Courtney Smith

HCDE 313

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Interview Plan

Goal:

Design Question: How can we alter the built environment to increase student's comfort levels while they wait for a bus at a designated bus stop on a college campus?

I am choosing to focus on students experience while waiting for a bus on campus, specifically how to provide them with a space that can be adjusted to improve their comfort. A bus is "invisible until it's right in front of you." This means that students have to be vigilant monitoring bus schedules to make sure that they do not miss it and that it does not pass them while they are rushing to the bus stop [1]. When waiting for the bus our environment affects how we perceive how long we have been waiting. As show by researchers in 2014, riders at a "no-shelter stop, riders perceived a 5-minute wait to feel longer than that" and riders at a stop with shelter perceived "a 5-minute wait felt closer to 3 minutes" [2][3]. The built, natural, and digital environments affect our experiences while waiting on a bus.

To begin studying this topic I conducted a field study which resulted in three key findings that will be used to drive forward an interview study, see Appendix 3 for the full field study report. The first key finding that will be used is that students tended to shift where there were standing and or sitting to accommodate others. When a large number of people were present at a bus stop they tended to stand in front of instead of sit on the bus stop benches. When another person moves to sit on a bench that is already occupied the current occupant shifts to provide more room. The second key finding that will be used is that students spend a majority of the time of spent at a bus stop actively engaging with their phone. Many students would occasionally glance at their surroundings before re-engaging with their phone. The third, and final, key finding that will be used is that students would check the route sign or occasionally look up from their current activity and glance around. Some students would spend time looking in the direction of oncoming traffic. Based off of these key findings I am interested in exploring the various factors that go into people's behavior at a bus stop. Particularly if my interview participants have ever chosen to wait somewhere other than the bus stop, such as indoors, for their bus and walk to catch the bus as it is arriving.

Research Questions:

The research questions that I am focusing on are as follows:

How long are people waiting at the bus stop?

What are people doing to pass the time while at the bus stop: use their phone, listen to music, read a book, etc.?

Where at the stop are people waiting: closer to the posted route, under shelter, etc.?

How often are people shifting where they are to accommodate others; to provide others room under the shelter, to provide others with more personal space, etc.?

What is the general attitude or mood of people waiting on a bus?

How often are people leaving the bus stop without getting on a bus?

Participants:

My ideal participant is a student at the University of Washington Seattle Campus. They will be between the ages of 18 and 25 and will be a mix of genders, races, and backgrounds. The general user, people who wait for buses at bus stops, is a very diverse population and therefore my participants will be as diverse as possible in the scope of this course. The ideal participant rides the bus at least 5 times a week and spends at least 5 minutes waiting at a bus stop at least twice a week. This is important because it will allow the participant to have fresh experiences to talk about and have a pattern of use to talk about.

To be included in the study participants must fit the following criteria:

● Be a student actively enrolled in classes

● Ride the bus 5 times a week

Study participants will be excluded from the study if they all in the following criteria:

● Is not currently a student enrolled in classes

● Has gone a week without riding the bus in the last two months

● Does not spend at least 5 minutes at a bus stop at least once a week

In order to find participants that fit my exclusion and inclusion criteria I will be recruiting interview participants through personal connections. My ideal participant fits closely with

my classmates, so I will be using them as my participants. If I cannot find enough of my classmates to act as participants I will ask my friends that fit the criteria for participation. Once I have the participants I plan on conducting the interviews over coffee in the HUB or in a reserved booth in the Allen Research Commons.

Method:

A semi-structured interview approach is going to help me learn about my design space because it will allow me the opportunity to steer the conversation in a way that will help answer my design question while allowing room for new insights. By having some questions laid out before the interview I will have a clear sense of direction and will not seem unprepared. Because the interview is only semi-structured I will be able to follow the natural direction of the conversation and allow for new discoveries to be made. For example, I may start by asking the participant about what they do when at the bus stop expecting them to respond with something along the line of play on their phone. But, the conversation may lead into a new discovery about what the participants do when they see the bus coming.

Due to the nature of my relationships with the people I will be recruiting to participate the interviews will all be friendly in nature. I know all the participants well so I will begin the interview with some slight chatting as to catch up with the participant and get that out of the way before the interview. Once we are caught up I will ask them to sign a consent and confidentiality agreement as well as get their permission to record the interview. During the interview I will make sure to keep the conversation on track and not resort into chatting like friends. I am going to follow the order of the questions as written below because they are ordered to begin with intent questions, then go into specific questions, and end with validation questions. That being said if a question feels redundant because the participant answered the question during an earlier question I will skip it. I will also room for any questions that may come up from points made by the participant. I will end the interview by asking the participant if they have any questions for me or if they have anything they would like to say that was no touched on.

