ENVIR 480: Sustainability Studio

Final Reports

Cross-Sector Communication & Collaboration in Sustainability

AUTUMN 2020

PROGRAM ON THE ENVIRONMENT
UNIVERSITY of WASHINGTON
College of the Environment
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Project Groups

Bike Share Feasibility Study for UW Transportation Services

Client Partner: Phil Miller, UW Transportation Services
Project Team: Katie Jerauld, Gabby Lacson, Ian Murphy, and Paul Suppipat

UW Transportation Services: Equity

Client Partner: Phil Miller, UW Transportation Services
Project Team: Carina Bixby, Anahita Gharai, Chayenne Lim, Christine Hoang

Climate Justice in Seattle

Client Partner: Elise Lasky, Global Shapers & Mary Manous, Cascadia Climate Action
Project Team: Battulga Erdenebat, Isabella Koch, and Emily Vandeberg

Sustainable Seattle (S2): End of Year Appeal & Campfire Stories

Client Partner: Em Piro & Natalie Hauser, Sustainable Seattle
Project Team: Grace Zamzow, Isabel Corona-Campiz, Levi A. Casto, Alex Lam, Shea Bray

Collaboration Between Climate Advocacy Groups in Seattle

Client Partner: David Ramsay & Robin Briggs, People for Climate Action - Seattle
Project Team: Zoe Lew, Hanna Treppenhauer, Sarah Zwaagstra

Increased Academic Involvement in Recycling

Client Partner: Liz Gignilliat & Madeline Schroeder, UW Recycling
Project Team: Aina Hori, Elizabeth Lee, Jose Amezcua-Morfin, Lena Vannice
Introduction

Sustainability Studio seeks to develop students as change agents in the pursuit of environmental sustainability at the University of Washington and in the greater Puget Sound. Institutions of higher education, including the University of Washington, play a critical role in fostering rapid and wide-reaching responses to our collective environmental challenges. The greatest leverage in achieving institutional change occurs when faculty, administration, and students collaborate. This course provides students the opportunity to immerse themselves into the real-world practice of institutional-scale sustainability through hands-on team projects and through partnerships with University of Washington faculty, administrative/facility staff, and a diverse array of community partners.

Sustainability Studio allows students to gain experience working with clients and to improve the state of sustainability in our community, all while learning about efficient and effective project design and management. The topic of Sustainability Studio changes each quarter. The Autumn 2020 quarter topic of Sustainability Studio was *Cross-Sector Communication & Collaboration in Sustainability*.

In order to prepare students to complete work on their client project, Sustainability Studio coursework includes discussion and exploration of the following topics: communication, teamwork dynamics, consulting, project design, project management, critical thinking, navigating ambiguity, conflict resolution, systems thinking and mapping, behavior change, and public speaking.

The following is a compilation of final reports produced by students in the Autumn 2020 quarter of Sustainable Studio.
Bike Share Feasibility Study for UW Transportation Services

Report By: Katie Jerauld, Gabby Lacson, Ian Murphy, and Paul Suppipat

UW Transportation Services Client: Phil Miller
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Introduction

Project Objective

Our project objective is to develop a bike share feasibility study for UW Transportation Services that will help them decide whether to build their own program or work with a bike share company to allow students, faculty, staff, and visitors to travel on campus sustainably. We will compile our research and provide UW Transportation Services with our recommendation for a bike share program through a policy analysis of the available options, and produce a preliminary pricing scheme for the program.

Executive Summary

UW Transportation Services seeks to develop a new, long-lasting bike share program to provide a sustainable mode of transportation because previous attempts by bike share companies have failed to create long-lasting programs. UW Transportation Services must decide whether to create their own bike share program or to work with an established bike share company to develop a program on campus. They are currently working with Jump bike share, but would like to further investigate the feasibility of creating their own bike share program and explore other possible options. Because the university is seeking to become more sustainable, providing environmentally conscious travel methods is critical. They are also expecting future reductions in parking availability for cars as more buildings are constructed to accommodate the growing student population. Given these constraints, it is time to consider alternative options for transportation such as investing in a long-term campus bike share program.

UW Transportation Services is in its third generation of bike share programs. They have previously worked with Pronto and Ofo, neither of which lasted very long. They are currently working with Jump while they research other options. UW Transportation Services would like to consider running their own bike share program because it would allow them to make a program tailored specifically for students, rather than run by a company that has their own profit-driven interests.

The following analysis examines potential bike share options for UW Transportation Services to consider. Options include: (1) a low-tech UW-run program, (2) a high-tech UW-run program, (3) Lime Campus, and (4) Motivate. All options are measured based on their ability to meet the following goals:

- Availability
- Shared organizational values
- Fiscal control
- Ease of implementation

After conducting an assessment of how well each program meets the stated goals, we have determined that the best option for UW Transportation Services is a bike share program through
Lime Campus. However, a low-tech UW-run program offers an alternative for UW Transportation Services to consider because this option ranks closely with Lime Campus. Following this decision, we recommend UW Transportation Services follow a series of short-term recommendations including incorporating the cost of the program for users into the U-PASS program. We also recommend they contact potential companies to construct a firm budget estimate. UW Transportation Services should educate students, faculty, and staff on campus about the benefits of a bike share program to encourage support and safety. At a later time, UW Transportation Services should pursue our long-term recommendations, including implementing a reward system to encourage the use of bikes. Because the university will have electric scooters on campus soon, UW Transportation Services should research and consider the effects this will have on the bike share program. Finally, we recommend that UW Transportation Services look for a paid sponsor for the bike share program as programs at similar universities have done so to improve profitability.

**Methods**

We started this study by researching established university bike share programs at other schools to determine what might work best at UW. We narrowed our research to a select number of universities based on their success and any unique factors that we believed could prove useful for analysis. We investigated the scale, pricing, and setup of each university program and compiled our research as succinctly as possible. After reviewing these university bike share programs, we found potential companies UW Transportation Services could partner with based on their location and previous experience. We narrowed our analysis down to two top companies: Lime Campus and Motivate. Although UW Transportation Services has previously allowed Lime on campus without great success, the Lime Campus program is specifically adapted to fulfill the needs of universities and we believe it will not share the same shortcomings. Following our assessment of potential bike share companies, we evaluated the requirements to develop a UW-run bike share program, both low-tech (standard bikes) and high-tech (electric-assist bikes). We did so by using our previous research of other university programs and looking at regulations and costs of both low- and high-tech bikes. We compared these UW-run programs and the potential bike share companies to the specified goals (availability, shared organizational values, fiscal control, and ease of implementation) and their criteria to assess which program would work best for UW Transportation Services.

**Program Research**

To determine what program would be the best fit for UW Transportation Services, we conducted an in-depth analysis of existing university programs. This allowed us to determine what practices would be helpful for UW Transportation Services to follow and what would not work for them. We then researched the potential for success of a low-tech and high-tech UW-run bike share program.

We also investigated potential bike share companies UW Transportation Services could work with including Lime Campus and Motivate, should the university decide not to commit to
developing their own program. These options offer a diverse array of alternatives for UW Transportation Services to consider to create a successful and sustainable bike share program.

**Established University Bike Share Programs**

- **University of California San Diego (UCSD) - SPIN Partner**

The ride share program at UCSD is interesting because it has scooters and bikes, both of which are dockless. Electric-assist (high-tech) and standard (low-tech) bikes are both available, which provides convenient options for riders. UCSD has partnered with the company Spin, enabling UCSD to run an effective bike and scooter share program. UCSD and Spin have implemented 18 geofenced parking areas across campus, to which bikes and scooters must be returned within the same day. The designated parking areas help create a more open range system and allows for better regulation by ensuring that the bikes/scooters will be returned at the right locations. This aspect is important to look at because regulating where bikes are parked has been seen as a major issue on campuses and major cities with other bike share programs. Electric-assist bikes are encouraged to stay on campus because Spin can easily maintain and regulate the use of these bikes if they stay within the campus geofence. The program has 200 scooters and 200 bikes, which they found sufficient to support a student population of 40,066.

In this program, UCSD students and staff get a promotional discount of $5 off when they sign up on the Spin app with a ucsd.edu email address, and unlimited memberships ($29/month) cover all ride costs which can save money for frequent riders. UCSD also has a limited number of helmets available for students and faculty to rent to follow California rider safety laws. Pricing is as follows: scooters are $1 to unlock and $0.24/minute; bikes are $0.50 to unlock and $0.12/minute.

- **University of California, Los Angeles (UCLA) - Bruin Bike Share**

UCLA’s Bruin Bike Share was discontinued in June due to the added pressures of the COVID-19 pandemic on top of safety concerns and costs. Without the pandemic, the bike share program likely would have continued. Those with Bruin Bike Share memberships are still part of a regional bike share program that is still operating, including the nearby Beverly Hills and Santa Monica bike shares. Although currently not operating, we examined the UCLA program as it was before the pandemic.

Originally, students could rent bikes for $7/hour, or purchase a membership for $7/month or $60/year with UCLA affiliation which allows 90 minutes of daily riding time. Visitors may use the bikes for a higher rate. There are 130 bikes parked at 18 hubs, 14 hubs of which are on-campus and the other 4 are located nearby in Westwood Village. Electric scooters have become more popular at UCLA as more companies established on the campus, such as Bird Rides, Lime, Jump, and Lyft. Unfortunately, scooters raise environmental impact concerns because they are sometimes only considered an alternative to walking rather than an alternative to vehicles (which is what UW Transportation Services is looking for).

UCLA wanted to experiment with a scan-and-go QR code feature, which would provide easier and faster access to the bikes, to increase ridership in response to the decline in use due to scooter presence. However, UCLA has not been able to test out the QR code feature in the short development timespan before COVID-19. This feature can be difficult to implement, but other bike share companies have done so successfully.
- Portland State University (PSU) - Biketown PDX

PSU does not have their own program, instead utilising Biketown PDX which has 1,500 bikes docked at 180 stations spanning a 20 square mile area across Portland, Oregon. This type of program has the added benefits of increased bike availability and a useful range extending far from campus.

Students receive free annual memberships to the program. For the general public, a single ride is $1 to unlock and an additional $0.20 per minute, or riders may purchase an annual membership that is $99 which charges riders $0.10 per minute and no unlock fee. This yearly membership provides an incentive to invest in joining the program for riders that will use the service often. Biketown PDX also allows riders to park at the Biketown Stations for free as well as parking at any public bike rack within the service area for an extra $1 charge, while parking outside the service area results in a $25 fee. Biketown PDX has partnered with Lyft, Nike, Kaiser Permanente, and Portland Bureau of Transportation (PBOT) to help lower costs for the bikeshare.

When this program started, the bikes were unlocked with keypads, but newer bikes have started to use a scanning system where riders can use the Biketown or Lyft app to activate a bike. PSU has 4 on-campus stations and numerous bike racks where bikes can be parked for the $1 fee. While Biketown does not have a high degree of involvement on campus, the bike share program can help students that live off campus with their daily commutes. PSU is currently in the process of renewing their contract with Biketown to continue offering all PSU students free annual memberships.

- Washington State University (WSU) - CougBikes

WSU has signed an agreement with Gotcha Mobility, a company used by other universities including Marshall University, Louisiana State University, and Auburn University. The bikes at WSU are branded as CougBikes, although the bikes are the standard Gotcha Bike model that the company’s other programs use.

The SoBi (Social Bicycle) App is used to access the bikes via a QR code scan; students can sign up for the app on the Gotcha WSU website using their student email. WSU students are provided with 4 hours of free ride time per day, and the service is available to others through the UREC Member Plan.

The bikes have a 2-hour hold time and a $5 per hour overage fee. Other fees include a $5 fee if a bike is locked outside of the docking station but within the system boundary area set around the campus and a $25 fee for locking and leaving the bike outside the system area.

There are 11 docking stations, and approximately 44 bikes total (counted from map). WSU also implements Bike Bounties, where a “bounty” is posted to a bike on the map that is not parked at a hub and any user who rides the bike back to a hub will receive credit that can be used to help cover any service fees, an interesting reward system that could be useful to UW Transportation Services when considering developing program incentives.

