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Sustaining WPI: Increasing the Engagement of the WPI Community

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Sustaining WPI:

Increasing the Engagement of the WPI Community

May 28, 2019

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Abstract

The goal of this IQP was to develop an understanding of community engagement in sustainability at WPI. We conducted a sustainability engagement survey, interviewed key WPI actors, and investigated other universities. We developed findings based on the following themes: barriers, incentives, and leadership. Furthermore, we proposed recommendations for the Community Engagement Working Group and the Office of Sustainability to improve community engagement, including incentivizing and promoting events, communicating information, and seeking expertise to improve the capabilities of the office.
Executive Summary

The cooperation of the entire community is instrumental in harnessing sustainability in its entirety. This is a primary goal of the WPI Sustainability Plan. The plan has four areas of sustainability: academics, campus operations, research and scholarship, and community engagement. Within these fields, sets of overarching objectives, specific tasks, and measures for completion are extensively outlined to bring WPI closer to achieving sustainability. This project explored the community engagement aspect of sustainability at WPI. Specifically, the team focused on the communication of information, promotion and incentivization of initiatives, as well as engagement through peer leadership.

Project Objectives

The goal of this project was to develop a plan to improve community engagement and awareness regarding sustainability at WPI. To achieve this goal, we completed the following objectives:

- Assessed the WPI community’s opinion on sustainability, initiatives, and incentives.
- Evaluated WPI’s sustainability organizational structure, and promotion and communication methods.
- Investigated sustainability programs outside of WPI.
- Designed a set of recommendations to improve sustainability engagement at WPI.

Methodology

To gauge the existing sustainability knowledge, involvement, barriers, and potential interests in initiatives and incentives of the WPI community, we curated and distributed a survey to the WPI community. We also gathered information from key actors who practice sustainability at WPI. These included the Office of Sustainability, the Community Engagement Working Group, the Green Team, Residential Services, Student Affairs and Campus Life, and a former Eco-Representative to assess the sustainability efforts undertaken on campus. Furthermore, we contacted four other universities to draw examples and gain an understanding of how other universities approach sustainability with a focus on the promotion and engagement of sustainability initiatives. We were able to take significant steps in tackling the issue of
engagement by gathering an initial understanding of the WPI campus’ preliminary knowledge regarding sustainability and determining the WPI community’s participation interests.

Findings

**Barriers:** From our survey of 224 subjects, 70% responded that they were too busy with other commitments to engage in sustainability. Additionally, there was an indication of a lack of knowledge regarding where to start practicing sustainable behavior (49%). Potential to improve communication between the key WPI actors and specifically on facilitating sustainability information and resources at WPI was also observed. Another concern that the Office of Sustainability cited was the lack of students at various sustainability-themed club events. A lack of participation surrounding sustainability initiatives such as RecycleMania and Project Clean Plate demonstrated the need to increase awareness, communication, and engagement throughout the community.

**Incentives:** We observed that the opinions of sustainability leaders at the interviewed colleges varied regarding the effectiveness of using incentives to improve sustainability engagement. The consensus between other colleges’ sustainability directors revealed that incentives could be instrumental in engaging people. The key takeaway was that traditional physical rewards are not the sole deciding factor in increasing engagement. Instead, tangible rewards should be used sparingly to introduce individuals to sustainability. Subsequently, it was more effective to increase intrinsic motivation associated with sustainability through educationally engaging opportunities. Furthermore, we observed that WPI is not currently utilizing incentives to their full potential.

**Leadership:** From our interviews with other universities as well as crucial WPI actors, peer-to-peer leadership appears to be one of the most effective methods to increase engagement. Sustainability programs that feature peer education and leadership tend to yield better engagement and subsequent changes in behavior. Through our investigation of case studies regarding leadership, the status of the Eco-Reps program at WPI, as well as the sustainability peer leadership programs at other universities, we determined that such a program is feasible at WPI. Furthermore, this program would instill a sustainable mindset in the WPI community.

Recommendations
We developed recommendations according to the three themes of our findings: barriers, incentives, and leadership to address the issues of community engagement. This set of recommendations is geared towards the Office of Sustainability. Moreover, we suggested areas of interests for the Community Engagement Working Group to develop objectives and tasks for the Sustainability Plan. This includes the following:

**Incentives:** We recommend the implementation of a guideline on utilizing incentives to improve sustainability engagement effectively. Tangible rewards should be used to entice individuals who lack intrinsic motivation to engage in sustainability. Additionally, there should be a focus on developing intrinsic motivation through sustainability education by planning events that involve professionals working in relevant fields. This would provide students the opportunity to network and develops professional skills along with creating a personal stake in sustainability.

**Communication and Capacity:** One of the more prominent barriers to engagement is email communication between the Office of Sustainability and students. The communication aspect focus on improving awareness about sustainability initiatives within the community by developing other methods to engage the community. Therefore, we recommend the Office of Sustainability to seek expertise in public relations to improve awareness and engagement within the community. Another focus is on strengthening ties with other key departments and the WPI community to foster campus collaboration. We recommend enlisting additional staff to increase the capacity to handle the logistics and administration of the Office of Sustainability.

**Leadership:** Due to the success of peer-to-peer engagement at other universities, we recommend revitalizing the Eco-Reps program at WPI by instituting the Sustainability Ambassador initiative (SA). The Sustainability Ambassadors will have the responsibility of organizing sustainability initiatives for first-year residents as well as annual campus-wide initiatives. Additionally, these peer leaders will be responsible for providing accessible sustainability-related information to residents, educating their peers and holding them accountable for sustainable behavior. This program is possible based on the Office of Sustainability’s commitment to peer-to-peer leadership and successful peer-to-peer leadership models investigated at other universities.
Conclusion

Overall, the project aimed to increase the community engagement aspect of the WPI Sustainability Plan. Based on these findings, the implementation of these recommendations will create a mindset shift towards sustainable behavior while highlighting the long-term goal of promoting community engagement on-campus. This goal will be undertaken by all the stakeholders who should work in collaboration with the Office of Sustainability to ensure a sustainable WPI.
Acknowledgments

We want to thank everyone that helped us and advised us for the success of this project. The completion of this project would not have been possible without the continuous advice and feedback from our project advisors:

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Civil and Environmental Engineering, WPI

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Student Organization, WPI

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Assistant Director of Residential Education, WPI

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Sustainability Coordinator, Worcester State University

Jenny Isler  
Director of Sustainability, Clark University

Sophie Rodgers  
Student Sustainability Leader, Bentley University

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6. Recommendations
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  Communication and Capacity

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Recommendation 2: The Office of Sustainability should enlist additional office staff to increase capacity.  

Bill Chieng

Recommendation 3: To improve sustainability awareness and engagement with the community, the Office of Sustainability should seek expertise in public relations.  

Bill Chieng

Leadership

Recommendation 4: Sustainability Ambassadors  
Organizational Structure  
Programs and Responsibilities  
Funding and Resources  
Evaluation and Accountability

Jeremy Koen

Programs and Responsibilities

Jeremy Koen

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Bill Chieng
1. Introduction

Since 2012, WPI has had a Sustainability Plan that outline detailed strategies to advance the three essential principles of sustainability: social justice, ecological stewardship, and economic security (WPI Sustainability Plan, 2015). The Sustainability Plan has four focused goals: academics (courses and projects related to sustainability), research and scholarship (scholarly interests in sustainability), campus operations (sustainable building practices and policy), and community engagement (a sustainable mindset within the community). The plan outlines a set of objectives and tasks to foster a culture of sustainability at WPI. The creation and development of the Sustainability Plan was a significant milestone to become a sustainable community.

1.1 Community Engagement at WPI

If WPI is to meet the goals set forward in the Sustainability Plan, it is critical that the campus community are both aware and involved in sustainability initiatives. Involvement may include practicing sustainable behaviors through events, advocacy, and student organizations. Therefore, sustainable living requires the support of the community as a whole; without participation from all stakeholders, WPI cannot expect to meet significant milestones on the path to becoming sustainable. The student body, faculty members, and the surrounding Worcester community all must hold themselves to a high standard if they are to affect change on a global scale. Therefore, efforts must focus on engaging more students, faculty, and community members to achieve WPI’s sustainability goals.

WPI has several initiatives to promote sustainability on campus, from achievements in Leadership in Energy and Environmental Design (LEED) certified buildings to programs in waste management. There are also several organizations such as the Green Team, The Food Recovery Network, Engineers Without Borders, Global Humanitarian Alliance, and Habitat For Humanity that promote and strive for sustainable behavior. Despite their many efforts, there are still opportunities to improve student engagement. Therefore, this project addressed the broader issue of promoting awareness and highlighting the importance of sustainable community engagement on-campus.
The goal of this project was to determine the most effective methods of engagement to increase student and faculty participation and awareness of sustainability. The following list outlines the completed objectives to realize the project goal:

- Assessed the WPI community’s opinion on sustainability, initiatives, and incentives.
- Evaluated WPI’s sustainability organizational structure, and promotion and communication methods.
- Investigated sustainability programs outside of WPI.
- Designed a set of recommendations to improve sustainability engagement at WPI.

By accomplishing the objectives listed above, the project realized a set of recommendations to improve existing sustainability initiatives and increase community engagement in years to come as a result of successful and continuous implementation of these proposed recommendations.
2. Background

The WPI curriculum and extracurricular activities related to sustainability are detailed in this section, along with an explanation of the stakeholders involved with the scope of the project. The scope of this project incorporates incentivizing and promoting events, communicating information and resources, as well as ways to increase the capacity of the Office of Sustainability. Also, this section provides details regarding WPI’s STARS report, information on several sustainability initiatives at WPI, and sustainability programs at other colleges. Moreover, the psychology of incentives is explained, elaborating on how incentives influence behavior, along with a large-scale case study regarding incentives. The section also introduces information about the effectiveness of peer leadership programs, with examples of Eco-Reps and their successful implementation at other universities.

2.1 Sustainability at WPI

This subsection details how sustainability topics are incorporated into academic course work and extracurricular activities at WPI. By working these topics into the academic curriculum, students can begin to learn about sustainability in the classroom as it relates to their interests. In addition, students who wish to pursue personal interests in sustainability have other extracurricular opportunities in the form of several student organizations run by like-minded members of the WPI community.

2.1.1 Curriculum

According to WPI’s 2018 Sustainability Report, 87% of all academic departments offer at least one course that includes topics in sustainability. In the report, the courses at WPI are categorized into two groups, “focused” or “inclusive” regarding the topic of sustainability. Courses that have been defined as sustainability “focused” are completely designed around aspects of sustainability. Sustainability courses that are defined as “inclusive” touch upon the idea of sustainability within the subject matter. Table 2.0 indicates example courses from different disciplines that are “focused” on or “inclusive” of sustainability.
Table 2.0 WPI Courses relating to Sustainability

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</thead>
<tbody>
<tr>
<td>BB 1002</td>
<td>Environmental Biology</td>
<td>CHE 3702</td>
<td>Energy Challenges in the 21st Century</td>
<td>CE 3059</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>CE 3060</td>
<td>Water Treatment</td>
<td>CE 3070</td>
<td>Urban &amp; Environmental Planning</td>
<td>CE 3074</td>
<td>Environmental Analysis</td>
</tr>
<tr>
<td>CE 4600</td>
<td>Hazardous and Industrial Waste</td>
<td>HI 2403</td>
<td>Global Environmental History</td>
<td>PY 2717</td>
<td>Philosophy &amp; The Environment</td>
</tr>
<tr>
<td>ES 2800</td>
<td>Environmental Impacts of Engineering Decisions</td>
<td>FY 1100</td>
<td>Global Problems Seminar</td>
<td>ECON 2117</td>
<td>Environmental Economics</td>
</tr>
<tr>
<td>ENV 1100</td>
<td>Intro to Environmental Studies</td>
<td>ENV 2201</td>
<td>Planning for Sustainable Communities</td>
<td>ENV 2400</td>
<td>Environmental Problems</td>
</tr>
<tr>
<td>ENV 2600</td>
<td>Environmental Problems in the Developing World</td>
<td>GOV 2312</td>
<td>International Environmental Politics</td>
<td>GOV 2319</td>
<td>Global Environmental Politics</td>
</tr>
<tr>
<td>BB 515</td>
<td>Environmental Challenges</td>
<td>ME 5105</td>
<td>Renewable Energy</td>
<td>SS 590 / SD</td>
<td>561 Energy and Environmental Dynamics</td>
</tr>
<tr>
<td>ENV 2700</td>
<td>Social Media, Social Movements</td>
<td>CE 561</td>
<td>Advanced Principles of Wastewater</td>
<td>CE 563</td>
<td>Industrial Waste Treatment</td>
</tr>
<tr>
<td>CE 570</td>
<td>Contaminant Fate and Transport</td>
<td>CE 572</td>
<td>Physical and Chemical Treatment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

WPI also offers a Sustainability Engineering minor, and Environmental & Sustainability Studies as both minor and major, for those looking to focus their coursework within the sustainability field. This demonstrates the academic aspects of the Sustainability Plan to ingrain sustainability within WPI’s curriculum.

2.1.2 Extracurricular

According to the 2018 WPI Sustainability Report, WPI students volunteered a total of 29,039 hours by participating in initiatives under the broad umbrella of sustainability (Sustainability Report, 2018). These initiatives include but not limited to the annual RecycleMania, E-waste drive, symposiums, and LEED training, among other events. There are
also sustainability student groups such as the Green Team, The Food Recovery Network, Engineers Without Borders, Global Humanitarian Alliance, and Habitat For Humanity (WPI Sustainability Website, 2019) that students can be involved with like-minded peers. Additionally, WPI demonstrates its commitment to sustainability with initiatives such as the WPI Greenhouse Gas Reduction Plan, Green Revolving Fund, and Green Purchasing Policy, all of which attempt to mitigate WPI’s environmental impact on the planet. Some programs such as RecycleMania have attempted to increase student involvement through competition.

2.2 Sustainability Tracking, Assessment & Rating System (STARS)

One of the tools that WPI has used to measure sustainability efforts on-campus is the STARS Report. WPI is a member of the Association for the Advancement of Sustainability in Higher Education (AASHE) who developed the STARS program. The role of the program is to evaluate participating institutions on sustainability based on four categories: academics, engagement, operations, as well as planning and administration. This subsection outlines the metrics to determine the progress and effectiveness of sustainability efforts at WPI. Table 2.1 lists the possible STARS rating with the corresponding minimum score:

<table>
<thead>
<tr>
<th>STARS Rating</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bronze</td>
<td>25</td>
</tr>
<tr>
<td>Silver</td>
<td>45</td>
</tr>
<tr>
<td>Gold</td>
<td>65</td>
</tr>
<tr>
<td>Platinum</td>
<td>85</td>
</tr>
</tbody>
</table>

Across the United States, 946 institutions participate in the STARS program. Based on a 2017 evaluation, WPI scored a 65.01 on the STARS benchmark (STARS, 2017). This means that WPI earned 65.01 percent of all the applicable points outlined by the STARS standards to achieve the gold rating. Although the WPI profile report indicates a variety of achievements, there are critical areas in need of improvement. Two such areas relevant to our investigation are
public engagement and campus engagement (STARS, 2017). Table 2.2 compares WPI’s STARS and Public Engagement ratings against other institutions.

Table 2.2 University STARS Rating and Score (STARS, 2017)

<table>
<thead>
<tr>
<th>Institution</th>
<th>STARS Rating/Score</th>
<th>Public Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worcester Polytechnic Institute</td>
<td>Gold / 65.01</td>
<td>12.99/20.00</td>
</tr>
<tr>
<td>Oberlin College</td>
<td>Gold / 73.13</td>
<td>17.84 / 20.00</td>
</tr>
<tr>
<td>Worcester State University</td>
<td>N/A</td>
<td>-</td>
</tr>
<tr>
<td>Clark University</td>
<td>Reporter/ N/A</td>
<td>-</td>
</tr>
<tr>
<td>Bentley University</td>
<td>Gold / 72.56</td>
<td>12.15 / 16</td>
</tr>
<tr>
<td>Clarkson University</td>
<td>Gold / N/A</td>
<td>-</td>
</tr>
<tr>
<td>University of California, Irvine</td>
<td>Platinum / 86.82</td>
<td>17.99 / 20</td>
</tr>
</tbody>
</table>

The campus engagement category recognizes “how institutions provide their students with sustainability learning experiences outside the formal curriculum.” This includes cocurricular activities to instill sustainability principles in the campus culture (AASHE, 2017). The public engagement category focuses broadly on an institution’s contributions to sustainability. These include “intercampus collaboration, engagement with external networks and organizations, and public policy advocacy” (AASHE, 2017). These categories relate to the overall theme of community engagement. One of the main areas for improvement is community service, with Table 2.3 showing that WPI attained just over half the available points.

Table 2.3 WPI Public Engagement Benchmarks (STARS, 2017)

<table>
<thead>
<tr>
<th>Credit</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Partnerships</td>
<td>3.00 / 3.00</td>
</tr>
<tr>
<td>Inter-Campus Collaboration</td>
<td>3.00 / 3.00</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>2.59 / 5.00</td>
</tr>
<tr>
<td>Community Service</td>
<td>2.40 / 5.00</td>
</tr>
<tr>
<td>Participation in Public Policy</td>
<td>2.00 / 2.00</td>
</tr>
<tr>
<td>Trademark Licensing</td>
<td>0.00 / 2.00</td>
</tr>
</tbody>
</table>
The assessment considers “the percentage of students who participate in community service” and “average hours contributed per student per year” (STARS, 2017). Under the community service credit, the STARS criteria notes how an institution engages their student body through community services to achieve sustainability. The importance of community service is highlighted in a United Nations Volunteers statement on how Sustainable Development Goals, a set of goals that guide the UN’s 2030 Agenda for Sustainable Development, relate to volunteerism, where “volunteerism can help to expand and mobilize constituencies, and to engage people ... for the Sustainable Development Goals” (UNV, 2017).

2.3 The Psychology of Incentives and Motivations

In this subsection, we discuss the psychology of incentives, the differences between incentives, as well as the implications to entice and maintain engagement. This information is valuable to identify the types of incentives that are most effective at increasing participation in sustainability initiatives.

2.3.1 Extrinsic and intrinsic motivators

According to an article by Ryan and Deci (2002), the classical definition of intrinsic motivation was acting on “inherent satisfaction.” This entails that people act on internal values such as enjoyment of the activity rather than “external prods, pressures, or rewards” (Ryan and Deci 2002). In contrast, extrinsic motivations provide “instrumental value” for acting. Figure 2.0 outlines the characteristics of the different motivations.

Figure 2.0 A taxonomy of human motivation (Ryan and Deci 2002).
In another article by Pavetti and Stanley, incentives were used to encourage a targeted group to perform a specific action. The researchers categorized incentives into monetary (cash, gift card), non-monetary (recognition, praise) and tangible goods (household goods, food) given to reward outcomes or behaviors (Pavetti and Stanley, 2016). This article also stated that external motivations such as incentives could increase internal motivation to gradually build a habit. The introduction of such a system would reward community members for targeted behavior and entice those who were not previously involved, thereby increasing engagement and awareness as a whole.

2.3.2 Public vs. private compensation

Financial compensation is generally framed in terms of a transaction. One party exchanges money in return for a desired good or service. Financial participation incentives make the act of participation seem like the service. Additionally, monetary incentives tend to promote selfish behavior and “crowd out” more critical, intrinsic motivations (Deci et al., 1999, Frey and Jegan, 2001).

In a 2011 experiment, researchers investigated how public or social rewards were effective at encouraging behavior as opposed to private, individual compensation (Handgraaf, 2011). The researchers analyzed the energy saving habits of four groups. Each group received a different reward for their progress. While two groups received small financial compensation for decreasing energy usage, the other two were given scores akin to a grade point average along with a descriptive comment about their result at the end of every week. The researchers found that those whose results were publicized to their peers were generally more likely to save energy. Additionally, those who were rewarded with a non-monetary “social score” and comments demonstrated significantly better energy-saving habits than those who received monetary compensation.
Figure 2.1 Results of Public Praise vs. Private Pay Study (Handgraaf, 2011)

Figure 2.1 illustrates the experiment’s results during the initial three-week period, in grey, and the subsequent eight weeks when rewards were no longer handed out. The values on the x-axis represent the time, in weeks, over the study period with the percentage of energy saved on the y-axis. It was noted that the “social” reward groups continued to save energy long after they received their scores. This may be due to the concept that individuals viewed monetary rewards as more “controlling”, whereas social rewards were viewed as more “informational” (Deci et al., 1999). It was expected that non-monetary rewards made people feel better about their behavior, which provided a sense of accomplishment (Fehr and Falk, 2002). This observation showed that people responded more effectively to a personalized reward, rather than to a strictly monetary or financial reward.

2.3.3 Social norms and goal framing theory

Lindenberg’s article on the idea of goal framing theory stated that people have three main goals that act in combination with one another to drive personal action. These goals are “to feel better now,” “to guard and improve resources,” and “to act accordingly” (Lindenberg, 2001). Although people’s actions result from a combination of external influences, one of the previously stated goals tends to be the primary motivator. In the case of a competition, people may act primarily to gain resources if there is a sizable prize. In the pursuit of resources, individuals tend to act selfishly as opposed to working with the group to “act accordingly” (Lindenberg and Steg, 2007).

The success of sustainability initiatives relies on the collective efforts of the community; therefore, prosocial behavior must be encouraged. This means that lasting, meaningful participation can be achieved from an increased level of engagement within the community.
From these articles, we find that people tailor their actions to best fit in with the group. The study shows that it is important to ensure community members are aware of their peers’ participation, to encourage habits.

2.3.4 Variables impacting compliance

Many variables influence an individual’s willingness to participate. While financial incentives can have unwanted side effects, they are effective in combination with other social motivators (Handgraaf, 2011). Individuals hold different values; for some the physical reward value is enough to stimulate participation, while others are better motivated by the desire to fit in with the crowd or for the common good (Samuelson, 1990).

A study completed by Anja Göritz looked at the use of incentives to improve participant response and completion of surveys. The incentives included monetary, non-monetary, and tangible rewards to increase response and participation rates (Göritz 2010). Particular rewards attracted participants that were not interested in the matter at hand, producing biased data. Additionally, Göritz noted that extrinsic incentives might “alienate intrinsically motivated volunteers,” affecting cooperation among the group.

2.4 Incentivizing Recycling in Vaasa, Finland

In this subsection, we discuss a case study in Finland regarding the use of financial incentives to promote recycling within a community. Kantola (2019) explored communities throughout Finland, to investigate the advantages of financial incentives in promoting waste recycling. In particular, the investigation aimed to understand the relationship between green behavior and financial incentives. This study was conducted in Vaasa, Finland, to gain knowledge about the consumer perception of incentivizing recycling. The author of the study stated, “Aside from these tools, other strategies include providing financial incentives for households to participate in the recycling, reuse or recovery of waste. In most countries, reward, penalty and pricing standards for several types of waste materials, including packing materials, plastics, glass bottles, and cans, already exist” (Kantola, 2019).

The results indicated the benefits of utilizing financial incentives to promote recycling within the city of Vaasa, Finland. The author stated that more than half (62.6%) of the
participants agreed that financial incentives were the primary consideration in the case of behavioral change, while 52.8% of the participants agreed that financial incentives stimulated knowledge for recycling waste (Kantola, 2019). Not only did over half of the population of the community believe that the introduction of incentives was the main driving factor behind a change in behavior, but also that financial incentives drove individuals to gain more knowledge and information regarding recycling. This statistic reinforced the idea that, in the case at hand, incentives motivated individuals to get involved, besides promoting knowledge about the subject.

The study concluded as follows, “This finding infers that the role of financial incentives is indispensable to the sustainable recycling of municipal solid waste. Thus, the debut of financial incentives for the recycling of other municipal solid waste, besides PET bottles and drink cans, is required for boosting consumer participation in the recycling of municipal solid waste” (Kantola, 2019). Because this case study was conducted within universities in Vaasa, the conclusions drawn from it can be adapted to WPI itself. A university is a microcosm of a municipality, with its governance, distinct demographics, and organizational structure. These lessons learned about participants who chose to involve themselves in sustainability within a community highlight the moral benefits of participating in sustainable behaviors. For nonparticipants, incentivization motivates them to start their sustainability education. Through education, individuals learn the impact of their decisions, developing a moral basis for sustainable behavior (Kantola, 2019).

2.5 Peer Leadership

This subsection delves into the ideology of using peer leadership to encourage engagement on a broader scale. It also refers to studies from experts in the field of leadership development about the effectiveness of peer to peer engagement.

2.5.1 A Social Change Model of Leadership Development

In the 1996 guidebook A Social Change Model of Leadership Development, compiled in part by the Higher Education Research Institute, a model for leadership development is presented. The model sought to develop leadership qualities in all participants regardless of whether or not they hold a leadership position. The goals of the social change model are to
enhance student learning, and development more related to self-knowledge and leadership competence, as well as “to facilitate positive social change at the institution or in the community” (Astin, 1996).

The model assumed that leadership development is embedded in collaboration concerned with fostering positive social change. In addition, three different perspectives were examined as influencers in the social change model: the individual, the group, and the community. Each of these three perspectives is influenced by the others. A set of critical values for enacting social change, dubbed “The Seven C’s”, can be organized within the three levels as follows:

Table 2.4 Different levels of the seven C’s

<table>
<thead>
<tr>
<th>Individual Values</th>
<th>Group Process Values</th>
<th>Community/Societal Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Consciousness of self</td>
<td>• Collaboration</td>
<td>• Citizenship</td>
</tr>
<tr>
<td>• Congruence</td>
<td>• Common purpose</td>
<td></td>
</tr>
<tr>
<td>• Commitment</td>
<td>• Controversy with civility</td>
<td></td>
</tr>
</tbody>
</table>

Change is at the center of this model. Through the development of each of these values, the model seeks to stimulate social change through the interactions between these groups. Focusing on the development of the individual, group, and community values ultimately leads to a united community whose members are willing to collaborate effectively towards one common goal (Astin, 1996). Initiating positive social change is made possible through the use of the framework to organize and direct individual efforts effectively. Peer leaders play an essential role in the leadership process, as peer-to-peer engagement acts to connect individuals and their values to that of the society. Peer leaders can work to develop individuals by connecting them with the group and its associated values.

