Interior Design of the Link Light Rail

Heidi Wang
Human Centered Design & Engineering
University of Washington
hwang38@uw.edu

Elias Greendorfer
Information School
University of Washington
ebgreen@uw.edu

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Reflexivity Statement: Part 1 of 2

My introduction to the Seattle public transit system was taking the bus down to UW the summer before college with two transfers and two suitcases between us, accompanying someone else to their reunion event. Since I started going to UW, my undergraduate tuition has included seventy dollars every quarter to use the public transit system without paying per use. Now, I take the Link around four times a week with friends going across campus and occasionally go beyond campus for events. Seattle's public transit system is the only one which I have known this closely, and the light rail system is also the simplest rapid transit system I've known. I have always paid close attention to service disruptions and changes to the Link, including the expansion of the 1 Line and addition of the 2 Line and fare system changes. The changes were interesting to me, especially the updated signage on and around the train cars, given my design background.

I study human centered design & engineering: data science and informatics at UW. My courses have focused on user experience design and user research, as well as software development and data science. In them, I have thought critically about design in physical and digital spaces, studied research methods, and conducted some field research of campus spaces.

I started thinking more about interior design of a space last quarter, focusing mostly on ways to structure homes to feel safe and enjoy being there. These methods included not just the furniture and decor, but also the architecture and space layout and flow.

We walked down into the station together for the first time on April 10, Thursday. It was a sunny day, bright, and we stood in the sun on the bridge talking for at least half an hour before we entered.

UW Station

UW station, as in the name, serviced the many types of people who visited the university. Commuting students took the Link to class. Professors and other instructors took the Link to teach those classes and conduct their research on campus. Staff went to their jobs on campus. Visitors, including family, prospective students, and sometimes college sports fans, were there on more casual business.

The platform space here was spacious yet claustrophobic. There was scarcely a drop of color anywhere on the platform. The walls were flat, steely gray panels that the trains almost grazed as they passed through. The dark gray concrete tiles on the floor looked like they would be the same color if they were made of packed dust. The black metal railings above were close and low. Long tubes of dim fluorescent light hung below them. Something about the way the station was set up sent strong wind currents constantly flowing through the space, making the cold underground feel even colder.

The people standing around the platform were silent and solitary. They were almost all looking down, and not one was looking upwards. There wasn't anything to look at around them anyway, and none so much as stole a glance at another. They were all engrossed in their own worlds that they brought with them. These worlds were almost all phones. Some people appeared to be reading things, their thumbs oscillating slowly across their screen to keep bringing more text into view. Others typed busily, pausing as their supposed conversation partner responded. Many of them had earbuds in or headphones on, keeping their auditory world separate from the platform, even as they conversed in yet another visual world on their screens.

U District

U District station was the other station near the UW campus, just one stop north of UW station. Students living in off-campus housing west and north of campus got off here to go home. The station was also located in the middle of the Ave, a street of shops and restaurants right next to campus and a central location for friends to hangout and grab food.

The tiny art fixtures of steel-framed digital displays scattered on the platform walls made you feel like you were being watched through the screens. The walls were tiled with irregularly sized rectangles in varying shades of gray. Overhead, concrete beams and steel stairway railings criss-crossed at wild angles. The station had accent colors of warm, light cyan and bright, bold orange, with one color on each of the two sets of escalators. Following the escalators up to the mezzanine, the colors intersected in a zigzag pattern overhead. However, the entire station was lit so dimly that you hardly noticed it unless you were looking upwards at it intentionally.

Discussion 1: Entrapment

The aspect of the platforms that was hardest to understand was the close and dark feeling that they gave. Light rail stations were places meant to be used by many people, as a system of public

transit, but it seemed like some stations, especially UW, were designed to make those people feel uncomfortable and trapped the whole time they were using them.

The most believable reasoning was that all the concrete and metal above and around the platform was necessary, structural. The metal false ceiling was also effective at keeping people's gaze below it, so if they didn't necessarily want people to be seeing the bare unsightly concrete directly, that could be a good way to hide them in plain sight, by creating a desire not to look. But that couldn't explain why the walls were steel, or why the lighting was so dim. Perhaps there were technical constraints where brighter lighting was not readily usable in such a setting, or budget constraints for all the additional aesthetic work and upkeep.

Or perhaps the design was intentionally adversarial towards its intended users. Light rail stations are places where people only need to stay temporarily to use the station for traveling, but the spaces could very well be used in other ways, where people would end up staying there for longer times. That could result in a lot of traffic on the platforms, and potentially make using the trains more difficult, the primary goal of the space. In order to encourage only short-term stays on the platform, so that only people looking to take the next train are on the platform, maybe the stations were designed intentionally to take advantage of a dark and unwelcoming presentation.