- Rutgers University - Bike RU

Rutgers University has a bike library called Bike RU where students, faculty, and staff can rent bicycles by the month or by the semester (to ensure equipment is returned undamaged, the
library can place fines against users on their university accounts). This bike rental program is $25 per semester, $25 for the summer, or $10 per month.

Rutgers Bloustein School of Planning and Public Policy conducted a Health Impact Assessment during Fall 2016 (Azeez et al., 2016). This study worked to ensure all residents had equal access to services that helped improve their health and well-being, including access to the bikes. They investigated the history of bike sharing, finances of other bike sharing programs, conducted studies on people who currently bike and those who do not, and developed recommendations for the university to implement. Recommendations concluded by Rutgers’ study included: adding designated bike share parking facilities at points of interest and residential areas around the greater campus community; improving road safety through bicycle education and adding bike lanes; providing cash options to riders and subsidized memberships to lower-income individuals; linking bike share cards to public transit cards; and promoting a positive biking/walking environment in the community.

Rutgers University conducted a 7-month Camden bike sharing pilot program during 2018 with a company called Ofo. This pilot program complemented the findings of a feasibility study previously made for a Camden bike share. The program was conducted by Rutgers University’s Alan M. Voorhees Transportation Center and was supported by Coopers Ferry Partnership. There is no current information available on the program, but it does not seem to be operating (the website from 2018 still says “coming soon”).

- **University of Colorado Boulder (CU) - B-cycle**

B-cycle is a dock-based, non-profit bike share program at CU that is relatively small-scale. The program has a novel system of different rider passes that can be bought. There are 4 different passes that riders can buy. The first option is $8 for a 24-hour pass that allows for unlimited rides that are under 30 minutes along with an extra $3 charge for every additional 30 minutes per ride. The second option is $11 per month which allows for unlimited rides that are under 30 minutes along with an extra $3 charge for every additional 30 minutes per ride. The 3rd option is $88 per year which allows for unlimited rides under 60 minutes along with an extra $3 charge for every additional 30 minutes per ride. The last option is paying per trip, which is free to join, $2 for 30 minutes and an additional $3 per additional 30 minutes on a single trip.

There was not much information available on how effective the program is, but the addition of many different rider passes provides riders with more flexible options to join the program.

**Potential External Bike Share Companies**

- **Lime Campus**

Contact: campus@li.me

Lime Campus is a program run by Lime that aims to increase use of bike shares, reduce traffic, and ensure that bikes are affordable for students. This program allows transportation departments to design a service with Lime that fits the needs of the individual university, and provides flat rate pricing to encourage students to use the bikes daily.
Lime’s mission is to provide all communities with smart, affordable mobility, and to reduce dependence on personal vehicles to ensure future generations have a cleaner and healthier planet. The main values at Lime include:

- **Safety**: main priority is the well-being of their users
- **Integrity**: a diverse workforce committed to creating sustainable mobility
- **Community**: hire locally and work with neighborhood organizations
- **Technology**: work on the cutting edge of clean transportation
- **Trust**: aim for transparency and accountability in their customer service

Lime also has extensive past experience working with other universities to develop bike share programs. Their current university programs include: Georgia Southern University, University of Minnesota, St. Louis University, Washington University in St. Louis, Guilford College, NC St. University, NCA&T, UNC Greensboro, Ohio State University, Xavier University, Vanderbilt University, Our Lady of the Lake University, Southern Methodist University, Texas Tech University, and UT Austin.

- **Motivate**

Contact: [https://www.motivateco.com/contact/](https://www.motivateco.com/contact/)

In 2018 Lyft acquired Motivate, the largest bike share operator in North America, to create their own innovative bike share program. Motivate seeks to revolutionize cities by making them more accessible, healthier, and sustainable. Motivate’s values include:

- **Connections**: seek to transform cities and the people within them
- **Service**: their riders are their main focus and they seek to provide them with cutting-edge technology to provide the best possible experience
- **Collaboration**: aim to come together with co-workers and clients to solve pressing challenges
- **Safety/Dependability**: they care about their workers and users and want to provide the best tools and infrastructure possible for them
- **Fun**: want to provide fun transportation and jobs

Motivate has not worked directly with universities before, but they have an extensive history working with cities to implement bike share programs. They own and support many city-run programs so they may be open to partnering with UW Transportation Services to make a program tailored specifically for UW campus.

Motivate has worked in the following cities:

- Bay Area, CA (Ford GoBike)
- Boston, MA (Blue Bikes)
- Chicago, IL (Divvy)
- Columbus, OH (CoGo)
Potential University-Run Bike Share Programs

UW Transportation Services is interested in creating their own program if it proves feasible in order to create a bike share program that effectively reflects their values. They want to create a program that is student-centered rather than profit-centered. An ideal program would allow them to provide students with reduced pricing to make this form of transportation as affordable and accessible as possible. UW Transportation Services has previously been unable to make a bike share program that accommodates their student population to the degree they desire when they have contracted with external bike share companies. We examined two options for a UW-run bike share program.

- **Low-Tech UW-Run Bike Share**

UW Transportation Services could create a low-tech bike share program by using standard, non-electric bikes. Costs could be cut down by using these low-tech bikes as opposed to high-tech by purchasing new bikes in bulk or obtaining donated/used bikes to be rebranded and refurbished for usage. This program option would be cheaper initially and UW Transportation Services could expect less technical maintenance requirements. However, these low-tech bikes may be less appealing to users due to not having an electric motor for assistance, meaning the bikes may not reduce use of other transportation methods as much as UW Transportation Services would like and only serve as a commodity.

- **High-Tech UW-Run Bike Share**

UW Transportation Services could instead create a high-tech bike share program by using electric-assist bikes that make bike travel easier. These bikes still require users to pedal, however, considering the area surrounding UW can be difficult to traverse this could improve accessibility and desire to use the bikes. This program option is more expensive than the low-tech option, as electric-assisted bikes are more expensive to purchase and could require more difficult maintenance, as well as a charging system. However, this program is also more likely to increase use of bikes as a more appealing form of transportation due to its electric-assist capabilities and convenience.

**Goals and Criteria**

In order to determine what is the best bike share option for UW Transportation Services, we have established goals and criteria by which we can assess each program. Within each goal, we have specified criteria for which we will rank each program as low, medium, or high. We have also specified criteria that UW Transportation Services has noted as more important which will
hold more weight in our final rating of each program. The goals are further explained in this section.

Availability
A major goal of UW Transportation Services is for the bike share program to be available to as many people as possible. To achieve this goal, bikes must be available both on and off campus. We measured this capability by assessing each organization’s previous experience installing programs either on or off campus. Based on this criteria for bike availability, UW Transportation Services also values connectivity, meaning the program is capable of connecting students within and beyond campus. We assessed connectivity by examining the rankings of the availability criteria (on and off campus) to compare each program’s ability in both settings, and then determined the ranking by combining the two availability rankings (we rounded down so if on-campus was high and off-campus was medium, connectivity would be rated as medium). Lastly, UW Transportation Services wants the program to be scalable so they can enlarge the program as desired, so each program should be able to easily increase the number of bikes and necessary infrastructure. We assessed this criteria by exploring the companies’ and UW’s previous experience with bike share programs and the estimated ability to handle the costs and logistics of scaling up such a program.

Shared Organizational Values
When creating the program, UW Transportation Services wants to ensure they incorporate the organizational values they consider most important. We evaluated each program’s values and their mission statements to assess how those aligned with UW Transportation Services’ values and to rate the criteria within this goal. The University of Washington values equitable treatment of all its students, faculty, and staff so it is critical that university programs mirror that. Considering biking can be dangerous if users are not properly equipped or educated, the bike share program must also ensure the safety of its users by providing all necessary information and safety equipment to care for the well-being of riders. It is also important that the program is capable of being maintained long-term, which is why we are evaluating longevity based on each program’s previous experience. The UW is also committed to minimizing negative impacts on the environment, so it is important the bike share program also emphasizes environmental sustainability by offering a green method of transportation.

Fiscal Control
UW Transportation Services hopes to reduce the use of other transportation options with a bike share program. In order to successfully do so, they must consider the affordability (costs) of establishing and maintaining a program, which we evaluated based on how each program compared to the other options and through research of costs of similar programs. Another criteria that is important to UW Transportation Services is the possibility of profitability as the desired reduction in vehicle parking would cut a major income source for them. We evaluated profitability based on each program’s ability and flexibility in generating profits.

Ease of Implementation
UW Transportation Services would like the bike share program to be smoothly and quickly implemented on campus to ensure good utilization and experience for riders. This means the bike share program must be able to offer quick and effective maintenance by having on site or nearby repair facilities. UW Transportation Services may need to develop training programs for
its staff should they develop their own bike share program. Another required criteria is that the program has experienced managers and staff that have a history within the field.

Results of Analysis

Our research was used to develop a comparison between the bike share program options, as well as to assess the status quo (how well UW Transportation Services fit all the criteria should they decide not to follow through on the program and not develop a bike share program). We evaluated each program option based on criteria that fit within UW Transportation Services’ goals: availability, shared organizational values, fiscal control, and ease of implementation. These goals are presented below in Table 1 in order of importance (the most important is at the top and the least important is at the bottom). Within each goal we highlighted the most important criteria which will be weighted higher than other criteria to ensure their value is fully represented in the final rating. For each criteria we assigned a numerical value based on how well the program rated. The scores were assigned low, medium, or high within the chart, in which low was given 1 point, medium was given 2 points, and high was given 3 points. As previously stated, the highlighted criteria are most important, and were weighted double (meaning if a highlighted category was rated medium, it would receive 4 points compared to the standard 2 points). All of these points were then tabulated to determine a ranking of which programs UW Transportation Services should consider most to develop a bike share program. The highest rated option was a partnership with Lime Campus, however, a low-tech UW-run bike share program was an extremely close second option.

Along with the policy analysis, we established an estimated pricing scheme for each program. For the UW-run programs, we created cost estimates based on similar programs that were similar in feasibility and logistics. For the other programs (Lime Campus and Motivate), we examined their websites to find their specified pricings.

*Table 1. Analysis of potential bike share programs for UW Transportation Services*

<table>
<thead>
<tr>
<th>Goals</th>
<th>Criteria</th>
<th>Low-tech UW-run Bike Share</th>
<th>High-tech UW-run Bike Share</th>
<th>Lime Campus</th>
<th>Motivate</th>
<th>Bike Share Status Quo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Availability</strong></td>
<td>On-campus (ability to have bikes on-campus)</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Off-campus (ability to have bikes off-campus)</td>
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<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Connectivity (ability to provide a combination of on- and off-campus)</td>
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<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
</tr>
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<td>Category</td>
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<td>Low</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
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<tr>
<td><strong>Scalability (# of bikes, etc.)</strong></td>
<td></td>
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<tr>
<td>Equity (emphasis on providing for all people)</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
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<tr>
<td>Safety (emphasis on well-being of riders)</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>Longevity (ability to maintain the program long-term)</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
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<tr>
<td>Environmental Sustainability (emphasis on environmental aspects)</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
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<tr>
<td>Affordability (cost)</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td></td>
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<tr>
<td>Profit (ability to make money on top of costs)</td>
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<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
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<tr>
<td><strong>Fiscal Control</strong></td>
<td></td>
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<tr>
<td>Availability of Maintenance (connections to reliable repair)</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td></td>
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<tr>
<td><strong>Ease of Implementation</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Availability of Experienced Managers/Staff (history of experience in field)</td>
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<td>Medium</td>
<td>High</td>
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<td><strong>Numeric Score</strong></td>
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<td>33</td>
<td>40</td>
<td>32</td>
<td>25</td>
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</table>
**Table 2: Estimated pricing scheme for potential partnered bike share programs (loosely based on Azeez et al. chart)**

<table>
<thead>
<tr>
<th></th>
<th>Lime</th>
<th>Motivate*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Electric</td>
<td>Non-Electric</td>
</tr>
<tr>
<td>Single Ride</td>
<td>$1 to unlock + 15 cents/minute</td>
<td>$1 per half hour use</td>
</tr>
<tr>
<td>Day Pass</td>
<td>$16.99</td>
<td>N/A</td>
</tr>
<tr>
<td>Per Month</td>
<td>Unlock pass for $5.99/month</td>
<td>N/A</td>
</tr>
<tr>
<td>Annual</td>
<td>N/A</td>
<td>Unlock Pass for $99/year</td>
</tr>
<tr>
<td>Cash Payment Option</td>
<td>Lime Cash (store credit)</td>
<td>Credit/Debit card added to app</td>
</tr>
<tr>
<td>Additional Fees for Parking Violations</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Based on Portland’s Biketown Bikes pricing