2.5.2 The benefits of peer leadership programs

Jamie L. Shook and Jennifer R. Keup conducted a literature review of various sources to gain a better perspective about peer leadership programs in the collegiate environment. The journal article contained information regarding the benefits of a peer leadership program from the perspective of the institutional organizer, student, and peer leader.
Regarding the students’ perspective, the authors detailed the benefits of having a peer that can offer more accessible and less authoritative information and resources to their fellow peers. The authors stated, “peer leaders have historically exerted their influence on building and sustaining community through the co-curriculum and within the social realms of college” (Shook and Keup, 2012). In other words, these student leaders can offer the opportunity for fellow students to learn new knowledge in a different, more encouraging, and engaging context. In general, students responded to information more positively when it originated from those whom they viewed as peers and not so much as authority figures. The authors continued that students were more receptive to information from peer leaders due to their “proximity,” as well as the ease of access of the resources (Shook and Keup, 2012).

As for student leaders’ benefits, Shook and Keup cited the Association of American Colleges and Universities in their finding that “integrative and applied learning” was one of four essential learning outcomes of college for the twenty-first century (Shook and Keup, 2012). Peer leadership can be categorized as an integrative learning experience, since the peer leader utilized social skill sets for engagingly communicating information. In essence, there were many skills to be gained from holding a position of leadership, such as “self-direction, leadership, oral communication, intercultural skills, civic engagement, teamwork, and critical thinking” (Shook and Keup, 2012). Shook and Keup elaborated that personal development was one of the main benefits for students from holding positions of peer leadership.

From the institution’s perspective, peer leaders can be advantageous for various reasons. Firstly, the peer leaders can offer support for the institution to supplement some of the educational workload. As Shook and Keup described, “Student paraprofessionals provide a cost-efficient and yet high-quality alternative to better accommodate the large number of students who need services” (Shook and Keup, 2012). Paraprofessionals refers to a student leadership position that has some capacity of knowledge that they are passing on to their peers. Essentially, a peer leader in the collegiate environment allows the school to distribute some of the knowledge to the student community via an alternative medium. Secondly, Shook and Keup described that student leaders provide the institution with the opportunity to receive first-hand feedback from the community through these leaders, about the success of their learning techniques (Shook and Keup, 2012).
2.6 Eco-Reps

Peer-to-peer engagement is one of the most effective and creative methods to increase engagement and induce behavioral change. Overall, featuring peer leadership programs within a collegiate environment can be advantageous for the peer leader, the surrounding community, and the institution (Whitt, 1999). Peer leaders are defined as “students who have been selected and trained to offer educational services to their peers [that] are intentionally designed to assist in the adjustment, satisfaction, and persistence of students toward attainment of their educational goals” (Ender and Kay 2001). Several colleges around the country have tried to utilize peer-to-peer engagement to meet sustainability goals through programs generally referred to as Eco-Representatives (Eco-Reps).

Eco-Reps are individual students or faculty members who engage the campus community and support the institution’s progress towards sustainability goals. While program details varied on different campuses, the duties of Eco-Reps remained similar. AASHE has defined Eco-Reps as representatives that:

- Focus on sustainable living practices
- Are based in residential buildings
- Use peer education techniques
- Have a direct relationship with or are supervised by an employee of the institution

These representatives are trained in environmental literacy and regularly meet with sustainability coordinators. At these meetings, Eco-Reps discuss issues, plan events, and share solutions to the school’s sustainability goals. Each representative is assigned to a building or residence hall where they become an onsite sustainability expert working to educate and engage building residents (Fang, 2013).

2.6.1 Tufts University

One of the first schools to implement an Eco-Reps program was Tufts University in Medford, MA. Started in 2001, the Eco-Reps were initially a combination of a class and internship program (Tuft, 2018). The program was reformed over the years and evolved from its introduction. Presently, Tufts has around 28 Eco-Reps grouped into different positions organized
as shown in Figure 2.2. Positions in blue boxes are student positions that ultimately report to one staff director depicted by the purple box.

Figure 2.2 Tufts’ Eco-Reps Organizational Chart (Tufts, 2019)

Tufts’ Eco-Rep organizational chart depicts the contact information and relationship, which allows for convenient communication. When relating the chart to empowerment, Bennis and Nanus suggested that the practice of empowering subordinates is a principal component of managerial and organizational effectiveness (Bennis and Nanus, 1985). As for compensation to be an Eco-Rep, Tufts rewards their Eco-Reps through hourly pay based on position. The Eco-Reps are primarily student-run, minimizing staff time required to run such a program.

Years of experience running this program have allowed for continuous refinement and optimization as problems are identified. Some of the issues Tufts has had to address were the lack of initiative among Eco-Reps, marketing, and a disconnect between Residential Services and individual reps (Woolston and Falls, 2017). Modifications to the program were made to address these issues, which included letting reps choose projects that match their interests,
partnerships with RAs dorm communities, and a change in the payroll from a semesterly stipend to hourly pay.

More recently, coordinators at Tufts focused on a community-based social marketing (CBSM) strategy to promote behavior change. This strategy gives each Eco-Reps “area” freedom to focus on a specific sustainable behavior they would like to improve upon in their focus. This approach improves upon the shortcomings of dorm events, which generally see low participation. Success has been noted after implementing CBSM to create campaigns that include fewer, better quality events and that encourage collaboration between different residential communities. The CBSM strategy aims to change community perception about sustainability issues through an increase in promotional marketing and campaigns focused on certain aspects of sustainability. Tufts’ Eco-Reps work to educate the community to effect change from the ground up in its student body.

2.6.2 University of Vermont

Another pioneer college in implementing Eco-Reps is the University of Vermont (UVM). As one of the first colleges in the country to implement this program, the school has had many years to evaluate and improve the program. At UVM, the program is organized under an Eco-Reps advisory committee that includes members from residential services, dining, facilities, and the Office of Sustainability. This structure is illustrated in Appendix A, wherein Eco-Reps are directly connected to leaders across campus operations (UVM, 2019). Similar to Tufts, UVM employs a staff coordinator who oversees multiple teams of Eco-Reps, each with their designated area and team leaders. Unlike Tufts, however, team leaders or managers have a unique set of additional responsibilities such as marketing, writing, and photography. This structure allows for more effective management of specific elements associated with organizational operations.

UVM is one of several universities that observed positive impacts from Eco-Reps. From a 2017-2018 annual UVM Eco-Rep report showed a significant increase in composting, bike share usage, and community engagement as a result of the Eco-Reps program (UVM Sustainability, 2018). The program also benefited the students who served as Eco-Reps, through leadership experience, professional development opportunities, and financial compensation. Student Eco-Reps at UVM reported an increase in sustainability awareness, feeling of
connectedness to campus, and leadership experiences (UVM Sustainability, 2018). Proper management is essential to a successful program; there must be a system to evaluate Eco-Reps’ performance, someone to oversee progress, and resources to support it. The annual reports provide metrics to evaluate the program’s impact and identify areas for improvement. With proper planning, Eco-Reps have the potential to fill many of the gaps left in traditional sustainability programs, which include communication, promotion, and community engagement.

2.6.3 WPI Eco-Rep Program

WPI’s Eco-Reps are leaders by example in the field of sustainability. Ms. Tomaszewski introduced the concept of Eco-Reps to the WPI community after observing the program at Clark University. After tailoring the program to fit the WPI community, Ms. Tomaszewski implemented the Eco-Reps program in 2010 (WPI Sustainability Website, 2019). Regarding the intention of the initiative, Ms. Tomaszewski stated, “I thought that we might get more students at WPI interested in sustainability if we developed a student Eco-Reps program where students could teach their peers” (Tomaszewski, 2010). The early stages of the Eco-Reps program were under the leadership of GreenerU, a third party consultant that organizes sustainability-based programs and events for colleges and universities. Ms. Tomaszewski partnered with GreenerU to host a network of Eco-Reps; almost every building on the WPI campus had at least one Eco-Rep (WPI Sustainability Website, 2019). As of 2019, there is an outdated list of the Eco-Reps featured on WPI’s Sustainability website.

The primary purpose of the Eco-Reps at WPI is to stimulate behavioral change surrounding the idea of sustainability on campus. Furthermore, the initiative has created and implemented numerous programs that engage the entire community in sustainability. In addition, these representatives provide community members with knowledge about pro-environmental behavior, citing the ease of access of information as one of the most critical aspects of the Eco-Reps (WPI Sustainability Website, 2019).

These Eco-Reps programs provide an example of peer leadership applied to sustainability on college campuses. Incorporating peer-to-peer engagement through peer leadership positions such as Eco-Reps has strengthened sustainability presence on the campus.
2.7 Sustainability programs at other colleges

This subsection examines sustainability initiatives that colleges run within their respective campus communities. These include events that engage students, staff, and faculty in sustainability-related activities and initiatives.

2.7.1 Cornell’s Energy SmackDown and Dashboard

Cornell University, one of the eight Ivy League schools, boasts their status as the greenest of the Ivy League schools. Cornell also has a sustainability plan that closely resembles WPI’s in terms of goals and objectives. For example, one of Cornell’s goals is to achieve carbon neutrality by 2035 by actively engaging in sustainable behaviors (President’s Sustainable Campus Committee, 2013). A notable event that Cornell holds is the annual Energy Smackdown. This event engages the entire campus community to reduce energy usage over six weeks with the aim of “reducing usage by 1 million kWh” (Howell, 2018). In order to track progress, the university has a digital dashboard to inform the community of energy use as well as renewable energy production. During the 2017 fall competition, the school publicized a poster that outlined sustainable practices for a chance to win prizes. Those who completed these weekly actions won prizes through raffles. The prizes included a solar backpack, eco powerstrips, as well as college apparel and gear.

This program utilized a mixture of engagement methods, which included competition, intrinsic motivation, and tangible incentives. Physical prizes and rewards were only one aspect of the motivation provided for participation. Additionally, students in their respective dormitory buildings worked collectively and competed against fellow dormitory buildings, which involved the social responsibility and intrinsic motivation to incorporate sustainable behavior into everyday life.

2.7.2 Georgetown’s Switch it Off Challenge

As part of Georgetown’s efforts to address sustainability, the university created a month-long competition between their on-campus residence halls to save energy, decrease greenhouse gas emissions (GHG), and engage their students in a commitment to live sustainably. The competition is similar in structure to Cornell University’s Energy Smackdown. In addition, the
challenge is one of the ways to “meet their goal of reducing their GHG emissions by 50% by the year 2020 along with building sustainable habits for their students” (Georgetown, 2017). The participants of the challenge saw their progress and energy consumption through Georgetown’s Energy Dashboard. For added motivation, the residence hall that won Most Energy Savings and Highest Participation gained a catered Chipotle study break for all the residents. Additionally, Community Directors and RAs whose communities demonstrated a high participation rate were awarded with “Baked and Wired cupcakes” (“Switch It Off Challenge,” 2017). Throughout the competition, sustainable practices were documented on social media, which allowed participants to enter raffles for gift cards and solar-powered electronics.

2.7.3 Oberlin College Ecolympics

As part of their numerous efforts to increase student engagement regarding sustainability, Oberlin College organizes the Ecolympics, an annual resource conservation competition. All students, including the individuals living off-campus, compete to reduce water and electricity consumption in the Oberlin community (Oberlin, 2018). Throughout this competition, a series of events aim to educate and integrate meaningful conversations on sustainability into the community through film screenings, guest speakers, service events and workshops (Oberlin, 2018). As an incentive to encourage participation from students, there are several rewards for the students and teams that accumulate the most points for their electricity and water savings. Similarly, prizes are awarded for the teams that exemplify the most creativity in sustainability (Oberlin, 2018). Specifically, in 2018 the top 50 participants won a prize, with the top five contestants receiving significantly larger prizes. Furthermore, the top three teams won prizes valued at around $100, which vary from year to year. Oberlin College conducts the Ecolympics to demonstrate the physical and behavioral presence of sustainability on-campus to incoming students by instilling this mindset within their community early on (Oberlin, 2018).

2.8 Existing Sustainability programs at WPI

The following subsection details the existing sustainability initiatives that the Office of Sustainability orchestrates in conjunction with the different groups at WPI. These events were developed to engage students, staff, and faculty in sustainability-focused activities and seminars.
2.8.1 Project Clean Plate

One of the programs that the WPI Green Team sponsors is Project Clean Plate. This food waste initiative raises awareness on how much food left on dining hall plates is thrown out as garbage, especially in schools that are buffet-style. The encompassing goal of the initiative is to reduce the amount of food wasted. Additionally, numerous other sustainability practices are promoted through this initiative to increase community awareness about how to reduce food waste and to encourage mindful eating habits.

To incentivize Project Clean Plate, students have the opportunity to win prizes or raffle tickets for demonstrating sustainable food waste behavior. This includes limiting portions and finishing the food they take from the dining hall. Additionally, students, staff, and faculty could “receive a free size upgrade when purchasing with a reusable cup” (STARS, 2017). These programs allowed WPI to collect the maximum allotted points in sustainable dining.

2.8.2 Waste Audit

Another program that WPI holds is the Annual Waste Stream Audit. This annual audit is conducted on the same day as America Recycles Day, November 15th. This program was proposed several years ago by Ms. Tomaszewski, the current Associate Director of Sustainability, to increase awareness in the community about recycling and waste management. The overall goal of the program as expressed by Ms. Tomaszewski is to “uncover ways to improve campus recycling efforts and educate the WPI community about waste” (D’Onofrio, 2013). The Green Team organizes the logistics of the event with WPI’s Facilities Department and volunteers to assist in facilitating the audit. The group of volunteers primarily conducts inspections on specific buildings to analyze the trash and recycle ratio. The final result is compiled into a report that details the percentage of waste recycled per surveyed building (Green Team Waste Audit, 2017).

While the program has not offered any financial or tangible incentives to the community for engagement, the results of the audit are compared to past audits to discover waste trends. The audit also provides a list of recommendations for improvement. This serves as a behavioral motivator for the community by clearly outlining the potential shortcomings from the audit and pushing community members to perform better for the next waste audit. From the results of the
2017 waste audit, it was found that a large amount of trash was thrown into recycling bins across campus. This was supported by a Waste Management Interactive Qualifying Project (Chaves et al., 2015), where it was highlighted that members of the WPI community do not know what is and is not recyclable.

2.8.3 RecycleMania

WPI also participated in another competition-like program called RecycleMania. Unlike WPI’s localized Waste Audit program, RecycleMania targets colleges across North America. The annual program is held for eight weeks to promote friendly competition between institutions to encourage colleges to achieve higher recycling rates than their competitors, as well as raise awareness of sustainable waste management. The overall mission is to “inspire, empower, and mobilize colleges and universities to benchmark and improve efforts to reduce or eliminate waste” (“About RecycleMania”, 2017).

The program has numerous tools to help participating campuses with the promotion of the program. RecycleMania’s behavior guide encourages mini-competitions within the large-scale event to support recycling practice and prizes to reward top performers (RecycleMania, 2017). Along with promoting general awareness, the program provides another benchmark as to how efficient an institution is managing waste.

2.8.4 Sustainability Project Competition

An annual competition under the President’s Task Force on Sustainability is the Sustainability Project Competition, which showcases projects about sustainability. The competition is not limited to students involved with large scale projects, but also includes class-related projects or theses. Judges review project submissions and offers a monetary reward in categories for technical and interdisciplinary projects. Through these competitions, students have the opportunity to gain recognition for their work and raise awareness around sustainability through their coursework (Sustainable Projects, 2013).
2.9 Campus Stakeholders

The stakeholders involved in this project are the WPI community. These include students, student organizations, faculty, and staff. The students and student organizations have a stake due to their association with WPI; therefore, a lack of student engagement indicates that WPI is not leading the charge in sustainability. However, there are student organizations such as the WPI Green Team and several other groups that engage the community through activities promoting the principles in the 2015 WPI Sustainability Plan.

2.9.1 The Office of Sustainability

The Director of Sustainability, Dr. Mathisen, and the Associate Director of Sustainability, Ms. Tomaszewski, are the primary actors in the Office of Sustainability. They act as sustainability leaders at WPI and work to create events, seminars, initiatives, and clubs to promote sustainability across campus. Ms. Tomaszewski is also the advisor to the Green Team, actively helping to maintain and implement programs that support sustainability on campus. Both Ms. Tomaszewski and Dr. Mathisen operate as liaisons between various departments such as Academic Advising, Residential Services, Dining Operations, and many other offices within WPI that deal with aspects of sustainability. Both individuals have valuable knowledge regarding sustainability programs, strengths and weaknesses of the office, and best practices to engage the campus in sustainability efforts.

Figure 2.3 illustrates the organization of various offices in the WPI system that promote sustainability. Furthermore, this diagram outlines the communication channels between these offices regarding sustainability information and resources. In Figure 2.3, the black arrows represent “Organizational structure”, double line arrows indicate “Major communication lines for sustainability” and single dotted arrows indicate “Communication lines for sustainability.” Most notably, the only sectors on this chart that feature “Major communication lines for sustainability” are between the Office of Sustainability and the Task Force on Sustainability, Facilities, and Finance & Operations. The smaller dotted lines indicate “Communication lines for sustainability,” which stem from both the Office of Sustainability and the Task Force on Sustainability to most offices, departments, or demographic of the chart. It is important to note
that these are the theoretical lines of communication and do not necessarily illustrate how sustainability information is shared in practice.

Figure 2.3 WPI’s Sustainability-Focused Organizational Structure (WPI Sustainability, 2019)

2.9.2 Community Engagement Working Group

Ms. Gold, a University Librarian, and Ms. Daigle, Operations Associate in the Office of Alumni Relations, were co-chairs of the Community Engagement Working Group that worked under the Office of Sustainability. As co-chairs, they were to “update an overarching goal for community engagement, develop and propose objectives and tasks that will help achieve that goal over the next 5+ years” (Community Engagement Working Group, 2019). At the time that this report was developed, the group was in the early stages of updating the objectives and tasks for the upcoming WPI Sustainability Plan in 2020.

Figure 2.4 demonstrates the process to update the WPI Sustainability Plan. The middle column details a timeline of events that lead up to the updated WPI Sustainability Plan for the fall of 2019. The outer columns detail the support systems that assist with the development of the new sustainability plan. These systems stem from the WPI community, the Office of Sustainability, the Sustainability Working Groups, and the Sustainability Advisory Committee.
2.9.3 Student Organizations, Students, Faculty, and Staff

In addition to the Office of Sustainability, there are several student organizations such as the Green Team, The Food Recovery Network, and Habitat for Humanity that actively work to promote sustainability on campus by bringing awareness of sustainable behavior through recycling and reducing food waste (WPI Sustainability, 2019). The Green Team is the prominent sustainability student organization, as they coordinate events with the Office of Sustainability such as the Project Clean Plate. In addition, Ms. Tomaszewski and Dr. Mathisen work alongside several of these sustainability-focused student organizations through the Sustainability Leadership initiative to maximize sustainability efforts on campus. These collaborations offer valuable feedback regarding new or existing sustainability initiatives and ideas (WPI Sustainability Website, 2019). Students, faculty, and staff also shape the culture of sustainability on campus (Quinn, 2016). Within the community, “daily decisions impact an institution’s sustainability performance” (AASHE, 2017). Thus, giving the community “tools, knowledge, and motivation” to promote sustainability is vital to a sustainable campus (AASHE, 2017). Because these individuals make up the majority of the WPI community, it is necessary to consider their commitment to sustainability.
3. Methodology

The goal of this project was to develop a plan to improve community engagement and awareness regarding sustainability initiatives at WPI. This project aimed to promote WPI’s sustainability efforts and increase sustainable behavior within the WPI community. The team completed a set of objectives and posed research questions listed in Table 3.0, aimed at a better understanding of issues surrounding engagement about sustainability at WPI.

Table 3.0 Objectives and Research Question

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Research Questions</th>
</tr>
</thead>
</table>
| Assess the WPI community’s opinion on sustainability, incentives, and initiatives | 1. How effective are current incentives that have been implemented at WPI?  
2. What type of incentive is appealing to the WPI community?  
3. What are potential programs that can benefit from a reward system? |
| Examine WPI’s sustainability organizational structure, communication and promotion methods | 1. Are students actively engaging in sustainability activities?  
2. How are initiatives publicized?  
3. How can current sustainability efforts be improved? |
| Investigate other Sustainability Offices outside WPI about logistics of sustainability initiatives and methods to engage the community. | 1. What kind of incentives help to raise awareness and motivate people?  
2. How do other colleges/communities engage the community?  
3. What makes up an incentive? |
| Design a set of recommendations to improve sustainability engagement at WPI. | 1. What are the areas of concern in sustainability?  
2. What are the focused themes regarding community engagement? |

3.1 Anonymous Survey of the WPI Community

The team surveyed to obtain first-hand knowledge from the WPI community. Reaching out to the general WPI community ensured that the opinions of students, faculty, and staff would
be accounted for in the survey. Our questionnaire included multiple category questions detailed in Appendix B. This survey covered parts of objective 1, objective 2 and objective 4 through these sets of questions.

3.1.1 Structure

The questionnaire was designed in Qualtrics, an online survey software. Qualtrics is a relatively simple platform that allows the user to create an array of survey questions in several formats including multiple choice, rank order, text entry, side by side, matrix table, and many more. A wide range of formats was used to ask respondents questions efficiently.

When designing the survey, it took into account Susan Farrell’s recommendations on open-ended vs. closed-ended questions, in which she stated that closed-ended questions limited and biased people’s responses (Farrell, 2016). Therefore, it was beneficial to consider closed-ended questions along with open-ended questions to record text response to better represent their views.

The survey consisted of 17 questions. The list below highlights the purpose of the first set of questions, which:
- Categorized the student respondents as an on-campus student, off-campus student, or commuter student.
- Gauged student respondents interest in Sustainability Ambassadors.
- Ranked a set of incentives of various categories.

3.1.1.1 Engagement, Awareness and Limitations

The next section of questions started with a short description of sustainability and how it was related to WPI. This set of questions explored the general perception of sustainability, knowledge, involvement in certain sustainability initiatives at WPI, and potential barriers that limited respondents from engagement. This covered aspect of objectives 1 and 2 through a series of single and multiple answer responses. The following list reflects the topics covered in the survey:
- WPI’s performance in terms of sustainability.
- Knowledge and frequency of participating in sustainability initiatives at WPI.
● Information about respondents’ sustainable habits and behavior at a personal level.
● Potential barriers that prevent the community from participating in sustainability initiatives at WPI.
● Reasons for respondents’ lack of engagement.

3.1.1.2 Incentives, Initiatives, and Promotion

The last five questions addressed interests in incentives, sustainability initiatives, and means to communicate to the community. This set of questions also dealt with objectives 1, 2, and 4, through Likert scales and multiple answer questions with the following themes:

● Interest in incentives in five categories: Not at all to Very Much.
  ○ Provided a text entry for other motivations to be involved.
● Interest in a list of potential sustainability competitions featured in different fields of sustainability.
● Methods to communicate information about sustainability at WPI.
  ○ Other preferred methods to reach them, as an optional text entry.

3.1.2 Demographic

Our target demographic for the following information was the student body, along with WPI staff and faculty. This demographic was selected due to the scope of our project. Furthermore, due to the size of the data collection, surveys appeared to be the most efficient means of obtaining this information, as rationalized in Julie Ponto’s article on surveys. Ponto reports that “survey research has historically included large population-based data collection” and goes on to explain that surveys are a means to “obtain information … relatively quickly” (Ponto, 2015).

3.1.3 Distribution

We reached respondents through multiple mediums. According to David S. Walonick’s article, A Selection from Survival Statistics, emails, and digital surveys are the “most cost effective and fastest method of distributing a survey” (Walonick, 2003). The survey featured an anonymous link to the survey that was distributed to target audiences. We also enlisted Ms. Tomaszewski’s assistance to distribute the survey to her contact lists via email, since students, faculty, and staff were more likely to recognize the Office of Sustainability email alias.
Similarly, we had Professor Rosbach, and Professor LePage distribute the survey to their colleagues, faculty, and staff.

A section of undergraduate students was reached through advertising the survey within fraternities and sororities. This demographic of individuals could provide valuable knowledge, as they made up a variety of different student groups with spectrum opinions. Finally, the team distributed this survey by word of mouth and set up a table in the WPI Climate Summit 2019 held in the Foisie Innovation Studio.

3.2 Interviews

The team interviewed several stakeholders from WPI about the organizational structure of the office, current efforts in sustainability, their knowledge and opinion of incentives, and to identify any issues they may have encountered through their roles.

3.2.1 Ms. Tomaszewski and Dr. Mathisen

We interviewed Ms. Tomaszewski and Dr. Mathisen, both significant actors for maintaining sustainability programs and the Office of Sustainability. The team held semi-structured interviews, which covered various questions as detailed in Appendix C.1. These topics included:

**Table 3.1 Themes of Information Gathered from the Office of Sustainability**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Structure</td>
<td>• The organizational structure of the office.</td>
</tr>
<tr>
<td></td>
<td>• The details to plan and facilitate initiatives.</td>
</tr>
<tr>
<td>Barriers</td>
<td>• Potential barriers that they observed which prevent the community from participating.</td>
</tr>
<tr>
<td></td>
<td>• What is done to combat the lack of involvement.</td>
</tr>
<tr>
<td>Initiatives</td>
<td>• Current sustainability-focused initiatives.</td>
</tr>
<tr>
<td></td>
<td>• The strengths and weaknesses of events.</td>
</tr>
<tr>
<td></td>
<td>• Logistics behind organizing events and introducing a new initiative.</td>
</tr>
<tr>
<td></td>
<td>• How they define a successful initiative.</td>
</tr>
<tr>
<td></td>
<td>• The concept of incentives to entice participants.</td>
</tr>
</tbody>
</table>
Finally, in an interview with Ms. Tomaszewski, we sought information about the Eco-Reps program, specifically on the initiative’s strengths and weaknesses. The meetings with Ms. Tomaszewski and Dr. Mathisen covered Objective 1, Objective 2, and Objective 4 of the project.