At the same time, while darkness can make people unwilling to stay, it can also make the people who are there anyway more terse and less well-meaning. When people do not feel safe, they are more on edge, more defensive, less friendly, more aggressive. Interpersonal safety with public transit is a big concern for a lot of individuals, characterized by aggressive behavior towards strangers, and it can cause people to avoid taking public transit when they otherwise would. If one of the goals of the light rail is for as many people to take it as possible, increasing ridership, then designing spaces to encourage friendly behavior would help that goal.

If the space looks like a place where people would be aggressive and like a place that would be dangerous, then people will be aggressive there, and it will be dangerous. *The Social Life of Small Urban Spaces*, directed by Whyte (1980), explores this tendency for people to act in ways that do support the social cohesion of a space, and the light rail would be no exception. A place that is designed to be unfriendly to users will result in the users being unfriendly towards the system and in the place.

Maybe a big part of people only looking down at their phones and self-contained lives was that they don't want to talk to strangers like that, but even if a more friendly and calming environment won't make them chatty, it would at least make them react more positively when they do find themselves needing or wanting to interact with each other.

Westlake

Westlake station was beyond the university area, in the heart of downtown and all the business and tourism that was to be found there. There was a feeling of age and well-usedness that hung in the air of the station, like a house that had been in the family for generations. Here business people got off the train in the morning to work, and tourists going to Pike Place or the Space

Needle stood beside them on the escalators going up. People with no place to go also sat next to them on the trains.

The platform floors were surfaced with brownish red tiles, with a geometric pattern of diagonal lines. The space was lit by a series of lights along it, each one a cylindrical shape formed of dark and very slightly blue metal. The lines on the lights were not purely structural—they had the smallest of artistic details in their shaping. This roof was also exceptionally low, but it was a tiling material that was off white and slightly reflective, instead of the plain concrete of before. Westlake station was the only station in these parts where the trains ran next to each other in the center between the platforms, and the platforms also felt much more spacious despite the low ceilings and the platform that was no wider than the others. There were murals at some points along the wall, but without any dedicated lighting, the dim lights of the platform were not enough to see the vibrant colors in the artwork that you could only assume were there.

International District

On the train, as it traveled south and neared the next station, two kids and their mother were sitting in the central part of the car, facing the opposite side. The tunnels opened up to the sky, and the kid brother exclaimed, "Yay, we're in the light!" His joy was short-lived, as the train entered the tunnels again just before pulling into the station.

International District has a town square with a big red metal arch, a Chinese roof structure, and some ping pong tables. People gather there to chat and smoke, with an older age skew. The heart of the district is small, only a few streets wide and deep, but the structures are ornately decorated, brightly painted, and homely.

In the station, the walls on one side were made of glass panels that faded from blue to green, like a grass field. The opposite wall was solid white concrete, with angular, 3D modern art between the concrete columns. The art was bright red and smoky gray, a stark contrast to the calm glass wall on the other side. Red brick made up the majority of the floor. All the metal railings, window bars, lights, and elevators were teal. The lights were also cylindrical, but in a simple modern style, contrasting with the comparatively ornate lights of Westlake. Away from the center of the platform, the low concrete roof above opened up, and the bright sunlight from above came pouring down. The concrete beams spanning the sky had accumulated a thick and dark layer of dirt, creating splotchy patterns of grime on the otherwise lightly colored concrete.

Some people in the sunlight looked out across the tracks, while their neighbors in the shadows all stared down at their phones.

Capitol Hill

Capitol Hill was UW's southward neighbor. There was a small park near the station, with a waterworks and a playground. On the fields, people lay in the grass or took phone calls. The park was also a center for activism.

The station sported the same steely walls and low ceiling-level piping and lighting as its northward neighbor. There were huge art pieces suspended above the pipes, in the space under the ceiling. One looked like it was meant to emulate a skeleton of a serpentine body, with the bones made of something like purple-painted metal. As you descended the escalator to enter the platform, you could see above the pipes, and the ceiling above the platform was incredibly high, formed of metal grates that sloped up to a slight ridge in the center. But that sense of space was quickly erased once your perspective reached the platform level. It felt almost unfair that there was so much space above, but on the platform you weren't allowed to get a good look at it or feel the scale of the space. There was a sensation of being quickly and completely trapped on the shadowy platform.