**Table 3: Recommended pricing scheme** for UW-run bike share programs (loosely based on Azeez et al. chart)

<table>
<thead>
<tr>
<th></th>
<th>Low-tech UW-run Bike Share</th>
<th>High-tech UW-run Bike Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay As You Go</td>
<td>$1 unlock + $.10/min</td>
<td>$1 unlock + $.25/min</td>
</tr>
<tr>
<td>Per Month</td>
<td>$11/month - unlimited rides +$3/additional 30 mins per ride</td>
<td>$15/month - unlimited rides +$3/additional 30 mins per ride</td>
</tr>
<tr>
<td>Per Quarter</td>
<td>$30/quarter - unlimited rides +$3/additional 30 mins per ride</td>
<td>$40/quarter - unlimited rides +$3/additional 30 mins per ride</td>
</tr>
<tr>
<td>Annual</td>
<td>$80/year - unlimited rides +$3/additional 30 mins per ride</td>
<td>$99/year - unlimited rides +$3/additional 30 mins per ride</td>
</tr>
<tr>
<td>Other</td>
<td>Parking fees (varied per violation)</td>
<td>Parking fees (varied per violation)</td>
</tr>
</tbody>
</table>

** Based on University of Virginia, Boise State University, and University of Buffalo (Azeez et al., 2016)
Discussion

Analysis of Shortcomings

Our study faced shortcomings that should be taken into consideration when considering our final conclusions. One of our main challenges was our inability to get in contact with potential bike share companies. We reached out to Lime Campus, Motivate, and the Seattle Department of Transportation with questions, and unfortunately were unable to connect with them in time. Additionally, much of the information we were looking for was not publicly available, including information on budgets, costs, and scale of programs, which limited our ability to establish a firm preliminary budget. Multiple universities we looked at did not have up-to-date information available which makes it unclear whether the programs have lasted and what components were successful for them long-term. However, despite these limitations, we were able to gain an in-depth understanding of potential pricing schemes and program components for UW Transportation Services, so this has minimally impacted the results present in our analysis. Some university programs have been put on hold or discontinued due to problems arising during the COVID-19 pandemic such as a sudden drop in demand. As mentioned above, UCLA has discontinued their Bruin Bike program on campus, however, students maintain their access to partner bike shares in the area. Due to the uncertainty of the pandemic, we believe our recommendations hold best for circumstances post-COVID.

Recommendations

Short-Term Recommendations

- **Incorporate Costs into Program Similar to U-PASS**

UW Transportation Services already has a pass for various types of public transportation (regional buses, commuter trains, light rail, water taxis, and more) called the U-PASS. Students use this frequently and it could be beneficial to incorporate the bike share into the U-PASS program. Other universities who have a similar transportation program have found that students would rather use a bus they have already paid a fixed cost for rather than pay a few dollars every time they want to take a short bike ride (Kellstedt et al., 2019). This is important to consider because UW Transportation could save money on bus fees by getting students to use bikes for short distances rather than using buses for short distances. Although this additional cost to the U-PASS could receive pushback as many students are already concerned about the expense of it, the bike share could be an optional part of the U-PASS, meaning students would not have to pay for the bike share program if they do not want to use it. It should be an opt-out program, meaning all students are enrolled in the program as a default, but if a student did not want to pay the additional fee, they could choose not to be.

- **Educate Faculty and Staff**

Studies have shown that university faculty and staff are slower to join or use bike share programs than students. At Texas A&M University, researchers found that to increase faculty and staff involvement, it is important to involve them in the planning of the program and demonstrate that their concerns are understood and accounted for (Kellstedt et al., 2019). When
implementing the bike share program, UW Transportation Services should consider having informational sessions that explain the benefits of a dockless bike share program, as well as explain the positive effects on traffic. These tactics could improve faculty and staff involvement in the bike share program. This type of educational action is necessary because staff and faculty involvement is important in creating a successful, lasting program at a university.

- **Educate and Encourage Students**
  It is important to educate students about the safety and laws regarding bikes on the road and on campus. A lack of education about bike safety, hand signals, and other rules can contribute to students’ wariness to ride the bikes. As such, if students are more educated about biking and safety, they will be more likely to use the program. It is also important to encourage students to use bikes as tools for exercise and staying healthy, which is a necessity in maintaining a balanced life that students are oftentimes missing. If more students are encouraged to bike more often, this would reduce the need for cars and bus trips.

- **Conduct a Survey**

  UW Transportation Services should conduct a detailed survey to students, faculty, and staff about their opinions and willingness to use the bike share program. It is important to create an appealing survey that is not overly complex as to dissuade students from completing the survey, but will also need to yield adequate results. The survey would need to address three key things: willingness to use the bikes, possible reasons against the use of bikes, and effective incentives for bike use.

- **Contact Potential Companies**

  Based on our previous suggestion for developing a bike share program, if UW Transportation Services decides not to create their own program and instead work with a bike share company they will need to contact the suggested companies. We attempted to contact Lime Campus and Motivate through their contact webpage, but unfortunately did not receive a response from either. Therefore, we advise UW Transportation Services reach out to the highest ranked program from our analysis, Lime Campus: [campus@li.me](mailto:campus@li.me)

  Whether UW Transportation services works with a company or creates their own bike share program, they should contact companies and universities with established bike share programs to complete a concrete budget estimate, as we were unable to communicate with any companies or universities. Our pricing estimate tables in the results section above are purely based on the limited publicly available bike share program documentation. Contacting universities and companies will help determine an accurate budget.

**Long-Term Recommendations**

- **Incentives Such as Discounts or Reward Point Systems**

  To encourage use of the bike share program, UW Transportation Services should develop a system for discounts and rewards. Discounts could include lower prices for students and further discounts for students receiving financial aid. Some university or city bike share programs, such
as WSU’s CougBikes, offer extra rewards for returning bikes that were parked outside of docking stations or the operating area boundaries. This helps rebalance the bikes throughout the day, and could be useful to UW Transportation Services because it could reduce strain on the department staff.

- **Research the Effects of Scooters on Bike Share Programs**

UW Transportation Services is currently testing and preparing for the implementation of scooter sharing programs. Because these scooters are likely to impact the market for a bike share program (reduce the number of users, etc.), UW Transportation Services should research the specific impacts of the scooters to evaluate if they will need to alter any components of the bike share program (such as a reduced number of bikes). This research will be helpful in making an adaptable bike share program that is sustainable and being used to its fullest potential.

- **Look for Sponsorships for Revenue**

Other bike share programs have previously partnered with companies for sponsorship, creating advertisements through the bike share program, which generates profitable opportunities for the program operators. For example, Portland State University’s bike share program, Biketown PDX, partnered with Lyft, Nike, Kaiser Permanente, and the Portland Bureau of Transportation (PBOT). Based on Portland State University’s partnerships as well as UW’s previously established relationships, we recommend that UW Transportation Services consider partnering with Adidas, UW Medical Center, Alaska Airlines, Starbucks, and the Seattle Department of Transportation. Because UW Transportation Services needs to reduce parking on campus, which is a major source of revenue, it is important to consider other profitable alternatives such as sponsorships. We acknowledge that this could be difficult to establish because of various legal barriers the university faces, but we believe that this is still a valuable opportunity that UW Transportation Services should pursue.

**Next Steps**

Our analysis laid out the initial steps that UW Transportation Services can take to create a successful bike share program. However, after reaching out to multiple bike share companies and programs we were unable to make contact with a company or existing university-run bike share programs. UW Transportation Services should continue to pursue communication with Lime Campus and other university programs to finalize their plan and create preliminary budget estimates.

UW Transportation Services should further explore the Lime Campus Program and a low-tech UW-run program because these options ranked so closely in our policy analysis. Once they have chosen a program, UW Transportation Services can develop infrastructure for the bike share such as a firm plan including necessary supplies, costs, and resources.
Once UW Transportation Services has chosen a bike share option, they can further pursue our recommendations. They should act on the short-term recommendations as soon as possible, and can consider the long-term recommendations as time allows.

One of our recommendations included above was to seek sponsorships with companies. The university has established connections with various companies that may prove useful to pursue for bike share sponsorship. Having sponsorships can help offset program operation costs. For example, the bikes can be branded with logos and other advertisements. UW Transportation Services can pursue the other previously mentioned recommendations while developing a bike share program.

**Conclusion**

Based on an analysis of potential programs UW Transportation Services could develop, we have determined that UW Transportation Services should primarily pursue a program through Lime Campus. Should UW Transportation Services remain committed to creating their own bike share program, a low-tech UW-run program ranked closely to Lime Campus and provides a valuable alternative for consideration. After deciding which program to develop, UW Transportation Services should follow the provided recommendations, focusing primarily on the short-term objectives, and later pursuing the long-term objectives. These recommendations provide UW Transportation Services with the next steps to develop a successful and lasting bike share program at the University of Washington.
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Introduction

The University of Washington (UW) Transportation Services plays a central role in aiding the movement of the entire university population—consisting of students, faculty, and staff—to, from, and around campus. The UW population is composed of a diverse group of people with different backgrounds and experiences. Therefore, it is in the UW Transportation Services’ interest to provide meaningful and equitable transportation support to every single person on campus.

To achieve this goal, UW Transportation Services intends to develop an equity framework to be used in program development, assessment, and evaluation. This framework would ensure that UW Transportation Services’ efforts at improving sustainability—such as decreasing the percentage of the UW community who drive to campus in a single-occupancy vehicle (SOV) and reducing parking lot spaces on campus—will be done equitably. To illustrate, people who choose to drive to campus in an SOV may find the current transportation options to be inconvenient and hard to reach. Or, they might be unaware of the services that are available. For this reason, an equity framework will help UW Transportation Services combat this problem by helping them think about the ways that they can be more equitable and accessible.

By working with our client, Philip Miller, who guided us through this project, we have created parameters for UW Transportation Services to refer to and abide by for future projects and programs when it comes to serving UW’s diverse demographic in an equitable manner. We did this by researching transportation groups, UW campus groups, union groups, and non-profit organizations to understand what their definitions of equity and diversity are and how UW Transportation Services may incorporate them into their own services and operations.

Methods

Our group decided upon a qualitative approach and collected data by researching how other institutions and organizations define equity as well as the measures that they have put in place in order to achieve this.

The chart below demonstrates the organizations that we found most useful to our research (See: Figure 1). As can be seen, most of these organizations are focused in the Seattle and U-District
areas, such as King County Metro and the University District Partnership. We also studied a few national institutions such as the Service Employees International Union (SEIU) and the National Center of Mobility Management (NCMM). Overall these organizations can be split into three categories: transportation services, UW campus groups, and other organizations such as union groups and non-profit organizations.

<table>
<thead>
<tr>
<th>Transportation Services</th>
<th>UW Campus Groups</th>
<th>Other Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>King County Metro</td>
<td>Student Disability Commission</td>
<td>Hopelink</td>
</tr>
<tr>
<td>Sound Transit</td>
<td>Disability Resources for Students</td>
<td>Service Employees International Union (SEIU)</td>
</tr>
<tr>
<td>King County Access Program</td>
<td>University District Partnership</td>
<td>National Center for Mobility Management (NCMM)</td>
</tr>
<tr>
<td>Seattle Department of Transportation</td>
<td>UW Housing and Food Services</td>
<td>Northwest Universal Design Council</td>
</tr>
<tr>
<td></td>
<td>Campus Master Plan</td>
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</table>

*Figure 1: Chart depicting the different types of groups used during research.*

To get the information that we needed, we attempted to establish direct contact with each organization to find out what their policies were regarding equity. To supplement the data gathered from this endeavor, we examined the mission statements, objectives, constitutions, as
well as the past and present operations of each organization to study their policies, analyze their definitions of equity, and review their equity outreach plans.