The biases that I will be dealing with during these interviews is the fact that the participants are my friends. Because they are my friends I will have to work on conducting the interview professionally and not bias the results by assuming I know how my participants would answer. To keep unexpected or accidental biases at a minimum I will ensure to keep an open mind during the interviews and not sway the conversation to how I want the results to look.

Question: Why do you ride the bus?

Rational: To understand the user's goals when deciding to use the bus.

Follow Up Questions:

● How often would you estimate you ride the bus in a single school week?

● What goes into your decision to ride the bus, say over walking or riding a bike to your destination?

Question: Tell me about the last time you waited at a bus stop for a bus.

Rational: To establish and understand what actions the user is doing while at a bus stop.

Follow Up Questions:

● Walk me through your decisions on where you stood or sat.

● Would you say that the bus stop is regularly crowded?

● How long did you wait for the bus before leaving either on a bus or on foot?

Question: Walk me through your decisions when choosing when to go to the bus stop.

Rational: To understand if the user is checking the bus schedule before they go to the bus stop and what platform the user is checking the bus schedule on.

Follow Up Questions:

● Do you check the bus schedule before arriving at the bus stop?

● How would your familiarity with this bus stop and its affiliated routes affect your decisions?

Question: Walk me through what you did during a time in which you spent around or above 5 minutes waiting at a bus stop.

Rational: To establish what students are doing while at a bus stop and be able to ask question as to why they are doing those things.

Follow Up Questions:

● If you used your phone would you mind walking me through what you used your phone to do?

● Would you check, on any platform, when your desired bus was coming? If so how would you, on what platform, check the bus schedule?

Question: Given a situation where you had gotten out of class after dark, it was raining, and your phone had 5% battery. What would you decide to do in regards to waiting for a bus?

Rational: To validate design decisions made during the field study report. Also, to understand what the participant would do during inclement weather after dark.

Follow Up Questions:

● How would you use a power outlet if it was provided under the bus stop shelter would you use it?

● Walk me through how the rain and darkness together would affect where or if you waited on the bus.

Work Back Schedule:

See Appendix 1

Data Collection:

I will conduct three separate approximately thirty-minute sessions of semi-structured interviews. During which I will be conversing with participants while following a basic list of questions and taking notes on a laptop. With permission, I will be audio recording each interview session as to be able to focus more on the interpersonal interaction and less on noting every word said. I will ensure that my participants sign consent and confidentiality agreements before conducting the interview as to maintain an ethical study. After the interview is complete I will listen to the recording of the interview and take detailed notes of the participants answers to my various questions.

Appendices

Appendix 1: Workback Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Sat/Sun
April	23	24	25	25	27	28,29
			Interview Session One	Transcribe Session One Notes	Interview Session Two	Transcribe Session Two Notes
May	30	1	2	3	4	5,6
	Interview Session Three	Transcribe Session Three Notes		Write Interview Report	Write Interview Report	Write Interview Report
	7	8	9	10	11	12,13
		Finalize Report	Interview Report Due 11 AM			

Appendix 2: References Cited

[1] E. Badger, "How to Make Waiting for the Bus Feel Much, Much Shorter," CityLab. [Online]. Available: http://www.theatlanticcities.com/commute/2014/01/why-technology-forever-changing-psychology-waiting-bus/8158/. [Accessed: 04-Apr-2018].

[2] E. Jaffe, "A Basic Shelter Can Make the Wait for the Bus Feel Shorter," CityLab. [Online]. Available: http://www.citylab.com/cityfixer/2014/09/a-basic-shelter-can-make-the-wait-for-the-bus-feel-shorter/380297/. [Accessed: 04-Apr-2018].

[3] "Study: Transit amenities affect perceived wait times," Star Tribune. [Online]. Available: http://www.startribune.com/study-transit-amenities-affect-perceived-wait-times/273982421/. [Accessed: 04-Apr-2018].

Appendix 3: Field Report

Goal and Context:

I am choosing to focus on students experience while waiting for a bus on campus because it is an integral part of being a college student and can be a very dreadful experience. Whether it is missing your bus by one minute and being late to class, getting drenched waiting for the bus in the rain, or feeling unsafe waiting alone in the dark; taking the bus is an experience that can be greatly improved upon. There are many buses stops actively being used by students that are unsafe and cause stress [1]. When waiting for the bus our environment affects how we perceive how long we have been waiting. As show by researchers in 2014, riders at a "no-shelter stop, riders perceived a 5-minute wait to feel longer than that" and riders at a stop with shelter perceived "a 5-minute wait felt closer to 3 minutes" [2][3]. The built, natural, and digital environments affect our experiences while waiting on a bus.

