Life after Steel

Designing a communication system to engage
residents with Pittsburgh's rich industrial history

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preface

This project began last year after my first trip to Carrie Furnace, one of the few remaining structures that was part of the steelmaking process still standing. During that trip I walked through the furnace in awe of the towering ruins. I left in shock at the fact that I grew up in Pittsburgh and had never knew how significant the steel industry was for my hometown's cultural and infrastructural development.

After that trip I decided to focus my master's thesis on exploring how design can play a role in helping preserve Pittsburgh's industrial legacy. Applying my background in Political Science and Economics, I specifically wanted to explore how celebrating local history can lead to a stronger sense of place and deeper commitment to shaping the future, in a city that has undergone and continues to undergo so much social change.

acknowledgements

*to the residents who fill Pittsburgh
with their wonderful stories*

table of contents

Context

1. Exploring the Problem Space: (re-)Building
   the Connection Between Place & Identity
2. Place & Identity in Pittsburgh

Thesis Statement

Most major metropolitan cities exist in a state of constant transition. Due to their scale and complexity, the success of a city's transition initiatives hinges upon how effectively members of a community work together toward shared goals that are in line with community aspirations and civic agenda. Communities in transition often experience major shifts in lifestyle and social realities which may expose a gap between civic goals and widely varying residential needs. This "transitional gap" can cause tension among residents, a disconnection from their urban context, and a breakdown in transition efforts.

Part of any city's transition efforts involves a reinvestment into the concept of community and a strengthening of the symbiotic bond among residents and with civic leadership. Visualizing the bonds that link members of a community to their context throughout the urban environment can encourage a deeper understanding of place. This may enable a more effective transition process through deeper, more thoughtful community investment.

genius loci:

*the prevailing character
or atmosphere of place*

How a City Shapes Identity

There exists a notion in urban planning that identity should be viewed as something created through social interactions and place, with identity being directly linked to memory (William 2004, 10). Urban memory allows residents to "conceptualize deep rooted structures and our sense of identity (Watson and Bentley 2007, 179)." On a personal level, residents are able to orient themselves and identify with a place. As a community, residents can engage in collective remembering through experiencing physical place and their city's identity.

Globalization has increased mobility of people making it more challenging for cities to maintain a continuous genius loci or 'spirit of place.' Cities are becoming more homogenized and difficult to distinguish from one another. However, local history offers a foundation to keep people connect to place even through times of major transformation. Cities can utilizing sharing and celebrating local history as one element of creating and conveying their genius loci.

Visual storytelling across a city's urban landscape can empower members of a community to become more informed, engaged, collaborative and productive during times of transition through fostering a more coherent connection with place. Pittsburgh's rich historical narratives, deeply rooted in its steel industry, can provide new residents with an understanding of place and current residents (re-)connect with social histories. Together, all of a city's residents can envision possible futures.
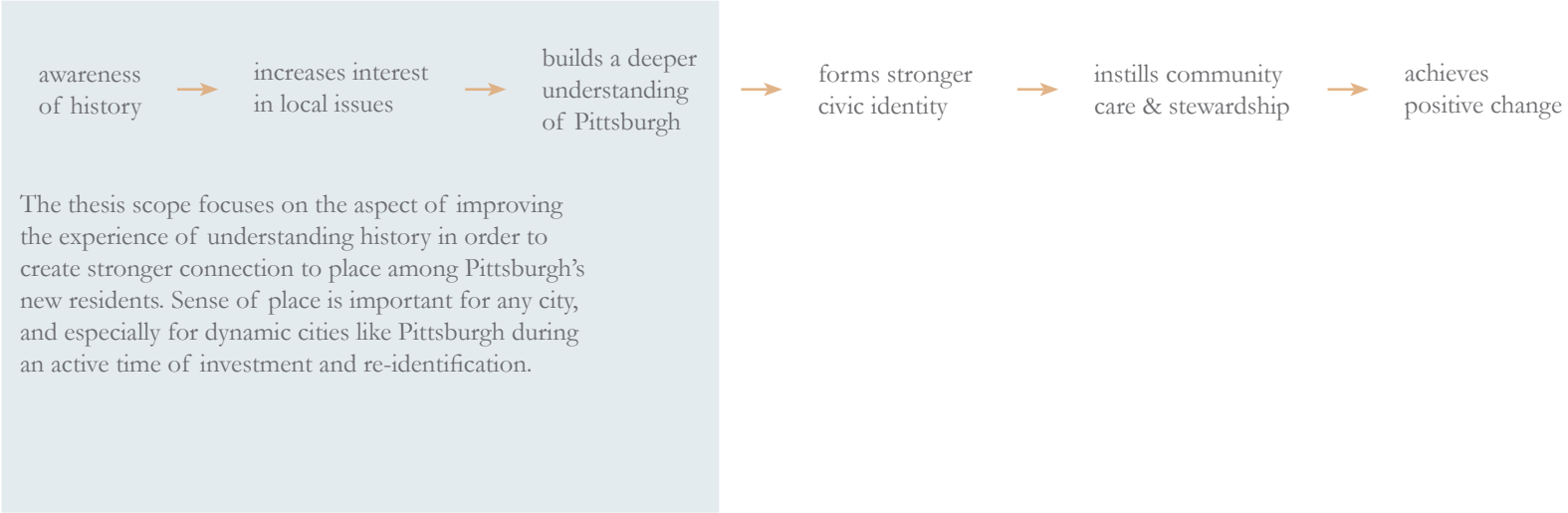
This thesis project uses human centered design methodology to develop the form that these stories should take as they are communicated to the growing population of new residents in Pittsburgh.

The Problem Space: (re-)Building
the Connection Between Place & Identity

Hypothesis

Understanding history brings a deeper understanding of a city which builds a stronger civic identity. This creates a propensity towards care and stewardship which ultimately facilitates more collaborative and proactive efforts to invest in a city's future.

My thesis proposes an integrative, distributed information marking system using rich, relevant and contextual urban histories as a key to enriching the connection of community to context and closing the 'transitional gap'.

Thesis Scope

awareness of history → increases interest in local issues → builds a deeper understanding of Pittsburgh → forms stronger civic identity → instills community care & stewardship → achieves positive change

The thesis scope focuses on the aspect of improving the experience of understanding history in order to create stronger connection to place among Pittsburgh's new residents. Sense of place is important for any city, and especially for dynamic cities like Pittsburgh during an active time of investment and re-identification.

Five Things About Pittsburgh

1. *Pittsburgh developed into a large city as a result of the local steel industry (it was a world leader in production)*

2. *The steel industry collapsed in the late 1970's*

3. *A large amount of the population left Pittsburgh causing urban blight*

4. *Pittsburgh has been able to recover because of its world-class universities and hospitals*

5. *New economic opportunities are now attracting young professionals to the area*

An Overview of Pittsburgh's Industrial Roots

Pittsburgh's Industrial history began with iron production during the 19th century and evolved into massive steel production through the end of the 1900's. Pittsburgh's mountainous topography filled with natural resources, it's rivers, and the business acumen of Andrew Carnegie made it possible for the steel industry to take root and thrive here. With growing industry came economic opportunities that attracted immigrants in waves from all over Western and Eastern Europe. This resulted in Pittsburgh's distinct neighborhoods throughout the city, each with their own culture and history.

The greater Pittsburgh region was an international leader in steel production through WWII. Profits began to decline when other countries began developing cost-cutting technology that drove the price of steel down. The continuing decline in profit eventually led to the collapse of the steel industry. With the majority of the local population out of work, local businesses relying on steel workers' income suffered greatly.

The steel industry's collapse eventually led to a total collapse of Pittsburgh's economy and rapid population drain across the region. This has contributed to urban blight, which can be seen in Wilkinsburg and Homestead. Only recently, has Pittsburgh's population grown due to young professionals seeking to settle in the area for its low cost of living, world-leading medical systems, and renowned universities. The growth is slow but stable, helping Pittsburgh make a strong economic recovery.

Post-Industrial Transformation

This most recent social shift is visible in Pittsburgh's drastically changing urban landscape. Neighborhoods are a mix of old historic brick buildings and new mixed-use developments such as Bakery Square in East Liberty. These changes go beyond built environment. New communities bring new demands. This is illustrated in the following examples of development projects.

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Carrie Furnace

Carrie Furnace is the only remaining industrial site that remains in tact and is accessible to visitors. Through the diligence of Rivers of Steel, a non-profit organization dedicated to preserving Pittsburgh's steel legacy, Carrie Furnace has been recognized by the federal government as a national historic landmark (Rivers of Steel National Heritage Site, 2015) Rivers of Steel engages residents with local steel history through events and tours.

courtesy of southsideworks.com

SouthSide Works

Like the Waterfront, this site was a major source of steel production. In 2009, it opened as a mix used development with housing, shopping, dining and corporate offices.