However, as many organizations failed to respond to our inquiries, independent research was our primary approach and the most reliable way to retrieve data. Finally, in order to consolidate our research, we also looked into other articles and research studies done on the relationship between transportation service organizations and equity. From there, we developed our recommendations based on our findings.

Further and specific data collected from our research has been consolidated into a separate deliverable for UW Transportation Services, the chart shown above (Figure 2), which contains the summations and direct sources for the information found during the research process.

Results

When reviewing the mission statements of various organizations listed, we decided to focus on the keywords and values that these organizations abide by in terms of what they believe equitable service to be.

**Transportation services results:**

UW Transportation Services, our client for this project, describes themselves as being “committed to ensuring access and inclusion for all” and lists different ways that users with specific mobility needs can use their services. They follow UW’s broad definitions of diversity...
and work to provide a variety of resources that help get people to campus in ways that suit their needs. Other transportation groups, such as King County Metro and Sound Transit Union, define equity as ensuring equal opportunities for all users. Like UW Transportation Services, King County Metro specifically talks about meeting the needs of disabled users but also discusses how racial inequities and sustainability play into their ability to provide equitable service for all. The transportation services we reviewed exhibit equity by creating routes that attempt to service all members of the community, providing access accommodations to those in need of them, and working to give all users fair and equal mobility opportunities.

Accessibility  Inclusion  Fairness  Affordability

On-campus groups results:
Our findings show that on-campus groups’ definitions primarily focus on the acceptance of diversity in all aspects. The Student Disability Coalition and Disability Resources for Students groups both recognize ensuring equal access for students of disability (physical, cognitive, and mental health) are represented and included as an aspect of diversity. This means prioritizing the needs of students with disabilities in all plans, structural changes, and attitudinal awareness. Our other findings from the Seattle Campus Master Plan and UW Housing and Food Services address flexibility in creating safe environments and promoting inclusiveness. This definition includes the ability to identify biases, privileges, and power dynamics. On-campus groups hope to ensure equal access to people of all backgrounds and are flexible in incorporating continuous improvements.

Representation  Flexibility  Opportunity  Equality

Other organizations results (Union Groups and Non-profit Organizations):
According to what we have found from other organizations or institutions such as the SEIU and Hopelink, equity and diversity mean to cater to people of all physical abilities, gender, ethnicities, races, cultures, ages, sexuality, and immigration status. Not only does this definition deal with people of different and unique backgrounds in the present, but also the future
generations of people to come. It is also important to note that this definition operates not only on an individual level but on the level of the communities and families of such individuals as well. These organizations promote the education of the general public on diversity, equity, and the benefits of both, as well as collecting data and researching what categories of diversity and equity needs improvement. Furthermore, these organizations stress the importance of addressing the research findings to create a more welcoming and educated society.

Discussion

Based on our results, we found several common keywords in the mission statements of these organizations which state the values that they abide by as well as reveal what they believe equity to be. We recommend UW Transportation Services to utilize these keywords into their new equity definition and implement these recommendations into their equity framework. We suggest using the keywords: accessibility, inclusion, fairness, affordability, community, education, collaboration, representation, opportunity, and flexibility in UW Transportation’s new equity framework.

The proposed definition for equity we composed is “UW Transportation Services is committed to providing fair and accessible transportation for all UW members - students, faculty, and staff- in order to create an equitable community for all, regardless of one’s race, gender, sexuality, income, ethnicity, immigration status, age, and physical ability.”

This definition is not intended to be a permanent, formal definition, but we believe that this is a good starting place for UW Transportation Services to begin defining equity in their own way.

This framework would help the UW Transportation Services achieve its goals of creating an accessible, sustainable program for everyone in the UW community at the same time as helping them to reduce the percentage of the community who drive to campus in SOV and decrease parking lot spaces. This is because more students, staff, and faculty will be aware of all the
different transportation programs UW provides, as well as create a sense of safety and acceptance for the UW community from all socioeconomic factors, speak a different language, or need physical accommodations.

Next Steps

**Equity Review:**
Firstly, we believe having mandatory yearly equity review sessions as a team would be highly beneficial. These review sessions would allow UW Transportation Services the opportunity to assess the progress that they have made during the course of the year as well as to apply any modifications to their programs and to their definition of equity as needed. This will benefit both the common population of UW, as well as the UW Transportation Services itself as they will always be up to date on the goals that they are trying to achieve and the problems that they have to address in terms of equity and transportation.

We also recommend that the UW Transportation Services send out surveys to the entire UW population so that the UW Transportation Services can get an idea of how well they have been enacting equity in the eyes of the general population. These surveys would also reveal the things that the UW Transportation Services may have been missing or bring to light any problems that they have not been aware of. Thus, the data obtained from these surveys should be incorporated into their yearly equity review sessions and should undergo thorough examination and discussion.

Equity review sessions would provide the UW Transportation Services with organization, as well as clarity, in evaluating their objectives and would allow them to plan further ways to meet their definition of equity.

**Education:**
In terms of education, our research findings showed a common theme within many organizations that we looked into: education amongst the general public. Most of these groups dedicate a good portion of their equity and diversity goals to educating the general public about what equity and diversity mean to them, and how others can benefit from it. We believe the UW Transportation Services should dedicate some time to look into education regarding transportation, equity, and
diversity. This can be done through flyers and advertisements posted around campus, mini discussion sessions, and talks available to all UW students, faculty, and staff.

Promoting education about these topics will enlighten the general population of UW and will highlight what the most important goal of UW Transportation Services is: promoting equity within all forms of diverse groups at the UW, specifically when it comes to transportation. The National Center for Mobility Management (NCMM) also promotes the education of vulnerable populations such as the elderly or people with disabilities on how they can navigate the transportation systems of their respective localities. It would benefit the UW Transportation Services to emulate the NCMM and invest effort into identifying who these vulnerable groups are and establish contact with them in order to ensure that they know how to utilize the services provided by the UW Transportation Services. This would also be helpful in terms of determining the improvements that the UW Transportation Services can make in order to accommodate such populations. For example, UW Transportation Services should reach out to the Disability Resources for Students on campus in order to determine the needs of disabled students and accommodate them.

Furthermore, another possible vulnerable population in the UW that our team has identified are international students or people whose first languages are not English. Not only does this group have to face a potential language barrier, but they may also be unfamiliar with an urban transportation system. Hence, UW Transportation Services should reach out to departments or organizations on campus that work closely with people from diverse ethnic, linguistic, and environmental backgrounds. Such departments or organizations are: The International Student Services (ISS), The Foundation for International Understanding Through Students (FIUTS), the Center for International Relations and Cultural Leadership Exchange (CIRCLE), and the Samuel E. Kelly Ethnic Cultural Center.

**Mission statement:**

Lastly, publishing a mission statement for the UW Transportation Services to abide by would be very useful. Although the UW Transportation Services does list a variety of mobility options and ways for users to get to campus, there is not a published or extensive statement on their website that describes how they personally define equity or how they work to exemplify it. According to
a study examining how urban transportation plans in North America prioritize social equity, it has been found that it is imperative for transportation groups to translate social equity into clearly specified objectives. Not to mention, it is important for the UW Transportation Services to announce the appropriate measures that they would use in order to achieve these objectives in a meaningful manner. Such an endeavor would make it easier for the UW Transportation Services to monitor and evaluate the effectiveness of a certain program or measure which will, in turn, allow them to modify a program as needed.

Conclusion

Overall, we can summarize our research and quarter into the following: we contacted numerous organizations, both local to the Seattle community and national, as well as our own UW campus groups; and collected data on what equity and diversity mean to each and every single one of them in order to find a new definition of equity for the UW Transportation Services to abide by. Throughout the quarter, we came across many challenges which include getting people to respond to our emails and our other attempts at contacting them. However, we managed to overcome this obstacle by doing more hands-on research by the way of investigating the mission statements and initiatives of each organization. In addition to coming up with a rough draft for the UW Transportation Services’ definition of equity, we have also come up with several crucial recommendations that would be beneficial for both the UW Transportation Services and the general UW population. We are honored to have created a foundation upon which the UW Transportation Services could further develop a framework that would allow them to achieve their goals of sustainability in a meaningful and equitable manner.

Acknowledgments

We would like to thank Phil Miller for being a crucial help throughout the quarter and presenting us with this exciting project, as well as Alexa for guiding and aiding everyone as they finished their projects. This was an amazing opportunity for us all, and we have gained new skills that we will cherish throughout the rest of our academic and work-related careers.
References


Climate Justice in Seattle

Enviro 480: Sustainability Studio

Battulga Erdenebat, Isabella Koch, and Emily Vandeberg

In collaboration with Global Shapers and Cascadia Climate Action
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INTRODUCTION

In partnership with Global Shapers Seattle Hub and Cascadia Climate Action, we helped in the process of developing a climate justice-related program in Seattle. A large portion of our work went towards the survey process to understand the involvement and understanding of Seattleites towards climate justice issues.

CLIMATE JUSTICE

We define climate justice as the intersection of climate change, human rights, and social justice. The increasing effects of climate issues have negatively impacted vulnerable populations causing an inability to access affordable housing and healthcare. While we understand that climate justice is a part of climate change, we put emphasis on climate justice to help our survey respondents understand the specific barriers that they face in taking action.

BARRIERS

Our main goal is to understand the barriers that Seattleites have towards climate justice. How Seattleites come to an understanding of their knowledge and actions towards climate justice are answered through our survey. We understand that certain demographics may have less engagement with climate justice. Therefore, it is important for us to be educated on the specific barriers that certain groups face.

METHODS

SURVEY DESIGN

While designing this survey, many discussions were had about the kind of information we were hoping to obtain. The revision process was ongoing to ensure that questions were
necessary and were phrased in a way that would supply relevant and substantial information. There were three main areas that we discussed as the survey was designed, and they were demographics, optional versus required questions, and terminology used in questions. A primary goal of the survey was to gather the maximum amount of data possible without making the survey too lengthy or complex. In order to provide information in multiple ways, survey questions were formatted to be multiple-choice, fill in the blank, or rank oriented.

Figure 1: Example of a rank oriented question in our survey.

Figure 2: Example of a multiple-choice question from our survey.

Figure 3: Example of fill in the blank question from our survey.
DEMOGRAPHICS

Gathering demographic information was a key aspect of the survey because it would provide insight as to who the survey was reaching and where there is room for improvement. Through asking demographic questions, it was possible to see that the survey dominantly reached college-aged students. While this is not necessarily a bad thing, it does present the opportunity for expansion in the future to ensure that the sample population is representative of all Seattleites.

After much consideration, it was decided to position demographic questions at the end of the survey. This was done to provide the respondents with the context of the project before inquiring about their personal identities. It was also decided that demographic questions should have a “prefer not to say” option. Including this option ensured that survey participants were able to opt-out of answering demographic questions that they felt were too personal or were not relevant to the topic being discussed.

While we felt that it was important to include a question about gender, we faced some challenges in creating the question. It was clear that there needed to be more than just “male” and “female” options, but it was not clear what options should be provided for sexual identity. This was a challenge because the survey was intended to be inclusive of all members of the Seattle community, regardless of gender expression, race, education level, or other demographic factors. In order to ensure that all gender groups were represented, an “other” option was provided that would allow respondents to enter in their own gender. The question also included a “prefer not to say” option that allowed participants to bypass the question.

REQUIRED VERSUS OPTIONAL QUESTIONS

The vast majority of questions included in the survey required an answer. The survey was designed this way so that each response provided a substantial amount of information. There were some questions that we felt were unreasonable to be made required. With these specific questions, they were either marked as optional or included a “prefer not to say” choice. Many of the questions that were not required addressed personal identity or demographics, prior or current involvement in climate justice, and requested resources. We wanted to celebrate involvement and
action without shaming those who have not had the opportunity to get involved. This was the driving force behind leaving personal questions optional.