3.2.2 Ms. Gold and Ms. Daigle

We conducted a semi-structured interview with Ms. Gold and Ms. Daigle, co-chairs of the Community Engagement Working Group. This group was tasked with crafting a new set of goals and objectives for WPI’s upcoming updated Sustainability Plan under the community engagement.

We covered various topics with the working group, as shown in the interview transcript in Appendix C.2. The following is the list of themes covered in the interview:

**Table 3.2 Themes of Information Gathered from the Community Engagement Working Group**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Structure</td>
<td>• The structure of the Community Engagement Working Group.</td>
</tr>
<tr>
<td>Barriers</td>
<td>• Potential barriers that they believed that prevent the community from participating.</td>
</tr>
<tr>
<td>Initiatives</td>
<td>• Progression of an updated set of goals and objectives.</td>
</tr>
<tr>
<td></td>
<td>○ What should the focus be on?</td>
</tr>
<tr>
<td></td>
<td>• Opinions on existing and potential initiatives and incentives to draw engagement.</td>
</tr>
<tr>
<td></td>
<td>• Discussed the different types of incentives which can be used.</td>
</tr>
</tbody>
</table>

Finally, we asked Ms. Gold and Ms. Daigle, where our efforts were most effective and useful to them, as their goals also align with community engagement at WPI. The interview with the Community Engagement Working Group provided information that covered objectives 1, 2, and 4.

3.2.3 Residential Services

The team interviewed a representative from WPI Residential Services to inquire about the topic of sustainability since the residential department facilitates many programs that inform
WPI student residents about resources on-campus. The team emailed a list of specific questions to a representative from Residential Services for further information. These questions covered aspects of Objective 2. The email questionnaire inquired about how Residential Services incorporated sustainability in its mission as detailed in Appendix C.3. The questions covered the following topics:

Table 3.3 Themes of Information from Gathered Residential Services

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>• Sustainability programs and presentations for Residential Advisor (RA).</td>
</tr>
<tr>
<td>Education</td>
<td>• The process to introduce initiatives in programs.</td>
</tr>
<tr>
<td></td>
<td>• The extent of RA training</td>
</tr>
<tr>
<td></td>
<td>o The capacity to include more training in sustainability.</td>
</tr>
<tr>
<td>Organizational</td>
<td>• Relations between Residential Services and the Office of Sustainability.</td>
</tr>
<tr>
<td>Structure</td>
<td></td>
</tr>
</tbody>
</table>

In addition, the questionnaire we emailed to Mr. Foster, Assistant Director of Residential Education, provided a comprehensive response about the role and education of a Residential Advisor (RA). This detailed Mr. Foster’s role in Residential Education, his communication with the Office of Sustainability, and the level of incorporation of sustainability into the RA training programs.

Ms. Karner, Assistant Director of Academic Advising, was another contact to investigate sustainability through the Insight Program. We emailed questions to Ms. Karner (Appendix C.3), about how the Insight Program and New Student Orientation (NSO) coincided with promoting sustainability on WPI. Furthermore, the team asked about the feasibility of incorporating a sustainability workshop for Community Advisors (CA).

3.2.4 The WPI Green Team

We sent an email questionnaire to the Green Team executive board (Appendix C.4), a student organization that specializes in promoting and facilitating sustainability and pro-environmental focused programs at WPI. The topics of these questions are listed below:
Table 3.4 Themes of Information Gathered from the Green Team

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiatives</td>
<td>• Promotion of sustainability behavior and initiatives.</td>
</tr>
<tr>
<td></td>
<td>• Issues about barriers to participating in initiatives and limitations of the Green Team.</td>
</tr>
<tr>
<td></td>
<td>• Opinions about introducing additional sustainability initiatives.</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>• Communication between other sustainability-focused student organizations and the Office of Sustainability.</td>
</tr>
</tbody>
</table>

We also inquired about Project Clean Plate, and how they utilized incentives to manage food waste; specifically, the strengths and weaknesses of the program, as well as the role that incentives played in encouraging participation. This set of questions covered aspects of objectives 1 and 2.

3.2.5 Professor Stoddard

Professor Stoddard is Assistant Teaching Professor of Social Science and Policy Science, who is an Eco-Rep at WPI. The team met with Professor Stoddard to examine her role in the Eco-Reps program. We specifically asked about her experience and issues regarding the program (Appendix C.5). This included how Eco-Reps operate and their ability to foster sustainability behavior with their respective buildings. Lastly, we inquired about what improvements could be made to the program to focus on sustainability leadership.

3.3 Investigating Other Colleges

We sought examples and opinions outside of WPI to gain perspective on some of the achievements of other universities in the field of sustainability. To understand this, we looked into methods of engagement that other universities used to encourage participation and behavior. The STARS report was used as a baseline, along with references from Ms. Tomaszewski and Ms. Daigle to investigate other universities. The interviews conducted with other universities satisfied the third objective of the project. Table 3.5 lists the universities that were contacted as well as their contact information and STARS rating.
Table 3.5 List of Potential University Contacts

<table>
<thead>
<tr>
<th>University or Institution</th>
<th>Contact Information</th>
<th>STARS Rating</th>
<th>Response to Inquiry</th>
</tr>
</thead>
</table>
| Oberlin College           | Email: bflynn@oberlin.edu  
  Phone: (440) 775-6354  | Gold         | Yes                |
| Worcester State University| Email: green@worcester.edu  
  Phone: 508-929-8332  | N/A          | Yes                |
| Clark University          | Email: JIsler@clarku.edu  
  Phone: 508-793-7601  | Reporter     | Yes                |
| Bentley University        | Email: RODGERS_SOPH@bentley.edu  | Gold         | Yes                |
| University of California, Irvine | Email: uciengage@uci.edu  | Platinum     | No                 |
| Tufts University          | Email: sustainabilityoffice@tufts.edu  | N/A          | No                 |

3.3.1 Oberlin College

Oberlin College is a private liberal arts college located in Oberlin, Ohio. Referring to Table 3.5, Oberlin College received a Gold rating in the STARS report. This college was recommended by Ms. Tomaszewski and featured a STARS rating equivalent to WPI. This made Oberlin College a candidate to interview about sustainability practices. We conducted a phone interview with Ms. Flynn, the Sustainability Manager at Oberlin College. A list of preliminary questions (Appendix D.1) was drafted that covered the following topics:

Table 3.6 Themes of Information Gathered from Oberlin College

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
</table>
| Organizational | • Ms. Flynn’s role as Sustainability Manager.  
  • The organizational structure of the Sustainability Office.  
  • How the office communicates sustainability information to the community. |
| Initiatives  | • Information about large-scale and successful initiatives: Ecolympics,  
  Bike Workshop, Oberlin Student Cooperative Association (OSCA)  
  • Details about organization, promotion, and engagement.  
  • Opinions on incentives to draw participants. |
Finally, we also asked Ms. Flynn to recommend some of the successful methods to engage students, staff, and faculty at Oberlin College, as well as successful mediums of communicating information and resources.

3.3.2 Worcester State University

Another university that our team decided to examine is Worcester State University (WSU). WSU does not participate in STARS and consequently does not have a rating that can be compared. However, we decided to contact their Office of Sustainability due to Ms. Tomaszewski’s reference. We reached Mr. Bandarra, Sustainability Coordinator at WSU’s Office of Sustainability, and organized a semi-structured interview (Appendix D.2). The questions covered the following topics:

**Table 3.7 Themes of Information Gathered from Worcester State University**

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>• Mr. Bandarra’s role as Sustainability Coordinator.</td>
</tr>
<tr>
<td></td>
<td>• The structure of the Sustainability Office</td>
</tr>
<tr>
<td></td>
<td>o Description of duties for student interns and staff.</td>
</tr>
<tr>
<td></td>
<td>o Interaction between the office and other departments and organizations.</td>
</tr>
<tr>
<td>Initiatives</td>
<td>• Information about sustainability leadership opportunities for students.</td>
</tr>
<tr>
<td></td>
<td>• Current initiatives and how well they engage the community of WSU.</td>
</tr>
<tr>
<td></td>
<td>• Methods to reach students, staff, and faculty with information and resources.</td>
</tr>
<tr>
<td></td>
<td>• Opinions on incentives to draw participants.</td>
</tr>
</tbody>
</table>

We inquired about what it takes to run one of their major sustainability events, Sustainability + Food Fair, specifically about who was in charge and what was required to facilitate the event.

3.3.3 Clark University

The team decided to inquire about sustainability at Clark University in Worcester, Massachusetts. Clark University’s sustainability efforts were reported in their STARS report and
was recommended by Ms. Tomaszewski. The team drafted a list of questions (Appendix D.3) for Ms. Isler, Director of Sustainability. Table 3.8 shows the topics covered in the meeting.

<table>
<thead>
<tr>
<th>Themes</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational</td>
<td>• Ms. Isler's role at the Office of Sustainable Clark.</td>
</tr>
<tr>
<td></td>
<td>• The organizational structure of the Office of Sustainable Clark.</td>
</tr>
<tr>
<td>Initiatives</td>
<td>• Accomplishments of the Environmental Sustainability Task Force</td>
</tr>
<tr>
<td></td>
<td>that was organized in 2007.</td>
</tr>
<tr>
<td></td>
<td>• Information about the Environmental Action Council (EAC) and</td>
</tr>
<tr>
<td></td>
<td>previous Eco-Reps at Clark University.</td>
</tr>
</tbody>
</table>

We also inquired about Ms. Isler’s personal opinion on the use of incentives to promote community engagement in sustainability, and in particular if her office saw it as a successful means of increasing engagement. In a broad sense, we looked to gain a better understanding of how the Office of Sustainable Clark engaged their students successfully and communicated information and resources.

3.3.4 Bentley University

Another university we interviewed was Bentley University. Ms. Daigle recommended this college due to its social media efforts regarding sustainability. A list of questions was sent to Ms. Rodger, a student sustainability leader at the Sustainability Office at Bentley College (Appendix D.4).

The team looked into the organizational structure of the Sustainability Office and how the office interacted with their respective student organizations. In addition, we investigated the sustainability initiatives and logistics of holding events at Bentley University. We also asked about issues and barriers that prevented engagement at Bentley as well as their views on incentivizing sustainable behavior. The main focus of the questionnaire was to understand the social media aspect of their office in promoting sustainability events and connecting with the community about sustainability efforts on campus.
3.4 Other Activities

In addition to interviews and questionnaires, the team attended a couple of sustainability events related to the upcoming WPI Sustainability Plan update that outlines WPI’s commitment to Ecological Stewardship, Social Justice, and Economic Security. The team took note of the attendance, conversations, and the topics of sustainability that were covered at these events.

3.4.1 World Cafe

One of our team members participated in the World Cafe, which was organized by the Office of Sustainability on February 27th. The focus of this event was to gather community input about sustainability at WPI, as the Office of Sustainability was working on developing the new sustainability plan. The event included a dynamic structure composed of small group conversations focused on several topics about sustainability at WPI. From this event, we discovered the demographic of the event and gathered a general impression on what the WPI community was interested in discussing pertaining to sustainability affairs on-campus.

3.4.2 Climate Summit

The team attended the WPI Climate Summit 2019 at Foisie Innovation Studio on April 3rd. We were invited to this conference by the Community Engagement Working Group. The general goal of the Climate Summit was “to bring attention to the breadth of climate change related scholarship, innovation, teaching and praxis that is happening within the WPI community and catalyzing discussion about how WPI can address this critical global challenge going forward” (Climate Summit, 2019). The Climate Summit featured numerous contacts in the sustainability field, as well as valuable seminars regarding pro-environmental behavior. Ms. Gold and Ms. Daigle enlisted our help to distribute their survey regarding carbon footprints, and we also utilized this event to distribute the sustainability engagement survey.

3.4.3 11th Annual Sustainability Project Competition

The team also attended the Sustainability Project Competition at George C. Gordon Library on April 10th. This annual competition offered students the opportunity to present projects that were related to sustainability. Entries were classified into three categories; first year, upperclassmen, and graduate students. The winner was selected from each category to receive a
$300 cash prize. The team learned about what motivated participants to enter as well as how entrants were informed about the competition in the first place.
4. Survey Results

After conducting the survey, we compiled the following results. This subsection lists a sample of results that are most relevant to the report with more detailed survey results in Appendix B.

4.1 Survey Data

There were a total of 224 respondents in the survey. Of the 224 respondents, 114 identified as staff or faculty, while 110 identified as students. Figure 4.1 demonstrates the student demographics into three categories.

![Figure 4.0 Respondent Demographic (n = 224)](image) ![Figure 4.1 Student Demographic (n = 110)](image)

4.1.1 Engagement, Awareness, and Limitation

The next set of questions examines the WPI community’s perception, knowledge, and participation in sustainability efforts. When asked Question 5, “How do you think WPI is performing in terms of sustainability?” 219 respondents rated WPI’s sustainability efforts from a scale of 1 (Unacceptable) to 5 (Excellent). Figure 4.2 illustrates that the majority of responses fell between 3 (Average) and 4 (Good) with an average rating of 3.37.
Figure 4.2 Q5 “How do you think WPI is performing in terms of sustainability as defined above?” (n = 219).

Furthermore, the responses were divided into student and staff/faculty to distinguish different viewpoints on the rating. According to Figure 4.3, on average, faculty and staff rated WPI’s sustainability efforts slightly higher than average at 3.56, while students’ responses indicated an average rating of 3.19.

Figure 4.3 Average Sustainability Rating based on Q5 (n = 219)

Question 6 asked respondents to perform a self-evaluation on their involvement in sustainability initiatives. According to the data, 7% of the respondents indicated that they were “Almost Always” involved, while 30% of responses indicated “Sometimes” in regards to involvement. Figure B.6 details the percentage of respondents in Appendix B.

When comparing faculty and staff to students, Figure 4.4 indicates a close similarity between these groups on their involvement in sustainability. However, there were two notable
differences in responses to this question. For staff and faculty, they identified themselves with the “Sometimes” engaged category. Whereas, student respondents outnumbered faculty and staff by 10 in the “never” category.

![Bar chart showing responses to question Q6](image)

**Figure 4.4** Student and Faculty/Staff response Q6 “Are you involved in sustainability initiatives at WPI?” (n = 219).

Table 4.0 provides a sample of responses from an optional text entry question. This allowed the respondents to elaborate on their involvement in sustainability. Question 7 had 51 text responses and 16 responses were pulled that fell under a set of common themes. The themes included recycling, club or committee, academic, initiatives, occupation, and food waste. Additionally, under student respondents, 9 of 22 indicated involvements with the Green Team according to **Appendix B**. Staff and faculty had similar themes with some oversight over sustainability projects and classes.
Table 4.0 A sample of the textual responses to Q7 “Describe your involvement in sustainability.”

<table>
<thead>
<tr>
<th>Theme</th>
<th>Respondent Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycling</td>
<td>○ “I regularly recycle as much as possible while on campus”</td>
</tr>
<tr>
<td></td>
<td>○ “E-recycling, reusable containers”</td>
</tr>
<tr>
<td></td>
<td>○ “recycle items at work, encourage others to do so, participate in e-waste days”</td>
</tr>
<tr>
<td></td>
<td>○ “I regularly recycle as much as possible while on campus”</td>
</tr>
<tr>
<td>Club or Committee</td>
<td>○ “sustainability advisory committee”</td>
</tr>
<tr>
<td></td>
<td>○ “Green team. Regularly participate in sustainability activities”</td>
</tr>
<tr>
<td></td>
<td>○ “Green Team President, member of SJSF, just in general trying to reduce waste and spread awareness”</td>
</tr>
<tr>
<td>Academic</td>
<td>○ “IQP”</td>
</tr>
<tr>
<td></td>
<td>○ “MQP level for energy sources. Looked at WPI co-gen recently.”</td>
</tr>
<tr>
<td></td>
<td>○ “advising projects and theses”</td>
</tr>
<tr>
<td>Initiatives</td>
<td>○ “Gompeis bike share”</td>
</tr>
<tr>
<td></td>
<td>○ “Sustainability is my research focus, and I come to as many campus sustainability events as I can”</td>
</tr>
<tr>
<td>Occupation</td>
<td>○ “Office of Sustainability”</td>
</tr>
<tr>
<td></td>
<td>○ “I strive for office sustainability, a daunting task at times. I try to recycle as much as possible, order more at a time, less often, and turn out lights when not in the office.”</td>
</tr>
<tr>
<td>Food Waste</td>
<td>○ “food waste flow”</td>
</tr>
<tr>
<td></td>
<td>○ “Food Recovery Network”</td>
</tr>
</tbody>
</table>

Question 8 asked how respondents were familiar with specific sustainability initiatives. Of the nine listed sustainability initiatives, six events were much more accustomed to faculty and staff compared to students. From Figure 4.5, the popular events among students included Project Clean Plate, Green2Go, and Gompeis Gear Bike Share. Initiatives such as RecycleMania, Waste Audit, WPI Sustainability Plan and E-Waste Drive featured a significant difference in response, with faculty and staff more aware compared to students. For example, 56 staff or faculty were familiar with RecycleMania, while only 23 students were aware of the event. Furthermore, 84 faculty of staff reported being familiar with the E-Waste drive, while only 45 students were familiar with the event.
Figure 4.5 Q8 “Which of the following on-campus sustainability initiatives are you familiar with?” (n = 193).

Question 10 and 11 examined the possible barriers and limitations that prevent the community from participating in sustainability efforts on campus. Figure 4.6 details the respective number of respondents that chose each category as the reason for not participating under one collective group.

Based on Question 10, 50% of respondents indicated that “Busy with school” was the most cited reason as to what limits them from participating in sustainability efforts at WPI. Figure 4.6 also indicates that there are two significant reasons that prevent sustainability engagement with survey respondents. The second most popular choice was “No knowledge on where to start.” The responses can be further broken down into the demographics of students, and faculty/staff. The separated demographics were nearly identical with Figure 4.6. Figures B.10 and Figure B.11 in Appendix B also indicates that “Busy with school” ranked first followed by “No knowledge on where to start” as the most popular choices that limited the community’s ability to participate in sustainability.
Figure 4.6 Q10 “Select the following reasons that prevent you from participating in sustainability at WPI.” (n = 173).

Table 4.1 provides sample responses for Question 11, which asked respondents to identify other reasons that prevented their involvement with sustainability. With 29 text responses, 12 were classified under common themes associated with time, lack of awareness, and ease of access.

Table 4.1 A sample of the textual responses of Q11 “List any other reasons that prevent you from being involved with sustainability efforts at WPI.”

<table>
<thead>
<tr>
<th>Theme</th>
<th>Respondent Quotes</th>
</tr>
</thead>
</table>
| **Too Busy**           | ○ “too busy with other work!”  
○ “only scheduling prevents me from contributing more”  
○ “lack of time away from core job responsibilities”  
○ “Family, work, school”  
○ “Busy with other activities (sports)” |
| **Lack of Awareness**  | ○ “Unaware of the strong need for action”  
○ “Lack of concern from WPI community including both administration and students”  
○ “I really think that what prevents me from doing more is not knowing where to start.”  
○ “Didn’t know there were so many efforts to push sustainability” |
| **Ease of Access**     | ○ “Not easy enough”  
○ “I live far from campus, so difficult to engage more”  
○ “My fraternity, where I live, does not practice sustainability so it is hard to implement it due to a convenience factor” |
4.1.2 Incentives, Promotion and Initiatives

This section includes the collection of survey questions that are related to incentives, promotion of events and various initiatives. Question 12 asked respondents how likely they were to participate in a sustainability event if offered an incentive. The question prompted the respondents to rank the incentives: Gifts Cards, Tangible Goods, Professional Opportunities, Meal Voucher, and Recognition Ceremony.

Responses indicated a strong likelihood to participate if they were offered “Gift Cards” and “Tangible Goods” as incentives. Gift Cards received 137 responses, and Tangible Goods had 118 responses that fell in the “Very Much” or “Somewhat” rating. On the other hand, it was evidenced that the respondents were unlikely to be motivated by the “Recognition Ceremony” incentive, as more than half of respondents rated it as “Not at all” and “Not really” likely to make them participate. Other incentives such as “Professional Opportunities” and “Meal Vouchers” fell mostly in the “Somewhat” rating and were overall less likely to encourage participation in comparison to “Gift Cards” and “Tangible Goods.” However, the incentives “Professional Opportunities” and “Meal Vouchers” were still far more likely to encourage participation than the “Recognition Ceremony” incentive.

![Figure 4.7 Q12 “Are you more likely to participate in an event if you were offered an incentive based on the following incentives?” (n = 219).](image-url)
Question 13 allowed respondents to name other incentives that might encourage them to participate in sustainability initiatives. Table 4.2 highlights 11 responses of the 20 text responses that fell under common themes. The majority of respondents mentioned they do not have enough time to participate in sustainability initiatives. A respondent stated: “For me it is always of matter of time not incentive - there is simply not enough time at wpi.” This showed that despite the offer of incentives, respondents do not have enough time to participate. On the other hand, the other respondents mentioned that the promotion and structure of initiatives could be more simple and inclusive of students so it can be easier for them to participate.

Table 4.2 Q13 A sample of textual responses of “List any other incentives (prizes) that might encourage you to participate.”

<table>
<thead>
<tr>
<th>Theme</th>
<th>Respondent Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-Tangible</strong></td>
<td>○ “MAKING AN IMPACT. I'm sick of bribery and prizes. People should feel rewarded when they make a meaningful, positive change in the lives of others and our community”</td>
</tr>
<tr>
<td>Monetary</td>
<td>○ “Money”</td>
</tr>
<tr>
<td></td>
<td>○ “Tuition”</td>
</tr>
<tr>
<td></td>
<td>○ “Green Team President, member of SJSF, just in general trying to reduce waste and spread awareness”</td>
</tr>
<tr>
<td><strong>Tangible Rewards</strong></td>
<td>○ “School gear”</td>
</tr>
<tr>
<td>Leadership and Personal Development</td>
<td>○ “community-wide activities encouraged by leadership”</td>
</tr>
<tr>
<td></td>
<td>○ “I think my biggest incentive would be the personal development gains.”</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>○ “free food”</td>
</tr>
<tr>
<td></td>
<td>○ “Goatbucks, Dunks”</td>
</tr>
<tr>
<td><strong>No Incentives</strong></td>
<td>○ “don't need incentives, it is just ingrained in my lifestyle to the extent possible”</td>
</tr>
<tr>
<td></td>
<td>○ “Incentives don't really have much effect on my sustainability efforts.”</td>
</tr>
</tbody>
</table>

With a sustainability initiative, Question 3 examined the respondents’ interest in the potential Sustainability Ambassador initiative. This question was only offered to those who indicated that they were students at WPI. The responses indicated that 56% (n = 36) showed no interest and 44% (n = 28) were interested to be a Sustainability Ambassador. Student respondents who indicated interests to be a Sustainability Ambassador were prompted to rate incentives in Question 4. The largest percentage of responses reported that financial
compensation was the most desirable motivator, followed by discounted amenities and personal development. It is evident that the tangible goods category was ranked fourth overall and personal recognition among peers was least likely to motivate individuals to participate. Figure B.4 from Appendix B goes into detail of these responses.

Figure 4.8 Q3 “Would you be interested in being a Sustainability Ambassador at WPI?” (n=64).

On the topic of promotion, Question 15 asked students, respondents, to select the media that they would like to learn about sustainability on campus from the following choices: Social Event, Social Media, Email, WPI App, Flyers, and NSO. As Figure 4.9 displays the respective interests to different media. Responses indicated students preferred to learn from Social Media and Email mediums. There were 63 responses for both Social Media and Email. In contrast, respondents indicated that the WPI App was the least preferred way to learn about sustainability with only 21 responses. Another preferred way of learning about sustainability was NSO with 48 responses, however, this medium will only pertain to incoming WPI students. Flyers also received a notable number of responses with 44 responses.
Question 16 was identical to Question 15 and was directed to WPI faculty and staff. Figure 4.10 illustrates the list of media that they would like to learn about sustainability on campus through given the following choices: Social Event, Social Media, Email, WPI App, and Flyers. Responses indicated that faculty and staff largely prefer to learn about sustainability through Emails with 89 responses for Email. Similar to students’ responses, the WPI App was the least preferred way to learn about sustainability with only 13 responses. Another second preferred method of learning about sustainability was Social Media with 38 responses. Overall there was much overlap with the demographics of students and the demographics of faculty and staff as both groups cited Email and Social Media as their most favorable media of communicating information and resources related to sustainability.

Figure 4.9 Q15 Student Response for “Through which of the following medium would you want to learn more about sustainability on campus?” (n = 107).

Figure 4.10 Q16 Staff and Faculty “Through which of the following medium would you want to learn more about sustainability on campus?” (n = 105).

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In addition to Question 15 and Question 16, Question 17 prompted all respondents to indicate other channels to learn about sustainability through an optional text entry. The responses varied from learning in classes to the large screen in Foisie Innovation Building. Specifically, a respondent said, “I think that through classes that are offered here, Professors could team up with this program and advertise them through lectures” (Sustainability Engagement Survey, 2019).
5. Findings

This section analyzes sustainability at WPI from the results of the sustainability engagement survey and interviews with WPI members regarding issues of communication, initiatives, and incentives. Furthermore, it also provides an overview of our investigations at other universities.