© Susanna Zlotnikov, 2014

Waterfront

Formerly a site filled with steel mills and factories, the Waterfront was developed into a shopping area, employing thousands of people. The Waterfront Development borders Homestead, PA, where many steelworkers lived and the community is still struggling to recover from the loss of industry. The development has limited accessibility from Homestead, because of the limited roads that residents can use to get to it.

More Transformation to Come

When Mayor Peduto ran for office he published 100 policy papers that outlined his vision for Pittsburgh (People for Peduto, 2015). Some goals centered around historical preservation while others focused on urban renewal. In order to successfully pursue of these desired initiatives, it is important to consider how to negotiate the tensions that may arise between them. The summarized policy papers below are ones that center around historic preservation and urban renewal:

4. Helping to Build More Diverse Neighborhoods

The goal is to create accessible housing for through zoning and development incentives that ensure neighborhoods are mixed-income.

11. Growing Our Neighborhoods: Attracting New Residents
*   to Pittsburgh*

According to the 2010 Census, Pittsburgh had a 22% increase in young residents, reducing the median age from 35 to 32. Efforts to continue attracting new residents is a top priority.

53. Rebuilding Our History: Home Renovation Grants
*   for Historic Districts*

Pittsburgh is filled with historic districts and buildings. There needs to be a balance between preserving them and maintaining economic fairness, by lightening/ sharing the burden of upkeep and restoration.

57. Walk Your City: Showcasing Neighborhoods
*   through Pedestrian Wayfinding*

Most of the wayfinding and place-making infrastructure is outdated and design for drivers. These systems are due for an update, and should be planned through incorporating the input of all residents who will be use. Providing a system that encourages residents to explore their city on foot it will increase foot traffic through business districts and foster more interactions across Pittsburgh's diverse communities.

81. A URA that Works for Us: Fighting Blight
*   = Rebuilding Our Neighborhoods*

The URA needs to shift its focus from large commercial development to smaller scale neighborhood

investment that will help revitalize communities. As a strong organization it has the capacity to serve as a land bank that will make it possible to convert blighted properties into sites for new homes and businesses built by local residents.

84. City of Immigrants: Welcoming a New Generation
*   of Immigrants to PGH*

In 2011, 7.1% of Pittsburgh residents were born outside the US. Pittsburgh's identity shaped through its vibrant immigrant communities and it should continue to embrace this diversity. As a city, there needs to be more effort in welcoming new immigrants and encouraging their civic engagement. This especially crucial when it comes to attracting foreign university students to permanently settle in Pittsburgh after they complete their education.

85. City Artist in Residence: Economic Development
*   through Public Art*

Pittsburgh has an amazing arts scene. The city can harness the talent of the local arts community by

selecting and funding an artist in residence who will become a leader in facilitating place making activities across the city through overseeing the creation of signage, visual identity, and events.

87. Building on Our Past: Historic Preservation
*   as Economic Engine*

People want to live in a city with history and culture. By creating new uses for historic assets, the city can accomplish preservation and revitalization, increasing economic growth. Doing this will involve finding the right developers and enlisting the help of community members who can work with them to create plans that preserve the city's genius loci and uses it to attract new residents.

These 8 policy papers present a huge undertaking, though with immense potential to create a lasting impact on Pittsburgh's future. The approach to this thesis project seeks to incorporate thinking around how to blend the highlighted policies above to demonstrate that communicating local history and genius loci fits in with these initiatives.

Preservers

(Some of) the Local Stakeholders

Communities are greatly concerned with economic fairness for current residents in the face of new development. However, groups within a community can become deeply invested in maintaining the area's distinct qualities and characteristics as well. But the city can create an integrative approach that engages stakeholders with varying degrees of commitment and knowledge to address the tension of maintaining identity and pursuing urban development.

With Mayor Peduto's visioned initiatives in mind, it is important to introduce the diverse stakeholders invested in these issues.

Pittsburgh History and Landmarks Foundation (PHLF)

The PHLF was founded in 1964, non-profit dedicated to preservation, renewing historic properties, and educating residents around the significance of local sites (PHLF 2015)

Rivers of Steel National Heritage Area

a non-profit organization established by US Congress in 1996 take on the responsibility of preserving the history of steel in the region (Rivers of Steel National Heritiage Area 2015).

Preservation Pittsburgh

Preservation Pittsburgh is a non-profit dedicated to assisting in local preservation efforts of the greater Pittsburgh Region's historic, architectural, cultural, and environmental heritage. It does this through supporting sustainable development under the tenet that Pittsburgh's diverse neighborhoods are key to attracting new residents (Preservation Pittsburgh, 2015).

Local Government

With the goal of re-election, policy makers seek to keep residents happy. This involves balancing initiatives that are often at odds and placating residents with wide-ranging preferences. These efforts affect the entire community.

Passives

A major challenge is the imbalance in awareness caused by new residents having little to no sense of place and established, older residents holding on to deeply ingrained connections built on years of living in Pittsburgh.

Revitalizers

Urban Redevelopment Authority (URA)

The URA was established in 1946 and has become the leading local organization for urban renewal projects throughout Pittsburgh (URA 2015)

Real Estate Development Companies

Real estate developers invest millions of dollars into projects that bring huge change to cities. This is especially true in Pittsburgh, which has experienced new post-industrial developments during its path to full economic recovery. Often, this has meant reshaping and completely transforming urban landscapes to make room for new businesses and residents.

Heinz Endowments

Heinz Endowments is a Pittsburgh-based philanthropic organization. Part of its grant-making efforts includes pursuing innovative regional development projects that seek to revive and revitalize local communities. It strives to use its successes as a model for other cities (Heinz Endowments 2015).

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Stakeholders in Action: the Strip District Produce Terminal

Strip District Produce Terminal development plans showcases this tension. This historic structure was built in 1928 as a terminal for the auction and delivery of produce in Pittsburgh. Spanning 5 blocks, It is one of the Strip District's most iconic buildings (Point of Pittsburgh).

In 2013, during Mayor Luke Ravenstahl's time in office, the URA requested approval to demolish part of building (Department of Public Safety, 2013). This was to help accommodate the development plans of the Buncher Company to develop it the area around it and connect the neighborhood to its adjacent riverfront. In order to prevent this demolition from being authorized, Preservation Pittsburgh applied for the building to be designated as a historic landmark (Fontaine, 2013). When Mayor Peduto took office, he stopped Buncher from carrying out its development proposal. Over two years later, proposals for the Strip District Produce Terminal from various two other development companies are still under negotiation. Buncher was paid $640,000 to abandon its proposal for the building (Belko, 2014).

Unsurprisingly, the platform of preservation is perceived negatively by developers who argue that development brings much need economic prosperity to the surrounding community while preservation inhibits it. However, this doesn't have to stay this way.

History

Business

Art

Design Opportunity
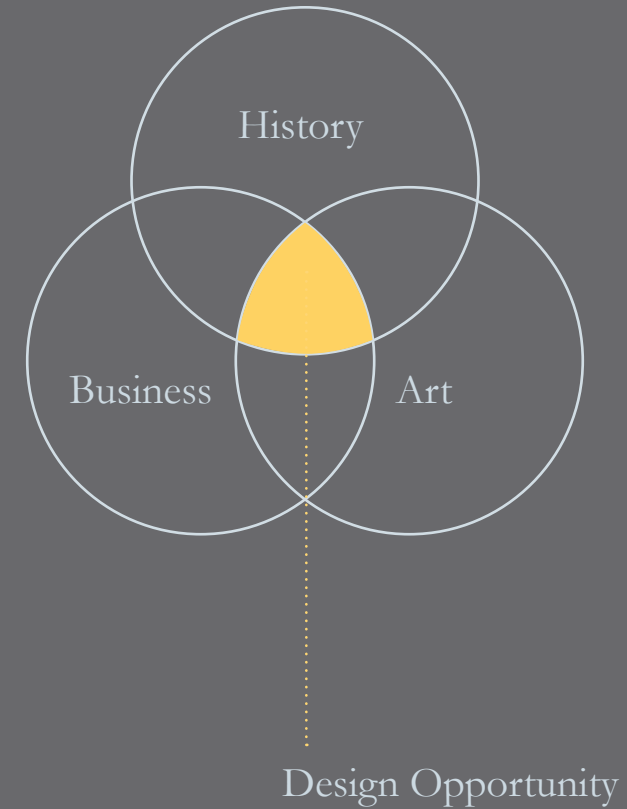
Design Opportunity

When members of a community share a collective sense of place and values, it is easier to work together to carry out projects in a way that maintains both. Transitioning involves changes in a city's physical and social landscape. Newer residents don't hold the same type of connection to existing sites and may not be as sensitive to the importance of preserving historical assets.

Pittsburgh is a 'city of neighborhoods', with insulated communities containing their own vibrant histories. Sharing these histories can be coordinated to culminate into a larger narrative around how Pittsburgh developed its identity through the steel industry. With no strong incentive for residents to explore outside of their own communities, they only hold on to a part of the story.