**TERMINOLOGY**

At the beginning of the survey, a brief definition of climate justice was included. While “climate justice” is not a phrase that is used often in casual conversation, it was important to lay a foundation for the survey so that each participant understood what was being asked of them. Throughout the survey, an intentional distinction was made between climate change and climate justice. While the two concepts are closely related, our survey aimed to specifically study the perception and understanding of climate justice within Seattle. One of our key findings was that while respondents may have an understanding of climate change, they have a less developed understanding of the inequity associated with climate change and its impacts. Because our survey aimed to directly investigate the knowledge of inequity associated with climate change, much of the terminology was centered around the concept of “climate justice”.

**Climate Justice:** For purposes of this survey, Climate Justice will be defined as the intersection of climate change, human rights, and social justice. Globally, the effects of climate change impact the people who are least responsible for causing the problem and often most vulnerable to the impacts. Locally, similar patterns exist, poorer neighborhoods bear the brunt of health impacts from pollution. (adapted from Friends of the Earth Europe, The Mary Robinson Foundation, and Urban at UW)

*Figure 4: Our final definition of climate justice that was included in the survey.*

**MAILING LIST**

Our respondents for the survey came from specific mailing lists that we have an association with. The list included participants in the University of Washington Departments, Global Shapers Seattle, and Cascadia Climate Action. Although these specific groups come with a bias and background knowledge similar to each other, the only groups that we can manage to directly connect with are the ones listed. To accomplish this we sent out the following email format:
Email:
Subject: We want to hear from you!

Dear ________,

Global Shapers Seattle Hub in partnership with Cascadia Climate Action is looking for responses to an anonymous survey related to your knowledge on the topic of climate justice. The survey (linked here) should take about 10 minutes to complete. Collected data will be reviewed by fellow UW students in order to get a better understanding of climate justice knowledge in the Seattle area. Every answer helps!

Thank you for your participation.

Figure 5: Format of the email sent out to potential survey respondents.

In addition to our mailing list, we posted on our own social media to help broaden the scope of our survey respondents. Here is an example of our Facebook post format:

Facebook:
Hi everyone!
Global Shapers Seattle Hub in partnership with Cascadia Climate Action is looking for responses to an anonymous survey related to your knowledge on the topic of climate justice. The survey (linked here) should take about 10 minutes to complete. Collected data will be reviewed by fellow UW students in order to get a better understanding of climate justice knowledge in the Seattle area. Every answer helps!

Thank you

Figure 6: Format of our survey posting on Facebook.

I. RESULTS

In total, our survey had 100 respondents. Our main findings are illustrated in the figures below.
Figure 7 exemplifies the age range of our respondents

Overall, the sample population of our survey consisted of young college students between the ages of 18-25. 67% of respondents were in between the ages of 18-25. Since our respondents seemed to be younger, we assume they probably have more knowledge on climate justice due to the rising context of climate issues in today’s society. Additionally, 42% of our respondents marked their education level as “some college.” Due to the majority of our respondents having higher education, we believe that they may have an increase in knowledge of climate justice than the average person. Climate injustice overwhelmingly impacts those who live in impoverished or minority communities. Since our survey didn’t reach those who are most negatively impacted by disparities in climate justice, expanding the sample population in the future is highly recommended.
Figure 8 exemplifies the results from the survey question “how much of an impact do you believe climate justice has on you personally?”

Figure 9 exemplifies the results from the survey question “How would you most want to get involved with climate justice?”

Figure 7 shows that most of the respondents didn’t feel like climate justice had a big impact on them personally. This means that many are probably not aware of the implications of climate justice happening around Seattle. Additionally, Figure 8 indicates that people are most likely to get involved with climate justice through voting. All in all, education of climate justice issues in the Seattle area, as well as voting information will be beneficial in the future.
IV. DISCUSSION

Recommendations

There are two primary methods of continuing this project into the future. One method includes continued sampling and data collection while the other centers around education. Due to the time limitations of the quarter system, we were unable to reach the diverse population that we were hoping to survey. With this in mind, there is an opportunity to continue surveying Seattleites in order to gather more data. The second application of this research is to begin educating the Seattle community on climate justice and providing requested resources. Both of these actions will allow for dialogue about climate justice and will encourage members of the community to take action.

CONTINUED SAMPLING

This survey served as a starting point for this research but we are hoping that this is not the ending point. Moving forward, it would be highly beneficial to partner with other organizations and networks to extend the reach of our survey. With this additional step, we hope to reach a more representative population of Seattleites, not only college-aged individuals.

Additionally, we have created a document with contact information of individuals who expressed an interest or willingness to be interviewed. While extended surveying will provide more surface-level data, conducting interviews would provide more in-depth understanding of climate justice in Seattle. When interviewing these individuals, it may be beneficial to focus on barriers and possible solutions. Many respondents expressed that time was a large obstacle for them to overcome, how can we make it easier and less time intensive to get involved in climate justice?

EDUCATION & RESOURCES

Many survey participants expressed that they would like to take action through voting, but feel unequipped to do so. This is a great opportunity moving forward to provide online
resources that educate the community on climate justice bills, as well as providing information on the priorities of local representatives and elected officials.

There was a question within the survey that asked participants what resources would be most useful to them. In response to this question, many people articulated that a web page with climate justice information would be highly valuable. To take it one step further, we believe that advertising climate justice events and conversations will greatly increase involvement of Seattlites on the issue.

In response to a question that asked, “how much of an impact do you believe climate justice has on you personally,” 44% of respondents felt that climate justice did not directly impact them in a substantial way. This result led to conversation, especially about awareness and knowledge. Do these people feel this way because climate justice is truly not impacting them, or do they feel this way because they do not know what climate justice may look like in their own lives? Sharing personal testimonies of climate injustice is a great way to increase awareness and make climate justice a more personal issue to get involved with.

V. CONCLUSION

In conclusion, our main goal was to better understand the population of Seattle’s knowledge relating to climate justice.

Additionally, we recommended to our client to expand the sample population. As stated previously, our sample population reached young college age students. Due to climate injustice mainly impacting poor and minority neighborhoods, it is vital to expand the sample population to those that are most impacted.

Our main finding suggests that the best way to improve Seattle’s knowledge on climate justice is through providing resources and education to the general public. Since voting was marked as the most popular way of getting involved in climate justice issues, we recommend providing resources to better educate voters on different politicians, policies, and bills involving climate justice. Advertising climate events would also be a beneficial educational resource. Through
education, Seattlites can better understand how climate injustice is impacting their communities and form a stronger emotional connection to the issue.

Our results successfully allowed us to understand more about Seattlite’s overall knowledge on climate justice. These findings will hopefully better equip our clients with ways to increase participation relating to climate justice issues throughout Seattle. Overall, the City of Seattle will benefit from increased knowledge of climate justice.
VI. REFERENCES


SUSTAINABLE SEATTLE (S2)

END OF YEAR APPEAL & CAMPFIRE STORIES

GRACE ZAMZOW, ISABEL CORONA-CAMPIZ, LEVI A. CASTO, ALEX LAM & SHEA BRAY

IN COLLABORATION WITH EM PIRO & NATALIE HAUSER
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INTRODUCTION

Our project is based around creating a successful Campfire Stories event as well as their End of Year Appeal for Sustainable Seattle. These events promote sustainability in the Seattle area and get the community involved and educated about our environment, even showing others how to become an activist. Our main objectives were divided into four separate groups: research, social media, procurement, and ad posting. For research, the main goal was to provide detailed intel on equitable profit sharing and how to host a successful event. Social media’s goal was to increase engagement with Sustainable Seattle through their social media. Procurement's main goal was to accumulate sponsorships for their event, while the ad posting group focused on promoting the event on online forums.

METHODS

ESTABLISHING THE PROJECT SCOPE

We all met with Sustainable Seattle several times outside the studio time assigned to us. Our first meeting with our client helped establish what our role as consultants were in order to assist in the making of their annual End of Year Appeal and Campfire Stories event. Our supervisors drafted up a list of assignments that our group had to work on and finish before the event, designating each of us to a different assignment to work on simultaneously. The assignments outlined consisted of:

1. **Researching** the topics of Equitable Profit Sharing and Online Event Advice
2. **Social Media** postings about the End of Year Appeal and other events
3. **Procurement** of potential in-kind donations from organizations
4. **Advertisement Posting** for the End of Year Appeal and Campfire Stories
RESEARCH

Our group was tasked to specifically write up a document of our research and analysis of equitable profit sharing and how to plan and host an online event. We discussed our options and decided to start searching for any information on equitable profit sharing as a starting point.

Our goal in researching equitable profit sharing was to discover any information and official methods of having an equitable profit sharing system for a business and/or nonprofit. The search began first in the database known as Google Scholar, where we attempted to find any articles that discussed equitable profit sharing. However, after a considerable amount of time combing through the various articles and scholarly papers, there was not a concrete amount of information in many of the results that discussed practices of equitable profit sharing. With that in mind, we decided to change our strategy and look into sources beyond the database. After a quick google search of “equitable profit sharing strategies”, we had begun to find a few different business oriented articles giving advice on profit sharing and the differences between equity, but unfortunately not much of what we were initially looking for. However, we did find some helpful advice across the different articles and documented them into the document deliverable.

After finding what we could about equitable profit sharing, we moved on to our next topic of research: how to plan and host an online event. Because this topic was very opinionated in nature, we had focused on finding a source(s) of information that provided extensive advice on the planning and hosting an online event for nonprofits. Once we had our topic focused, we found an article that provided a multitude of information of exactly what we were looking for. The article outlined the planning processes, the hosting guidelines, and even examples and useful tools. Satisfied, we compiled and analyzed that information into the document alongside the equitable profit sharing.

SOCIAL MEDIA

When tasked with creating and posting a social media campaign for S2’s community event, 12 days of giving, we had to first research various resources, articles and
photos that “represent” what happened in 2020. These were a mix of academic and personal sources that discussed environmental or social events that occurred in our region (or world) every month. The organization's goals in doing this were to demonstrate what they had been doing in response to these events and how donations or involvement in S2 would help to stimulate discussion and spark change towards a more sustainable community.

In order to provide S2 with the most resources possible, we created a google document listing the most impactful events from around the world by when they occurred, in addition to copyright free images that provided a visual aid to the information given. We then worked with the organization’s social media coordinator to write captions for the social media posts, detailing the events and fundraisers S2 had been working on in 2020.

In the captions we aimed to connect S2’s work to our research and also give people outside resources to use if they wanted to get involved or learn more.

**PROCUREMENT**

For our team’s procurement efforts on behalf of S2, we had three major objectives, each with different methods. First, to develop a list of local business contacts upon which S2 could rely for sponsorships and donations, the procurement team researched major sustainability-minded organizations in the area using online resources. We paid especially close attention to the selection of potential organizations based on shared missions and values, and recorded information including websites, phone numbers, emails, and more for nearly 30 companies in a spreadsheet delivered to S2. Second, to extend sponsorship and donation opportunities to our contact list and to begin business relationships, we emailed all of our contacts to inform them of our end of year appeal and the ways they could partner with us. We also sent follow-up emails for all of these companies, either confirming their decisions or re-inviting their collaboration. Finally, to leave S2 with lasting resources for future procurement efforts, we maintained and handed off all of the initiated business relationships and compiled a best practices document.
based on our experiences and a few additional resources found online to be consulted in the future.

**ADVERTISEMENT POSTING**

Our team was responsible for creating and posting ads for Sustainable Seattle’s Campfire Stories event. We started by compiling a document with 16 potential websites where we could post the ad. In our research we checked the cost of each platform, their guidelines, and how far in advance they allowed the ad to be posted. S2 was looking to minimize the cost, have images in their ads, and for the ads to be posted as soon as possible.

**RESULTS**

**RESEARCH**

After compiling all our research on equitable profit sharing and how to plan and host an online event, we organized all the information and formatted everything into sections based on the topic, including highlighted information that we believed to be important and noteworthy enough to be useful to Sustainable Seattle in present and future projects/events. Once the document was sufficiently completed, we submitted our document to the Sustainable Seattle Slack Channel for Em or Natalie to peruse as needed, as the document provides various pieces of useful advice along with an outlined section of potential applications and online event hosting platforms, step-by-step guidelines for planning and hosting an online event, and more.