5.1 Barriers to Engagement

This section details the barriers that WPI stakeholders face in terms of community engagement. Similarly, it also covers the current state of sustainability initiatives on-campus and the need for collaboration and promotion to ensure the success of sustainability initiatives.

5.1.1 Finding 1: More student engagement can be implemented in several WPI sustainability initiatives.

According to the survey results displayed in Figure 4.5, students are overall less aware of sustainability initiatives compared to faculty and staff. The majority of students are aware of initiatives such as Project Clean Plate, Gompei’s Gears, and Green2Go. On the other hand, faculty and staff are more aware of RecycleMania, the Waste Audit, and the E-waste drive. This indicates a lack of awareness among students about various sustainability initiatives at WPI. Moreover, Figure 4.4 illustrated participation in sustainability initiatives where 60% of students, faculty, and staff chose the option “Every Once in a While” or “Never.” This provides a probable reason for the low participation and lack of impact of some sustainability initiatives since a significant section of the student body is not largely aware of events such as RecycleMania and the annual Waste Audit.

As for sustainability initiatives, Ms. Tomaszewski detailed a past sustainability initiative, PrecycleMania, which was a trial run to prepare for the annual RecycleMania program (D’Onofrio, 2014). PrecycleMania was a competition-style initiative aimed to evaluate the amount of recycled waste generated in each freshman residential building. This event was only held for two consecutive years, with one of these years offering a sculpture built from the recycled waste as a prize. Participation among freshman in the event was high. However, the
An initiative was discontinued due to the scarcity of volunteers willing to participate in the event early morning (Tomaszewski, 2019).

Ms. Tomaszewski also mentioned that there are 1–2 non-mandatory sustainability sessions during New Student Orientation (NSO), which saw a turnout of 20–25 participants. Ms. Tomaszewski stated that these sessions could not be mandatory, and they competed with other non-mandatory sessions such as TechHelp and The Employment Fair (Tomaszewski, 2019). Despite a low turnout with NSO, the office is considering alternative options to make engagement in sustainability a more attractive component in student orientation (Mathisen, 2019).

The Green Team has experienced issues that prevented them from achieving some of their goals, which include the “lack of volunteers [and] people engaging with us” (Green Team, 2019). The lack of volunteers prevented the Project Clean Plate initiative from running throughout this academic year. Furthermore, the lackluster impact of Project Clean Plate and RecycleMania due to lack of engagement has caused the club to reevaluate these initiatives (Green Team, 2019). These issues demonstrate the difficulties that the Green Team has faced pertaining to the lack of volunteers and attracting student interests.

In contrast, the Annual Sustainability Project Competition has witnessed growing participation over the years. In 2019, the Annual Sustainability Project Competition experienced the most participants since its introduction, with 28 groups presenting their projects compared to the 21 participating groups in the previous year (Sustainability Report, 2018). Other initiatives that the Office of Sustainability has recently coordinated are the launch of the Sustainability Plan, the World Cafe event, the Lighting Fair, E-waste drive, Waste Audit, and the most recent Sustainability Literacy Assessment. The Office of Sustainability demonstrates its commitment to sustainability through these initiatives.

Comparatively, Worcester State University features an annual campus-wide event titled the Sustainability + Food Fair. The fair is a two-day collage of events, seminars, competitions, and other engaging opportunities for students to learn about sustainability and recently featured more than 1,500 participants. These events feature “food drives, electric vehicle showcase, and film screening” related to sustainability (Bandarra, 2019). Similarly, Oberlin College hosts an
annual campus-wide program, Ecolympics, which consists of approximately 30 events over two
weeks. These events include educational seminars, concerts, movie screenings, competitions, and
other sustainability-focused initiatives. According to Oberlin College’s sustainability website,
the office has observed that “conservation practices adopted during Ecolympics will last
throughout the year” (Office of Environmental Sustainability, 2018). This indicates that Oberlin
college has been able to engage the community and inspire sustainable behavior.

Despite the active efforts of the Office of Sustainability, the Green Team, and other
sustainability student organizations, some initiatives have not had their intended impact due to
lack of student participation. A possible explanation is that many other student club events
compete for student’s attention, which may draw students away from planned sustainability
events (Tomaszewski, 2019). Another reason is the logistics of the event; since students are not
always available, they might not be able to volunteer or participate in an event. From these
issues, most of the student groups’ sustainability initiatives are relatively “passive”, in the sense
that they rely on the student body’s particular interest in the topic matter to garner participation.
A more “active” strategy of publicizing initiatives would seek to draw in participants that may
not have previously involved themselves with sustainability initiatives. Therefore, when creating
or running a large sustainability initiative, it is instrumental in considering the availability and
interests of students; as Ms. Isler states, “engage people where they are. Ask what their concern
or need is” (Isler, 2019). This approach takes into the account students’ perspective when
involving them in sustainability efforts.

5.1.2 Finding 2: Support and coordination from sustainability interns can be beneficial to the
success of sustainability initiatives.

As explained in Finding 1, student engagement at various WPI sustainability initiatives
could be more. Based on interviews with WPI stakeholders, the lack of student engagement in
sustainability initiatives is not always connected to low attendance but related to the scarcity of
adequate volunteers to run an initiative.

The WPI Office of Sustainability regularly meets with their student interns who have
strong connections with student organizations across campus, which by extension supports
communication between the office and student organizations (Tomaszewski and Mathisen,
2019). These interns could offer recommendations regarding the sustainability initiatives that students are more likely to participate in or volunteer to help organize. The Office of Sustainability has already expressed interest in partnering with other student groups and organizations; as Dr. Mathisen stated, “Overall, we strive to work as a team and follow a collaborative approach and seek to work in collaboration with other groups and organizations” (Mathisen, 2019). This indicates that coordination efforts can potentially be improved by incorporating interns with student organizations to organize sustainability initiatives.

In comparison, sustainability leaders Mr. Bandarra, Ms. Flynn, and Ms. Rodgers mentioned the success of their sustainability initiatives by highlighting the importance of interns and staff who have helped organize sustainability events. At WSU, Mr. Bandarra along with part-time staff and three interns, hosted the Sustainability + Food Fair (Bandarra, 2019). Similarly, at Oberlin College, Ms. Flynn orchestrated Ecolympics with the assistance of dedicated interns. For instance, there are student interns in charge of media and marketing, to reach and engage more community members while one intern is dedicated to organizing the Ecolympics initiative (Oberlin Interns, 2019). Additionally, Bentley University utilized a similar strategy with its Alternative Transportation Week and Waste Awareness Week initiatives. These programs featured three interns and two public relations coordinators with the responsibility of marketing and promoting (Rodgers, 2019). Table 5.0 illustrates the number of interns who assist their respective sustainability office.

<table>
<thead>
<tr>
<th>School</th>
<th>Number of Interns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worcester Polytechnic Institute</td>
<td>5</td>
</tr>
<tr>
<td>Worcester State University</td>
<td>3</td>
</tr>
<tr>
<td>Oberlin College</td>
<td>10</td>
</tr>
<tr>
<td>Bentley University</td>
<td>5</td>
</tr>
</tbody>
</table>

As detailed above, the support from interns is significant to help facilitate sustainability events. Therefore, maintaining and increasing the support and connections from student interns working at the Office of Sustainability can significantly help with the organizing of sustainability initiatives at WPI. Furthermore, since they are valuable assets to coordinate initiatives, they
could assist student clubs such as the Green Team in their efforts to encourage sustainability on-campus.

5.1.3 Finding 3: There is potential for better communication and cooperation between WPI stakeholders.

Figure 2.1 outlines the communication lines between essential positions within the WPI system regarding sustainability, which was further verified through interviews with key WPI sustainability actors. However, the information gathered about communication between WPI stakeholders from interviews indicates a potential for additional and more effective communications between these stakeholders.

The initial focus is between the WPI community and the Office of Sustainability. As indicated by our survey results displayed in Figure 4.6, 49% of respondents reported that they have “no knowledge on where to start” in terms of sustainability. The Community Engagement Working Group raised a related concern regarding the possibility of ineffective communication leading to minimal awareness (Gold and Daigle, 2019). Additionally, the Office of Sustainability has not undertaken a formal investigation to identify effective means to advertise to the community. However, the Office of Sustainability has coordinated with student groups to help improve communication (Mathisen, 2019). The office also highlighted that students’ voices have the power to bring about lasting change (Tomaszewski, 2019). The Office of Sustainability is currently improving upon this, and such initiative demonstrates the importance of communicating information to educate the WPI community of sustainability efforts. The communication between the WPI community and the Office of Sustainability is pivotal to promoting overall awareness and community engagement in sustainability.

Another consideration is between the Office of Sustainability and Residential Services. In response to an email questionnaire, Mr. Foster and his team in Residential Services, they confirmed that there is communication between the Office of Sustainability and Residential Services (Foster, 2019). The Office of Sustainability provides sustainability information, and according to Mr. Foster, both offices communicate when “things are discussed when need be — I would say not regularly” (Foster, 2019). The process of spreading sustainability information among residential students is through posters and billboards (Foster, 2019). However, there is
potential for further coordination with Residential Advisors (RA) to “encourage students to attend campus programs” (Foster, 2019). Ms. Karner, the Insight Program coordinator at WPI, also revealed a similar circumstance. She explained that there is a “shared list of resources and offices with all of the RAs and CAs (Community Advisor)” (Karner, 2019) to share sustainability information. In both cases, there is a potential channel to assign RAs and CAs to deliver sustainability information to their respective residential students by increasing communication and collaboration between the Office of Sustainability with the Insight Program coordinator and Residential Services.

The third focus is on WPI’s Sustainability Leadership initiative. The Office of Sustainability regularly holds meetings with student groups to discuss sustainability initiatives throughout the year. Despite the Office of Sustainability’s efforts to foster student group collaboration, the Green Team’s executive board indicated that they only worked with the VegClub in the past regarding food sustainability (Green Team, 2019). This issue indicates the need for increased communication and collaboration between student organizations to enhance and expand sustainability efforts on campus.

Increased interaction between key sustainability actors—the WPI community, Residential Services, the Insight coordinator, and student organizations—would be beneficial since it would encourage collaboration to empower sustainability efforts. The benefits of increased coordination are observed in WSU’s Sustainability + Food Fair where extensive coordination with the sustainability office, the facilities department, and Chartwells is instrumental to ensuring success of the initiative (Bandarra, 2019). At Oberlin College, the Office of Environmental Sustainability (OES) website mentions the importance of collaboration and specifically comments on how the “OES interacts with the administration, faculty, staff” (Office of Environmental Sustainability, 2019) for the success of various events. Likewise, Ms. Isler noted that “collaboration across sectors” (Isler, 2019) is a way of increasing engagement, which was also recognized by the WPI Office of Sustainability as “instances in which communications by other groups are very successful in encouraging engagement” (Mathisen, 2019). Therefore, it is vital to boost existing communication and build a collaborative network to ensure that sustainability efforts are in unison with each other.
5.1.4 **Finding 4:** Digital media is the preferred choice to receive sustainability information.

In the sustainability engagement survey, we asked WPI community members to indicate their preferred and most efficient medium of communication. The responses were categorized into the demographics of students, staff, and faculty. As shown in Figure 4.9, 59% of the 107 student respondents reported that email and social media were ideal ways to learn about sustainability. In contrasts, Figure 4.10 demonstrated that the faculty and staff responses were skewed in favor of email at 84% of the respondents, followed by social media at 36%. Digital media, which includes email and social media and digital platforms, is the popular choice among students, staff, and faculty to be informed about sustainability topics.

This insight provides possible ways to inform the community about sustainability initiatives and information effectively. In terms of social media, Table 5.1 provides statistical data regarding the WPI Office of Sustainability’s three social media platforms. Among the social media platforms, the Office of Sustainability appears to be the most active on Facebook. Though the office uses Facebook to distribute sustainability knowledge, other platforms are available with the potential to reach the community, such as Instagram and Twitter that can be more extensively utilized. Furthermore, the WPI Green Team’s Instagram account (related to sustainability) is relatively more active compared to the Office of Sustainability with 670 followers.

<table>
<thead>
<tr>
<th>Social Media Platform</th>
<th>Followers</th>
<th>Latest Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook: Sustainability WPI</td>
<td>281</td>
<td>2019</td>
</tr>
<tr>
<td>Instagram: @wpigreen</td>
<td>33</td>
<td>2016</td>
</tr>
<tr>
<td>Twitter: WPI Sustainability</td>
<td>120</td>
<td>2017</td>
</tr>
</tbody>
</table>

1A person who follows or subscribes to another's posts on a social media platform

As for the email aspect, WPI has an Outlook system that allows intercommunication within the community through email. Ms. Tomaszewski has communicated with faculty, staff, and sustainability-oriented students through a specific email address. However, the Office of Sustainability mentioned that they “do not have a convenient means to communicate with the student body as a whole” (Tomaszewski, 2019). This demonstrates the difficulty to send promotional emails directly to the student community since emails must be approved by the
Student Government Association (SGA). Furthermore, the Office of Sustainability cannot send reminder emails leading up to sustainability events (Tomaszewski, 2019). This is where the Office of Sustainability enlists help from student groups such as the Green Team to help publicize events (Mathisen, 2019). Furthermore, the Green Team has received assistance from larger student organizations, such as SocComm and the SGA to distribute information (Green Team, 2019). This implies that despite the evident barriers in the spread of information, email is a potential method to communicate with the WPI community.

While posters and word-of-mouth are viable options to inform the community, digital media can complement these efforts and further reach out to audiences through online platforms. Other universities are observed to collectively agree on the effectiveness of using digital media. At Oberlin College, the Office of Sustainability uses events, posters, Oberlin newsletters, student organizations, calendars and social media platforms such as Facebook, Twitter, and Instagram to reach out to the community (Flynn, 2019). Similarly, Worcester State University and Bentley University also reach out to its students through social media platforms. These statements, along with our sustainability engagement survey results, suggest the relevance of adopting another approach in informing the community about sustainability. In summary, digital media is a platform that sustainability directors agree offers space for communication to spread information among the public.

5.2 Incentives

The following section discusses the use of incentives related to sustainability programming. Information gathered through survey data, interviews, and prior research was used to identify the most effective way to induce sustainable behavior and foster a culture of sustainability.

5.2.1 Finding 5: Among the investigated colleges, mixed opinions are observed regarding incentives.

The information collected from other universities and key sustainability actors highlighted a mixed perception regarding the effectiveness of incentives to increase
sustainability engagement. We observed that each college had individual strategies to incentivize and encourage sustainability engagement.

Through interviews conducted with administrative sustainability leadership both at WPI and other universities, we learned about the best practices for utilizing incentives to most effectively engage the community. From WSU, Mr. Bandarra explained how he used tangible rewards as a way to “get people’s foot in the door” for sustainability education (Bandarra, 2019). As mentioned previously, tangible incentives can serve as a valuable tool to reach individuals who would otherwise be disinterested (Göritz 2010).

Other interviews with coordinators at Oberlin and Clark clarified the shortcomings associated with incentive programs. Ms. Flynn from Oberlin College explained that her office was cautious with using incentives. While physical rewards were given as part of the Oberlin’s Ecolympics, she tried to minimize rewards and highlighted that such incentives could often lead to a dependence on tangible rewards to participate in sustainability-focused events (Flynn, 2019). At Clark University, Ms. Isler avoided the use of incentives when possible in sustainability initiatives and believed that sustainable behavior should not be rewarded since it should be expected behavior to live sustainably (Isler, 2019). Both coordinators expressed the importance of changing the perception of sustainability from an extracurricular interest to an everyday habit. Rewards frame the act of sustainable living as a service that deserved compensation rather than expected behavior. Physical incentives can be effective if used sparingly to attract a disinterested audience. While meaningful and sustainable rewards are preferred, tangible incentives help in gaining the attention of those who would otherwise not be interested in sustainability at all.

At the core of campus engagement in sustainability is education. The path to an engaged community is through teaching community members the importance of living sustainably and the potential consequences of unsustainable habits (Kelly, 2013). Ms. Isler supported this claim in our interview, emphasizing the importance of informing the public about opportunities to live more responsibly (Isler, 2019). Once students are properly introduced and made aware of their decisions, a moral obligation to live sustainably develops. Eventually, individuals act on moral commitments without the need for reward or additional incentives (Lindenberg and Steg, 2007), thereby reducing the long-term costs of incentive programs.
Ideally, sustainable behavior should not require external motivation or reward. It is understood that humans, as social beings, are heavily influenced by the actions of their peers (Samuelson, 1990). This expands on the idea that the most effective trigger is the individuals’ need to fit in with the group.

5.2.1 **Finding 6:** WPI could use incentives more effectively to ensure participation and engagement.

Sustainability initiatives must be made convenient and worthwhile to encourage students’ participation. Furthermore, such initiatives must be undertaken while being considerate of the student body’s priorities in academics, personal and professional development. Additionally, we found a distinction between the types of behavior that tangible and intangible incentives encourage.

Figure 4.7 indicates that the WPI community viewed physical incentives such as tangible goods or gift cards more favorably. These types of tangible rewards are comparable to financial incentives since they frame the act of participation as a service for which a person should receive a reward (Deci et al., 1999). This perception influences the way students behave and can even overshadow other, more intrinsic motivations (Jegan, 2001).

From these observations, it is evident that WPI uses tangible rewards such as raffle tickets or gift cards to attract participation in initiatives. However, studies and interviews have also indicated that physical rewards are neither sustainable nor effective in the long run (Handgraaf, 2011). Ms. Rodgers mentioned that “incentives may increase awareness, but not long-term thinking” (Rodgers, 2019). While acknowledging this perspective, Mr. Bandarra and Ms. Flynn recognize that incentives can initially persuade disinterested participants (Bandarra, 2019) and potentially encourage people to care and adopt sustainable habits (Flynn, 2019). Therefore, if WPI uses physical incentives effectively to entice unengaged individuals to sustainability and gradually develop intrinsic motivations, incentives can serve as a potential platform to increase engagement.

Furthermore, the WPI Community Engagement Working Group suggested that students could be engaged through alumni and other professionals in job related fields that incorporate
sustainability (Gold and Daigle, 2019). This would provide an opportunity to foster professional connections in fields related to students’ personal interests. In contrast to tangible rewards, intangible incentives such as professional development are more effective in encouraging behavioral change within a community under one, uniting cause (Deci et al., 1999).

This finding is supported by the information obtained from other colleges and clarifies how to best incentivize community engagement. Classifying individuals based on the level of engagement helps to identify the optimal incentives at each level. Fig 5.1 illustrates these three phases of engagement.

Figure 5.1 Phases of Engagement

A significant amount of the WPI community falls in the category of “Completely Unengaged” as evidenced by the survey results illustrated in Figure 4.4; only 31% of the students reported being “sometimes” or “always” engaged (Sustainability Engagement Survey, 2019); this is further supported by observations made by the Community Engagement Working Group (Gold, 2019). At this level, tangible incentives can be adapted to initiate interest and participation (Bandarra, 2019).

Partially engaged individuals are beginning to understand the positive impacts of practicing sustainable habits. To change students’ perception of sustainability, Ms. Flynn from Oberlin College emphasized the importance of infusing sustainability into students’ daily lives through classes, internships, and activities on-campus (Flynn, 2019). Intangible incentives such
as professional development, networking, or public recognition encourage these individuals to develop a personal stake in sustainability.

At the final phase of engagement, further incentivization will not be required. These individuals are intrinsically motivated as they feel rewarded merely by practicing or sharing sustainable habits and will actively be involved when given the opportunity. As part of a community that provides peer-to-peer engagement opportunities, individuals at this level would work to engage their peers. Thereby accelerates the engagement process on a communal scale.

5.3 Leadership

This section explains the team’s findings related to peer leadership programs. This includes information collected from other universities to evaluate the success of such initiatives. Additionally, information gathered from WPI community members in combination with survey data was used to assess the feasibility of such a program at WPI.

5.3.1 Finding 7: Peer-to-peer leadership and encouragement is an effective medium to increase engagement.

An important aspect of engagement is the cooperation of the community as a whole. Ms. Tomaszewski supported this and stated, “Peer to peer engagement is the most effective way to engage people” (Tomaszewski, 2019). Peer leaders are defined as “students who have been selected and trained to offer educational services to their peers [that] are intentionally designed to assist in the adjustment, satisfaction, and persistence of students toward attainment of their educational goals” (Ender and Kay, 2001). Peer-to-peer leadership provides a unique opportunity that is mutually beneficial for the individuals both in that position and those learning from them. Apart from the source of knowledge and resources that these leaders provide, they are also accessible and provide a non-authoritative approach to encourage sustainable behavior. As Shook and Keup state, “Peer leaders are especially useful as resource and referral agents not just because of their relevant knowledge, specialized training, and general accessibility but also because of their proximity to the student experience” (Shook and Keup, 2012). Therefore, peer
leadership is a possible method to increase community engagement by having peers communicate sustainability knowledge and information.

Information that is delivered through a peer allows the recipient to feel less pressured and more persuaded to perform an action or change a behavior (Shook and Keup, 2012). Similarly, peer leaders lead by example by demonstrating commendable behavior and communicating information through their actions (Shook and Keup, 2012). A sustainability peer leader among students can provide encouragement to act sustainably. For example, a peer leader assigned to a freshman dormitory hall could offer various ways to practice sustainable behavior through a floor-wide commitment to sustainability and perform periodic audits of residents’ rooms. Similar to the Green Room Audit Checklist that was introduced to the team by Ms. Flynn of Oberlin College, residents would be required to review and sign a checklist of daily practices to make their room “green” and would subsequently be encouraged by peer leaders. This kind of encouragement falls in line with the ideology proposed by Shook and Keup who stated “peer leaders are chosen and empowered to exert a positive influence upon their peers and to do so in a way that is less intimidating and more accessible to fellow undergraduates than would the actions of professional staff and faculty members” (Shook and Keup, 2019). The Association of American Colleges and Universities identified that ingraining peer leadership was not only beneficial in influencing growth and development but also necessary to provide a complete education (AACU, 2007). By providing opportunities for peer leadership, it will reinforce the quality of the sustainability education that students will receive at WPI.

An example of a successful peer-to-peer engagement program is from Clark University’s Eco-Reps program. This initiative transformed into the Environmental Action Council (EAC), a student and faculty organization that dealt with increasing the campus’ sustainability on a larger scale (Isler, 2019). This university conducted the Eco-Reps program with efficiency and provided an effective structure to run the program. These Eco-Reps participated in “door knocking” to communicate knowledge and practices through word of mouth to fellow residents (Isler, 2019). Clark also utilized “Green Room Audits,” which is a checklist that the Eco-Reps polled the residents to remind them of further sustainable practices in their rooms and community. Outside of their responsibilities in their respective residence halls, the Eco-Reps collectively organized large-scale events and informational conferences to engage the
community further (Isler, 2019). Unlike the Eco-Reps initiative at WPI, Clark University’s Eco-Reps were held accountable for an extensive set of responsibilities. All of the responsibilities mentioned above helped to inform the community and encourage behavioral change at the peer level. The clubs’ organization structure of Clark’s Eco-Reps proved to be an immense source of strength in Clark University’s sustainability effort on the campus.

As for potential interest in the peer-to-peer leadership program, the sustainability engagement survey indicated that WPI students appear to be interested in the Sustainability Ambassadors initiative. Figure 4.8 indicated that 44.4% of student respondents were interested in the program based on a brief explanation. This provides insight on students’ interest in the sustainability leadership initiative.

5.3.2 **Finding 8:** WPI’s Eco-Reps program does not follow a completely effective organizational structure.

The existing Eco-Reps program at WPI encourages and enforces sustainable behaviors among their peers in their respective buildings. However, the organizational structure currently adopted in the program is not the most effective in comparison to other programs at other universities and offers room for improvement. The Eco-Reps program was introduced in 2010 by Ms. Tomaszewski, which was inspired by the same successful initiative at Clark University. In 2012, the Eco-Reps at WPI were organized under GreenerU, a third-party organization whose “unique approach integrates building system improvements with behavioral programs, leverages a team of leading professionals, and customizes services for each campus” (GreenerU, 2018). After the contract with GreenerU ended, a considerable portion of the responsibility of managing the Eco-Reps fell on Ms. Tomaszewski, which increased her workload. The functioning of the program was impeded by Ms. Tomaszewski’s rigid work schedule and the scarce resources available at her disposal. As of 2019, the Eco-Reps have not convened during this academic year (Tomaszewski, 2019). However, conversations with Ms. Tomaszewski indicate that the Eco-Reps program has the potential to induce a change in mindset.

The impact of Eco-Reps was evidenced in the 2017–2018 academic year when a student intern at the WPI Office of Sustainability successfully oversaw and coordinated a significant section of the Eco-Reps program. Ms. Isler noted communication as one of the more important
aspects of the Eco-Reps’ success at Clark University. She also stated that the Eco-Reps had excellent communication with facilities, residential services, student affairs, and other departments that played a significant role in achieving their goals (Isler, 2019).

Professor Stoddard, a Eco-Rep at WPI, suggested an alternative structure for the Eco-Reps program. She stated that faculty and staff Eco-Reps could represent their respective departments rather than the building that they represented. She elaborated that if they represented their departments, it would be easier to influence peers and implement change because intra-departmental communication was stronger than communication within the entire building (Stoddard, 2019). In general, faculty and staff within the same department are in closer contact than those who reside in the same building. Organizing the Eco-Reps by department could capitalize on peer-to-peer engagement and facilitate supervision for accountability relating to sustainability.