The goal of this research is to improve student's experience of waiting for a bus at a designated bus stop on a college campus. To explore this design question I am looking at the following questions: how long are people waiting at the bus stop, what are people doing to pass the time while at the bus stop, who are people interacting with while waiting for the bus, where at the stop are people waiting, how often are people shifting where they are standing to accommodate others, what is the demographic of people waiting for the bus, what is the general attitude or mood of people waiting on a bus, and how often are people leaving the bus stop without getting on a bus? These questions are important because they help collect data about the physical aspects of waiting at a bus.

Method:

The overall approach to this field work that I took was to spend time blending in at a bus stop on campus. The participants that I focused on observing are students at the University of Washington, specifically the UW Seattle Campus. The assumption was made is that a person appearing to be between the ages of 18 and 26 and carrying a backpack or similar is a student. The participants were typically between the ages of 18 and 25 with a mix of genders and races. The general user, people who wait for buses at bus stops is a very diverse population and therefore my participants are as diverse as possible in the scope of a college campus. I observed the participants at three different bus stops. The first observation session took place at a Bus stop located directly behind the HUB and across from LOW hall. This bus stop was comprised of an enclosure, benches, a route sign, waste bins, and a wall enclosing plant matter. The second observation session took place at a bus stop located directly behind Meany hall and

near the Moles building. This bus stop was comprised of an enclosure, benches, a route sign, a waste bin, and a wall enclosing plant matter. The third observation session took place at a bus stop located directly in front of padelford hall and near hall health. This bus stop was comprised of an enclosure, benches, a route sign, and waste bins. These locations were chosen to due to their proximity to central campus, allowing for maximum student traffic.

I was specifically focusing on observing the behaviors of students while they waited at a bus stop. I am interested in how to improve the overall comfort and safety of students in public spaces on campus, such as bus stops. To get information on how to improve the experience of students waiting at a bus stop I focused on how students interacted, or did not interact, with the environment around them. This included noting where students waited within the designated bus stop, what belongings they had with them, and where their attention was focused.

I collected data during these observation sessions on a notes application on my iPhone. The notes will be taken on an iPhone in order to minimize distractions and allow me to blend in to others waiting at the bus stop. I conducted three separate 45-minute sessions of structured observation at bus stops around the UW Seattle campus. During each of these sessions I took notes on an iPhone and then transferred said notes to a laptop to be cleaned up and saved. Once each of the individual sets of notes were transferred to a word document they were combined and cleaned up for analyzation. Once the notes were all cleaned up and combined in a single document I read through them and wrote salient details on post-it notes. I then used these post-it details to form an affinity diagram. I went through multiple rounds of affinity diagramming before coming to results and recommendations.

Results:

Based on the three-observation session, here are the key findings. The following three findings were focused on trends noticed and support by a number specific observation.

Label: External factors acting on user's behaviors in regard to their physical positioning

Priority Standing: First priority

Result: Based on the observations found in the following proof section, one key finding is that students tended to shift where there were standing and or sitting to accommodate others. When a large number of people were present at a bus stop they tended to stand in front of instead of sit on the bus stop benches. When another person moves to sit on a bench that is already occupied the current occupant shifts to provide more room.

Proof:

- Female stood near a group of students in front of the bench closest to the route sign under the shelter. When more people came to stand in the same space during a rush she walked behind the bench she was previously standing in front of.

- Roughly 10 people walked up to the bus stop and stood under the cover near the bus route sign.

- Female stood in the middle of the enclosure in front of the middle benches. When more people arrived at the bus stop she shifted to stand closer to the route sign, while still under the enclosure.

- Three females stood in front of the middle bench closer to the route sign. They stood in a circle facing each other while actively engage in conversation.

- Male stood near the route sign leaning against the bench enclosure. At 12:56 he walked over and on the bench in the middle closer to the route sign next to a woman that was already seated. The women then shifted to make more room for him on the bench.

Label: User's usage and behavior surrounding their belongings

Priority Standing: Second priority

Result: Based on the observations found in the following proof section, one key finding is that students spend a majority of the time of spent at a bus stop actively engaging with their phone. Many students would occasionally glance at their surroundings before re-engaging with their phone.

Proof:

- Female stood in front of the bench farthest from the route sign. She stood actively interacting with her cellphone while holding her husky card and water bottle.