**SOCIAL MEDIA**

Following the research and planning needed to figure out what we wanted to communicate to the community, our team worked to condense this information into concise and clear social media postings that varied according to different media platforms. After creating a final social media
plan that outlined the days and times for when to post, we used Facebook to manually upload the posts during the 12 days of giving campaign. These postings worked to communicate the organization's message as well as appeal to the target audience that they are hoping to engage with. Through this experience our team learned how to create an advertising schedule and showcase the efforts and actions of an organization through the lens of social media.

**PROCUREMENT**

Of the 25 companies we reached out to for procurement, only two responded, both of which reported that collaboration at this time would require more time and effort than their bandwidth allowed. All of the unresponsive organizations were sent follow-up emails and were still unable to respond before our event, but this effort was still valuable for two ends. First, even though none of our companies were able to partner with S2 on this event, the value of collaboration with S2 and the worthiness of their efforts was communicated directly to stakeholders at each company. In addition, the difficulties identified as causes of the rejection and nonresponse informed our document listing resources and best practices for procurement. This document was another ultimately valuable result, and the most basic principles that it communicates include the value of relationship selling as a partnership strategy, the importance of devoting time, effort, and resources to procurement efforts, and the payoff potential of maintaining consistent partners in procurement.

**ADVERTISEMENT POSTING**

Once we found websites that aligned with the criteria that S2 wanted, we were able to make accounts and post the descriptions and images provided by S2. We narrowed the 16 potential ad sites and successfully posted 3 ads onto Mobilize, Events Near Here and Eventbrite. All three of the ad sites were free, posted immediately, and allowed at least one image. Each of the advertisements were completed with information about the End of Year Appeal and Campfire Stories and accompanied with a promotional graphic for Campfire Stories.
DISCUSSION

Working with Sustainable Seattle, we were given various tasks and assignments to complete during our time with their organization, and we believe that within the time given, our group has done a successful job in completing and meeting their expectations.

LIMITATIONS

We had a lot of time constraints in each of our separate projects. With only 10 weeks to get our deliverables out, it was difficult to provide conclusive information about equitable profit sharing that would prove useful to Sustainable Seattle. In terms of procurement, it was difficult to acquire any major donations as building these kinds of relationships takes time and further communication. Not only that, the advertisement postings for the Sustainable Seattle events were only a small handful of postings. With more time, we would have very much continued our efforts in creating more advertisements for the events and possibly have posted to some of the platforms that required processing time for events to be vetted.

RECOMMENDATIONS

As we completed our deliverables for S2 we were able to reflect on some recommendations that could help S2 with future events:

Planning and Hosting an Online Event - When it comes to online events, there are more than enough different options that will help satisfy any needs or goals a company/organization would want. However, as such, there are better options for certain events while some don’t always fit the bill. We recommend that the best website to use Zoom for the platform, as it has become a widely used platform to host various events and schooling that a more wider audience has become aware of. The other sites like Facebook Live or Youtube Live serve their purpose well, but have less function for audience participation or audience knowledge when it comes to using a new platform like those. They have their merits but in the end, Zoom does well in capturing a wider audience and is more familiar to them.

Social Media Engagement - We believe that tailoring S2’s social media posts to various platforms will increase engagement. The posts themselves aren’t universal and they can look
different on other platforms, so editing them according to each platform will increase engagement. There are also different audiences and age ranges that S2 could potentially be missing with their current advertising. A certain cover picture and caption can make a difference with whoever they are trying to engage for any specific event.

**Procurement** - The procurement process should be handled using a relationship-sales strategy. Approaching a business via an introduction through personal or professional mutual contacts will offer a higher rate of success than cold calling. Developing consistent, communicative, and mutually beneficial relationships between local businesses and S2 will ensure a reliable source of donations for future procurement efforts. We recommend that S2 centers relationships in their procurement strategy, and focuses on referrals for growing its business network.

**Advertisement Posting Conciseness** - When trying to increase community involvement in S2, it's important to keep all advertisements and postings short and direct. It's likely that they will only have someone's attention for a few moments and it's imperative to leave a lasting impression that will cause more people to look further into the organization. Additionally, many environmental topics can be confusing and complex, so simplifying this information will be helpful in communicating to people why they should care and donate to S2.

**NEXT STEPS**

These are future pathways we think Sustainable Seattle should pursue based on the work we have provided them with this quarter:

Reading the research document on equitable profit sharing and event hosting and implementing the suggested practices into future events will help steer Sustainable Seattle away from hiccups that may arise when hosting an online event. The smoother the event, the more likely people are to return and tell friends.

Experiment with different types of ads on different social media platforms to find out which type of ad engages that audience best. Help boost engagement by implementing the recommendations of concise, memorable ads.
Reach out to businesses through personal or business contacts to develop and sustain procurement relationships, and use those contacts to further extend the network. Begin these relationships months in advance to the event that needs to be sponsored.

Start planning for the next event now or as soon as possible to eliminate the maximum number of technological and/or human errors. Create ads to post on boards that are popular in the Seattle area as well as make these ads similar to the ones posted on social media.

**CONCLUSION**

Working with Sustainable Seattle (S2), our group was tasked with assisting S2 with their End of Year Appeal and Campfire Stories annual event. Our primary goal was to increase community engagement with S2 and provide greater sustainability efforts in the Seattle area. We submitted to our client the following deliverables to assist Sustainable Seattle in future planning and events:

An analyzed and compiled document containing the cumulative research efforts about equitable profit sharing, planning an online event, and hosting an online event. This document has been organized by category, with step-by-step advice and explanations that details the methods of planning and hosting. Also, the document contains highlighted and bolded details of importance that our group found more prominent or important for Sustainable Seattle to follow. The document will potentially be a great asset for Sustainable Seattle to use for future planning and for guidance on hosting an online event.

A compiled document of photos and events that represent the year of 2020, along with postings of events and information that are available to the community through the social media posts. The document and social media postings serve as an example of what Sustainable Seattle can continue to do for future End of Year Appeals and Campfire stories to gauge audience interest and increase involvement. In addition, they serve to provide the community with resources to learn more about sustainability.

Accumulated a list of 25 businesses that aligned with Sustainable Seattle’s goals and reached out to all of them for potential sponsorships and future business relationships. We’ve taken what we
learned and combined it with research to create a procurement best practices document that Sustainable Seattle can utilize for future procurement efforts.

Three online ad postings with a description and image for Campfire Stories have also been submitted. These ad postings were beneficial in getting S2 more exposure on different platforms. We also created accounts with an email address that they can continue to use for future event advertisement postings.

Our results from this project successfully met the complete scope of the assigned tasks. The work done within the time of our project will hopefully be a great asset for Sustainable Seattle in communicating sustainability and their goals as well as educating their audience to a wider audience both online and to the greater Seattle populace.

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REFERENCES


People for Climate Action

Collaboration between Climate Advocacy Groups in Seattle

By Zoe Lew, Hanna Treppenhauer, Sarah Zwaagstra
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1. Introduction

We worked with People for Climate Action (PCA), and on their site, they define themselves as a “regional based organization working to help local governments develop and implement comprehensive climate action plans to reach the greenhouse gas reduction targets set by King County-Cities Climate Collaboration”. Per our client’s request, we pursued the potential for coordinated advocacy amongst Seattle based climate action organizations. Collaborative advocacy is people working together using effective communication strategies, facilitative behaviors, interest-based problem solving skills to promote a shared goal. Our main research question is “What is currently being done to foster collaborative advocacy for climate action groups in Seattle and how can we promote this or make it more effective”? Objectives consisted of finding out if there was a common interest amongst the environmental organizations, the barriers and interests of environmental advocacy, and accessibility of collaboration. The project is important in the context of sustainability because collaborative advocacy is crucial in order to enact change and facilitate action amongst the local government. It is easier to create change when it is known that multiple organizations and groups of people are all advocating for the same objective.

II. Methods

A. Literature Review

We began to answer our research question by conducting an online review of relevant literature to gain a more thorough understanding of cross-sector collaboration and coordination. We conducted our online research mainly through the UW libraries database and our key words consisted of advocacy, collaborative advocacy, advocacy hubs, remote collaboration, and environmental advocacy. With this online research we were able to create a building block of understanding of collaboration to base our interview methodology off of. Additional to our main research question, we explored sources that outlined effective collaboration strategies, the
opportunities and challenges of collaborative advocacy, what remote advocacy looks like, and how collaboration can be made more effective in order to achieve climate action goals. We also conducted basic google searches to learn more about existent coordination hubs and collaborative advocacy efforts to compare to what Seattle Climate Organization has done with their hub, and explore where there may be opportunities for improvement in the formatting of coordination portals.

B. Interview methods

In addition to our literature review, our group conducted multiple qualitative open-interviews with climate advocacy groups in order to answer our researchable question. We found these groups using seattleclimate.org, which is an online collaboration hub that is managed by the 43rd District Democrats Environmental Caucus and lists 32 climate action organizations within the region of Seattle. Our initial recruiting email generated responses from eight climate advocacy groups who we then set up remote interviews with over Zoom. The eight groups that we subsequently interviewed were Shift Zero, Spark Northwest, Washington Physicians for Social Responsibility, Seattle Citizens for Climate Action, 2050 Institute, Climate Action Families, 350 Seattle, and Northwest Energy Coalition.

Our interviews consisted of a baseline of eight questions and began with a confidentiality agreement where participants were assured that all recordings and notes would be deleted at the end of the quarter, in addition to all names, affiliations, and titles being redacted from our final report. This was done to remove bias when organizing our responses as well as to protect the privacy of participants. Within these interviews, our group asked the initial question of how their organization has collaborated on shared objectives in the past in order to gain a better understanding of what effective collaboration might look like in the future. This was followed by a series of subquestions that investigated what aspects of that collaboration were effective, how they benefited from this collaborative strategy, and whether there was any room for improvement. Additionally, we asked about current policy objectives/goals that their organization was working on accomplishing, as our clients were interested in knowing about potential shared objectives between organizations. Our clients were also interested in real and perceived barriers to becoming an environmental activist, which would help with engaging more
volunteers in the future. Finally, our group asked about what the most accessible format for collaboration might look like in order to make an informed recommendation for centralized communication.

III. Results

A. Research Results

First, we analyzed the results from our literature review and online research, which proved helpful when we moved into conducting interviews. With the base of knowledge of what collaboration in a general sense consists of, we were able to transfer common practices and opportunities and challenges of collaboration to our specific topic within climate advocacy. Given the circumstances of our current times in the midst of a pandemic, which has severely limited in-person contact, one of the most salient results from the literature review was that it is becoming increasingly important for organizations to use the internet as a tool. In the past email has been a prominent tool in coordinating between groups and keeping in contact, however, there are now more interactive online platforms that allow for more swift communication. Video conferencing and virtual communities have proved to be effective and efficient means of communication and work streams (Hick & McNutt, 2002).

Another type of virtual community is this idea of a “hub”, which is something that seattleclimate.org has started working on. What we found from our research, and time spent with our clients Robin and Dave, is that a hub serves as a one stop shop for communication and connection and can help to increase awareness about community and organization actions. From the examples of online hubs that we found in our research, successful collaboration includes the joining of many different stakeholders in a deliberate and intentional way in order to streamline collective goals (Knight, 2014). Overall, using a digital collaboration hub can be an easier way for people to engage and find information from one “home” source that is easily accessible from different devices (Slamon et al., 2018).

Encouraging organizations to collaborate can be incredibly time consuming and difficult, especially considering all of the different communication strategies that people use today. To
combat these challenges of collaboration, a study found from 30 years of National Geographic magazine uncovered strategies to encourage more engagement on environmental issues (Bortree et al., 2011). The study found that the way that environmental messaging is framed and marketed is an important factor in motivating both individuals and organizations to get involved in advocacy and that “advocacy groups that encourage engagement on environmental issues may be able to achieve a better relationship with key stakeholders than those who” only promote what their organization is doing to tackle the issue (Bortree et al., 2011). Considering this key takeaway, we believe that a collaboration hub or one central platform for collaboration on shared goals could come into play to create the necessary relationships between organizations to successfully collaborate.

B. Interview Results

The interviews we conducted yielded a very general consensus of organizations being unaware that they were listed on the seattleclimate.org collaboration hub. Our group gathered that the reason for this was that the hub had been created relatively recently and organizations listed as being a part of the hub had not been contacted about their involvement. Our group is unaware if seattleclimate.org is still in the process of developing their website to be used as a tool for collaboration between these organizations, but have included recommendations about how future changes to the hub could make it more effective and accessible in Section IV.