Conveying a city's identity has been discussed within the domain of Architecture and Urban Planning. Design can contribute to this discussion and offer tools that generate new perspectives toward creating cohesive visual elements that tell a city's story.

Research

Overview

Research methods focused on extracting relevant and important historical narratives from the community and translating these findings into a visual/physical forms as a design proposal. These included interviews and design workshops with community members, concept generation, and experience prototyping. My goal was to verbalize Pittsburgh genius loci, learn how historical narratives are regarded by established and new residents, and finally using these discoveries to determine how local histories could be effectively integrated into physical and cultural contexts.

Whenever possible, I made my research immersive. I achieved this through visiting significant sites, attending relevant events, talking with community elders, and walking the streets of Pittsburgh to better understand the urban context. Being surrounded by local history, I felt it important to be as hands on as possible.

Primary Inquiries

How do established residents feel about the current preservation of Pittsburgh's steel legacy?

What aspects of this legacy would former steel mill workers find most Important to share with future generations ?

What do new residents currently know?

How do new residents prefer to learn about history?

How accessible and engaging are current offerings?

Approaches to Preserving History & Communicating Genius Loci

Cities can communicate history in different ways. Each of these methods prompts varying levels of engagement and reaction from local residents. Experiences can either assist in activating personal memories or help create them, making the community as a whole more aware of its genius loci.

courtesy of worldworldiimemorial.com

courtesy of thefreedomtrail.org

courtesy of ayasofyamuzesi.gov.tr

courtesy of janeswalk.org

courtesy of yadvashem.org

Monuments/Memorials

Monuments and Memorials help visualize narratives and directly embed them into a city's landscape. Monuments encourage visitors to directly engage with the stories. They can be extremely powerful tools in shaping a resident's awareness of place.

Pedestrian Wayfinding Systems

Wayfinding systems are a powerful tool in helping individuals navigate a city. Designers of these systems can use information highlight historically important areas and encourage exploration.
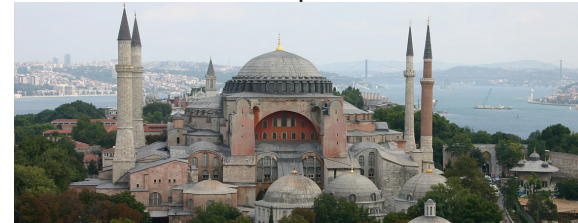
Historic Sites

Historic Sites create context around the narratives that a city preserves. They become a part of a city's visual identity, creating a blend between past and present.

Events

Events can foster interactions between city residents. Individuals partake in a collective experience that centers around discovering wonderful things about their city.

Museum Exhibits

Exhibits provide a dedicated space to curate and display stories. Well designed exhibit, engage visitors and focus their full attention to the displayed information. Curators have more control in shaping the space in an intentional way.
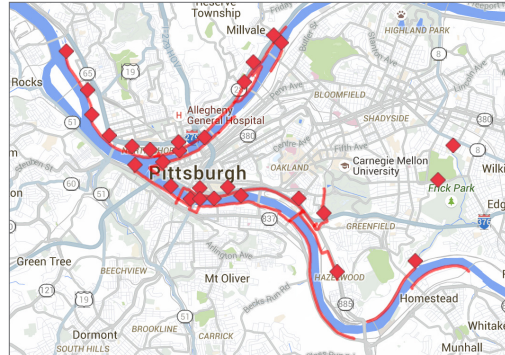
Examples of Communicating Pittsburgh's Identity

courtesy of riversofsteel.org

friends of the riverfront.org

courtesy of riversofsteel.org

courtesy of popcitymedia.com

courtesy of pittsburghparks.org

courtesy of urbanhike.com
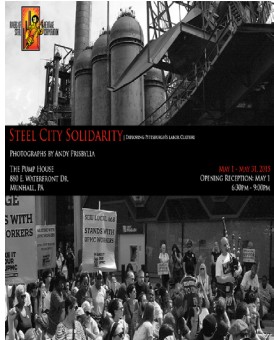
Steel City Solidarity Exhibit

The first installment of the multi-part documentary series 'Citizens of Industry.' The series explores labor culture in many of its aspects. This exhibit focuses on culture and activism in the greater Pittsburgh Region (Rivers of Steel, 2015).

Three Rivers Heritage Trail

This trail span 24 miles and follows Pittsburgh's three rivers passing through significant sites. Along the trails, residents will find maps and information about Pittsburgh's steel industry (Friends of the Riverfront, 2015).

Bost Building

The Bost Building serves as a visitor's center for the Rivers of Steel National Heritage Area and includes an exhibit space dedicated to sharing stories about local steel history and the workers. There is also an archive that can be accessed on request. (Rivers,of Steel, 2015)

Syria Mosque App

Smartphone users in the area of Bigelow Boulevard and Lytton Avenue, the former site of the Syria Mosque can explore digital artifacts recounting the history of the building by scanning QR codes (Smit, 2011)
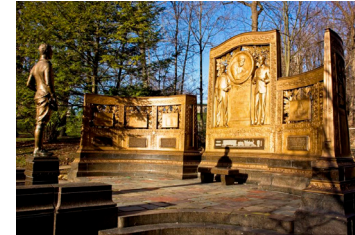
Westinghouse Memorial

This memorial to George Westinghouse was dedicated in 1930, funded by employees who worked for his company (Pittsburgh Parks Conservancy, 2015). It is located in Schenley Park and a few minutes away from CMU campus.

Urban Hike

This is a volunteer run informal walking tour of communities in the Pittsburgh area. Tours occur between late April through October (Urban Hike, 2015).

Exisitng Ways of Interacting with History

"Unless you get to know a community, you don't hear its stories"

- Terri Baltimore,
Director of Community Engagement,
Hill House Association

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Immersing Myself in Local History

It was extremely important to seek out informal experiences with local history to understand the opportunities and challenges first hand. I attended events, followed relevant experts and organizations on social media, and stayed informed on current issues involving urban development and preservation. I also created a photobook about Pittsburgh to push myself to explore and create a deeper understanding its landscapes. My goal was to evaluate the how easy it is to become invested in these efforts for people who are actively invested in doing so.

As I began research, my approach centered around how to engage people a level of interest that isn't enough to seek out experiences with Pittsburgh's historical narratives. I thought about how to build more awareness in order to increase the likelihood that residents will want to partake in the rich experiences that exist in Pittsburgh. New residents may not immediately possess personal experiences or passed down stories of what Pittsburgh was like as a steel town.

© Susanna Zlotnikov, 2014

Interviews

I conducted Interviews understand how my personal experiences compared with those of other residents. I spoke to people who lived here when the city still produced steel, former steel workers, and new residents.

4 steel workers & 2 longtime residents

When interviewing steelworkers, I focused on listening to their first-hand experiences working in the mills and furnaces. They shared memorable stories as well as their opinion on current preservation efforts in Pittsburgh. Speaking with them helped determine what aspects of Pittsburgh's steel legacy was most important to share with future generations. It was powerful to hear first-hand accounts of the extremely harsh working conditions in the steel mills.

Steelworkers I spoke to thought it was really important to preserve history but it was difficult to draw out how and specifically what aspects were most important. I also spoke to two residents who had lived here when the steel mills were around. Their perspectives were extremely valuable since they had a more objective take

on the importance of preserving steel history.

10 new residents

During interviews with new residents, I focused on uncovering their current impressions of Pittsburgh's culture and identity, what they enjoyed about living here, and their experience with learning about Pittsburgh's history. I spoke primarily with individuals in their mid to late 20's who had only been in the city for a few months. All the new residents said they didn't know much about local history but felt it was important.

Online Survey

I created an online survey* asking questions about individual's experiences visiting Carrie Furnace and current levels of interest with Pittsburgh's local history. This survey was meant to gain quantitative insights to complement qualitative nature of one-on-one interviews.

results

- 12 respondents
- 83% would go to Carrie Furnace again,
- 8 out of 12 respondents don't feel they know much about local history,
- 7 out of 12 were interested in learning history

top 3 inhibiting factors

- don't have enough time to learn history
- don't know where to start
- it's hard to get to significant places

* see appendix for full survey

"being in the building was nice but I really liked having the tour guides tell me their stories"

- survey respondent

Design Workshops

Implementing design workshops helped me create a welcoming space for both established and new residents to share their perspectives and creatively think about how preserving local history fits into transforming Pittsburgh. I created activities that uncovered opinions and fostered interesting discussions among residents:

speed-dating concepts

I presented 6 concepts featuring different ways of engaging with local history and city identity. The last storyboard was left blank for participants to create their own concepts. I asked participants selected their favorite and least favorite followed by a group discussion to explore their choices and share their proposed ideas.

results

Participants unanimously liked the idea of engaging with history out in the real world without having to go out of their way to find it. Many proposed a digital app that would offer pop up notifications showing the historical narratives in their immediate surroundings.

city budget spending

Participants worked in pairs to choose how to spend the city budget. They had to divide up funds across 4 projects that touched different types of community investment: commemoration, historical preservation, local culture, and road infrastructure. This helped verbalize the thought processes around balancing preservation and renewal.

results

Memorials were the least popular project to spend money on, while repurposing a historic building was viewed as a more favorable project. Participants wanted tax dollars to be used towards things that are useful in achieving economic prosperity.

perceived stakeholder identity

Participants read an article about the debate over development proposal of the Strip District Produce Terminal. They were given a blank stakeholder map. They had to identify where they believed they belonged on it and where they would like to be. This gauged how residents perceived their own ability to influence these types of local issue.

results

All participants considered themselves to be passive stakeholders. Surprisingly, most were ok with that.