- Female sat on a bench farthest from the route sign. Once sitting she took off her backpack and placed it on the floor between her legs. She then placed her headphones on the bench next to her while she answered a phone call.

- Female sitting on the bench closest to the route sign actively interacting with her cellphone while wearing headphones. She had a purse like bag on her shoulder and did not look up until a bus approached.

- Female sat on the bench in the middle closer to the route sign actively interacting with her phone while wearing her backpack. She occasionally looked up and at 12:56 she started holding her phone without looking at it until 12:58 when she got up and left the bus stop.

● Female stood against a support poll between the bench closest to the route sign and its adjacent bench. She was wearing a backpack and was actively interacting with her phone.

Label: User's behaviors in regard to where their attention lies

Priority Standing: Third priority

Result: Based on the observations found in the following proof section, one key finding is that students would check the route sign or occasionally look up from their current activity and glance around. Some students would spend time looking in the direction of oncoming traffic.

Proof:

● Male stood in the middle of the enclosure in front of the middle benches. He stood with headphones on actively interacting with his cellphone. One minute before the bus arrived he placed his phone in his pocket.

● Female wearing a backpack approached the route sign and looked at it for a few seconds.

● Male stood next to route sign and looked at the route sign before boarding a bus.

● Male leaned against the garden wall while periodically switching between checking his phone and looking around.

● Female wearing a backpack sat on the middle bench with her hands in her pockets, looking towards oncoming traffic.

The three key findings were prioritized respectively as External factors acting on user's behaviors in regard to their physical positioning, User's usage and behavior surrounding their belongings, and User's behaviors in regard to where their attention lies. They were ordered in this manner due to the prevalence of observations that supported each finding and the direct impact of the findings solution. The focus of this study is to improve students experience, comfort, while at a bus stop. The priority of these key findings is supported by the direct impact it has on the widest diversity of students.

Recommendations:

These recommendations have to do with student's comfort, they will therefore be focused on recommendations that could be done to improve bus stops on a college

campus specifically. While the recommendations could be implemented for use by the general public in spaces outside of a college campus, the research backing up the recommendations comes from observations of a specific user group, students.

While there are many changes that could be implemented to better improve students comfort while at a bus stop I will be focusing on three that I believe would have the greatest impact. The first of these three recommendations is the installation of power outlets within preexisting enclosures. It was observed that a large majority of student who waited on a bus at a bus stop spent time using their phones. With continual phone use throughout the day students often desire many outlets to charge their devices when they are stationary. the second observation of the three that I will be presenting is the repurposing of space through the installation of a different type of seating. It was observed that student chose to stand over sitting on several occasions. This was especially prevalent when the bus stop was crowded in an effort to make room for everyone to stand comfortably. If a seating system was installed that would rest in a vertical fashion and could be optionally deployed when desired there would be more room for students during rushes at bus stops. the third and final recommendation that I will be focusing on is the use of digital displays to keep students better informed of bus schedules and delays. Installing digital displays inside of buildings near bus stops would allow students the freedom to wait for a bus in a more productive and comfortable environment. It would free up time in students already busy schedules and allow for them to escape inclement weather when they so choose.

Discussion & Reflection:

It is important to keep in mind when interpreting the results and recommendations presented in this paper that the scope of this field study was limited. The observations are solely focused on students and their niche behaviors. The observations were also limited by external factors. These factors include irregular bus routes, the capacity of buses that stopped at the observation points, and the weather at the time of observation. Due to time constraints of myself, the observer, there was a limited time of day that the observations could be completed which resulted in not ideal weather conditions. The weather conditions that the observations were made in can affect the behaviors that were being observed. Student's behave differently in cold, wet weather then they do in sunny, dry weather.

If I were to change the circumstances around which I conducted this field research I would put more planning into the observation sessions. When planning I did not take into account that the observations would be affected by the weather. This lead to me being unprepared and low-quality field notes due to my physical discomfort. In future field research studies, I will ensure that I account for my physical comfort along with the

other conditions of the observations. A factor that I believe was a strength of this field research study was the clear trends that presented themselves despite the short observation periods. Many of the participants acted in similar manners to one another even when observed on different days and there were clean social norms taking place. It was rather surprising how clear social norms can be observed in the setting of a bus stop. All participants followed norms such as leaving as much personal space as possible for others and not interacting with strangers who are preoccupied.

Next Steps:

Based off of my results and recommendations I am interested in exploring the various factors that go into people's behavior at a bus stop. Particularly if my interview participants have ever chosen to wait somewhere other than the bus stop, such as indoors, for their bus and walk to catch the bus as it is arriving.