
_____ White River Cleanup
_____ MadJax Food Hub
_____ Field Station Projects
_____ Hults Organic Gardening Project
_____ BSU Ties to Red-Tail Conservancy
_____ Living Lightly Fair
_____ Permaculture Group
_____ Indianapolis Airport Authority Immersive Learning Project
_____ Zip Car (Car sharing service--not yet available on campus)

NUMCOURSES How many Ball State courses have you taken that have addressed sustainability?

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5
- ❍ >5

SUGGFLAG Do you have suggestions for additional sustainability initiatives at the University?

- ❍ Yes, I have suggestions
- ❍ Not at this time

Display This Question:

If Do you have suggestions for additional sustainability initiatives at the University? Yes, I have suggestions Is Selected

SUGG Great! Please briefly describe your suggestions for other university based sustainability initiatives below.

_____

_____

_____

_____