Co-creating a Project Plan for Re-use of Neil Log Cabin

Neil Log Cabin is one of the oldest structures in Pittsburgh. It currently sits on the edge of Schenley Golf Course, unused, and surrounded by a fence. Participants worked in pairs and imagine a way to revitalize the cabin to create an engaging experience for its visitors. They had the option of building models, drawing, or writing proposals.

results

Ideas revolved on revitalizing the log cabin and creating a way for residents to spend time in and around it. Participants felt that it was important to add context to the building to help communicate the significance of the cabin. Several participants suggested moving the cabin to Point State Park to include the cabin with other similar historic landmarks and increasing accessibility.

spending city budget

participants work together on activity

proposed redesign for neil log cabin

winning concept: embedded history

speed dating

proposed redesign for neil log cabin

Key Insights from Exploring Resident Perspectives

How do established residents feel about the current preservation of Pittsburgh's steel legacy?

There's lots of room for improvement to be made in order to make the narratives clearer and more accessible.

What aspects of this legacy would former steel mill workers find most important to share with future generations ?

The work ethic, terrible conditions at the mill, and the sheer scale of the industry. The recurring themes during my interviews with former steel workers overall was what it took to produce steel. Workers experience horrible working conditions, difficult schedules. They also took immense pride in their work, working together to produce the country's steel.

What new residents currently know?

New residents openly admitted that don't know much about local history but they expressed an interest in learning more. They also recognized that preserving local history is important. A major impeding factor is existing opportunities to gain awareness is obscure and often not accessible physically.

How new residents prefer to learn about history?

Residents want history to be relevant in some way: whether through an experience that helps them connect with other members of the community or through an experience that also serves a practical purpose. When presenting different types of ways of engaging with history, residents favored experiences that occurred out in the real world.

Pittsburgh's genius loci:

a leader in technology and a cultural mosaic of communities driven by an incredible work ethic

Asking More Questions

The primary takeaway from my research sessions with residents is that while they expressed interest in knowing about Pittsburgh's history, they also expressed a desire for easy, quick and simple acquisition of this knowledge. Since this was an assumption I had made before the research sessions, I probed further and asked new questions.

How can an experience of learning history, not feel like a history lesson?

What is the appropriate frequency and depth of engagement that needs to take place in order to build connection to place?

Should historical narratives passively blend into a resident's surrounding environment?

Refining My Design Approach

I created the following set of spectrums
as a starting point for concepting.

1. physical integration into the urban context
2. low cost implementation
3. provide for appropriate level of interactivity
4. provide for varying levels of engagement
   (duration/time)
5. accessible to pedestrians in context
6. distinct relevance to local population, but interesting
   for most
7. embody an underlying message within each
   visualization and/or across the system

digital ←——————————————————→ physical

sparse content ←——————————————————→ content heavy

passive ←——————————————————→ interactive

quick ←——————————————————→ time intensive

inaccessible ←——————————————————→ accessible

Prompts

How Might Pittsburgh...

- take advantage of the gorgeous views of Mon Valley
  teach people about steel mills?

- use existing products that help us see to create a
  powerful view of important historical events?

- convert the local rivers into heritage areas?

- transform existing urban trails into a learning space?

- make public transportation a time for people to
  engage with Pittsburgh's communities on a deeper
  level?

- use digital wearables that strengthen a person's
  relationship to place?

- use food to teach new residents about
  the steel industry

Concepting & Developing Design Criteria

Concepting

Feedback suggested an digital app as a potential design solution, but as a designer I didn't feel this would be the best possible medium to connect residents to a city's identity. Genius loci emerges through experiences in a city's urban landscape. Looking at a screen can distract users from their physical surroundings, preventing them from being fully present and engaged.

Instead I focused on the underlying issues that exploratory research illuminated. The main concern was accessibility and context. Residents wanted to 'happen upon' history without making an effort to find it. I wondered how I could harness this type of interaction to foster interest and increase engagement over time.

Concepting allowed me the creative freedom to imagine unfeasible scenarios that depicted deep engagement with place. My initial concepts served as the starting point for generative research. I sketched out 10 initial concepts to explore potential design solutions which fell into 3 categories:

Enhancing Public Services and Amenities

Installing engaging public monuments

Creating Personalized Experiences with Local History

Discoveries

With accessibility and visibility as a top priority, it was easy to evaluate the pros and cons. I was drawn to the potential of redesigning a public service. Ideally, public services are created to serve everyone in the community, with some being physically pervasive throughout all areas of the city. Furthermore, enhanced services and amenities make cities more desireable for new residents.

Examples of Sketches

the following examples show concepts that I sketched. The process was simlar to mindmapping where I focused less on visual aestheic and more on thorough exploration:

Creating Personalized Experiences with Local History

Fitbit helps users become more aware of their physical activity. I imagined what it would be like of it could be redesigned to make residents more aware of their surroundings.
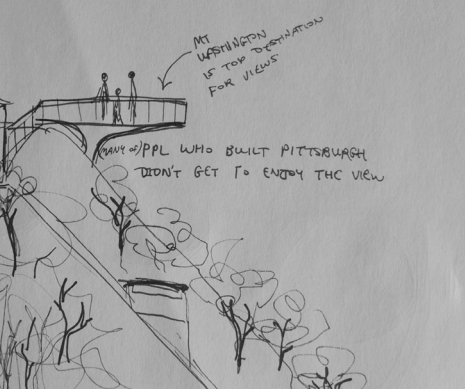
Installing engaging public monuments

Mt. Washington provides a dramatic overlook of Pittsburgh while iconic inclines make it an experience unique to this city. I imagined how an interactive installation on Mt. Washington could help visitors understand how smoky the city used to be.
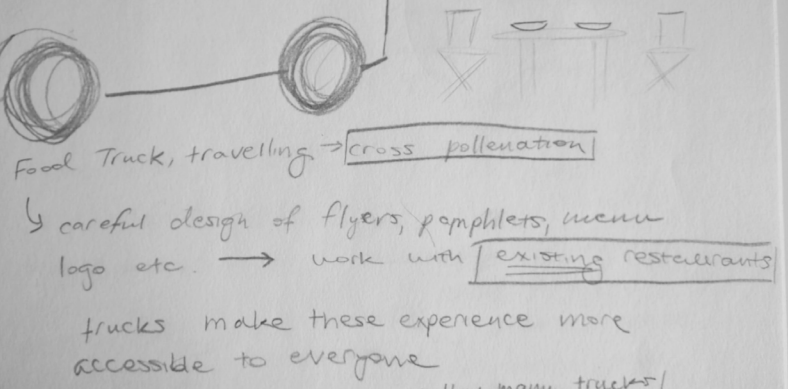
Enhancing Public Services & Amenities

Inspired by a book I acquired featuring recipes from steelworker communities, I wondered if food could be a good gateway to discovering unique characteristics of other communities

© Susanna Zlotnikov, 2014

Building a prototyping at a local bus stop across the street from the site of Pittsburgh's first Iron Furnace. There is a 'No parking, sign attached to the marker.

Generative Research

Overview

During the generative research stage I continued sketching and concepting. However, now I began to hone in preliminary ideas into feasible concepts. During the process, I communicated ideas visually through building maps, models, and elevations. Whenever possible, I depicted ideas in 3-dimensional form to think more deeply around concepts and gain a stronger grasp of real-world constraints.

Building a Richer Historic Landmark System

I started generative research by exploring how to improve the way residents engage with its many historic landmarks, there are currently nearly 600 designated by the Pittsburgh History and Landmarks Foundation (PHLF, 2010). The complete listing is available to the public and include some information but there is no explanation as to the significance of each site to Pittsburgh local history.