In response to our inquiries about current and past collaboration between climate action groups, many participants relayed that collaboration was initiated based on outreach between organizations, with an emphasis on networking through events, protests, marches, and social media. Our group also found that many participants required collaboration opportunities to be well organized and pre-planned, which one organization referred to as “spoon-fed opportunities.” We gathered that the reasoning behind this was that many organizations do not have the capacity or resources to participate in collaborative activism when the objectives of the collaboration lack clarity and conciseness. This barrier may be overcome by a designated communications facilitator or collaboration management position, which is explained further in Section IV.

While investigating the challenges to fostering effective and sustainable collaboration,
many organizations expressed that working from home has made the ability to collaborate more difficult or impossible under current circumstances. That is not to say that collaboration between organizations is not happening, but rather it is happening on a level between organizations that have already established partnerships and expectations. Organizations without predetermined collaborative partnerships expressed that collaboration under current circumstances is inhibited by communication fatigue and a lack of time. Specifically, these organizations reported feeling overwhelmed by the amount of emails associated with working from home, and would prefer a centralized communication platform in order to ease future collaboration efforts and prevent the aforementioned fatigue.

Within our interviews, our group also investigated the barriers to becoming an environmental activist in order to gauge potential issues with participating in climate advocacy. Our group found that many people within the field of environmental activism have a difficult time finding jobs that pay a living wage, or even provide a wage in the first place, meaning that many opportunities are on a volunteer basis and participation is dependent on economic standing and time available. Additionally, some of the groups that we interviewed expressed that there is a lack of overarching framework to hold together strategies and ideas for collaboration, which translates to collaboration not being sustained in the long-term due to a lack of management and upkeep of the communication platform being used.

IV. Recommendations

Our first recommendation is to implement a consistent form of communication to be used across collaboration between environmental advocacy groups. We consistently received responses from our interview participants that collaboration was inhibited by information overload through email and a variety of other communication hubs. For example, one climate action group recalled being overwhelmed by the amount of fundraising emails they were receiving, and that they would have rather only received emails specifically talking about events and objectives from climate action groups that they were also interested in. This barrier was the most prevalent problem that was cited amongst climate action group’s collaboration with each
other. Our group recommends a single-source of communication in order to overcome this challenge to communication, such as Slack or a google forum where ideas of collaboration can be communicated more concisely.

Our second recommendation is the development of a backend collaboration platform on top of the frontend engagement platform on seattleclimate.org. Many climate action groups vocalized the need for a more concentrated area to discuss objectives and seek for, or give, help on projects that would be separate from the public. This would help with email fatigue, as many climate organizations want messages tailored for climate action groups. On seattleclimate.org, there should be development of backend collaboration, where those in climate action groups can log in to receive information targeted for this audience. The backend collaboration would consist of updates about what the organization is working on and a platform where organizations could ask for support for an event or objective. The general page of seattleclimate.org would have descriptions of organizations and a public calendar specifically for events climate action organizations are hosting. We recommend that this platform ensures accessibility from multiple devices in order to prevent barriers to using it.

Our last recommendation is the implementation of an active management position for collaboration between organizations within a chosen format for collaboration. While many platforms exist for collaboration to occur on, these public networking sites often fall into disuse due to lack of upkeep and management within organizations. From what we have learned through our research, it is evident there is a need for a social networking system where activists can set the parameters of collaboration in a format that allows them to present what they are working on and what kind of support they need. Ideally, the person in the management position would already be a lead communicator for a larger climate action company. From their large network, it would be easier to facilitate this responsibility. Alternatively, the position could potentially be filled in by an intern, or group of interns, looking for experience in fields relating to environmental studies, public policy, political science, or communication.
V. Conclusion

As many of us know, COVID-19 has severely limited the scope of what we are capable of accomplishing under current circumstances, and climate action organizations are not exempt from that. While our research was limited by time, sample size, and a variety of other factors, it was obvious in our interviews that many organizations do have a desire to collaborate on shared objectives, but are overwhelmed with just keeping their organizations afloat and maintaining the ability to meet their individual goals. The potential for collaboration between these climate advocacy groups does exist and we hope that, in the near future, our recommendations will be helpful in guiding and fostering communication between groups interested in collaborating.
VI. Work Cited


“INCREASED ACADEMIC INVOLVEMENT IN RECYCLING”

University of Washington (UW) Recycling

December 16, 2020
Aina Hori | Elizabeth Lee | Jose Amezcua-Morfin | Lena Vannice

Liz Gignilliat, UW Recycling Manager
Madeline Schroeder, UW Recycling Program Coordinator

“Sustainability Studio” (ENVIR 480)
University of Washington
Seattle, Washington
Autumn 2020
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The UW Recycling project on “Increased Academic Involvement in Recycling” for the University of Washington Autumn 2020 “Sustainability Studio” (ENVIR 480) course offers explorations on human dynamics, recycling processes, and needs at the University of Washington (UW), Seattle campus, as UW Recycling sought to understand pathways for collaboration and expansion at the University of Washington. To develop areas for improvement, UW Recycling requested the Student Project Team create and distribute a survey to the University of Washington, Seattle faculty, including questions that would assess levels of “familiarity,” “use,” and “collaboration potential.” As such, the UW Recycling Autumn 2020 project revealed priorities and pathways for “partnerships” surrounding recycling, which can be extrapolated to represent other “collaborations” in the environmental and sustainability sectors, offering insight with respect to academic perspectives and environmentally-concerned potential.

Collaborating with UW Recycling

While conducting the project with UW Recycling, the Student Project Team aimed to achieve three areas of academic and professional enhancement. The Project Team’s goals were to:

● Develop proficiency in coordinating and managing a large-scale project;
● Gain consulting and project experience working with a client;
● And contribute to the UW community.

During a meeting with Liz Gignilliat, the UW Recycling Manager, and Madeline Schroeder, the UW Recycling Program Coordinator, the following objectives were determined to be of priority importance:

● Understand the extent of faculty knowledge about UW Recycling and their services;
● Increase potential collaborations with various UW departments;
● And obtain recommendations from the Student Project Team provided in a summary analysis of faculty survey responses.

The Project Team attempted to avoid misunderstandings by clearly and efficiently collaborating with UW Recycling, being mindful to respect the Client’s time and desires throughout the
The project’s completion. Furthermore, the Student Project Team completed the objectives for UW Recycling in tandem with the established student “goals” for the Autumn 2020 ENVIR 480 course, which result from experience with conducting a client project at the University of Washington.

At the conclusion of the project, UW Recycling gained (1) a customized survey for faculty and staff at the University of Washington; (2) an analysis of findings from the survey responses; and (3) a report detailing recommendations for UW Recycling moving forward, including the analysis from deliverable (2). As discussed with UW Recycling, the university-wide survey was developed with the intent for UW Recycling to better understand how to effectively collaborate with faculty and provide for faculty needs through UW Recycling’s various services. Therefore, the three-tiered project focused on UW Recycling and the UW faculty and staff at the Seattle, Washington campus.

**Project Scope**

The “scope” of the project was to conduct a campus-wide survey that was open for responses from November 10, 2020, to November 20, 2020. In alignment with UW Recycling’s desires, the survey asked questions to gauge faculty awareness of UW Recycling programs and interest in partnering with UW Recycling. This summary deliverable provides information about UW Recycling’s current outreach to faculty, opportunities for improvement, individual interest in collaborating with UW Recycling, and recommendations on how to enhance faculty and staff outreach.

Due to the time constraints of the Autumn 2020 Quarter, this project did not take any action beyond the deliverables discussed in this document and previous ENVIR 480 documentation. Therefore, the Student Project Team did not participate in interviews or data collection beyond the survey and corresponding analyses. All follow-up research and questions are under the responsibility of UW Recycling.
METHODODOLOGY

The Student Project Team utilized Google Forms to create the Autumn 2020 UW Recycling Survey as well as conduct the project research. The research began by outlining the project, developing draft survey questions, and collecting University of Washington, Seattle faculty and staff contact information. UW Recycling provided the Student Project Team with a list of contacts, which was expanded by the Student Project Team with additional research using the “UW Directory” as well as UW departmental webpages.

To construct the UW Recycling Survey, team members analyzed elements of past surveys and relevant literature provided by Alexa Schreier and UW Recycling to gain knowledge of different techniques (Fowler & Cosenza, 2008; Holland, 1999; Johnson, 2015; UW Recycling, 2020). The resulting survey included questions pertaining to faculty awareness of programs and services, interconnections between waste and courses taught on campus, usefulness of different programs and services offered by UW Recycling, and access to UW Recycling resources. The survey asked a combination of open-ended, multiple choice, and Likert scale questions, refined by revisions based on Alexa Schreier and UW Recycling’s reviews. The final survey was concise and informative, and was advertised as taking approximately fifteen minutes for respondents to complete based on recommendations by UW Recycling.

The survey was reviewed and approved by UW Recycling after the modification process, which began with UW Recycling on Monday, October 26, 2020. The Student Project Team received further insight from Alexa Schreier regarding the content of the survey and used that feedback to adjust the survey questions prior to distributing the survey to UW faculty and staff on November 10, 2020. The survey accepted responses until November 20, 2020, and was officially closed on November 21, 2020.

To incentivize participation, a raffle was conducted throughout the course of the survey. Twelve participants won either a Starbucks gift card, two UW Recycling “Cotton Produce Bags,” or a UW Recycling “Silicone Snack Bag.” UW Recycling provided two ten dollar Starbucks gift cards, ten “Cotton Produce Bags,” and five “Silicone Snack Bags” for the raffle, with the
“Cotton Produce Bags” rewarded in pairs. The Student Project Team subsequently provided UW Recycling with the contact and mailing information for UW Recycling to distribute the prizes to winners after the concerning survey cycle closed.

The survey results were analyzed by the Student Project Team by sorting and evaluating the quantitative and qualitative data separately. The quantitative data were organized and appropriated into statistics and figures that represent responses to the multiple choice and Likert scale questions. The qualitative data received from the open-ended questions garnered a more comprehensive analysis which involved reading through responses and recording general trends from concerns, ideas, and areas for potential collaborations that respondents presented. To allow for future robust analyses, the qualitative data were then “coded” for categorical organizations that broadly define intent.

Preliminary recommendations for potential UW Recycling collaborative opportunities were given on November 24, 2020. A rough draft of the Student Project Team’s presentation was submitted on December 8, 2020, and the “Final Presentation” was given to the UW community on December 10, 2020, in alignment with the “Sustainability Studio” (ENVIR 480) course requirements. The “Final Report” of the project findings was released to UW Recycling and Alexa Schreier on Wednesday, December 16, 2020.

**RESULTS**

The Autumn 2020 UW Recycling Survey was distributed to approximately 5,230 faculty and staff members at the University of Washington, Seattle campus with 642 responses received from current and retired faculty, staff, lecturers, students (general, graduate, and staff), Academic Student Employees (ASEs), Teaching Assistants, researchers, Post-Doctorates (general, students, and fellows), Ph.D. candidates, fellows, and an AmeriCorps agent. An estimated 50.93% of the participants identified formally as “faculty,” while approximately 43.30% self-designated as “staff” and the remaining estimated 5.76% offered additional categories. The final response rate for the survey was calculated to be approximately 12.28%. A small proportion of responses were from representatives at the University of Washington’s Bothell (12 responses; an estimated
1.87%) and Tacoma (7 responses; an estimated 1.09%) campuses, which could be due to the survey emails requesting participants forward the survey to their University of Washington contacts as well as potential cross-campus interactions between faculty and staff.

![Survey Response Count Over Time](image)

**Figure I:** Graph representing the Autumn 2020 UW Recycling Survey response count for each day of the survey time period.

The survey was released on Tuesday, November 10, 2020, in the late afternoon, while the “Reminder Email” was distributed on Wednesday, November 18, 2020, in the late afternoon. The greatest number of responses per day was gained on Wednesday, November 11, 2020 (Figure I). Responses per day were subsequently received in less quantities through Friday, November 20, 2020 (Figure I).