Responsibility-wise, Clark University had an effective approach to their Eco-Reps program. The program was widely advertised among students and witnessed significant participation. Each floor of Clark’s residence halls featured an Eco-Rep staff, which was a group of students on each floor who would undertake the responsibilities detailed by Ms. Isler. One of the more specific responsibilities of the Eco-Reps was to decorate bulletin boards in the residence halls with instructional materials on sustainability, the topics of which varied on a monthly basis.

Due to the club structure of Clark’s Eco-Reps program, holding the individual leaders accountable was not an issue. There were members who carried out the periodic responsibilities detailed above, and individuals who acted as Eco-Rep heads to oversee these members as well as an executive board that featured a president, a vice president, a treasurer, and other executive board members. Additionally, the Director of Sustainability acted as an advisor by providing direction and acting as a liaison between departments and offices (Isler, 2019). Therefore, Clark’s Eco-Reps program follows an ideal club organizational hierarchy for a peer-to-peer leadership program. Apart from distributing responsibilities efficiently within the network, it also offers a system to hold members accountable for the responsibilities that they are assigned.
5.3.3 **Finding 9:** Capacity and funding are available to support a peer leadership program at WPI.

To model Clark’s Eco-Reps club structure, there are several factors to consider at WPI. To be recognized as a club by the Student Activities Office (SAO), the club must satisfy a set of criteria that include writing a letter of intent, completing the necessary documentation, demonstrating support for the club from the student body, as well as identifying a full-time faculty member to advise the club. From the sustainability engagement survey, conversations with past Eco-Reps, and conversations with Ms. Tomaszewski and Dr. Mathisen, it is evident that interest for the initiative is present. Furthermore, many students demonstrated an interest in Professional Development as an incentive to participate in sustainability initiatives, and leadership development falls under this category.

Ms. Tomaszewski is currently the advisor for the Green Team; she oversees student interns, offers resources and knowledge, and assists the club with any external needs. Therefore, Ms. Tomaszewski would be a potential candidate to oversee the operations of a sustainability leadership network. Additionally, Dr. Mathisen, the Director of Sustainability, can also provide support to the sustainability leadership program since he has the knowledge, resources, and experience to advise the club. The Office of Sustainability currently has a student intern working to develop the Sustainability Ambassadors initiative but is seeking additional support. It would be beneficial to have an individual to champion the logistics of this project, similar to the student intern who organized the Eco-Reps during the 2017–2018 academic year. This demonstrates that potential exists gather extensive support for a program of this magnitude within the Office of Sustainability at WPI.

There is a financial and budgetary aspect incorporated with implementing a sustainability leadership program at WPI. Comparing the potential initiative, Sustainability Ambassadors, with the previous Eco-Reps program at WPI, Ms. Tomaszewski stated, “I can safely say that the cost to oversee the program was around $1200. We incurred minor expenses to cover the cost of supplies, [which was] certainly under $200” (Tomaszewski, 2019). When queried about the total resources that would be available to a potential sustainability leadership program with similarities to Eco-Reps, Ms. Tomaszewski elaborated, “Likely around 75% of an intern’s pay, so around $1300” could be allocated to such a program (Tomaszewski, 2019). Unfortunately,
this program would not be eligible to receive funding from the Green Revolving Fund, a community fund at WPI that offers financial support to sustainability projects proposed by WPI community members.
6. Recommendations

This set of recommendations are in accordance with the themes of our findings: barriers, incentives, and leadership. Furthermore, this set of recommendations are geared towards the Office of Sustainability; furthermore, a set of themes are also suggested for the Community Engagement Working Group (Appendix G). These recommendations take into account the information gathered in the findings chapter.

### Table 6.0 Recommendations for WPI Sustainability Stakeholders

<table>
<thead>
<tr>
<th>Themes</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives</td>
<td>Use incentives to advance individuals by increasing levels of engagement.</td>
</tr>
<tr>
<td>Communication and capacity</td>
<td>Enlist staff to increase capacity of the Office of Sustainability</td>
</tr>
<tr>
<td></td>
<td>Seek expertise in public relations.</td>
</tr>
<tr>
<td>Leadership</td>
<td>Establish Sustainability Ambassadors.</td>
</tr>
</tbody>
</table>

6.1 Incentives

This section explores ways to utilize different types of incentives to improve intrinsic motivation in community members by tailoring events to target individuals at each of the three stages of engagement. This includes both tangible incentives to incite initial interest and intangible incentives to maintain continued engagement.

**Recommendation 1:** Use incentives to advance individuals by increasing levels of engagement.

We recommend a guideline to implement different types of incentives to target specific demographics of community members. The following explains how to optimally utilize different types of incentives to encourage behavioral change according to **Findings 5 and 6**.

**Finding 6** describes the progression through three levels of engagement. We recommend that the Office of Sustainability use this as a potential model to help visualize the role that incentives could potentially play in improving community engagement. Developing intrinsic
motivation within members of the community is the catalyst to propel individuals through these three levels of engagement to achieve positive and social change. Different types of incentives should be used to support intrinsic motivations at each level of engagement.

Phase One

As a first step, WPI should focus on introducing entirely unengaged individuals to sustainability. This should be accomplished through large-scale events that include physical rewards in the form of money, gift cards, or other prizes. We recommend that the Office of Sustainability organize a sustainability fair at the start of Earthfest that includes physical incentives in the form of free food, giveaways, and other prizes.

As discussed in Finding 5, other universities have used physical rewards and incentives as the primary step to introduce unengaged community members to sustainability education. WPI could coordinate with student clubs to help staff individual tables or booths at the sustainability fair as they do with Greek life for the annual Greek carnival. By incorporating various student clubs, WPI can showcase a united student body that understands the importance of sustainability. Additionally, the fair should be hosted in large, public spaces near freshmen residences such as the Quadrangle or Campus Center to improve the visibility of campus sustainability programs. The use of physical rewards should, however, be limited to a select few events to prevent the community from becoming reliant on them to engage in sustainability.

Phase Two

Individuals become partially engaged after being introduced to sustainability and the morality associated with sustainable habits. To develop intrinsic motivations, educational experiences or professional development opportunities should be inherently valuable to participants. We recommend that WPI adopt the following measures:

- Include a sustainability-focused career fair as part of Earthfest.
- Reach out to alumni in professional fields related to sustainability and connect them with students through the career fair or other networking events.

As an institution, WPI could reach out to its alumni working in fields related to sustainability. These alumni could serve as a valuable resource for guest speakers and exhibitors.
at these events. Professional development and networking are recognized as attractive incentives listed by respondents in our sustainability engagement survey. Networking with alumni and other professionals will allow students to make connections between sustainability and personal values.

Phase Three

Public recognition and awards play an instrumental role in utilizing engaged individuals to encourage a behavioral change in their peers. We recommend that the WPI Office of Sustainability consider the following:

- Develop an award ceremony for both students and faculty/staff who demonstrate an outstanding commitment to sustainability.
- Publicize award winners to be honored by WPI leadership through the school’s public media channels.

Although the sustainability engagement survey responses indicated minimal individual interest in awards or recognition, public praise and recognition are effective as a means of promoting specific communal values rather than directly incentivizing individual engagement. Regularly, and publicly acknowledging the individual accomplishments of those most engaged in sustainability will function in incorporating sustainability into the communal values of WPI. Section 2.3 further details the effects that public recognition has on an individual’s likelihood to contribute to their community.

6.2 Capacity and Communication

These recommendations address the issues noted in the Findings chapter under the barriers section. This involves increasing the capacity of the Office of Sustainability with additional personnel who would assist with the logistics and administration of the office. Additionally, we recommend that the Office of Sustainability seek expertise in public relations to increase communication related to awareness and engagement within the community.
**Recommendation 2:** The Office of Sustainability should enlist additional office staff to increase capacity.

We recommend an additional office staff to increase the capacity of the office. The intention is to support Dr. Mathisen and Ms. Tomaszewski so that they can focus on the larger picture of sustainability and devote their efforts into their area of expertise. This is a potential approach to assist the office with issues regarding the capacity or time crunch in facilitating additional initiatives, as explained in Findings 2 and 3. The essence of the role would be to increase the logistics and administration capacity of the Office of Sustainability. Some of the responsibilities for the additional office staff would include the following:

- Communicate with other offices, departments, and organizations.
- Oversee student interns.
- Oversee student clubs and organizations.
- Coordinate events and initiatives.

Figure 6.1 illustrates how the staff member would support the existing Office of Sustainability. The new staff member can oversee the student interns and categorize them under significant sustainability themes for work. This would ensure a more holistic incorporation of all aspects of sustainability, rather than a selective approach on specific areas of sustainability.

![Figure 6.1 Organization of the Office of Sustainability](image)

Another key aspect of communication is the emphasis on connections between the Office of Sustainability and other WPI departments. While the Office of Sustainability has a
sustainability advisory committee to coordinate with different groups (Mathisen, 2019), there is further potential in promoting sustainability through increased collaboration and communication specific offices such as Residential Services, Student Activities, and Academic Advising. The office staff would work alongside departments to assess how the corresponding department engages in sustainability and determine how sustainability can be further expanded into their respective mission statement. Communication with other departments may consist of meetings or email contact to encourage future collaboration.

An additional suggestion is to increase and maintain collaboration with student groups through the existing Sustainability Leadership initiative. This is to ensure that student groups work in unison to create effective sustainability initiatives. This position would also focus on a convenient method to communicate and connect the sustainability student groups with the Office of Sustainability. Moreover, the position would provide additional support to increase the capabilities of the Office of Sustainability. However, it should be noted that instituting paid positions would require approval from both the “director and associate director” and “administrative approval” from WPI (Mathisen, 2019).

**Recommendation 3:** To improve sustainability awareness and engagement with the community, the Office of Sustainability should seek expertise in public relations.

As noted in **Finding 4**, social media and email are the ideal methods to communicate sustainability efforts. We recommend that the Office of Sustainability seek expertise in public relations to focus on these methods and locate additional alternative methods to educate and advertise sustainability efforts within the community more efficiently. This localized focus on outreach would further complement the existing efforts to raise awareness within the community.

The emphasis on improving promotion is one of the ways to make sustainability efforts more visible and increase engagement on-campus. Essentially, the focus should be on managing the flow of information about sustainability efforts, to inform the community on the progress of sustainability at WPI. Additionally, expertise would also assist with promoting the Office of Sustainability’s initiatives. A potential approach is researching optimal ways to reach the community, whether through traditional posters, word-of-mouth, digital platforms, or other methods. Under the digital platform, the assistance will help in monitoring and maintaining the
Office of Sustainability’s social media accounts while simultaneously aiding in content creation. Through traditional approaches, they will also assist with developing posters and fliers. Another aspect is developing press releases for community outreach in collaboration with WPI’s public relations team, which would include documenting and promoting sustainability events through resources provided by the Office of Marketing Communications.

These responsibilities are further detailed in Appendix F.1. This recommendation highlights the use of social media based on Finding 4. The expertise in public relations would target specific audiences, similar to the promotion of initiatives undertaken by Bentley University’s sustainability public relations interns as shown in Table 6.1, to effectively reach out to different demographics.

### Table 6.1 Bentley University’s Social Media Segment Market

<table>
<thead>
<tr>
<th>Social Media Platform</th>
<th>Target Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>Alumni/faculty and staff</td>
</tr>
<tr>
<td>Instagram</td>
<td>Students</td>
</tr>
<tr>
<td>Twitter</td>
<td>Engagement with everyone</td>
</tr>
</tbody>
</table>

By increasing expertise in public relations, communication can be improved to promote sustainability better. This is similar to the availability of public relations and marketing interns in Oberlin College (Oberlin Interns, 2019) and Bentley University (Rodgers, 2019) who help publicize sustainability initiatives. This would include but will not be limited to using a variety of methods such as creating infographics, fliers, and making social media posts leading up to sustainability initiatives to reach the WPI community. The Office of Sustainability, however, recognizes a barrier when using emails. This issue pertains to the process of having the WPI Student Government Association send emails to students. The overall intention behind introducing expertise in public relations is to increase the office’s capacity to raise engagement and awareness of sustainability within the WPI community.
6.3 Leadership

Eco-Reps programs have been successful in promoting sustainability at other universities, and previously at WPI, specifically within residence halls both at WPI and other universities. A peer-to-peer program such as Sustainability Ambassadors at WPI could help in further developing sustainable mindsets and lifestyles among the students on campus.

**Recommendation 4: Sustainability Ambassadors**

We recommend the revitalization and rebranding of the Eco-Reps, a sustainability-focused program, to a peer-to-peer student leadership initiative at WPI: the Sustainability Ambassadors Initiative. Students can provide leadership and inspire the community to facilitate conversation regarding sustainability on campus. Ideally, the WPI community will work in unison to engage in sustainability efforts on-campus and educate the surrounding community on such practices.

![Proposed Sustainability Ambassadors Logo](image)

**Figure 6.2** Proposed Sustainability Ambassadors Logo

**Organizational Structure**

The organizational structure of this program will determine the success and longevity of the initiative. Figure 6.3 illustrates the potential communication and organizational network for the Sustainability Ambassadors initiative.
The arrows in Figure 6.3 denote the lines of communication. Similar to how Eco-Reps is run at Clark University, the Sustainability Ambassadors initiative would be a separate entity akin to a club that reports to the Director of Sustainability. This program would feature members who hold the title of Sustainability Ambassador, as well as an executive board that would hold the ambassadors for their responsibilities. The executive board would also act as a liaison between the Sustainability Ambassadors and Office of Sustainability. Likewise, the Director of Sustainability would also connect with other departments and organizations. This communication would be facilitated through the involvement of the Director of Sustainability, who can function as a faculty advisor to the Sustainability Ambassadors initiative. The initiative will require the support of departments such as Residential Services to facilitate monthly events for their respective dormitory halls, gather information and knowledge, as well as plan large scale events. The Sustainability Ambassadors should convene once a week to discuss plans and preparations for events and to share knowledge about sustainability at WPI. Similarly, during these meetings, the progress of individual ambassadors can be evaluated, and improvements can be suggested if necessary.

The Sustainability Ambassadors initiative would primarily target first-year students since these students are more receptive to new information and are more readily connected with their fellow residents. At Clark University, Ms. Isler opined that both on-campus or off-campus residing sophomores, juniors, and seniors may not have the same collective mindset as freshmen.
in their dormitory hall setting. Therefore, we recommend targeting residents in Daniels Hall, Founders Hall, Institute Hall, Morgan Hall, Sanford Riley Hall, and Stoddard Complex (Stoddard A, Stoddard B, and Stoddard C). Table 6.2 indicates the residence halls with the student capacity, the number of floors, the number of RAs, and the proposed a number of Sustainability Ambassadors.

**Table 6.2 Targeted Residence Halls Demographic Information (WPI Website, 2019).**

<table>
<thead>
<tr>
<th>Residence Hall</th>
<th>Students Capacity</th>
<th>Number of Floors</th>
<th>Number of Residential Advisors</th>
<th>Minimum Number of Sustainability Ambassadors Proposed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniels Hall</td>
<td>235</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Founders Hall</td>
<td>290</td>
<td>4</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Institute Hall</td>
<td>90</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Morgan Hall</td>
<td>294</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Sanford Riley Hall</td>
<td>188</td>
<td>3</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Stoddard A</td>
<td>84</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Stoddard B</td>
<td>84</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Stoddard C</td>
<td>84</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Ideally, each residence hall will have one Sustainability Ambassador per floor. This will provide ambassadors an opportunity to collaborate with the RA(s) on their respective floor and to build relationships with the peers they interact with the most. This structure will offer the most suitable environment for the peer leaders to initiate change among their peers.

**Programs and Responsibilities**

Sustainability Ambassadors would be responsible for educating and engaging the residents on their floor, and eventually, the broader WPI community. More specifically, these peer leaders will have a particular set of targets to meet to ensure satisfactory performance. Similar to the former Eco-Reps program at WPI, a different theme of sustainability for education and awareness will be followed each quarter of the academic year. A sample list of sustainability topics is listed in Table 6.3.
Table 6.3 Potential Sustainability Themes by Quarter

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Sustainability Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Term</td>
<td>Community engagement</td>
</tr>
<tr>
<td>B Term</td>
<td>Waste and recycling</td>
</tr>
<tr>
<td>C Term</td>
<td>Energy conservation</td>
</tr>
<tr>
<td>D Term</td>
<td>Water conservation</td>
</tr>
</tbody>
</table>

First, Sustainability Ambassadors will be entrusted with the task of creating a sustainability-focused event for each of the different themes for all quarters. The ambassadors would, moreover, have the opportunity to curate a creative event to educate and engage their fellow residents in a sustainability initiative centered around a theme selected from Table 6.3 for the respective quarter. Similarly, at Clark University, the Eco-Reps hosted monthly events about various sustainability themes. This is to create repetitive activities that engage the community and stimulate knowledge around central areas of sustainability.

Additionally, the ambassadors are responsible for annually organizing a large-scale event for the entire WPI community since WPI could benefit from having additional and extensive sustainability events to engage the community as a whole. Schools that were investigated, such as Oberlin College and WSU, featured annual events that secured involved the entire community.

In order to draw engagement and support for such an initiative, a wider palette of incentives must be offered to the student. Apart from monetary and tangible rewards, students indicated that professional opportunities and networking were important motivators to ensure participation. The ambassadors would have the responsibility of organizing informational seminars and events that feature notable professional figures. These include professionals in the field of sustainability, WPI alumni, and representatives from various companies who incorporate and promote sustainability in their practices. This would allow students and faculty to network with professionals in the field.

Every quarter, Sustainability Ambassadors would decorate an allocated portion of a bulletin board about an aspect of sustainability that is specified in Table 6.3. Displaying
information in a centralized location such as the bulletin board would make sustainability information more accessible. The information would include reminders about sustainability events, various sustainable practices, and general information on sustainability. This is one way to increase the accessibility and communication about sustainability. Bulletin board decorations would specifically follow the following criteria:

- Information, statistics, and resources available regarding the sustainability theme of the quarter
- Dates and times of sustainability events both within the residential halls and within the entire WPI community
- Reminders and suggestions detailing sustainable practices to follow

Following these criteria, the bulletin boards would become a hub for students to engage and improve their knowledge about sustainability topics and create a greater sense of awareness (Isler, 2019). The use of bulletin boards is already practiced by RAs in order to distribute knowledge and resources to the residents. Another responsibility of the Sustainability Ambassadors would be to conduct periodic audits of the rooms of their fellow residents. This idea stems from the Green Room Certificate issued by Clark University, which is discussed in Appendix D.3. Primarily, Sustainability Ambassadors would draft a checklist of sustainable behaviors that residents should be held accountable for practice. Residents would be made aware of the checklist at the beginning of the term and would subsequently be audited at a convenient time towards the end of the term to indicate whether they meet the criteria for a Green Room. Passing this audit could result in the residents of that room receiving an incentive such as meal vouchers, school gear, or merchandise. A sample audit can be found in Appendix F.5 This is another method to increase engagement and awareness on a peer-to-peer level.

Furthermore, Sustainability Ambassadors would have the responsibility of distributing information and resources door to door. This would include distributing fliers and pamphlets, as well as communicating the best practices and information to the residents via word-of-mouth. These small campaigns could include making the residents aware of events, resources, and sustainable practices. A job description that could be used to describe the position to prospective candidates succinctly has been included as Appendix F.2.
Funding and Resources

Examining the cost of organizing and implementing a program of this magnitude, it is evident that external funding and resources will be necessary. To create an effective program that will persist, we must ensure that it incentivizes those who are willing to participate as Sustainability Ambassadors. As evidenced in the sustainability engagement survey, WPI students respond to monetary incentives, tangible rewards, and professional opportunities. We believe that incorporating financial compensation and leadership development opportunities in this initiative will provide the school with a broad palette of individuals willing to be a Sustainability Ambassador. This diverse group would introduce different perspective and ideas for peer-to-peer engagement.

Funding for a program of this caliber could be secured from different sources. Finding 9 elaborates on the financial limitations of a sustainability peer leadership program. The Office of Sustainability’s funds could be utilized to purchase items necessary to conduct events and incentives to garner student participation, as well as to potentially pay Sustainability Ambassadors for their efforts.

If the school chooses to support a program of this size, additional funding must be diverted to the Office of Sustainability. The Sustainability Ambassadors initiative could potentially qualify for a number of grants. The New England Grassroots Environmental Fund Young Leaders Grant awards up to $7500 to support the development of programs that “allow young adults to design, lead, and engage a community-based effort from inception” (Young Leaders Grants, 2019). A less favorable option could involve utilizing student fees to acquire additional funding. This approach is unfavorable because of the time it would take to get such a fee approved and the negative financial impact it poses for students.

In terms of compensating student workers, there are two possible approaches—periodic stipends, or hourly pay. A stipend minimizes administrative work by collecting and verifying timesheets by paying a one-time sum at scheduled intervals throughout the year. Stipends do not consider the number of hours worked and thereby, provide the individual the freedom to decide on the amount of time they are willing to invest in the position. Hourly wages require dedicated payroll personnel, who are responsible for collecting and verifying timesheets. The number of hours worked by a dedicated individual who is compensated with a stipend may total more than
their wage would assume when divided by the hour. Hourly pay restricts the number of work hours individuals can commit to on a weekly basis.

We found that Tufts University’s Eco-Reps program collected timesheets, and students were paid in hourly wages. Despite this, students generally preferred to receive semesterly stipends. Hourly wages allow the directors the freedom to terminate employment or cut the pay of underperforming individuals. The use of timesheets and hourly wages also ensures that adequate time is spent on positional responsibilities. If Sustainability Ambassadors are paid $25 per week, the payroll for the 25 Sustainability Ambassador positions recommended in Table 6.2 will be $625 per week or $4,375 per term. We suggest that hourly wage will best motivate Sustainability Ambassadors to conduct their responsibilities professionally and consistently.

Evaluation and Accountability

Instituting a system to evaluate the program and ensure that members are accountable for their responsibilities is essential. Both individual ambassador performance and initiative success as a whole should be evaluated independently. The assessment would allow for continuous improvement by identifying shortcomings to maximize the effectiveness of the initiative.

At the individual level, a set of expectations should be established at the beginning of the year and monthly evaluations should be conducted. The expectations can be broken into three categories: time invested on task, activity, and knowledge and skills. A rubric can be found in Appendix F.3 to assess an individual’s progress towards those expectations. If the Sustainability Ambassador executive board notices that a Sustainability Ambassador is underperforming, a one-on-one meeting should be held to propose a plan on improving the individual’s contributions. The executive board members will work with struggling ambassadors to identify the factors affecting their job performance and suggest ways to resolve these issues. While not desirable, it may be necessary to relieve the ambassador of their duties if no improvement is observed. Progressive discipline in the form of written warnings and probation for unacceptable performance are other preferred steps that can be adopted prior to relieving an ambassador from the program.

It is also necessary to evaluate the impacts and reputation of Sustainability Ambassador initiative as a whole. The Sustainability Ambassador executive board should compile an annual
report that details the accomplishments of the initiative over an academic year for evaluation as well as for promotional purposes. Sustainability Ambassador executive board are responsible for collecting and organizing the following information throughout the year:

- Name, date, and time of each Sustainability Ambassador event.
- Number of participants at each Sustainability Ambassador event.
- Pictures of bulletin boards, events, and Sustainability Ambassador projects.
- Number of Green Dorm rooms.

These metrics will provide evidence of the effectiveness of the program. In addition to this information, it is important to collect feedback from Sustainability Ambassadors about their experiences through periodic feedback forms (Appendix F.4). The Director of Sustainability and the Sustainability Ambassador executive board should collaborate together to improve the effectiveness of the SA initiative using community evaluations of Sustainability Ambassadors.

Once feedback data has been gathered and organized, it becomes the responsibility of the Sustainability Ambassador executive board to analyze the results. Between academic years the executive board should be tasked with improving the program in accordance with the previous year’s feedback. Some of this discussion will occur during weekly Sustainability Ambassador meetings throughout the year. A portion of the meeting time should be devoted to discussing goal progress and areas for improvement. Additionally, the Director of Sustainability along with an intern should develop a report to monitor yearly progress. Long-term success is dependent on a constant introspective attitude focused on maximizing program effectiveness.
7. Conclusion

The project goal was to investigate community engagement, one of the four focus areas in the WPI Sustainability Plan. In order to increase community engagement, we focused on promoting awareness, involvement, and identifying barriers to sustainability efforts at WPI. These recommendations aim to inculcate a culture of sustainability that would enhance the current and future welfare of not only the WPI community but also inspire the broader Worcester community.

Our project focused on the evaluation of how other universities engaged with their communities and were aided by interviews with key actors at WPI about the limits of promoting sustainability on campus. Additionally, a survey gathered the WPI community’s opinions regarding the barriers that prevent engagement, assess interests in incentives and initiatives, and communicate information about sustainability to respondents effectively. The data collected from the interviews and survey were categorized into encompassing themes.

The first theme **barriers** examined the factors that hindered people from being involved in community engagement. This included the potential additional communication between the community and Office of Sustainability, as well as other critical departments with the capacity to facilitate sustainability that would benefit from collaboration. The next theme **incentives** defined how incentives may play a role in community engagement. We gained an understanding of the factors that motivated individuals to participate in sustainability efforts. Finally, the theme of **leadership** evaluated potential engagement through peer-to-peer learning.

From these findings, we proposed a series of recommendations that targeted specific themes to assist the Community Engagement Working Group to expand on their existing objectives and tasks and increase the capability of the Office of Sustainability. The first recommendation details how to effectively use incentives to support campus sustainability. We describe how to motivate continued sustainability engagement at each level of engagement. The next recommendation focused on additional aid to increase the capacity of the Office of Sustainability with a focus on the logistics of sustainability efforts and interconnection with other key actors, along with advice to seek expertise in public relations to better communicate sustainability information to the community. The last recommendation discussed was peer-to-
peer learning through the revitalization of Eco-Reps to Sustainability Ambassadors, which provided information on funding and resources to run a program along with a defined organizational structure, outlined program functionality, and the expected responsibilities with a rubric to evaluate performance. These recommendations function in tandem to support the Office of Sustainability to achieve one of the four overarching goals of community engagement.