I selected landmarks within walking distance of CMU campus; there were a total of 76. I looked for as much information as I could about them, discovering several recurring themes: art, education, culture, and industry. I used this information to create a map with plotted landmarks and zones that visualized the prevalent theme in a given area. I found that there was a bus stop in close proximity to every landmark and bus routes passed through several zones.
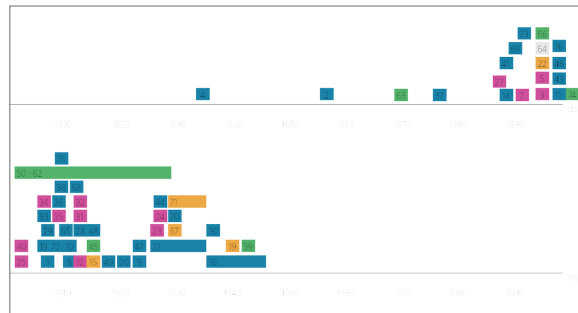
timeline depicting landmarks according to the year they were built; most of the landmarks in the area were built during Pittsburgh's peak years steel production
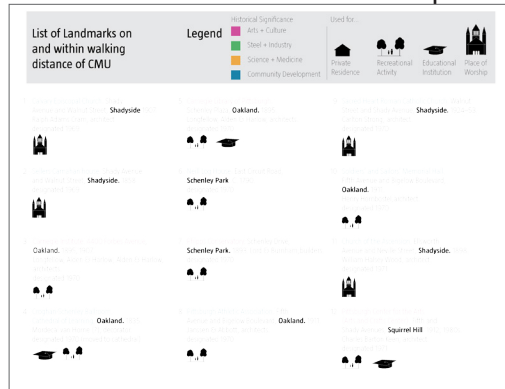
example of organized landmarks showing theme and current use
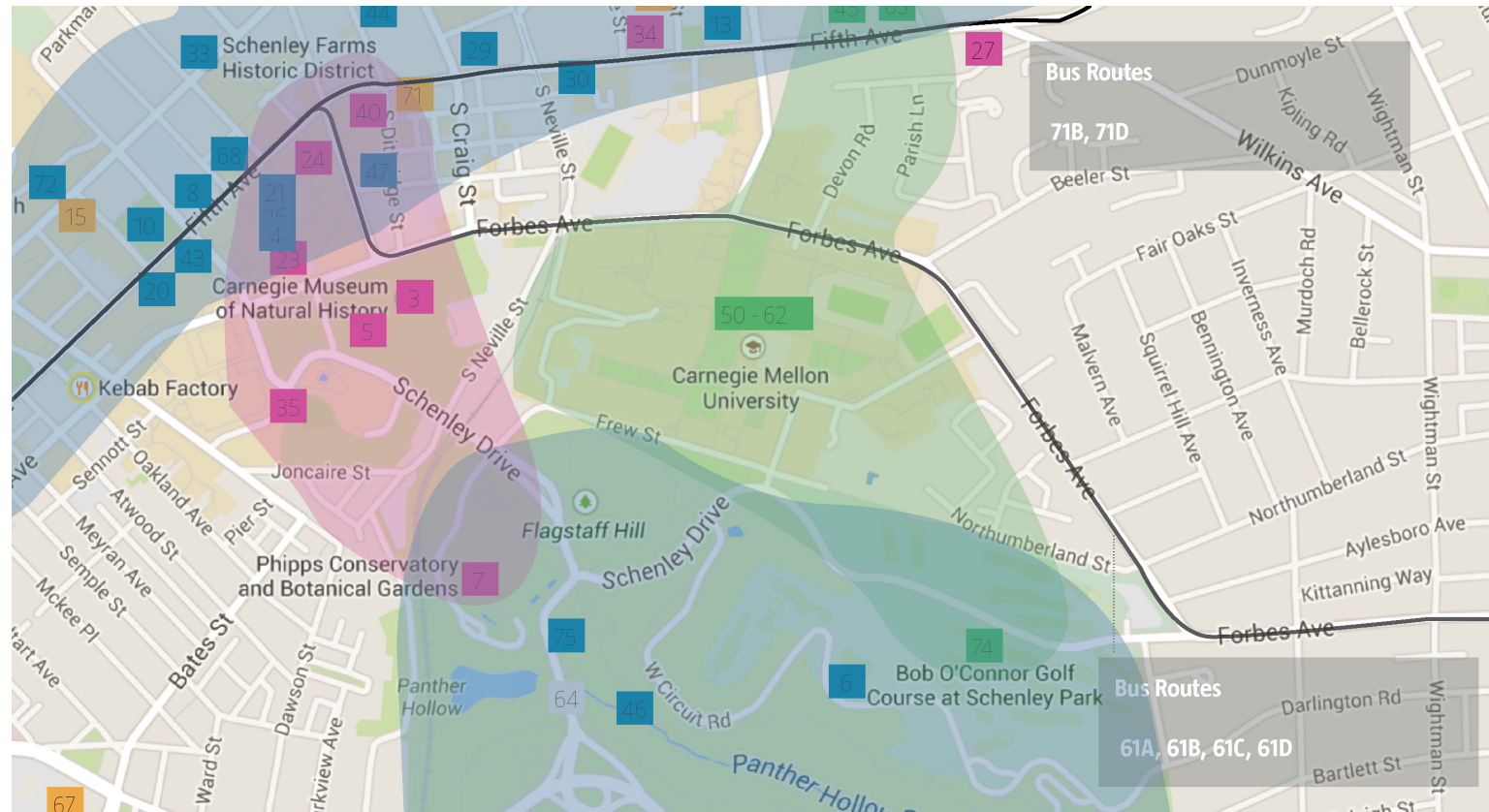
map plotting landmarks, zones, and bus routes

Utilizing the Public Transit System

As a service that is accessible to any resident and reaches all areas of the city, Pittsburgh's public bus system offered a rich design space. The bus system brings together residents who otherwise would not wait together in one place. I sketched out commuter journeys, studied route maps, and learned more about how bus shelters are installed.
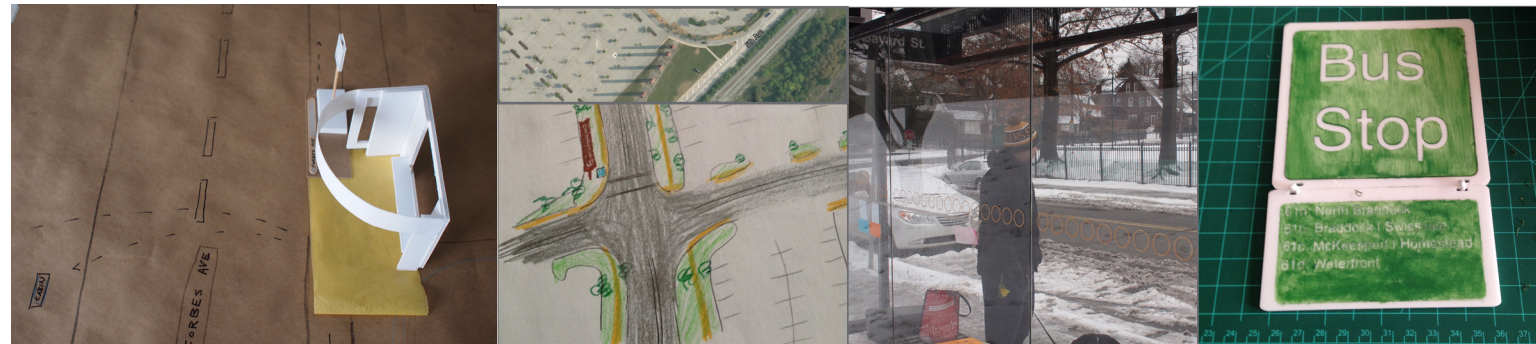
tudying the bus system through creating maps, sketching, on site prototyping, and making models
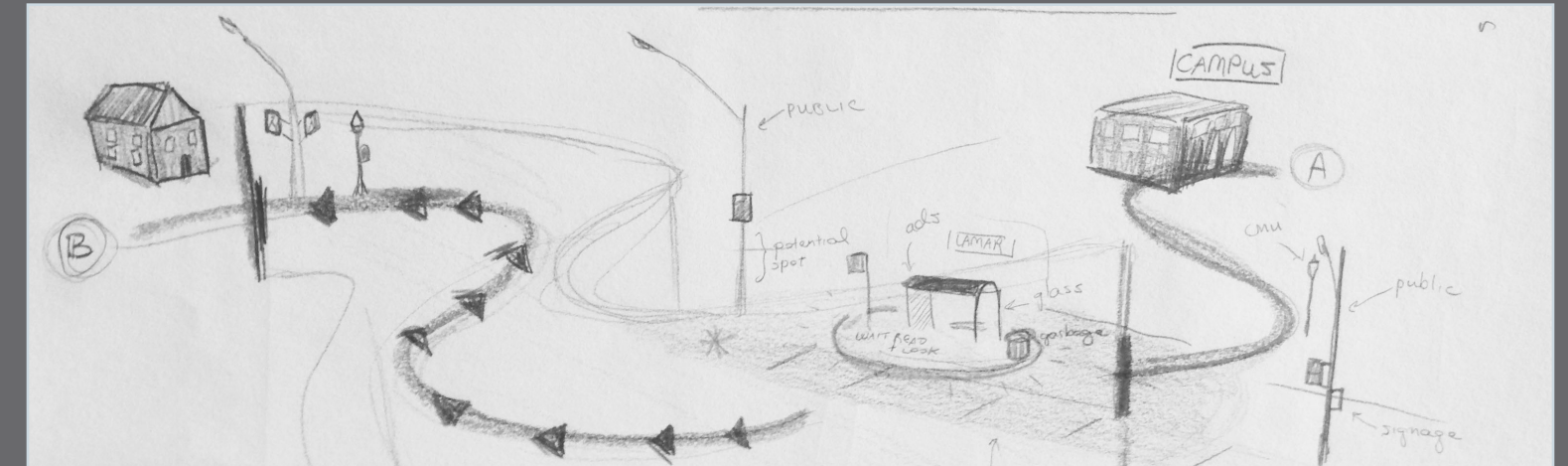
Sketch of commuter journey between CMU campus and home includeing relevant infrastructure and physical space beyond just the bus stop