When looking at the familiarity of UW Recycling’s services amongst the surveyed populus, participants overall demonstrated low awareness of UW Recycling’s various programs (Figure II). Respondents were divided based on a 1 to 5 degree of knowledge from “Not Familiar” to “Very Familiar.” The “Trash Talks & Research Resources” appears to be the least known service with approximately 82.24% of respondents listing “Not Familiar” as their chosen level (Figure II). Conversely, the “Paper Cleanout Toters & Boxed Recyclables Pickups” seems to be the most known service with an estimated 16.82% and 21.96% of respondents indicating a level of 4 and 5, respectively (Figure II).
The frequency of use for UW Recycling’s services indicated all programs as being implemented “Never or Close to Never” for a majority of respondents (Figure III). The “Paper Cleanout Toters & Boxed Recyclables Pickups” was the highest ranked service under “Frequently (More than 5 Times per Month),” at approximately 15.26% of respondents (Figure III).
**Figure III:** Graph representing the Autumn 2020 UW Recycling Survey responses to the “How often do you use UW Recycling’s [service]?” questions. Respondents indicated their frequency of implementation for each UW Recycling listed service with “Never or Close to Never,” “Occasionally (1 to 2 Times per Month),” “Regularly (3 to 5 Times per Month),” and “Frequently (More than 5 Times per Month)” options. Answers reveal an overall lack of service use with a majority of responses being “Never or Close to Never” for all service categories.

**Figure IV:** Graphs revealing levels of interest for (A) partnerships and (B) interviews with UW Recycling.
Results from the Autumn 2020 UW Recycling Survey show a range of desires to partner and participate in interviews with UW Recycling in the future (Figure IV). A scale of interest from 1 (“Not Interested”) to 5 (“Very Interested”) for collaborations suggest that a majority of respondents have an interest level of 3 at approximately 30.24%, with 1 at approximately 20.79%, 2 at approximately 21.89%, 4 at approximately 12.44%, and 5 at approximately 14.65% (Figure IV A). Furthermore, an estimated 17.42% of respondents were interested in participating in a post-survey interview with UW Recycling (Figure IV B).

When looking at all of UW Recycling’s services, participants identified the resources considered “most useful” in a multiple choice and multiple-answer question format (Figure V). Respondents revealed the “Paper Cleanout Toters & Boxed Recyclables Pickups” and “Disposal Guide” at the highest service counts with approximately 21.22% and 16.86%, respectively (Figure V). Nevertheless, an estimated 24.42% of respondents chose “Not applicable” and approximately 17.73% indicated that no UW Recycling service is considered the “most useful” (Figure V).
**DISCUSSION**

The Autumn 2020 UW Recycling Survey produced information in accordance with the desires provided by UW Recycling, understanding that survey responses revealed faculty and staff perceptions surrounding UW Recycling’s activities at the University of Washington, Seattle campus. Although the Autumn 2020 UW Recycling Survey provided a variety of suggestions and opportunities for UW Recycling, the following assessment highlights a few notable responses for UW Recycling’s initial consideration, including methodology constraints that can be examined and improved upon in subsequent analyses.

**Recommendations for UW Recycling**

Based on the Autumn 2020 UW Recycling Survey results, the Student Project Team proposes the following items as a compilation of the participant responses to develop an extensive and flexible outline for UW Recycling moving forward, addressing the relationships, “scope,” and availability regarding UW Recycling’s services. The bolded recommendations indicate that the items have been suggested more than once by survey respondents.

To work towards UW Recycling’s objectives, the Student Project Team suggests:

- Increasing recycling presence and academic opportunities;
- Increasing university, departmental, and individual discourse;
- And investigating and implementing service models.

**Increasing recycling presence and academic opportunities**

Survey participants suggested increasing recycling presence by implementing new “smart recycling bins” at the following locations:

- University of Washington School of Law;
- South Lake Union University of Washington Hospital Locations;
- Department of Comparative Medicine (DCM) Animal Research Facilities.
In addition, survey respondents requested UW Recycling provide accessible ways to recycle waste from 3D printing, **lab and medical waste**, and large papers from the UW’s various design and art studios. The Student Project Team observed that multiple survey responses suggested services that UW Recycling already provides, like book, plastic bag, and shredded paper recycling. This suggests that promoting educational materials, such as the UW Recycling “Disposal Guide,” and making them available in differing formats might develop campus action surrounding various recycling activities and UW Recycling services.

As revealed by the survey results, participant suggestions, and initial research, increasing the opportunities for recycling on the University of Washington, Seattle campus may additionally help divert waste, refine campus sustainability, and make the University of Washington community feel more involved in climate change discussions.

**Education:**
Survey respondents are hoping for more educational opportunities to further their knowledge about the services that UW Recycling offers. One suggestion proposes **delivering information through posters, which would include UW Recycling’s contact information, webpages, and social media accounts**. Faculty and staff are also interested in attending an **annual presentation with a question and answer session to follow**. As the UW has transitioned to virtual platforms, there is increased interest in online engagement. Faculty and staff are looking for learning opportunities through Zoom Webinars and Meetings, fun activities such as an “online waste sorting game,” and quarterly digital newsletters with recycling resources, links, and information on any upcoming initiatives or events.

To satisfy faculty and staff member desires at the University of Washington, UW Recycling could begin to undertake a couple of the faculty and staff proposals, such as the communicative sessions, to determine the applicability of these suggestions for UW Recycling’s needs. By offering a subset of faculty and staff recommendations under “Education,” UW Recycling may gauge the effectiveness of various events.
Increasing university, departmental, and individual discourse

Survey participants suggested the following groups of people as potential areas for increasing collaboration: RSOs, students studying abroad, UW Hospitals, undergraduate design students, and graduate students conducting environmental and public health research. These groups of people present opportunities for UW Recycling to have interdisciplinary interactions that could provide important feedback and opportunities for both the organizations and UW Recycling. Additionally, the monetary resources that are available via the UW “Campus Sustainability Fund” can assist in implementing collaborative projects between students and UW Recycling.

In alignment with UW Recycling’s objectives, there are also opportunities outlined by participants for UW Recycling to partner with UW faculty to create lectures or seminars discussing how sustainability is being addressed in various areas of study, including but not limited to architecture, computer science, environmental ethics, and or nutrition. These lectures would be informative and provide insight regarding how sustainability is interdisciplinary.

Investigating and implementing service models

The Autumn 2020 UW Recycling Survey results indicate that the “Paper Cleanout Toters & Boxed Recyclables Pickups” is the most acknowledged (approximately 21.96%, Figure II), utilized (approximately 15.26%, Figure III), and valued (approximately 21.22%, Figure V) service measured. Conversely, the “Trash Talks & Research Resources” was among the least known (Figure II) and applied services (Figure III; Figure V). Therefore, the extent of use (Figure III) could be dependent on the level of “familiarity” with the service (Figure II).

To increase the “familiarity” and “frequency” of UW Recycling’s various programs and services, UW Recycling may explore the quantity and quality of informative publications as well as resource accessibility through interviews with a select self-volunteered group of the Autumn 2020 UW Recycling Survey participants. Due to Alexa Schreier’s recommendation, the Student Project Team included a prompt in the Autumn 2020 UW Recycling Survey asking if respondents were “interested in” a post-survey “interview with UW Recycling” to continue analyses. An estimated 17.42% of respondents replied favorably to a potential interview (Figure
IV B), which UW Recycling may conduct in the future. Based on discussions with Alexa Schreier, the Student Project Team suggests interviews begin with the survey respondents who are willing to extend conversations with UW Recycling, acknowledging that the survey participants are familiar with the research project and could provide valuable insight based on the survey questionnaire. Recognizing the variability in interview procedures, the Student Project Team advises the use of an interview methodology, such as the process provided in Hermanowicz’s (2002) work, to maximize effectiveness with each interviewee. Interviews may additionally provide UW Recycling with the ability to introduce new collaboration possibilities, given that the interview purpose is clear, the hope for partnerships is explicitly stated to the participants, and scientific integrity is maintained (Hermanowicz, 2002). Considering Alexa Schreier’s recommendations and the methods provided by Hermanowicz (2002), UW Recycling is encouraged to conduct interviews to refine the Autumn 2020 UW Recycling Survey findings (Hermanowicz, 2002).

Limitations
Due to the UW Recycling Survey’s dependence on responses from faculty and staff members at the University of Washington, the Student Project Team recognized the importance of developing quality questions that would enhance participation and future analysis. If the survey did not result in wide completion, the Student Project Team would have been limited in the extent of evaluation and recommendations possible. Therefore, UW Recycling provided an assortment of material inducements, which are described in the “Methodology,” to help increase participation.

The Student Project Team recognizes the lack of extensive formal training that may have enhanced the study’s credibility, understanding that the content analyses could have included bias when reviewing the qualitative data. A small text modification was made during the Autumn 2020 UW Recycling Survey’s response period; however, this change was deemed to have a limited impact on the survey’s participation. The Student Project Team further suspects, upon reading survey participant responses, that the impacts of COVID-19 may have contributed additional hurdles, including a possible lack of responses and perceptions that the Autumn 2020 UW Recycling Survey was not applicable due to remote learning and that a considerable amount
of faculty and staff seemed to have worked away from the University of Washington, Seattle campus during the Autumn Quarter 2020.

**MOVING FORWARD**

The Autumn 2020 UW Recycling Survey’s target population was the UW Seattle campus’ faculty and staff. To further expand the audience, this survey can be modified and distributed for the UW, Bothell and UW, Tacoma locations as already proposed by UW Recycling. If there are similar trends between the three University of Washington campuses, UW Recycling teams could collaborate on initiatives to streamline processes and promote sustainability.

As UW Recycling wishes to increase potential collaborations at the University of Washington, the Student Project Team recommends that UW Recycling contact the estimated 17.42% of respondents who are willing to provide more information (Figure IV B). Their insight on initial suggestions and specific programs may be valuable for UW Recycling when deciding how to enhance services for the needs of the UW community. Once UW Recycling assesses the information collected and decides which collaborations would be most beneficial, UW Recycling should reach-out to specific departments and or individuals to further establish connections and start planning project logistics.

Additionally, the Student Project Team suggests reviewing the approaches to outreach and education for the services that the Autumn 2020 UW Recycling Survey participants were seemingly “most familiar” with (Figure II). These “familiar” services suggest there has been effective communication between UW Recycling and the University of Washington communities. Therefore, “successful approaches” could be applied to the other services in an attempt to enhance existing frameworks for UW Recycling collaborations.

**CONCLUSION**

In closing, the Student Project Team’s primary intentions with UW Recycling’s guidance were to create and distribute a customized survey for UW faculty, analyze the survey findings, and
identify pathways for UW Recycling moving forward. Through the Autumn 2020 UW Recycling Survey, the Student Project Team determined faculty and staff familiarity, use, and helpfulness of the various services UW Recycling offers for the University of Washington, Seattle campus. After evaluating responses, the Student Project Team was able to advise UW Recycling on how to improve current processes, featuring areas for service expansion and educational opportunities, campus relations, interviews, and accomplishments. Notably, a couple of survey respondents indicated their contentment with UW Recycling’s work, with emphasis on quality collaborations and services. UW Recycling can advance their efforts by distributing the survey to the University of Washington, Bothell and University of Washington, Tacoma campuses to determine similar development sectors. Information can be further collected through interviews with self-volunteered survey participants and outreach to specific departments, allowing proposals to be increasingly explored and implemented in the future, while “successes” are promoted through selective applications. Therefore, UW Recycling has an assortment of opportunities that can be deliberated and performed for the procurement of mutually beneficial relations at the University of Washington.

Acknowledgments
The Student Project with UW Recycling for the Autumn 2020 “Sustainability Studio” (ENVIR 480) course was informed by ENVIR 480 class sessions and student discussions; communications with Alexa Schreier, the Autumn 2020 ENVIR 480 course instructor, Liz Gignilliat, the UW Recycling Manager, and Madeline Schroeder, the UW Recycling Program Coordinator; as well as resources provided by Alexa Schreier, Liz Gignilliat, Madeline Schroeder, and online research. The layout and template for this document was provided by Microsoft Word Software.
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