The implementation of these recommendations will connect sustainability efforts between the stakeholders, increase awareness, and increase overall community engagement on campus. We also hope that these recommendations will create a shift in mindset towards sustainable behavior while highlighting the long-term goal of promoting community engagement on campus. This goal will be worked towards by all the stakeholders who will collaborate with the Office of Sustainability to lead the charges towards a sustainable WPI.
8. References


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Appendix A: University of Vermont Eco-Rep Organizational Chart

UVM 2019 Eco-Rep Org chart
Appendix B: Sustainability Engagement Survey Responses

WPI Survey information

We built our survey to assess WPI students, staff, and faculty interest in existing sustainability programs and determine how implementing incentives could increase student awareness and participation in these programs. Along with assessing incentives, we wanted to assess students, staff, and faculty ratings of sustainability efforts on campus and to determine whether their evaluation of WPI’s efforts is somehow related to their awareness of past or current sustainability programs on campus.

The questions selected were simple and did not require much time to provide an accurate and honest answer. While building the survey, we had to ensure that our questions were straightforward and did not leave any space for vagueness since that would complicate the survey results. Through the survey, we wanted to gather an overview of students’ expectations of rewards for participating in sustainability efforts to determine the correlation between incentives and awareness.

We wanted the questions to be relatable to the average WPI community member. Questions could be answered based on what they see around the campus, such as the Clean Plate Initiative that can be observed in the Morgan Dining Hall. Furthermore, we wanted the respondents to have identifiable choices for question seven (the question of the reward) because if they recognized the incentives (e.g., gift cards), it’s more likely that they will participate in the programs mentioned in the previous question.

Justification

Question 1 of the survey organized the respondents into two different categories: students (undergraduate, graduate), and faculty and staff. If the respondent reported themselves as students, Question 2 further categorized the students into an on-campus student, off-campus student, and commuter student. The next two questions (Question 3 and Question 4) were only applicable to students in the WPI community. These questions referred to the sustainability ambassador. Question 3 offered a short description of the potential Sustainability Ambassador position and made queries regarding the respondents’ interests in such positions. Question 4 promoted respondents to rank five incentives, in the order of most interest to least interest. The purpose of this question was to identify the popular motivators among our response pool to participate in this initiative. These included:

1. Financial compensation (weekly pay)
2. Discounted Amenities or Services (Boarding or Food)
3. Professional Development and Networking (Experience)
4. Tangible Rewards (School gear, gift card, pizza parties, etc.)
5. Personal Recognition or Award among peers

Questions 5 and 6 assessed the respondents’ opinion regarding WPI’s performance in terms of sustainability and queried the frequency with which they are involved in sustainability initiatives at WPI. Question 7 was the subsequent text entry response to provide our team with a description of their involvement in sustainability on campus. Based on our preliminary analysis of WPI’s sustainability efforts, Question 8 prompted the respondent to choose all of the initiatives with which they are familiar; most, if not all of the large-scale sustainability initiatives are listed. We also wanted to observe how students, staff, and faculty practiced sustainability on
a personal level, which was tackled in Question 9. The question listed various means to practice sustainable behavior and asked the respondent to select all options that applied to them. The final two questions of this category addressed potential barriers that prevent the community from participating in sustainability initiatives at WPI. Question 10 asked the respondent to select all options that apply to them from a list of potential barriers that prevent them from engaging in sustainability-focused programs at WPI. Question 11 provided a text entry to detail any additional reasons for the lack of engagement.

Respondents were prompted to rank their interest on a Likert scale. Question 13 asked the respondent to record in a text entry any other incentives that would motivate them to participate. Question 14 was structured similar to Question 12. This question asked the respondent to record their interest in a list of potential sustainability competitions featured in different fields of sustainability.

**Contextual Information**

The most commonly understood principle of sustainability is the idea of preserving the environment. The WPI Sustainability Plan has three guiding principles; the first principle is Ecological Stewardship, which mentions human activities must be held to a higher standard to maintain the ecological balance. Another guiding principle is Economic Security “represents the understanding that all members of society deserve access to the means to support themselves and their families.” The final principle, Social justice, highlights that “human being leads to the assurance of equitable rights and opportunities for everyone.” These guiding principles are outlined in the WPI sustainability plan.

The responses and results of the survey are presented below.

1 - Which of the following describes you?

![Graph showing demographic data](image)

**Figure B.1 Demographic (n=224).**

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>%</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student (undergraduate, graduate)</td>
<td>48.88%</td>
<td>109</td>
</tr>
<tr>
<td>2</td>
<td>Faculty, Staff</td>
<td>51.12%</td>
<td>114</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td>224</td>
</tr>
</tbody>
</table>
2 - Are you a ...

![Bar chart showing student demographics]

Figure B.2 Student Demographic (n=109).

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>%</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On campus student</td>
<td>54.13%</td>
<td>59</td>
</tr>
<tr>
<td>2</td>
<td>Off campus student</td>
<td>40.37%</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>Commuter student</td>
<td>5.50%</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td>109</td>
</tr>
</tbody>
</table>

3 - Would you be interested in being a Sustainability Ambassador at WPI?

![Bar chart showing students' interests]

Figure B.3 Students’ Interests in Sustainability Ambassadors (n=63).

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>%</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
<td>44.44%</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
<td>55.56%</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
<td>63</td>
</tr>
</tbody>
</table>
4 - As a student, rank each option on what would motivate you to become a Sustainability Ambassador for your dormitory? (1-Will motivate you the most, 5-Will not motivate you to participate)

Figure B.4 Motivations for Sustainability Ambassadors (n=60).

5 - How do you think WPI is performing in terms of sustainability as defined above?

<table>
<thead>
<tr>
<th>#</th>
<th>Field</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How do you think WPI is performing in terms of sustainability as defined above?</td>
<td>1.00</td>
<td>5.00</td>
<td>3.38</td>
<td>218</td>
</tr>
</tbody>
</table>
Figure B.5 Staff, Faculty vs Student Rating on Sustainability (n=218).

6 - Are you involved in sustainability initiatives at WPI?

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>%</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Almost Always</td>
<td>6.85%</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>Sometimes</td>
<td>30.59%</td>
<td>67</td>
</tr>
<tr>
<td>3</td>
<td>Every Once in a While</td>
<td>20.55%</td>
<td>45</td>
</tr>
<tr>
<td>4</td>
<td>Rarely</td>
<td>20.09%</td>
<td>44</td>
</tr>
<tr>
<td>5</td>
<td>Never</td>
<td>21.92%</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>219</strong></td>
</tr>
</tbody>
</table>

Figure B.6 Respondents’ involvement with sustainability (n=219).

7 - (Optional) Describe your involvement in sustainability.

<table>
<thead>
<tr>
<th>sustainability advisory committee</th>
<th>I am a member of Green Team.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Re &quot;How do you think WPI is performing in terms of sustainability as defined above?&quot;: I left it blank because I don't know--I have no idea even how I'd begin to determine that.</td>
<td>I advise many IQP projects on sustainability themes, I set up projects on sustainability themes as a center director, and I try to participate in most sustainability related activities around campus.</td>
</tr>
<tr>
<td>recycle items at work, encourage others to do so, participate in e-waste days</td>
<td>Green Team President, member of SJSF, just in general trying to reduce waste and spread awareness.</td>
</tr>
<tr>
<td>Food Recovery Network</td>
<td>My fraternity is somewhat active in pro-sustainability events.</td>
</tr>
<tr>
<td>MQP level for energy sources.</td>
<td>I recycle everything I can every chance I get.</td>
</tr>
<tr>
<td>Looked at WPI co-gen recently.</td>
<td></td>
</tr>
<tr>
<td>Have looked at energy audits,</td>
<td></td>
</tr>
</tbody>
</table>
Teach courses that have sustainability topics, member of advisory group for Sustainability, use refillable glass for water, carry a cup with me to many meetings, sometimes sort stuff from trash to recycling and vice versa.

I am a part of the grand challenge scholars program here on campus, which allows me to pick and choose my classes based on a grand challenge this world faces. The goal of this program is for me to be conscious of what I am learning, and how everything I do is connected somehow rather than filling out a checklist of meaningless classes. The challenge I am focused on is improving urban infrastructure, and as an architectural engineering major it is my goal to build renewable, net-zero, green buildings in my career. Sustainability is at the forefront of all design decisions I make, as well as the reasoning behind my passions.

Member of sustainability working groups, member of green team and I'm minoring in environmental and sustainability studies

recycling, using stairs instead of elevators, turning off lights when not in use.

IQP

It is addressed in classes I teach and in my research

Use recycle bins to dispose of waste products

food waste flow

Participate in the Inclusion Working Group

Do not participate, am not sustainable

service on a faculty committee, participation in some events,

Posting notices, reminding co workers and students

Trying to keep recyclables sorted, despite wondering why cardboard boxes go from the special bins e.g. morgan wedge, into dumpsters

I strive for office sustainability, a daunting task at times. I try to recycle as much as possible, order more at a time, less often, and turn out lights when not in the office.

I'm in the green team alias

E-recycling, reusable containers

Gompeis bike share

IQP through the office of sustainability

Green team. Regularly participate in sustainability activities

More recent involvement - on a committee

I regularly recycle as much as possible while on campus

Office of Sustainability and Green Team

GPS, IQPs

Green team

I am working to build the capacity of our outreach programs to allow access for the Worcester community and low-income students.

advocate for good recycling practices in my department; contribute to shaping the next 5-year plan

club meetings, eco-rep, personal actions like removing my own compostable waste from campus,

Attending events.

I am part of the green team and try to be sustainable myself.

Gompeis Gears

Always recycle, walk instead of drive to campus.

Sustainability is my research focus, and I come to as many campus sustainability events as I can.

advising projects and theses

e-waste drive, recycling

My involvement is rather informal. I make sure recycling occurs on our department. The bottles in the breakroom are properly sorted and recycled. I have added recycle bins around the office. People know I will "gently" remind them to recycle!

faculty advisor to various sustainability projects

I recycle and try to walk

Green Team, Personal contributions

OFFICE OF SUSTAINABILITY

Mostly on a personal level, eg walking/biking, reducing waste

Figure B.7 Respondents’ textual responses to Q7
8 - Which of the following on-campus sustainability initiatives are you familiar with? (select all that apply)

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Clean Plate</td>
<td>69</td>
</tr>
<tr>
<td>2</td>
<td>RecycleMania</td>
<td>79</td>
</tr>
<tr>
<td>3</td>
<td>Waste Audit</td>
<td>74</td>
</tr>
<tr>
<td>4</td>
<td>WPI Sustainability Plan</td>
<td>113</td>
</tr>
<tr>
<td>5</td>
<td>Envisioning Sustainable Futures Competition</td>
<td>21</td>
</tr>
<tr>
<td>6</td>
<td>Sustainability Graphic Competition</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>E-Waste Drive</td>
<td>129</td>
</tr>
<tr>
<td>8</td>
<td>Green2Go</td>
<td>72</td>
</tr>
<tr>
<td>9</td>
<td>Gompei's Gears Bike Share</td>
<td>150</td>
</tr>
</tbody>
</table>

Figure B.8 Respondents’ knowledge of sustainability initiatives (Q8) (n=193).

9 - Individually, how do you practice or involve yourself in sustainability at WPI? (select all that apply)

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduce energy usage, conserve power.</td>
<td>169</td>
</tr>
<tr>
<td>2</td>
<td>Recycling</td>
<td>197</td>
</tr>
<tr>
<td>3</td>
<td>Water management, use cold water, shorter showers</td>
<td>78</td>
</tr>
<tr>
<td>4</td>
<td>Club activities</td>
<td>38</td>
</tr>
<tr>
<td>5</td>
<td>Social Justice Advocacy</td>
<td>33</td>
</tr>
</tbody>
</table>

Figure B.9 Respondents’ involvement with sustainability (Q9) (n=215).

10 - Select the following reasons that prevent you from participating in sustainability at WPI. (select all that apply)

Figure B.10 Categorized Student Responses to Q10 (n=102).
11 - List any other reasons that prevent you from being involved with sustainability efforts at WPI.

<table>
<thead>
<tr>
<th>Reason</th>
<th>WPI DOESNT COMPOST AND THEY NEED TO</th>
<th>Focus is more driven towards proficiency in grades and school work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having to carry wet, dripping containers from a bathroom sink to where-ever the recycle bin might be located. Can they be placed near the bathrooms in academic buildings?</td>
<td></td>
<td>time constraints</td>
</tr>
<tr>
<td>Lack of concern from WPI community including both administration and students.</td>
<td></td>
<td>Busy with work, competing priorities</td>
</tr>
<tr>
<td>Didn’t know there were so many efforts to push sustainability.</td>
<td></td>
<td>lack of time away from core job responsibilities</td>
</tr>
<tr>
<td>REAL sustainability is much broader and requires a campus energy policy - including transportation</td>
<td></td>
<td>After I spend 14-16 hours a day on teaching and research and administrative chores that our stupid Work all Day nightmare software no longer allows administrative assistants to do, I like to sleep.</td>
</tr>
<tr>
<td>I cannot turn off the network equipment that I maintain, and the A/C it uses, which run all the time.</td>
<td></td>
<td>Busy with work and family</td>
</tr>
<tr>
<td>Rarely at school; inability to participate in group activities</td>
<td></td>
<td>Staff - not really in student groups</td>
</tr>
<tr>
<td>Getting ready to retire</td>
<td></td>
<td>I really think that what prevents me from doing more is not knowing where to start. I believe with this position, I will not only learn more about what WPI has to offer but I will also further my own personal beliefs and aspirations.</td>
</tr>
<tr>
<td>I'm a staff member and my schedule precludes some participation</td>
<td></td>
<td>I live far from campus, so difficult engage more.</td>
</tr>
<tr>
<td>only scheduling prevents me from contributing more</td>
<td></td>
<td>Unaware of the strong need for action</td>
</tr>
<tr>
<td>Not easy enough</td>
<td></td>
<td>Lack of time from work</td>
</tr>
<tr>
<td>Busy with other activities (sports)</td>
<td></td>
<td>My fraternity, where I live, does not practice sustainability so it is hard to implement it due to a convienience factor</td>
</tr>
</tbody>
</table>
It is discouraging to recycle on campus when you hear that the bags that hold the recycling are not even recycleable and that a lot of those bags end up in the trash because items that did not belong in the bag contaminated the entire bag and facilities do not go through and separate. Even signs right above the recycle bin that state what to put in, and what not to put in are constantly ignored, making any effort feel wasted.

Focus is more driven towards proficiency in grades and school work due to time constraints.

### Figure B.12 Respondents’ textual responses to Q11

12 - Are you more likely to participate in an event if you were offered an incentive based on the following incentives?

<table>
<thead>
<tr>
<th>#</th>
<th>Question</th>
<th>Not at all</th>
<th>Not Really</th>
<th>Neutral</th>
<th>Somewhat</th>
<th>Very Much</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gift Card</td>
<td>11.47%</td>
<td>11.47%</td>
<td>14.68%</td>
<td>35.32%</td>
<td>27.06%</td>
<td>218</td>
</tr>
<tr>
<td>2</td>
<td>Tangible Goods</td>
<td>13.89%</td>
<td>14.35%</td>
<td>17.59%</td>
<td>31.48%</td>
<td>22.69%</td>
<td>216</td>
</tr>
<tr>
<td>3</td>
<td>Meal Voucher</td>
<td>17.43%</td>
<td>16.06%</td>
<td>24.31%</td>
<td>26.61%</td>
<td>15.60%</td>
<td>218</td>
</tr>
<tr>
<td>4</td>
<td>Professional Opportunities</td>
<td>14.88%</td>
<td>16.28%</td>
<td>20.47%</td>
<td>29.77%</td>
<td>18.60%</td>
<td>215</td>
</tr>
<tr>
<td>5</td>
<td>Recognition Ceremony</td>
<td>35.19%</td>
<td>22.69%</td>
<td>22.69%</td>
<td>12.04%</td>
<td>7.41%</td>
<td>216</td>
</tr>
</tbody>
</table>

### Figure B.13 Respondents’ likelihood to participate in an initiative with incentives (n=218).

13 - (Optional) List any other incentives (prizes) that might encourage you to participate.

- **MAKING AN IMPACT.** I'm sick of bribery and prizes. People should feel rewarded when they make a meaningful, positive change in the lives of others and our community. I am active in sustainability initiatives because we all rely on this planet and if we don't change, it won't be around soon. *don't need incentives, it is just ingrained in my lifestyle to the extent possible*

- **Unclear on what you'd be asking for.**
  - Ease of participation - sustainable efforts could be more simple/available, especially when it comes to waste/recycling on the campus.
- **for me it is always of matter of time not incentive - there is simply not enough time at wpi**
  - community-wide activities encouraged by leadership
- **Money**
  - free food
- **I'm not sure if I'd be more likely to participate if an incentive were offered because I think it really depends on the event and how hard it would be to be part of it.**
  - add-on costs to compensate for more wasteful behaviors (or discounts for less wasteful behaviors)
- **Incentives don't really have much effect on my sustainability efforts.**
  - Get me some support for teaching, and administrative chores so I have some time
- **I practice “reduce-reuse-recycle” every day and it has a big impact on reduction of waste.**
  - seeing outcomes of actions; perhaps report outs or visualizations that show progress toward sustainability goals
- **School gear**
  - Goatbucks, Dunks
- **tuition**
  - I think my biggest incentive would be the personal development gains.

### Figure B.14 Respondents’ textual responses to Q13
14 - Would you be interested in participating in a competition (dorm buildings against each other, between academic buildings, against people)?

<table>
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<th>Mean</th>
<th>Count</th>
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<td>6.62</td>
<td>215</td>
</tr>
<tr>
<td>2</td>
<td>Water Usage Competition</td>
<td>6.79</td>
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</tr>
<tr>
<td>3</td>
<td>Recycling Competition</td>
<td>6.52</td>
<td>216</td>
</tr>
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Figure B.15 Respondents’ interests in competition-based initiatives (n=216), lower is favorable.

15 - Through which of the following medium would you want to learn more about sustainability on campus? (select all that apply)

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<thead>
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<tbody>
<tr>
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<tr>
<td>3</td>
<td>Flyers</td>
<td>43</td>
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<td>4</td>
<td>New Student Orientation (NSO)</td>
<td>47</td>
</tr>
<tr>
<td>6</td>
<td>Email</td>
<td>62</td>
</tr>
<tr>
<td>5</td>
<td>WPI App</td>
<td>20</td>
</tr>
<tr>
<td>8</td>
<td>Social Media</td>
<td>62</td>
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</tbody>
</table>

Figure B.16 Methods to communicate to Students (n=107).

16 - Through which of the following medium would you want to learn more about sustainability on campus? (select all that apply)

<table>
<thead>
<tr>
<th>#</th>
<th>Answer</th>
<th>Count</th>
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<tbody>
<tr>
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<td>5</td>
<td>WPI App</td>
<td>13</td>
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</table>

Figure B.17 Methods to communicate to Staff and Faculty (n=105).
17 - (Optional) List any other preferred forms of communication to learn about sustainability at WPI.

IN CLASSES, through people, through organizations/business that are adopting sustainable practices, interactive events, displays, protests, rallies, petitions, political clubs, career fairs, TV screens around campus

On the big Board in Foisie, or screens in Daka.

I feel like flyers would be a bad idea because if the paper is not recycled then you would be wasting paper and also it may consume a lot of ink

flyers are not sustainable lol

WPI Today

I think that through classes that are offered here, Professors could team up with this program and advertise them through lectures

Figure B.18 Respondents’ textual responses to Q17
Appendix C.1: WPI Office of Sustainability

Meeting with Dr. Mathisen and Ms. Tomaszewski, Office of Sustainability at Worcester Polytechnic Institute
Date: 5/16/2019 3:00 PM

**Q:** What are some of the challenges associated with current sustainability initiatives?
**A:** The WPI Office of Sustainability collaborates with other university directors regarding sustainability. WPI is an AASHE member. A focus is on how to get more people involved with sustainability. This is a similar concern at other universities. Students are very busy with other commitments such as sport, academics, and clubs.

A barrier: The ability to email students directly. It is difficult for the Office of Sustainability to send emails through SGA and the office cannot send follow up reminder emails. (Funneled through one person in SGA, difficult to reach).

**Q:** The sustainability website states MassRIDES was implemented, is it still active? If it's not, why didn't it work?
**A:** The Office of Sustainability is looking for an alternative, which includes collaboration with DOT. MassRides is an organization that offers programs and events. The MassDOT will be eliminating MassRides on June 1. I can’t address why the state is eliminating it. We have three years of relatively successful events for staff and students.

MassRIDES Initiatives
- Directed to both students and faculty.
- Many factors to consider for the success of this program.
- A lot of students are on-campus anyways.

Information about sustainability at NSO
As for New Student Orientation (NSO), there are 1-2 non-mandatory sustainability sessions held in attendance with the sustainability clubs. The program intends to educate through 1-minute speech/game as well as promote the sustainability clubs for students wishing to become more involved. With these events usually have low turnout, mentioning the attendance for last year being around 20-25 students. Ms. Tomaszewski suggested a possible explanation is that there are other competing events such as Tech Help, Lunch, and the Employment Fair in the 2018 NSO that compete for student’s interest. Many of these events are tightly scheduled, where time prevents the Office of Sustainability from holding longer or more sessions.

Dr. Mathisen’s comments on sustainability at NSO:
The NSO provides a nice opportunity to engage students upon arrival at WPI. We also recognize that there are many activities included in NSO and it is difficult to schedule everything. We would like to include a stronger component on sustainability in student orientation, and there are steps we are taking to consider this. We are also considering other options to promote and encourage sustainability to first year students. When we consider our students’ overall experience at WPI, there are many factors that will affect participation – and while I would like to see more participation, I happen to feel we have a lot of dedicated, highly engaged students.
We hope that our efforts to promote sustainability in the first year will encourage these students and other students to actively participate in sustainability activities.

**Q:** What trend in community engagement are you observing, overall? (increasing, plateauing, or decreasing)?
**A:** We see a generally increasing pattern. New students are already knowledgeable, bringing in fresh and different ideas about sustainability. Specifically, the Office of Sustainability sees an increasing level of awareness and engagement. Student participation alone does not necessarily reflect overall engagement. The Sustainability Literacy Assessment has seen increasing scores in recent years, providing a measurement that shows sustainability engagement is increasing. When tracking engagement, it is not easy. There are many different elements to consider, aside from participation numbers alone.

**Q:** Is the Office of Sustainability working to put out more events or focus on a select few?
**A:** Focus on student education (Office of Sustainability), MassRIDES (some alternative transportation) (discontinuing). The office is considering an Autonomous EV event (NOT at Gateway) to replace the previously held electric vehicle shows. Example of initiatives: Sustainability plan launch, the World Cafe event, the lighting fair, e-waste drive, waste audit, and the most recent sustainability literacy assessment. These are the initiatives that the Office of Sustainability offers.

Dr. Mathisen’s opinion on additional initiatives:
Keep in mind that there are many programs and initiatives that we support. It is helpful to consider the full breadth of activities when considering community engagement. We certainly want to encourage a lot of initiatives and would like to continue to develop initiatives that appear to be successful. We welcome other groups and organizations to develop sustainability-related initiatives, and we strive to support them to the greatest extent possible. Having said this, we also have limitations in time. As such, I can’t say that we will always continue every initiative. We consider the impact and the needs for support when determining this.

**Q:** In determining whether the Office of Sustainability will continue specific initiatives how do you evaluate/compare the initiative’s impact vs. the need for support?
**A:** There are many factors that get considered. For example, for the annual e-waste drive ($1200-1800), funds are tight, but it benefits students and gets people to manage e-waste safely. Regarding food waste initiatives, time is a constraint to facilitate the initiative, but the Green Team is willing to put in the effort. There are many different events where student organizations do the leg work.

**Q:** Are there any sustainability initiatives currently in place that have incorporated the large majority of the WPI community? Were they successful? Are there any in development?
**A:** The EarthFest is a well-received event. This is a celebration of earth day as well as a full month dedicated to sustainability topics. This included a sustainability panel-type of poster session to talk about key areas of sustainability, academic, energy, dining, construction. The Office of Sustainability reaches out to students regularly to discuss event formats. In the case of the panel, the original format was literally a panel discussion. Students input indicated that they did not want to listen to people talk at them for an hour, so we changed the format to a poster
session, where students could ask questions in the areas of their interest. It was much more successful. This seems successful, and the office is continuing to work on tailoring events based on student feedback. With that being said, the Office of Sustainability recognizes that students are busy. https://www.wpi.edu/news/announcements/celebrate-earthfest-us

Q: Can you describe how much time interns dedicate in their role (A minimum hours per week)?
A: 5/hr per week - during academic year, 37/hr per week - summer intern

The internship program with the Office of Sustainability is limited by their budget. Another engagement issue is the lack of students at various sustainability-themed club events – there are so many club activities that in many cases they cannibalize each other. Ms. Tomaszewski.

World Cafe event
Q: Do you recall the demographic of the attendees at the World Cafe? (students, staff/faculty)
A: A good mix, between students, staff, and faculty; good engagement with the community.

Dr. Mathisen’s opinion on more engagement:
I feel that there is good engagement through many of our sustainability groups and through many of the activities going on – certainly our projects program promotes significant amounts of engagement in sustainability. I’m proud of our institution’s efforts.
Would I like to see more engagement? Certainly - there is always a need for more engagement. Based on our interactions with other schools nationally, we know that WPI is not unique in this regard. We consider community engagement routinely as part of our efforts in the Office of Sustainability.