Discussion 2: Identity

There are touches of continuity across stations. There are the obvious things, like the consistent signage, rumble strips, elevators and escalators. But there are also small touches, like the similar metal colors in Westlake and ID, which could have been a coincidence, but could also have been intentional, and the similarity of the steely appearance of Capitol Hill and UW, and somewhat U District. The stations near each other feel like they share an identity. Aside from just the aesthetic joy, differentiation and similarity between stations also provides a kind of practical use as well in helping with navigation and landmarking.

The appearance of a light rail station to some degree reflects the identity of the neighborhood in which it resides. That neighboring stations appear similar could serve as a subconscious indicator that the people in those communities are also similar in some way. At least between Capitol Hill and UW, people sometimes joke about Capitol Hill being the default place people move to locally after graduating from UW. Westlake and ID are both closer to the center of Seattle, but the identity of Westlake as a place of establishment and long-standing infrastructure is apparent, and the partial open-air design of ID's station indicates that people there value being able to stay connected to the surrounding world even when waiting to leave it. These touches of character embed the stations in the communities and places where they reside, making public transit part of the public experience rather than something that conflicts with the region's presentation while being a necessary service.

Beacon Hill

Beacon Hill was the most unfamiliar station to me among the six we visited. I knew some people who lived there, but that was the only connection I had to the place. From what I saw of the surroundings, it was a nice suburban neighborhood, quiet but familiar to those who lived there.

The tunnels here were each a huge tube, with curved walls. One wall was matte concrete, and the other was shiny metal. In front of the steel wall and as a sort of overhang were squares of glass panels like in ID, but these were just regular-colored translucent glass. The platform was lit by a single row of the same kind of lights as at UW. The entire station seemed to have a space

theme. The central room between the platforms had a roof that was slightly domed, and it was lit along its edge in a way that emphasized its circularity and made it appear even higher. Globes of transparent blue-tinted material were scattered across steel panels, adorning a curved wall across from the elevators. Art features resembling squid and vague underwater shapes with strange spotted textures adorned the roof of the other platform.

Recommendations for Design

Identity
Giving a station an identity that matches its community should not be overlooked. When building a new station, people who deeply understand the community surrounding the new site should be given a strong voice in all aspects of the development process to both create systems that the people in that community can use easily, and to create spaces in which they can come to feel belonging.

When renovating an existing station, the surrounding neighborhood context should likewise be incorporated, but here, the design should also take into consideration the way the station currently presents. Changes should still reflect the character of the previous design so that continued users can feel that they still recognize the new space, but should deviate in the necessary ways to achieve the impacts that the renovation aims to achieve.

Entrapment
In order to create station environments in which people will feel comfortable staying, new designs should avoid creating feelings of entrapment when possible. Even though some stations are underground, they should be designed in a way that makes people feel like they are in control, not trapped. This can be aided by using design features like bright but not cold lighting, light colored walls, and features placed around the platform to provide the structural support where needed, but otherwise allow space and lines of sight to remain unobstructed as far as possible. Design for safety encourages actions for safety, which makes a more welcoming environment for people who already take the Link, and people who may want to but don't because of safety concerns.

Reflexivity Statement: Part 2 of 2

We took the Link every Thursday for five weeks, traveling to different stations and discussing observation. We stood in a big group to talk, circling around and taking up a chunk of the platform, mezzanine, bridge, or entryway where we were. I felt like we were getting in the way, and other people in the group also spoke up about that. Somehow, none of the people walking around us expressed annoyance at our presence. When we talked about people we saw on the trains and what they were doing, I worried that they might be getting off at the same stop as us and hear us talking about them, and that would reflect negatively on us. While watching people and taking notes on it, I felt that my actions were being observed, but doing observations in a

group offered a sense of security and confidence to continue despite the potential unwanted attention that I might have been attracting. I don't think I would have the self-assurance to risk an altercation if I weren't researching for a larger purpose aside from my own personal interest.

In much the same way that learning and practicing research previously has affected me, or any concepts learned in general have, I found myself bringing the things I thought about in this setting with me into my daily life. In *Life as a field trip*, Tuan (2001) discusses disorganized observation without a purpose or focus. I found myself doing this kind of observation casually, not just especially when taking the Link on my own time, but also when seeing others interact with any other technologies around them.

Thinking about sociotechnical problems in a systematic way has helped me understand my own and others' technology use within a context of established academic discourse longer than my own personal understanding.

The field research we have conducted has also given me a perspective on ethnography that is vastly different from the perspective on user research that I got from my previous research course. While my previous experience gave me a very thorough understanding of the methods for conducting various types of research, this experience gave me a very different perspective of the anthropological aspects of ethnography, and I feel that I understand better the social forces that surround people's use of technology.