Generative Research

Exploring Digital Possibilities

I created wireframes of potential digital map applications, with the goal of finding a way to make the experience more 'as needed' and place based. I included tidbits about the area, offering avenues for users to explore narratives more in depth through related articles, e-books, and events. This was an exploration to see of digital tools could be thoughtfully designed to help residents engage more deeply with their physical surroundings

a major concern was deciding whether the digital experience would live in an existing platform or as a stand alone app.

enhancing google map experience

stand-alone application

Generative Research

Exploring through Making

I explored the possibilities of combining public transit with learning history further by creating full and small scale models of potential experiences. When conducting design research to create a complex system, it's important to explore diverse approaches to ideation. Each method allows for different view and ways of analyzing feasibility and desirability.

I built a full scale low fidelity information model by going to a local bus stop and trying out different ways of presenting information about immediate historical narratives. Doing this uncovered real world constraints that would never have emerged through sketching alone.

I built small scale models as a way to design ideal scenarios for the existing system. This also offered a wider view of how elements in the system would relate to each other. Limited in my ability to actually build and install a bus shelter, this provided a suitable alternative to exploring form.

a better defined direction

Generative research pushed me toward a better defined design direction. My design approach remained making history more accessible and relevant to new residents. The public bus system offers an effective platform for communicating city identity while adding the potential to the experience of using public transportation more enjoyable.

Developing a Prototype: Bus Stops as an Identity Showcase

I created a formal concept to test with local residents who recently moved to Pittsburgh.

the concept

Presenting local history at every bus stop in the city through embedding it into a wayfinding system. History serves as a way to provide context and orientation in physical space and the bus route system creates links between local narratives. Combined, these elements help residents deeply understand where they are and better navigate where they're headed. I also included a digital, personalized map that could offer additional guiding information relating to the immediate area.

the scenario

Traveling between 2 bus stops that are part of the 61 routes: the stop at Forbes and Bellefield and the stop at Murray and Beacon. These routes pass through historically rich areas of Pittsburgh but not all the bus stops are situated near historic sites. The stops I selected represented both extremes.

The Forbes and Bellefield stop is rich with historic landmarks and things for residents to do. The University of Pittsburgh, Schenley Park, and the Carnegie Museums are steps away.

The stop at Murray and Beacon is the stark opposite with no immediate landmarks. I designed my prototype around a scenario that a commuter would be traveling from one location to the other, creating communication elements for each one. Prototyping for each extreme confronted the challenge of designing cohesive information system.

Prototype Scenario: Taking the bus
from Oakland to Squirrel Hill

Bus Stop at Forbs and Bellefield
screen shot from google map street view

Screen shot of bus route from google map

Bus Stop at Murray and Beacon
screen shot from google map street view

Experience Prototyping

Components Tested During
Experience Prototype Sessions

pedestrian wayfinding system

digital experience

bus route map system

color

Experience Prototyping

Experience Prototype 1

location: Forbes and Bellefield Bus Stop

participant: local resident who has here for 2 years

scenarios

- waiting for the bus; scheduled to arrive in ten minutes
- exploring the area, in no rush to be anywhere at a specific time

task:

interact with space using the digital prototype as your guide

feedback:

Does the experience of learning history blend well with participants' current behaviors in the area?

Slightly. The participant was hesitant to leave the bus shelter area to go explore individual sites without being sure of when the bus stop would arrive.

Is there too much/too little content?

Too much. The participant didn't want to presented with articles or e-books that related to the sites at that stop. However, she was interested in learning about

local events that fit in with the surrounding narratives. She said if the event sounded interesting, she would add it to her calendar and consider attending them.

Are materials, colors, visual design supporting content?

No. They were slightly confusing at best.

Is the experience useful, interesting, and/or relevant to the participants?

Yes, she felt it was interesting and relevant as long as it didn't interfere with waiting for the bus

insight on design method

Conducting the experience prototype at an actual bus stop proved to be challenging in regard to testing all components of my concept. the following prototypes were moved into my graduate studio space where I could also test physical wayfinding elements as well as simulate traveling from one stop to another.

simulating beacons to guide residents towards significant sites

participant reads about the log cabin across from the bus stop using the digital prototype

using the digital prototype, participant explored the area behind the bus stop where part of wall of Carnegie Music Hall still has soot from when Pittsburgh was polluted with smoke

Experience Prototype 2

iterations

- addition of physical bus route map, wayfinding map, and information pillar
- addition of memorial plaques as part of wayfinding system

*location :*CMU's graduate design studio

participants: 3 local residents who have lived in Pittsburgh for under 2 years.

scenario

- waiting for the bus; scheduled to arrive in ten minutes
- walking by the bus stop
- getting off the bus at Murray and Beacon

tasks

- interact with the space, take note of anything you see, interacting with things that interest you
- interact with digital prototype
- share feedback and reactions out loud

feedback

Does the experience of learning history blend well with participants' current behaviors in the area?

yes blending it into a wayfinding system was really helpful and made history more relevant

Are the communication components working well together?

yes, components are working well together

Is there too much/too little content?

Yes and no. While content still needs to be finalized, participants made it clear that they did not want to read too much. The preferred bread crumbs of information that they could read quickly

Are materials, colors, visual design supporting content?

People didn't immediately grasp subtle references because they lacked context. The steelmark symbol was confused for the Steelers logo

Is the narrative cohesive across bus stops?

yes, having a map at each bus stop created continuum Is the experience useful, interesting, and/or relevant to the participants? Yes, participants really liked the experience overall
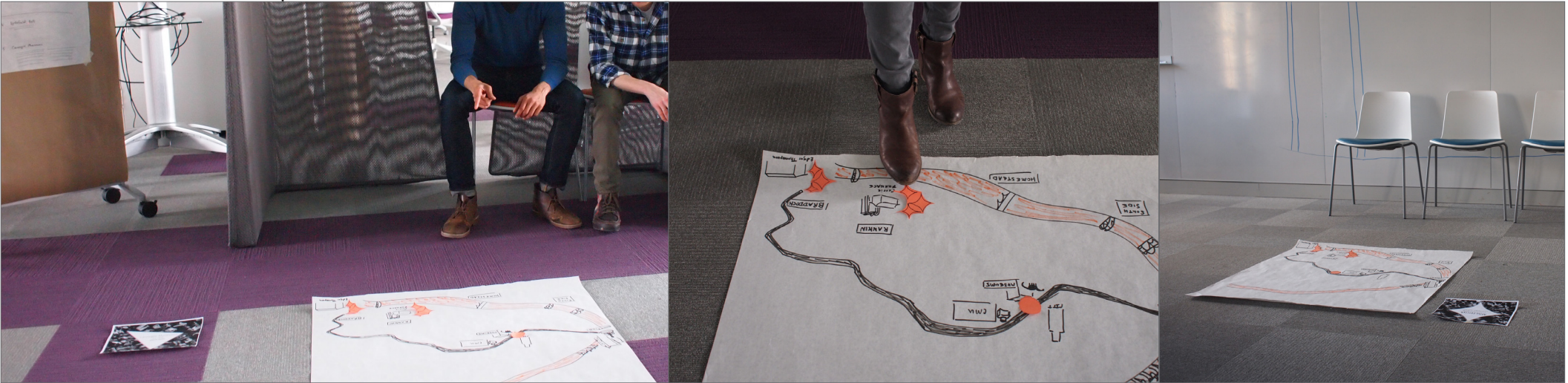
participants imagine they are waiting for the bus and look at the embedded bus route map

close up of bus route map; participant is looking at visual elements that represent important sites of Pittsburgh's steel industry

this part of the prototype simulated the bus stop at beacon and murray

Experience Prototype 3

prototype iterations

• better defined information pillar and wayfinding map
• removal of memorial plaques
• testing digital experience using paper prototype to better test user interaction

location: CMU's graduate design studio.

participant: a local resident who has lived in Pittsburgh for 9 months.

scenario

• waiting for the bus; scheduled to arrive in ten minutes
• walking by the bus stop
• taking the bus from Oakland to Squirrel Hill

tasks

• interact with the space, take note of anything you see, only interacting with things that interest you
• interact with paper prototype

feedback

Does the experience of learning history blend well with the resident's current behaviors in the area?

yes, the participant liked that learning about the area blended with wayfinding.