Q: What are your methods to communicate sustainability information to the community?
A: Posters, tablesitting, social media, and emailing to one email alias that captures most sustainability themed clubs.
Our impression is that social media tends to be a better communication approach for students, and email tends to be a better communication approach for Faculty and staff.

Q: What are some issues when communicating?
A: We do not have a convenient means to communicate with the undergraduate student body, other than posting, table sitting, social media, and limited email to a sustainability alias, and liaising through student interns.

The Office of Sustainability noted student organizations have different means to reach them. There is an alias that connects the Office of Sustainability with student organizations. We will also routinely contact students in departments that are closely aligned with sustainability.

A constraint is not being able to directly send emails to students. Therefore, the Office of Sustainability works with student interns and student organizations to help support with communication. They will also coordinate with various departments, faculty, and staff to help communicate about various events and activities.
Dr. Mathisen statement on methods of advertising.
Although we have not completed a formal investigation of advertising methods, we do have a reasonable sense of the various approaches that work best for the various groups (e.g. students, staff, and faculty). We meet regularly with student interns who have very strong connections with the student groups across campus. The connections provide opportunities for the students to communicate directly with their peers. Our discussions with the students also provide opportunities to gather input on what works best. As I’ve indicated before, we certainly feel we can improve and we always welcome suggestions of course.

Ms. Tomaszewski highlighted that students’ voices have the power to enact lasting change (Tomaszewski, 2019).

Q: What other offices/departments do you coordinate sustainability efforts with?
A: The Office of Sustainability regularly communicates with facilities, academics, student activities, procurement, dining, and sports & recreation. They are also working to incorporate Greek life into their regular channels of communication.
We also have a sustainability advisory committee which includes members from a number of offices/departments on campus. This group is very helpful in providing input and coordinating with different groups.

Q: How would you describe the frequency of communication with Residential Services? (Residential Education).
A: The Office of Sustainability regularly discusses waste management, NSO, and the summer newsletter.

Overall, we strive to work as a team and follow a collaborative approach. We seek to work in collaboration with other groups and organizations. In addition to activities we develop, we encourage other groups to develop activities and enjoy collaborating and working with different people. In particular, we do coordinate with student organizations. We try to have meetings once per term with the leaders of sustainability-related student groups if possible (Sustainability Leadership). We also coordinate closely with our student interns, who work directly with student groups. We also meet monthly with schools around the city and encourage students from each college to attend to share ideas, successes, and challenges. There are many instances in which communications by other groups are very successful in encouraging engagement. We can always do more and we are always working to improve, but we do have an overall approach to coordinate and support/encourage other organizations.

Q: What were some of the things the Eco-Reps did particularly well? What were some aspects that did not work as well?
A: We have not been able to find a student to lead the team with the same time commitment as in the past, but next year should show improvement. (Need someone to champion the Eco-Reps).

Q: Do you think that the Sustainability Ambassadors initiative would qualify for the Green Revolving Fund? What other sources of funding exist?
A: Sustainability Ambassadors does not qualify for the fund. The fund generally applies to on-campus projects that make our campus more sustainable and provide a cost savings which can be
returned to the fund for use in additional sustainability projects. SA will be supported by Office of Sustainability.
Meeting with Ms. Tomaszewski, Office of Sustainability at Worcester Polytechnic Institute
Date: 4/02/2019 10:00 AM - 11:00 AM
Topic of Eco-Rep

When GreenerU ended their contract with WPI, Eco-Reps fell under the responsibility of the Office of Sustainability. Along with Ms. Tomaszewski, a student intern also assists with the organization of the program. There was success in 2017-2018 where a student intern who was highly invested in the program. However, she mentions that the success of the program depends on a student intern to lead the Eco-Reps and the amount of time put into the program. In the past, Eco-Reps were hired through emails and promotion in the Residential Services summer newsletter.

A key takeaway is that she believes that peer to peer engagement is a very effective method to get people to change behavior. Ms. Tomaszewski also provided some ideas for peer to peer engagement. A Sustainability Buddy Program, an initiative created by one of our interns, to pair up with a person in a similar manner to Weight Watchers to encourage and support sustainable behavior.

Another idea, Ms. Tomaszewski brought up was Sustainability Ambassadors, a revitalization of Eco-Reps. The topics include how to bring people in on the program, commitment to topics and themes each quarter and rewards system strategies. At the time of the interview there is an intern working on this initiative.

Incentives
Ms. Tomaszewski had a neutral opinion on incentivizing sustainable behavior but was intrigued by the idea of it to increase engagement. Notably, she was receptive to Recognition incentives and proposed Annual Recognition, one for students and staff. Ms. Tomaszewski had opinions of disincentive: to add a fee for single use containers in dining venues.

Interns
There is an intern to help input data for the STARS assessment. A couple interns and with the Green Team to maintain the Gompei’s Gears Bike Share. During the summer months, the summer intern managers the bikeshare maintenance and administration, as well as writes the Sustainability Report. Additional information on interns is in the WPI sustainability website. Ms. Tomaszewski stated that interns are generally hired through email communication to sustainability-themed clubs during the academic year.

Ms. Tomaszewski also mentioned another topic for engagement: How to promote rideshare as opposed to single vehicle alternative transportation. The office is currently evaluating an alternative to Carpoolworld and make the appropriate change when the review is complete.
Email Questionnaire to Ms. Tomaszewski, Office of Sustainability at Worcester Polytechnic Institute

Q: How much did it cost to run the Eco-Rep Program at WPI?
A: This is an activity that is voluntary, so we did not pay any hourly wages to the individual eco-reps. We did have an Intern who coordinated eco-rep activity. It was not her only assigned task, but she did most of her work with the eco-reps. I can safely say that the cost to oversee the program was around $1200. We incurred minor expenses to cover cost of supplies, certainly under $200.

Q: Information about whether $30,000 (Green Revolving Fund) is allotted to projects every year.
A: Since this is the first year of this community fund, I can only say that only one project will receive funds this year in the amount of $10,000. Other projects were not feasible to fund because they did not meet the criteria for the funding, as decided upon by a subcommittee of the Sustainability Advisory Committee.

Q: How much money and resources could be allotted to the Sustainability Ambassadors program (Revamped Eco-Reps)?
A: Likely around 75% of an intern pay, so around $1300.

Q: If Sustainability Ambassadors is treated as a club, what kind of resources could be used to support their events and initiatives?
A: Periodic awards that serve as incentives, funding for programming within their buildings (supplies and food)

For our IQP recommendations, we are looking into new positions at the Office of Sustainability, specifically a Public Relations and Liaison position. (Perhaps geared towards students).

Q: Can you tell us the feasibility of introducing these positions?
A: That sounds very similar to the position one of our interns had last year. She oversaw the eco-reps and coordinated with Chartwells for reusable containers. She also tried to engage the Greek Houses and she managed the Facebook site. (Engagement with marketing). In general, our interns generally work as liaisons between the office of sustainability and the groups they participate in.

Q: Can you tell us the feasibility of introducing these positions?
A: Highly feasible
If you are suggesting intern positions, these activities have been covered by interns in the past. In that sense, the positions are certainly feasible. If you are suggesting the designation of two new salaried positions, this would require consideration of the various needs and requirements for the Office of Sustainability. These considerations are taken on by the director and associate director for the office. Furthermore, they would require administrative approval.

Q: If they were unpaid interns, would there be any issue with hiring additional help?
A: Possible

Q: At Clark, they hire unpaid interns to help the Sustainability Office.
A: Right. But they give credit, and we do not.

Q: For paid interns, is money tight that would prevent the office from hiring additional interns?
A: All departments have fairly strict budgets. We could potentially hire additional interns, but it would likely take away from funds elsewhere.

Q: Have you considered work-study students to assist the office?
A: Yes, but they have never applied for the position!
Appendix C.2: Community Engagement Working Group

Meeting with Anna Gold and Jennifer Daigle, Community Engagement Working Group Co-Chair at Worcester Polytechnic Institute
Date: 3/25/2019 11:00 AM

The goal of this interview was to understand the progress of the Community Engagement Working Group related to the updated Sustainability Plan. The goal of the Community Engagement Working Group was to update an overarching goal for community engagement and develop objectives and tasks that will help achieve that goal over the next 5+ years.

Q: Can you please describe the structure of the working group?
A: The Community Engagement Group was tasked with “updating an overarching goal for community engagement and developing proposed objectives and tasks that will help achieve that goal over the next 5+ years”. From the meeting with the chairs of the Community Engagement Working Group, they were in the process of drafting a set of objectives and associated tasks to support the upcoming revision of WPI’s sustainability plan. The group shared with us their intention to have a completed list of objectives and associated tasks ready for this summer. Many of their objectives focused on three areas of engagement, which included incorporating community members on campus, off campus, and at international project centers in sustainability initiative going forward. The group expressed the need to develop more accurate means to measure “engagement” as they chose to define it. An accurate system of measurement to allow for analysis of the level of success of specific initiatives.

Q: Can you provide information on what the committee has done so far? Did the committee review the current sustainability plan objectives and tasks?
A: At the time of the interview, the group was still unsure on what specific areas of community engagement in sustainability they wanted to address, as they were working on reviewing past sustainability plan goals and objectives.

Q: What are the main areas you want to target in terms of promoting/encouraging student engagement?
A: Jennifer Daigle expressed interests in the previously implemented Eco-Reps program at WPI. Specifically, how the role of Eco-Reps was helpful for students and staff to practice sustainable behavior on campus, additionally, how Eco-Reps provided a leadership role in sustainability efforts on campus, Anna Gold mentioned that it would be helpful to create a framework that incorporated sustainability into all aspects of campus life. The goal of the framework would be to develop a culture of sustainability, starting at the student level that will lead to lasting change.

Q: Are there any initiatives you have in mind that you would like to introduce to WPI? In your opinion, what motivates and engages students at WPI successfully?
A: The group mentioned that one of the main issues of improving community engagement was the ineffective communication between the student body and the Sustainability staff. A point brought up by Anna Gold and Jennifer Daigle was that there did not seem to be an efficient and direct way of communicating to students about sustainability events, campaigns and other initiatives on campus. They suggested that this may result in a lack of awareness from students, and consequently lower engagement within the community as they cannot participate in
sustainability initiatives that they have little or no knowledge of (e.g., Green2Go). Additionally, they mentioned that there was a disconnect with the community and sustainability initiatives. The working group identified some examples of incentives that they believed would motivate students and faculty to engage more in sustainable behavior and initiatives. Concerning tangible incentives, the group thought that food and gear were most appealing. As for intangible incentives, they mentioned recognition from professors and staff as well as networking opportunities.

Q: Where are our efforts most beneficial to your group?
A: They expressed an interest in reducing the barriers of the process of finding information regarding sustainability on campus, and they mentioned improving the search engine on the Gordon Library website so students can see current and past projects related to sustainability. They have emphasized the need for power to implement significant changes within this field.
Appendix C.3: WPI Residential Services and Academic Advising

Email Questionnaire with Matthew Foster, Assistant Director of Residential Education at Worcester Polytechnic Institute

Q: Describe your role as in Residential Services, specifically as it relates to residential education?
A: I am the Assistant Director of Residential Education – I oversee the entirety of the residential education components of the residence halls. Supervising the Community Directors and indirectly supervise the RA staff. I am responsible for the development of the residential education curriculum and community development program.

Q: How (if at all) is sustainability currently incorporated into residential education?
A: Our department works to promote recycling through advertisement and information provided for students in the halls. When the residence halls close for the winter break we check all spaces and turn down thermostats to decrease heat (not entirely to prevent frozen pipes), close windows, close shades/blinds, make sure all lights are turned off, make sure everything in the space is unplugged.

Q: Who is your main point of contact, Office of Sustainability, Sustainability student organizations, or Combination of both?
A: Office of Sustainability

Q: Do Residential Services (specifically RA) have programs that promote sustainability, (environmental or social justice)?
A: The staff do not do programs in the halls to promote sustainability. The department has a workshop series on social justice that is a 5-week series.

Q: In your opinion what are some effective ways to communicate with residential students?
A: Hold events on campus that will engage the students. Pop-up events that are held in random locations – tabling events, etc. Posters with minimal information that are eye-catching.

Q: Is there communication between the Residential Services and the Office of Sustainability?
A: Yes there is communication between the offices.

Q: Do you meet with them regularly to discuss sustainability initiatives?
A: Things are discussed when need be – I would say not regularly.

Q: Can you give a brief run-through of the topics covered in RA education?
A: There are not specific topics covered by the staff – their community development should fall within the following objective areas – Diversity, Advocacy, Responsibility, and Engagement.

Q: How is the floor meeting “curriculum” specifically for freshmen residence halls?
A: Staff only hold a beginning of the year (during NSO) floor meeting to discuss important department specific topics.
Q: If the Office of Sustainability wants to introduce a program for the RA to teach residential students, how would they go about doing it?
A: Programs for the staff are changing for next year. RAs will not hold educational programs in their buildings – but instead will be encouraging students to attend campus programs. Advertisement of these would go to our department and we would coordinate with the RA staff.

Q: Do you have any knowledge about the Eco-Reps program?
A: I have limited knowledge about this program. I know it has been tried many times in the residence halls.

Q: Did you think it was successful?
A: I do not believe it was successful as specific students were targeted.

Q: If not, what was wrong/why did it fail?
A: Specific students were targeted such as RA staff and RHC members – I believe recruitment of all residential students through Activities Fair would be beneficial.

Q: Can you direct us a person of interests that oversees Community Advisor training?
A: I would suggest reaching out to Christine Kobza and Jessie Karner.
Q: Can you describe your role in organizing the Insight program for the first-year students?
A: I oversee the Insight Program at WPI. In this capacity I work in conjunction with Student Activities to hire and train Senior Community Advisors (SCAs) and Community Advisors (CAs). Additionally, I recruit and train Insight Advisors (IAs). IAs are faculty and staff from around campus. I also work with Residential Services to train RAs. These three groups work together in Insight Teams to help first year students transition to campus.

Q: What are the goals and objectives of the Insight Program?
A: The Insight Program’s goal is to help students transition personally, academically, and socially to campus.

Q: Is there communication or coordination between you and the Office of Sustainability to incorporate sustainability within the Insight Program?
A: I share a list of resources and offices with all of the IAs and CAs and this includes the Office of Sustainability. I also know that Residential Services shares information about Sustainability with all of the RAs throughout training.

Q: How (if at all) are sustainability topics incorporated into Insight Program? Do peer community advisors hold or promote sustainability programs?
A: Some do, there are no required programs, but we have had numerous programs centered around sustainability in the past two years.

Q: At Clark University, their Peer Advisors and Resident Assistants receive 1-hour training on aspects of campus sustainability; the PA’s and RA’s shepherd all new undergraduate students for several weeks, so they pass the information along and include it in their programmed activities.
● Is there a workshop for community advisors to learn about aspects of campus sustainability and pass this information to first-year students?
A: At this point there has not been a workshop for CAs to learn more about sustainability on campus but there is written information available.

Q: On the same topic, suppose if the Office of Sustainability wants to introduce sustainability training/workshop for the community advisors to teach their students, how would the office go about adding it to the Insight program.
A: This question is a bit challenging as training is split between two offices. Student Activities runs the summer training and there is an extensive program. I run the fall training for CAs, but they only have one training per term. Additionally, they could work with the SCAs to present information at weekly staff meetings.
Q: In your opinion what are some effective ways to communicate with first-year students about sustainability?
A: We give our first-year students A LOT of information in their first term. I would recommend doing passive programming, that they can see in a variety of ways. Bulletin boards, fliers, digital engagements, etc. I also think if there is a specific initiative (ie. Recycling) that you would like to work on you could connect with Insight Teams about programming.
Appendix C.4: WPI Green Team

Email Questionnaire with Green Team Executives at Worcester Polytechnic Institute

The goal of this questionnaire is to determine the role of the Green Team concerning the Office of Sustainability, to assess the Project Clean Plate and the incentive aspect of it, to discover potential limitation in facilitating additional sustainability initiatives.

Q: Describe how the Green Team interacts with the Office of Sustainability.
A: Our advisor is the Associate Director of Sustainability, so we interact with the office through her. We sometimes help them with the promotion of their events, and they help to promote and schedule some of our events.

Q: How do you interact with other sustainability-based clubs?
A: We don't have much interaction with other sustainability clubs, but we have participated in food events with VegClub in the past.

Q: In what ways does your club encourage sustainable behavior?
A: We actively promote recycling and biking through events and the bike share program. We also discuss sustainable options at our meetings (not all the time), and most of our activities focus on making WPI more sustainable.

Q: What is preventing the team from efficiently achieving the club’s goals?
A: Participation is one issue, as we have a lack of volunteers and also a lack of people engaging with us in general. Also, our efforts on recycling and food waste reduction have not shown statistically significant impacts. Surveys that we conducted show that the issue may be that people either still don't know how to recycle or just don't care properly.

Q: Can you describe the Project Clean Plate held in A term?
A: We tablesat in the POD and recorded the number of people who had clean plates vs. food waste. We then weighed the food waste (if we had a member there at 8 PM).

Q: How incentives may play a role in the Project Clean Plate program?
A: In the past, we gave out raffle tickets for people who had clean plates but found that food waste was not decreasing. Therefore, we stopped doing this because it was a lot of work for our club to keep track of and we didn't have enough Green Team participation to keep it going. Food waste was increasing despite our efforts, so we scrapped Project Clean Plate and are looking for another initiative to replace it.

Q: What is preventing your club from running Project Clean Plate all year long?
   ● Time and labor considerations?
A: We are unable to run Project Clean Plate all year long because of the lack of volunteers to run the event. We have also noticed that the event does not have any impact on the amount of food waste produced. Project Clean Plate takes about 3 hours per week, and we could only get volunteers for 1 to 2 hours maximum. This meant that we were unable to get the food waste weights (which was to be done at the end of the 3rd hour). On top of the lack of volunteers, the lack of an impact makes it not worthwhile to run all year long.

Q: What are your thoughts on competition-based sustainability programs?
A: I think competition-based programs are great. They may be hard to run. We have looked into a recycling competition in dorms, but it was just going to be too much effort for our members to be there at 6/7 AM every morning to weigh the trash before facilities took it away.

Q: Does the club have the time and labor to facilitate competition programs?
● What are your thoughts on facilitating a water usage competition?
A: Most likely not, but it completely depends on the scale of the competition, and how involved a club would need to be. As for the water competition, the issue is a bit tricky (same reason as the trash), and WPI has limited means to measure water by building so that may make it difficult. If you are going by the overall number, then that may be more feasible, but it would take a significant amount of effort.

Q: What are your thoughts on adding incentives to the existing sustainable programs?
A: Incentives can work if done right, but it is tricky to figure out what the "carrots" should be and if they are enough to get people to act sustainably. It’s also important to us that incentives are sustainable, so we don’t like to give away useless prizes that aren’t sustainable.

Q: Specifically, with the waste audit or RecycleMania
A: I can't think of any incentives for the waste audit. We get a fair amount of participation if the weather is nice. As for RecycleMania, the Green Team will be reducing or eliminating their participation in it due to lack of interest by the WPI community and lack of results by our events and activities. (also, because the recycling rate reported is way off - much worse in reality - because of the way it is calculated as recycling bin weight / total weight, which is a bad indicator as the waste audit has shown by what ends up in the recycling bins).

Q: What are some successful mediums to reach students with information?
● Emails, posters, table sitting?
A: Emails and social media seems to be the most effective, especially when assisted by a bigger club such as SocComm. We have not had much success with table-sitting unless we have food to give out.

Q: Can you describe the PR process in promoting events?
A: To PR our events we post on Instagram stories and email to the sustainability groups on campus alias. Occasionally we will put up fliers, but in the past, our event attendance is not affected much by PR, the main factor of participation is the location of the event.
Appendix C.5: Professor Stoddard, Assistant Teaching Professor, WPI

Interview with Professor Stoddard
Date: 4/10/2019 2:00 PM

The goal of this meeting was to learn about Professor Stoddard’s opinion on WPI’s Eco-Reps program. Specifically, what her role was, the issues regarding the program, how the system was structured, and potential improvements to the program.

**Q:** Can you elaborate on the Eco-Rep program and your experience?

**A:** I felt that the eco-reps should be representatives for departments, instead of representatives for buildings. I can have more influence over my department than over my building. If, as a department eco-rep, I could do an audit of our kitchen and practices, with the goal (for example) of getting rid of single use plastics, then I could achieve that in my department. I said someone would have to create that material for reps to be able to know what they should do in their department, and then have some sort of oversight mechanism. However, I know that Liz is already overtaxed with all that she does for the sustainability office, as an ombudsman, and in facilities, so there would need to be a supportive structure.
Appendix D.1: Oberlin College

Phone Interview with Bridget Flynn, Sustainability Manager at Oberlin College

Date: 3/26/2019 10:00 AM

The goal of this phone interview was to learn about the organizational structure of the Office of Environmental Sustainability (OES) at Oberlin College, Ecolympics, Oberlin Student Cooperative Association (OSCA), her thoughts on incentivizing sustainability behavior and how the OES communicated to the community about sustainability initiatives and information.

Q: Describe your role as Sustainability Manager?
A: Bridget Flynn has been the sustainability manager at Oberlin College for around seven years. She is currently involved with sustainability administratively and academically as she oversees student interns/projects to help build sustainable habits. The Office of Environmental Sustainability was formed after Oberlin College’s 2006 President Climate Commitment, to reach Carbon Neutrality by 2025. [https://www.oberlin.edu/environmental-sustainability/about/student-interns](https://www.oberlin.edu/environmental-sustainability/about/student-interns)

Q: Could you explain how Ecolympics works, and what kind of activities and events have the most participation?
   ● What are the implications of Ecolympics, does it improve any specific area of sustainability on campus?
A: Ms. Flynn explained that Ecolympics is a 2-3 week water and electricity usage competition and community event series. Oberlin College used its existing energy dashboards and water meters to measure electricity and water consumption per residence hall. The Ecolympics include a series of community events (around 30). Although many of these events focused on environmental sustainability, there are discussion on other issues like social justice. Some of the previous events included educational talks, band concerts, veganism talks, movie screenings, crafts with reusable materials, etc.

   Ms. Flynn stated that although there were plenty of incentives for participation in events and competition, she believed that students were mainly motivated to participate in competitions due to their willingness to win the competition. The office has found that students were more likely to join if their peers were also participating. They have seen this correlation with first-year residence halls, as these students “spend more time together and are more eager to participate in group activities.” The office has noted that the most significant participation and commitment to electricity and water usage competition came from first-year residence halls and co-ops.

   However, despite the considerable involvement in Ecolympics, Ms. Flynn mentioned that the competition can be overwhelming for organizers, so the office has considered scaling down the number of events to focus on the quality of the events.

   Another concern she highlighted was that the competition aspect of Ecolympics had not been that successful in the past few years, so the office recently shifted focus to individuals and gave prizes to those that took the pledge to reduce their water and electricity usage through programs like the Green Room Program. [https://sites.google.com/a/oberlin.edu/green-room/certify-now](https://sites.google.com/a/oberlin.edu/green-room/certify-now)
Q: How did Oberlin create the Bike Workshop, and how is it run?
A: The Bike Co-op and Oberlin Student Cooperative Association are two student-run organizations that have had significant success in promoting sustainable habits in students. Ms. Flynn mentioned the Bike Co-op situated within the campus where students can fix or rent a bike throughout the semester. Although there were not enough bikes from the workshop to support a bike share program, she remarked that the Office of Environmental Sustainability was looking into implementing a bike share program in conjunction with the co-op.

Q: For Oberlin Student Cooperative Association (OSCA): [http://osca.wilder.oberlin.edu/faq](http://osca.wilder.oberlin.edu/faq)
   ● How did you implement that program?
   ● What is the participation rate?
   ● Are there any issues to buying locally?
   ● What methods do you use to motivate students to volunteer on the farm?
A: In addition, she mentioned the Oberlin Student Cooperative Association (OSCA), the largest student-run organization on campus which provided 600 students, or 25% of the student body, with at-cost housing and dining services. The organization is entirely student-owned and student-operated, where each member contributes a set number of hours based on their interested co-op. Students can participate in eight different types of co-op. The few goals that OSCA achieved was the promotion and development of cooperative living as well as provide the opportunity for social and cultural enrichment. Also, many of the OSCA’s projects encompassed the many aspects of sustainability. This included food waste, recycling, environmental issues, accessibility, loan, and grants.

Q: What is the best way to promote sustainability initiatives, and educate students on sustainability?
A: On the issue of incentivizing sustainability behavior to promote sustainability initiatives, Ms. Flynn had mixed thoughts on the concept and stated that the office was “not really well interested in incentives.” Furthermore, she suggested using incentives sparingly, in the case of Ecolympics to draw attention to the program. Getting people to care or adopt habits without incentives is the most sustainable way for change, but incentives to spur this are great! As for the potential mediums to reach out to the community, the office promoted sustainability efforts through events, posters, Oberlin Newsletter, student organizations, calendars and social media such as Facebook, Twitter, and Instagram.

Another critical aspect of promoting sustainability on campus was through infusing sustainability into classes, internships, buildings, gardens. Such that the act of sustainability does not require additional effort from the participant. In other words, she emphasized to identify potential barriers and areas for improvement.

Q: How do you measure the success of a program?
A: The Office of Sustainability does not have a set of criteria to measure student engagement, so they mainly measure the success of an event or initiative based on the general response from students. This included whether the initiatives that generate “buzz” and behavioral change.
Appendix D.2: Worcester State University

Meeting with Steven Bandarra, Sustainability Coordinator at Worcester State University
Date: 3/27/2019 10:00 AM
The goal of this interview was to understand the organizational structure of the Office of Sustainability at WSU, sustainability leadership initiatives, programs and methods to reach the community.

Q: Describe your role as Sustainability Coordinator?
A: The role of the sustainability coordinator at WSU is to promote sustainability within the WSU community. This includes developing and coordinating campus-wide sustainability programs. Mr. Bandarra also has the responsibility of teaching and engaging the community through workshops and conferences. He is the first appointed Sustainability Coordinator at WSU, starting in 2012.

Q: Describe the organizational structure of the sustainability office at Worcester State. How many people work under you? (full time, part time, student interns?)
A: WSU’s Office of Sustainability is a part of WSU’s Facilities department. The Office of Sustainability has a full-time employee, the Sustainability Coordinator himself, a part-time employee, and currently employs one graduate and two undergraduate students in the office. Mr. Bandarra mentioned that at one point in the past, the office employed as much as six students. Many of the sustainability initiatives were done in collaboration with faculty and staff.

Q: Is there a sustainability leadership program at WSU?
A: Mr. Bandarra mentioned that there are student organizations that focus on certain aspects of sustainability. This included a social justice advocacy club, divestment club, and a fair-trade club. He also mentioned that there was no student-lead leadership program focused on sustainability.

Q: What are some sustainable programs that engage the entire community?
A: One large scale event is the Sustainability + Food Fair. This event happens during the autumn on a weekday for two days, and typically sees a turnout of approximately 1500 people. At these events, there are exhibitors, teach-ins, local food bbq, and a farmer’s market. In addition to the food drive, electric vehicle showcase, and film screenings.
Mr. Bandarra also engaged outside the WSU campus through community outreach by inviting the local community to partake in this fair. Furthermore, he asked the WSU community to participate in Neighborhood Cleanup initiatives.
Mr. Bandarra mentioned possible incentives associated with these programs include the opportunity for extra credit from professors to encourage attendance and a reusable water bottle for orientation. In the case with reusable water bottles, incentives required a fair amount of investment.

Q: What do these programs attempt to achieve? Are they successful?
A: These events, inclusive of the Sustainability + Food Fair attempted to educate and promote awareness in issues of sustainability. For this reason, Mr. Bandarra underlined a crucial aspect to
educate and promote sustainability successfully and to involve many departments across different disciplines.

Q: Who are the key actors that help facilitate these events on campus?
A: As mentioned in the organization structure, the important actors in facilitating sustainability on the WSU campus were staff, faculty, and facilities. Most initiatives were organized under WSU’s Office of Sustainability.

Q: Through what channels are new and pre-existing events publicized? What are the best ways to communicate with the community?
A: Mr. Bandarra identified that social media is one of the methods to reach out to students. Although he mentioned there are 100+ followers on WSU’s sustainability account, Mr. Bandarra also reaches out to the main WSU social media account to help retweet and repost to reach a broader audience. There is a WSU sustainability logo, branded merch with social handles, to advertise sustainability at WSU further. Email is another preferred method of communication to reach out to the community. However, Mr. Bandarra cautioned that information overload may desensitize the message.

Q: What do you believe are the main issues that prevent engagement at WSU?
A: Some of the issues that Mr. Bandarra observed that prevent engagement at WSU was other commitments including work and classes. Consequently, Mr. Bandarra typically attempted to schedule events earlier in the day between 1 PM and 4 PM when the most substantial foot traffic on campus occurs.

Extra Notes:
Mr. Bandarra believes that education and incentives are vital to “get the ball rolling,” to maintain students’ interests whether it be through pizza, giveaways, or swag. The goal is to initially hook people and keep interests to learn about sustainability in hopes that it inspires others to follow suit. With the overall focus to educate people to change behavior.
Appendix D.3: Clark University

Email Questionnaire with Jenny Isler, Director of Sustainability at Clark University

Q: What is your role as Director of Sustainability?
A: To facilitate progress toward a more sustainable campus.

Q: Can you describe the organizational structure of Clark’s Sustainability Department?
A: I am the Director. There is a 5 hour per week Graduate Assistant. There are unpaid interns working on specific projects.

Q: What have been the main accomplishments and initiatives that the Clark University Environmental Sustainability Task Force has achieved since 2007?
A: The Task Force was ended in 2013. In 2007 they published a sustainability report. In 2009 they published the Climate Action Plan. In 2013 they supported the Real Food Challenge. They were never empowered to do initiatives or accomplishments, but to report on and monitor the CAP.

Q: Does the Environmental action council (EAC) introduce new initiatives, or do they mainly work towards maintaining sustainability programs on campus?
● Does the Office of Sustainable Clark work with other student sustainability clubs at Clark University?
A: The EAC is a student club. Their focus is action. They work to change the system from within by changing the culture, for example by surveying for food insecurity; adding sustainable product stickers to items in the Bookstore; writing Clark’s Zero Waste Event Guidelines and making catering switch to pitchers of water instead of plastic single serve bottles.

Q: Do you (Office of Sustainable Clark) work with other student sustainability clubs at Clark University?
A: Yes.

Q: In what ways do you interact with these clubs?
A: I am their Faculty Advisor. I attend their meetings. I provide guidance and direction. I act as liaison to upper admin.

Q: How successful is the Eco-Rep program at Clark University?
A: We do not have Eco Reps anymore. At their height there were over 50 members. They did their job too well, and we came to the realization that Clark students arrive at Clark knowing pretty much what the Eco Reps could teach them, so it was becoming a waste of time to hold hall meetings. The EAC resulted, so that a smaller group of dedicated students could achieve more by changing systems and introducing ‘sustainability by design’; i.e. put the pieces in place that allow Clarkies to make their own informed choices, not tell them what to do.

Q: What are effective means to communicate to the campus community about sustainability programs?
Q: What are some sustainability initiatives that engage the community as a whole?
A: A sustainability initiative is the Clark Community Thrift Store. The store is a student-founded, student-run, not-for-profit business. The purpose of the initiative is to help cut down on over-consumption and waste and provide inexpensive college essentials, housewares, furniture, and gently used clothing to the Clark community and the surrounding area. With the mission to provide affordable, thrift clothing, and other items within the communities. While, the sustainability aspect looks into providing an environment that encourages fun, learning and community connection.

Q: How successful are they in engaging the community?
A: Depends on what you mean by successful. It is never about “butts in seats”, or how many shows up. It is about impact on changing behavior.

Q: Are there best practices to promote engagement within the Clark community?
A: Engage people where they are. Ask what their concern or need is. Start very, very small and expand as the interest or initiative gains ground. Find champions who can do the legwork for you by bringing in others.

Q: What are your thoughts on promoting initiatives by introducing incentives to participate?
A: People should not be incentivized to do the right thing. They should be informed of the options and trusted for their intelligence and allowed to make informed choices.

Q: Could you describe the compost and recycling program, and how it has been implemented?
A: We compost in all eating areas, and residence halls. Food waste is picked up by custodians and taken to a compost compactor. The compost compactor is emptied twice a month by our hauling provider who takes it to WeCare Organics in Fitchburg. We recycle in all buildings. Recycling is source-separated into co-mingle, paper, and cardboard. Custodians consolidate all building recycling in a single area daily. The Recycling Crew picks it up weekly or twice a week from all buildings. They take it to the Recycling Center and sort out contamination (i.e. used coffee cups, paper in the co-mingle, books). Each commodity is placed in its own compactor or container. Our hauling provider takes it to the paper purchaser, the cardboard purchaser and the MRF in Auburn. We have separate recycling programs for e-waste, u-waste, mattresses, books and many other categories.

Q: Is the community knowledgeable on what is recyclable?
A: Yes.
Ms. Isler Phone Interview 04/11/2019

Q: Could you describe some of the responsibilities of the Eco-Reps? Who do they report to and what is their organizational structure?
A: She described that the Eco-Reps were a student club and featured a faculty advisor (Jenny Isler). Similarly, she elaborated that the Eco-Reps met once a week, and biweekly with the executive board of the club and Jenny herself. Their responsibilities included educating residents, decorating billboards, creating monthly sustainability initiatives, performing room audits of their residents, and working with other offices and departments on campus. They held each other accountable and strived for excellence since the title of Eco-Rep was very sought after within the Clark community. The club featured various committees that were responsible for different aspects of educating and promoting sustainability. For example, there was an events committee within the Eco-Reps club that worked solely on organizing and facilitating events both campus-wide and on residence halls.

Q: Would you say that peer-to-peer education was successful among the Eco-Reps?
A: “Absolutely”. Jenny described that peer to peer education and engagement was the best method to promote and educate people regarding sustainability. Avoiding “elitist” behavior and attitudes and distributing knowledge on a public scale allowed people to hold their peers accountable. In addition, Jenny also brought in an outside professional to train the Eco-Reps to do their jobs as leaders more effectively.

Q: What is the time commitment involved?
A: Every week, with a committee. 10 hours a week

Q: Who runs/oversees the program?
A: The entire Eco-Rep program. Committee chair, collaborative brings up information together. Executive board provides guidance, faculty advisor → Clark admin, facilities, and students.

Q: Do you think the program has been successful?
A: From 2007 till 2015~2016. There were around 10 Eco-reps in residence halls. Later on, Eco-reps moved out of residential halls, as EAC was formed→ less education change within systemic administration.

Q: How do you evaluate Eco-Rep performance?
A:
- Peer to peer check on other Eco-Reps.
- Seeked outside trainers to evaluate performance.

Q: What are the best practices to maintain Eco-Reps?
A:

Past best practices:

- 1 - 2 Eco-reps per floor induce behavior change.
- Collaboration with residential structure, not working in a vacuum.
- Target first-year students as they are impressionable people
- Indoctrination to move beyond first-year and engage all breadth of students.
- Inform the community of their choices.

Best practices to implement:

- Recruiting into various clubs and organizations
- Get administration onboard.
- IT - 2-sided printing,
- Eco tiers - Eco-reps in training
- “Work yourself out of business”- Jenny Isler
Appendix D.4: Bentley University

Sophie Rodgers Student Sustainability Leader

Q: Describe your role as the Office of Sustainability’s assistant?
A: I am a student worker who is a part of the Office of Sustainability’s student leadership program. This is a program that involves five student workers during the academic year. As the assistant, I report to the Executive Director and Assistant Director, and undertake/help with any projects that need to be completed for the office. Examples of these projects include REC arbitrage and a dining hall upgrade. The REC arbitrage was researching, contacting, and forming a contract with a company to sell the SRECs our solar array produces and procure Wind RECs in their place. The dining hall upgrade is a project looking at the amount of waste created and single use plastic usage. The goal is to implement a new process in how food is served in order to reduce the plastic use and divert waste from the landfill. Other projects have been analyzing data to give a high-level summary and recommendation for decision making and creating Executive Summary.

Q: Describe the organizational structure of the Sustainability Office at Bentley University?
A: There are two full time faculty members that run the office. We have an Executive Director, Amanda King, and Assistant Director, Natalie Hayes. During the academic year, five student interns join the office, and this is the student leadership program. The roles of the interns are Office of Sustainability Assistant, PR Manager, PR Assistant, and two Volunteer Coordinators. During the summer an internship is also provided for the position of the Office of Sustainability Assistant.

Q: How does the sustainability office interact with student organizations to promote sustainability on campus?
A: The Office of Sustainability will co-sponsor events with organizations in order to promote sustainability on campus. We also work closely with professors and will be invited for guest lectures. Some projects imbedded into classes directly work with our office.

Q: What are some sustainability programs that engage the entire community?
A: We have two main events that engage the entire community on campus – both students and faculty/staff. One is Alternative Transportation Week, which is held in September and the other is Waste Awareness Week, which is held in the spring semester. These are both week long programs that have different deliverables each day in order to engage everyone on campus.

- **Is there a link that can direct us to the list of programs?**
  - The university is in the middle of updating the website, but below I have linked you to our Instagram, where the daily deliverables for the two programs from this year are:
    - Alternative Transportation Week
    - Waste Awareness Week

Q: What do these programs attempt to achieve?
A: Most of the programs attempt to achieve awareness around campus, that hopefully lead into behavioral change.
Q: Are they successful?
A: We have found that our Alternative Transportation Week was more successful this year. This may be due to everyone just beginning a fresh new school year and have not yet gotten the stress of classes.

Q: Bentley has a 60% diversion rate in Recycling and Waste and 70% reduction rate in Carbon Footprint by 2020, have you implemented programs or initiatives for students to help achieve this goal, or this is mainly done by faculty and staff?
A: In regard to the recycling and waste, there is definitely student involvement as they are part of the solution. As mentioned earlier, we devote an entire week towards building awareness on waste. This is to get students to better understand how to correctly recycle and to think about the waste they produce. In regard to reducing our carbon footprint, our alternative transportation week aims to promote alternative ways to get to campus than single ridership. This program helps build awareness on our scope 3 emissions, which is part of reducing our carbon footprint.

Q: Does the office use the energy meters (dashboards) for any initiatives or competitions on energy usage?
A: No, at the moment we do not.

Q: What are your thoughts on adding incentives to the existing sustainable programs?
A: It would depend on the incentives, since we to gage not only awareness, but behavior change if possible. Incentives may increase awareness, but not long-term thinking.

Q: Do you think that implementing a competition or introducing incentives will increase community engagement?
A: There is a student organization called Students for Sustainable Business that has tried to implement an energy use competition called the Blackout Challenge over the past year. However, this challenge has always been hard to get student involvement. I think with the correct competition, given the climate of the campus, could increase community engagement.

Q: What do you believe are the main issues/barriers that prevent engagement at Bentley?
A: Being mainly a business school, I think the main issue that prevents engagement at Bentley is the disconnect between students and how sustainability connects with business. There seems to be a lack of knowledge with why business leaders need to be thinking about sustainability and that it can actually improve your bottom line. There can be a thought that implementing sustainable practices will increase your costs, when really it can provide high return on investments. Finally, there still seems to be a lingering stigma that sustainability means that you are a “tree hugger.”

Q: What are some successful mediums to reach students with sustainability information?
A: The Office of Sustainability has many social media pages. We have Facebook, Instagram, LinkedIn, and Twitter. For students specifically, Instagram has the highest success in reaching students.
Q: How do you garner large social media presence regarding sustainability?
- Segment markets based on social media outlet. Our Instagram is mainly targeted for students, so will include all events that we are hosting.
- Facebook → Alumni/older audience
- Instagram → Students
- LinkedIn → Focuses specifically on our goals and mission
- Twitter → engagement with everyone

Q: Can you describe the marketing/PR process in promoting sustainability events?
A: When marketing and promoting our sustainability events, we use both social media and email. Since Instagram is where we get the most student engagement, this is where we will heavily promote events. Our PR team will make infographics and flyers that pertain to the event. Depending on how big of a turnout we are looking for, there may be more than just one post. For example, when we were sponsoring a hockey game, we had a countdown each day to it. We also post Instagram stories and highlights. Finally, we will send email blasts at strategic times with the event information to the entire campus.

Q: Is there a dedicated PR person to responsible for publicizing sustainability events at Bentley University?
A: We have two PR interns during the academic year and one that maintains the social media outlets over the summer.
### Appendix E: Sustainability Project Competition Questionnaire

<table>
<thead>
<tr>
<th>Participant</th>
<th>How they got involved</th>
<th>Reason to participate</th>
<th>Research purpose</th>
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</thead>
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<tr>
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<td>Email (5), Professor (2)</td>
<td>Share Knowledge(4), Incentive(3), Presentation Skills(1), Networking(1)</td>
<td>GPS (3), IQP(2), MQP(1), Research(1)</td>
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<tr>
<td>Graduate</td>
<td>Email (2), Professor (1)</td>
<td>Share Knowledge(2), Presentation Skills(1)</td>
<td>Research(3)</td>
</tr>
</tbody>
</table>
Appendix F: Job Descriptions

F.1 Public Relations Job Description

Job Overview
The primary role of the Office of Sustainability public relations is to communicate between the Office of Sustainability and its constituents: students, faculty, and staff. The focus will include reporting to the Office of Sustainability administration, linking the office to key WPI actors to facilitate sustainability initiatives, and bringing transparency regarding sustainability affairs at WPI. The overall goal is to focus on inspiring and retaining sustainability engagement.

Responsibilities and Duties
- Actively engage with faculty, students, and staff about sustainability efforts.
- Promote initiatives organized by the Office of Sustainability through different channels (press, social media, email).
  - This includes creating fliers and generating media attention for events, content creation.
  - Monitor and maintain sustainability social media accounts and content creation.
- Develop press releases for community outreach.
- Assists with sustainability student organizations to promote their respective initiatives.

Qualifications
- Should possess problem-solving, organizational, interpersonal, speaking and writing skills.
- Exhibit a strong interest in sustainability.
- Exhibit a familiarity with social media platforms such as Facebook, Instagram and Twitter and email (proficiency)
- Must be detail-oriented and result-oriented.

List of Possible Contacts
Residential Services: [https://www.wpi.edu/offices/residential-services-office](https://www.wpi.edu/offices/residential-services-office)
- Personnel in charge with Residential Education Insight Program:
  - Student Activities runs the summer training and there is an extensive program.
  - Contact Insight coordinator about CAs training.
  - Contact the Senior Community Advisors and present information at weekly staff meetings.
Media and Communications: [https://www.wpi.edu/offices/marketing-communications/resources-guidelines](https://www.wpi.edu/offices/marketing-communications/resources-guidelines)
- Implements suggested actions to promote events at campus
F.2 Sustainability Ambassador Job Description

The student Sustainability Ambassadors will report to the Sustainability Ambassador executive board.

**Job Overview**
The ambassadors will collaborate with fellow ambassadors and the Office of Sustainability to educate residents and encourage sustainable practices. They will attend weekly meetings, plan quarterly and annual sustainability-oriented events, organize education sessions, and provide sustainability education to students.

**Responsibilities and Duties**
- Foster a culture of sustainable practices in the assigned community.
- Educate peers on the importance of sustainable living.
- Attend weekly meetings with other Sustainability Ambassadors (students and faculty).
- Coordinate quarterly sustainability-themed initiatives for their assigned floors, as well as an annual campus-wide sustainability-oriented event.
- Foster communication within the WPI organizational structure as it relates to sustainability.

**Qualifications**
- Live on-campus and be a full-time student at WPI.
- Strong communication, presentation and interpersonal skills.
- Strong interest in sustainability and prior knowledge/practice of sustainable behavior is a plus.
### F.3 Sustainability Ambassador Evaluation Rubric

<table>
<thead>
<tr>
<th>Expectations</th>
<th>Fails to meet expectations</th>
<th>Meets expectations</th>
<th>Exceeds expectations</th>
</tr>
</thead>
</table>
| **Time on Task**   | Misses more than 2 SA meetings or is frequently late                                         | Misses 1-2 meetings per semester                                                   | All “Meets expectations” criteria and:  
Attends all weekly meetings  
Volunteers more than 4 hours per semester  
Participates in non-mandatory sustainability events |
|                    | Volunteers less than 4 hours per semester for campus wide events                             | Volunteers at least 4 hours per semester                                            |                                                                                       |
|                    | Spends less than 2-3 hours per week planning and preparing for events                        | Spends adequate time outside of meetings planning and preparing for events          |                                                                                       |
|                    |                                                                                             | **All “Meets expectations” criteria and:**  
Attends all weekly meetings  
Volunteers more than 4 hours per semester  
Participates in non-mandatory sustainability events |
| **Activity**       | Plans less than 2 events per semester                                                       | Plans and executes at least 2 events per semester                                   | All “Meets expectations” criteria and:  
Shows creativity in event planning  
Collaborates with other SA to organize larger, more successful events  
Displays passion for environmental issues |
|                    | Does not communicate well with other Ambassadors                                           | Communicates verbally with other SA, event attendees, and coordinators about environmental issues  
Models appropriate, environmentally conscious behavior in residence halls (recycling, turning off the lights, etc.)  
Builds relationships that inspire and motivate action in residents |
|                    | Behaves inappropriately in residences                                                      |                                                                                       |                                                                                       |
| **Knowledge / skills** | Lacks understanding of environmental issues and the ability to communicate them         | Demonstrates understanding of environmental issues and the ability to communicate them both verbally and in writing  
Develops understanding of community engagement and how to make change in community through continued campaigns  
Plans, organizes and prioritizes work  
Develops effective teamwork skills |
|                    | Does not actively participate in their SA group                                             |                                                                                       | All “Meets expectations” criteria and: Acknowledges and acts on personal/social responsibilities to live sustainably connecting their habits to larger sustainability goals  
Engages in discussion about peer leadership and environmental issues as they relate to future career applications |
|                    | Does not plan ahead/submits late event proposals                                            |                                                                                       |                                                                                       |
|                    | Does not collaborate with other campus organizations (RAs, Green Team, etc.)               |                                                                                       |                                                                                       |
F.4 Sustainability Ambassadors Feedback Form

The Sustainability Ambassador executive board will collect, analyze, and maintain these forms to refine the Sustainability Ambassadors initiative.

1. What do you feel you accomplished this semester? Please list events, dorm signage, craft projects, collaborations or other initiatives and accomplishments you participated in and your level of involvement. Also, please mention what you would have done differently, if anything.

<table>
<thead>
<tr>
<th>Accomplishment</th>
<th>Level of Involvement</th>
<th># of attendees (estimated)</th>
<th>Done anything differently?</th>
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2. What was your favorite part about being a Sustainability Ambassador at WPI?
3. Least Favorite?
4. What was your favorite event?
5. What are some skills you learned through your role as a Sustainability Ambassador?
6. What is one thing you learned about the environment and sustainability this semester? (from weekly meetings, events, etc.)
7. How do you think the program as a whole is successful in achieving its goals? How do you think it can be more successful? Areas of improvement?
8. What is one thing your coordinators did successfully this year? One thing they could do differently/better to help the Ambassadors and overall program success?
F.5 Green Room Audit (Adapted from Oberlin College)

Energy
- I use compact fluorescent light bulbs (CFL) or light emitting diode (LED) bulbs in personal lighting (ex. desk lamps).
- I use a power strip and unplug or switch off the entire power strip when not in use.
- I unplug electronic items not in use (cell phone and computer chargers, lamps, etc).
- I use Energy Star or EPEAT electronics (ex. fridge, computer, TV, etc).
- I open shades or curtains to utilize natural light during the day instead of turning on lights.
- I only use the amount of light necessary for the task at hand.
- I turn lights off when I leave a room.

Water
- I turn off water while brushing teeth.
- I turn off water while applying soap, shampoo, or shaving in the shower.
- I rarely exceed shower times of 5 minutes.
- I use the appropriate setting on dual flush toilet.
- I utilize water filtration fill-up stations above water fountains.

Transportation
- I walk and/or ride a bike or skateboard to my destinations on campus (Gompei’s Gears).
- I carpool or use group transport whenever I am travelling off campus (SNAP).
- I've made a ZipCar account.
- I do not have a car on campus, and if I do, I use it to participate in ride sharing.

Recycling
- I have at least one recycling bin or container in my room and I make an effort to recycle often and appropriately.
- I use scrap paper whenever possible.
- I use reusable shopping bags.
- I use school supplies such as pens, papers and pencils made with recycled materials.
- I have second-hand or thrifted room decorations, furniture or clothing.

Computing
- I have activated sleep setting on computers to put the computer to sleep after 5 minutes of inactivity and turn off (or hibernate) after 10.
- I utilize double-sided printing.
- I use electronic versions of documents/readings instead of printing whenever possible.

Laundry
- I use cold water to wash and warm water only when necessary.
- I only wash full loads of laundry (or adjust the water setting accordingly).
- I use green laundry products free of synthetic fragrances and dyes, phosphates, bleach, and surfactant nonylphenol ethoxylate (or NPE’s).
- I do not use fabric softener or dryer sheets.

Dining
- I use reusable cups, mugs, and silverware instead of disposable ones in my room.
- I carry a reusable water bottle with me to classes and dining halls instead of purchasing bottled water/drinks.
- I have no food waste on my plate at the end of my meal (taking smaller, more appropriate servings) and eat most of the food I purchase.
• I frequently choose local food items.
• I frequently choose vegetarian, vegan, and local food items.
• I buy organic and less processed food whenever possible.
• I use the correct disposal bins at Morgan Dining Hall, the Campus Center, Goat’s Head, etc.
• I use Green2Go.

**Involvement**

• I have taken a course that is “focused” or “inclusive” of sustainability.
• I am a member of a sustainability-related extracurricular club (Green Team, VegClub, etc).
• I participate in community service events at least once per quarter.
• I have read the Sustainability Plan and annual Sustainability Reports.
• I have participated in the Waste Audit, E-Waste Drive or any other sustainability initiative on campus.
• I have watched or plan to watch a sustainability-related documentary (On Netflix: Chasing Ice, Cowspiracy, Chasing Coral, Forks over Knives).

Original Oberlin College Green Room Program: [https://sites.google.com/a/oberlin.edu/green-room/certify-now](https://sites.google.com/a/oberlin.edu/green-room/certify-now)
Appendix G: Area of Focus for the Community Engagement Working Group

Our team recommends three primary themes to focus on community engagement to assist the Community Engagement Working Group with the 2020 Sustainability Plan. These themes include sustainability transparency, peer leadership, and incentivizing behavior.

Under sustainability transparency, we believe that there is room for improvement to communicate about sustainability initiatives and their outcomes to the community to raise awareness. With peer leadership, we find that peer-to-peer leadership is a major factor in increasing engagement within the community. Finally, we examined the idea of incentivizing sustainability behavior. From our survey results, there is an indication of offering tangible goods to encourage initial participation from disinterested individuals. However, this would require an initial investment from the Office of Sustainability. Another incentive to consider is networking and career development to engage students with notable alumni and professionals in the field of sustainability. Finally, they should consider holding a facilitation ceremony to recognize outstanding individuals in the field of sustainability. This is based on a task previously available under the Sustainability Plan titled “award/recognition program.” Although the award ceremony ranked last in incentives in the survey, there is a group of respondents who expressed interest in this incentive.