Is there too much/too little content? too little. she wanted to know more about the current use of the significant sites around the stop and what she could do in the area.

Does the digital component enhance the experience? she would only use it if she were waiting for the bus and had nothing else she needed to do.

Is the experience useful, interesting, and/or relevant to the participant? yes, the participant liked the concept, especially the wayfinding component. She wants to be able to use Pittsburgh's bus system but as a new resident she finds it incredibly confusing because she is unfamiliar with the areas and routes.
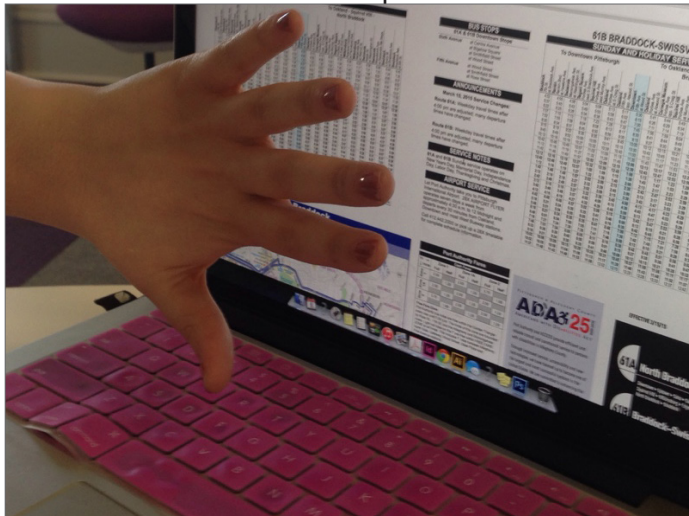
participant engaging with the current design of the bus schedule
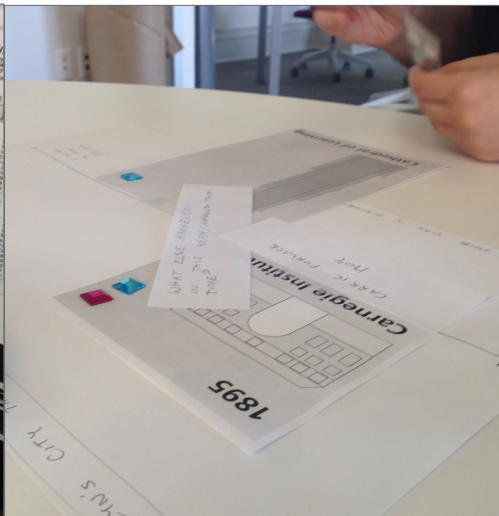
building a personalized timeline featuring the landmarks around public bus stops
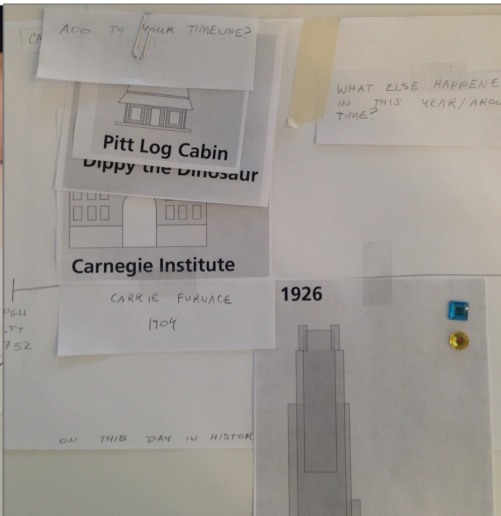
close-up view of the paper prototype; gems represent categories
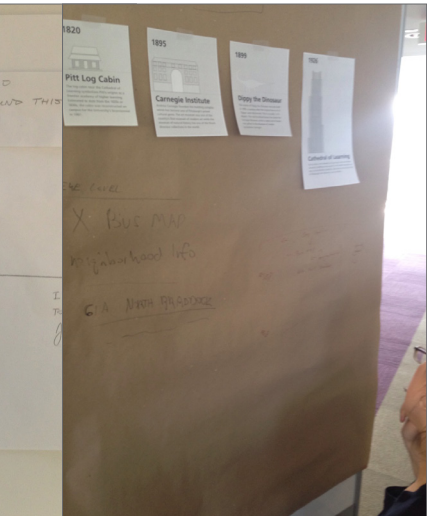
making modifications to the wayfinding pillar, adding information she would like to see on it

Building Physical Models

I applied feedback I received during sessions with participants to conceptualize what the components of the system would look like in real life. I created several variations that helped me make informed decisions on form, size and material.
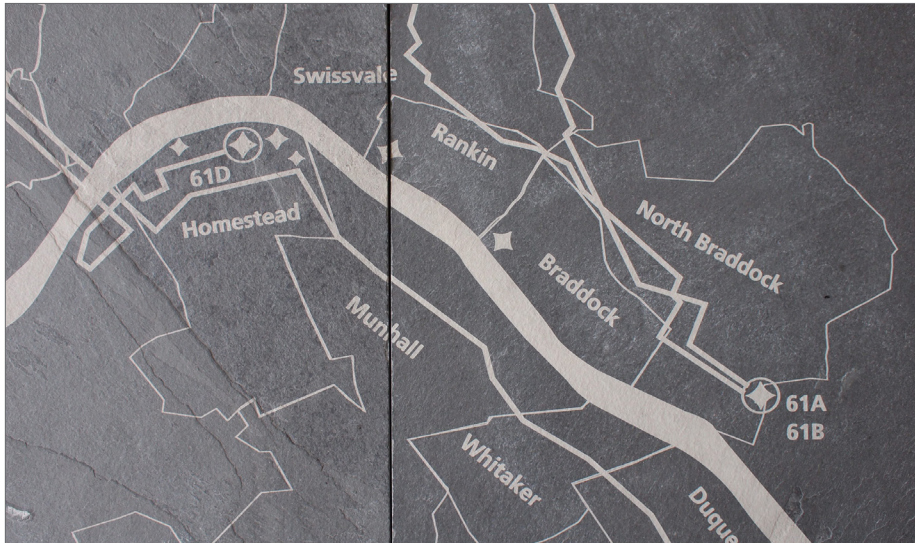
laser etched slated tile showing bus routes. asteroid symbols represent significant sites

close up of redesigned laser cut acrylic bus marker prototype

bus marker variation
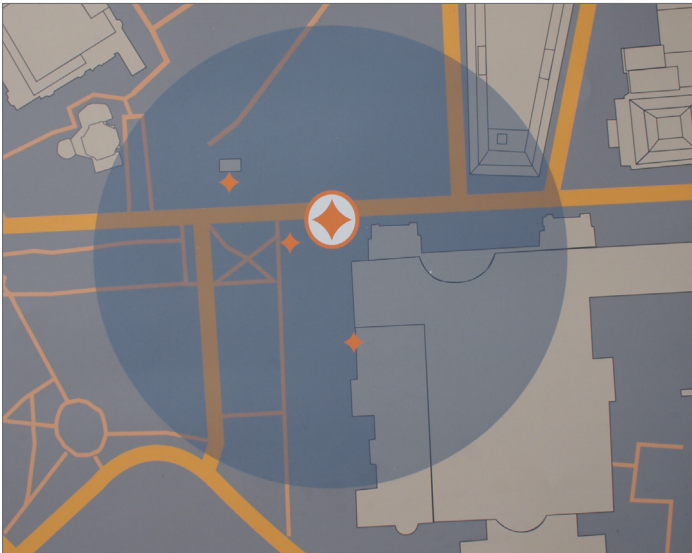
prototype of pedestrian wayfinding map for Forbes and Bellefield bus stop
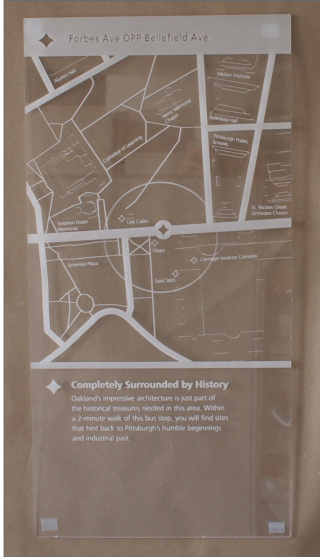
laser etched clear acrylic version of pedestrian wayfinding map
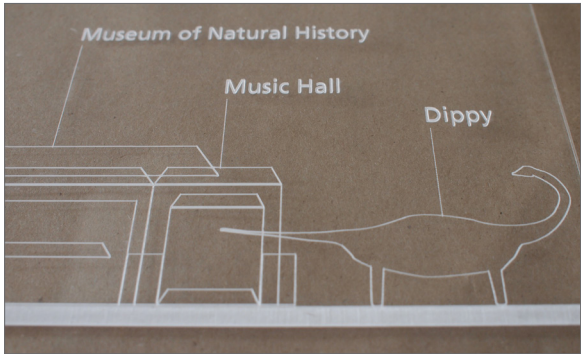
close up of laser etched acrylic panels for pedestrian wayfinding system

*"I like how learning history builds
my understanding of the city"*

- Pittsburgh Resident (1 year)

*"Pittsburgh isn't on a grid so I'm often confused about where I am.
I'm never sure where North is. I like knowing how one area spatially
relates to another "*

- Pittsburgh Resident (2 years)

Key Takeaways that Informed Design

1. Content shouldn't compete with elements that are already engaging residents with the city's landscape. It should instead incorporate them.

2. History is a useful tool in building an overall awareness of city.

3. Pittsburgh is a confusing to new residents.

4. A lot of information is hard to take in all at once. In this type of experience it should be given in snippets or bread crumbs.

Reflections on Design Methods

Prototyping sessions were most effective testing components in low-fidelity and and giving participants freedom to modify the prototype. With appropriate guidance, participants were able put themselves in the mindset of what it would be like to use the concept out in the real world. They also enjoyed being able to make adjustments as they gave feedback; it helped them clearly verbalize their feelings and reactions to the concept. An additional benefit was the incredibly low cost of creating prototypes. Building out a city wide system is a huge investment for a city so starting small ensures that stakeholders are making fully informed decisions before committing funds to implementing the proposed design.

Design Proposal

Overview

The History in Transit (HIT) System is a modular information system that provides residents with spatial and historical context throughout the Pittsburgh's urban landscape. The proposed design encourages exploration and empowers residents to navigate through the city confidently. It visualizes histories hidden across Pittsburgh's neighborhoods and presents them in the public domain by embedding them into the public bus system infrastructure.

Pittsburgh's bus system provides an existing infrastructure that reaches all parts of the city and the greater region. Buses travel across the cityscape, providing an unique opportunity to share and connect stories through its bus stops. This high visibility to the system as a whole, while engaging residents with specific narratives related to the immediate area around them.

Design Guidelines

1. local history should be physically accessible
2. historical narratives should be relevant to new residents
3. residents should engage with their immediate surroundings
4. learning local history shouldn't cost money
5. experiences should require a significant investment of time
6. residents should be aware of Pittsburgh's Industrial past and genius loci

Use Cases

- waiting at the bus stop
- walking past the bus stop

A Modular System that can Accommodate Diverse Narratives

Cities are dynamic so flexibility is important. Implementing the HIT system results in an organically developed bus stop hierarchy that reflects the historical significance of the surrounding area. Bus shelters become different sizes to appropriately communicate the historical narratives without compromising the cohesiveness of the system as a whole.

front view, redesigned bus stop at Beacon and Murray.
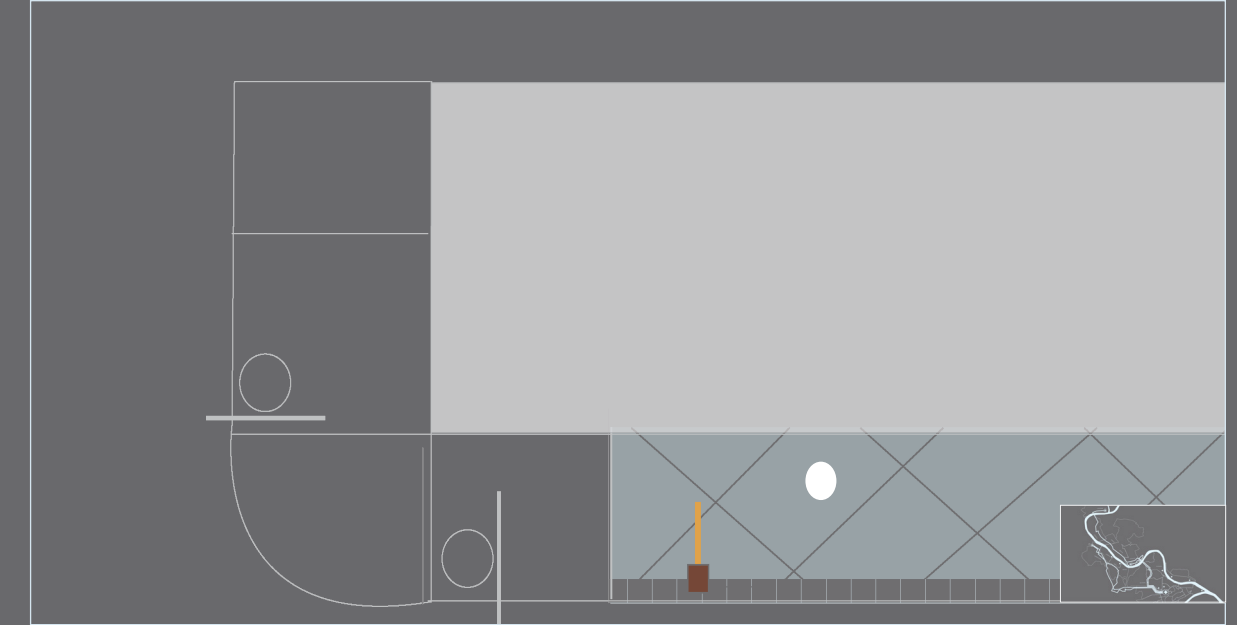
top view, redesigned bus stop at Beacon and Murray
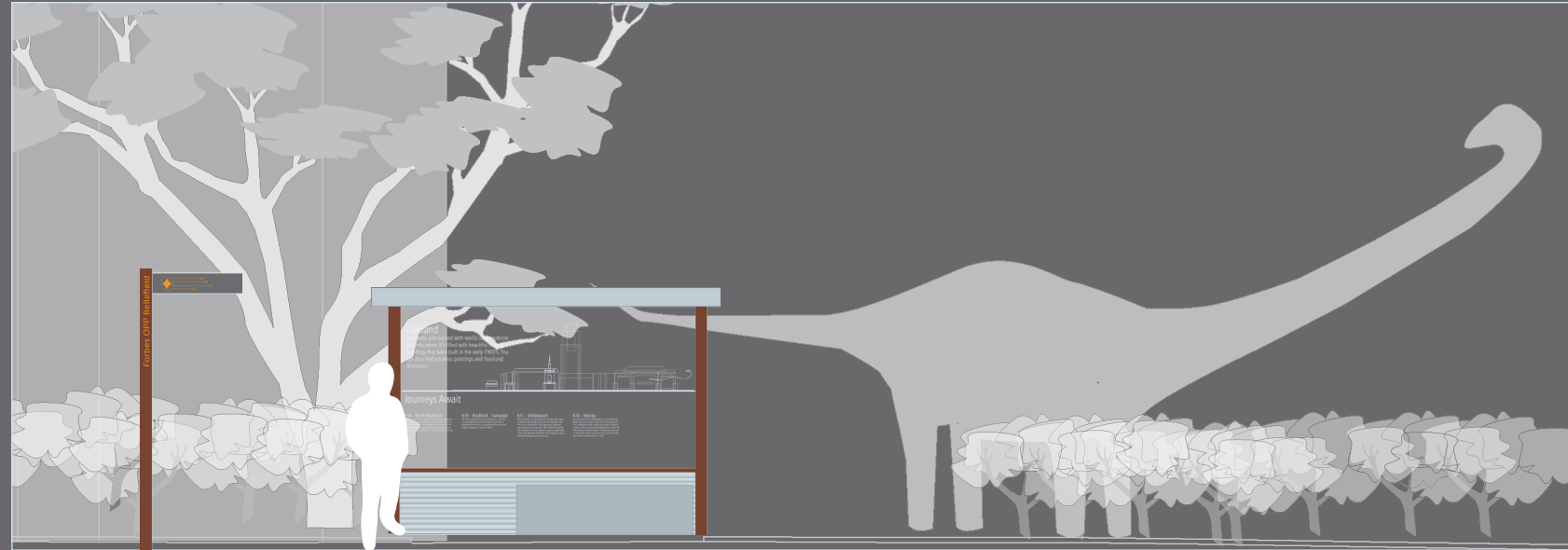
*front view, redesigned bus stop and shelter
at Forbes and Bellefield*

*top view, redesigned bus stop and shelter
at Forbes and Bellefield*

Proposed Solution: the *History in Transit System (HIT)*
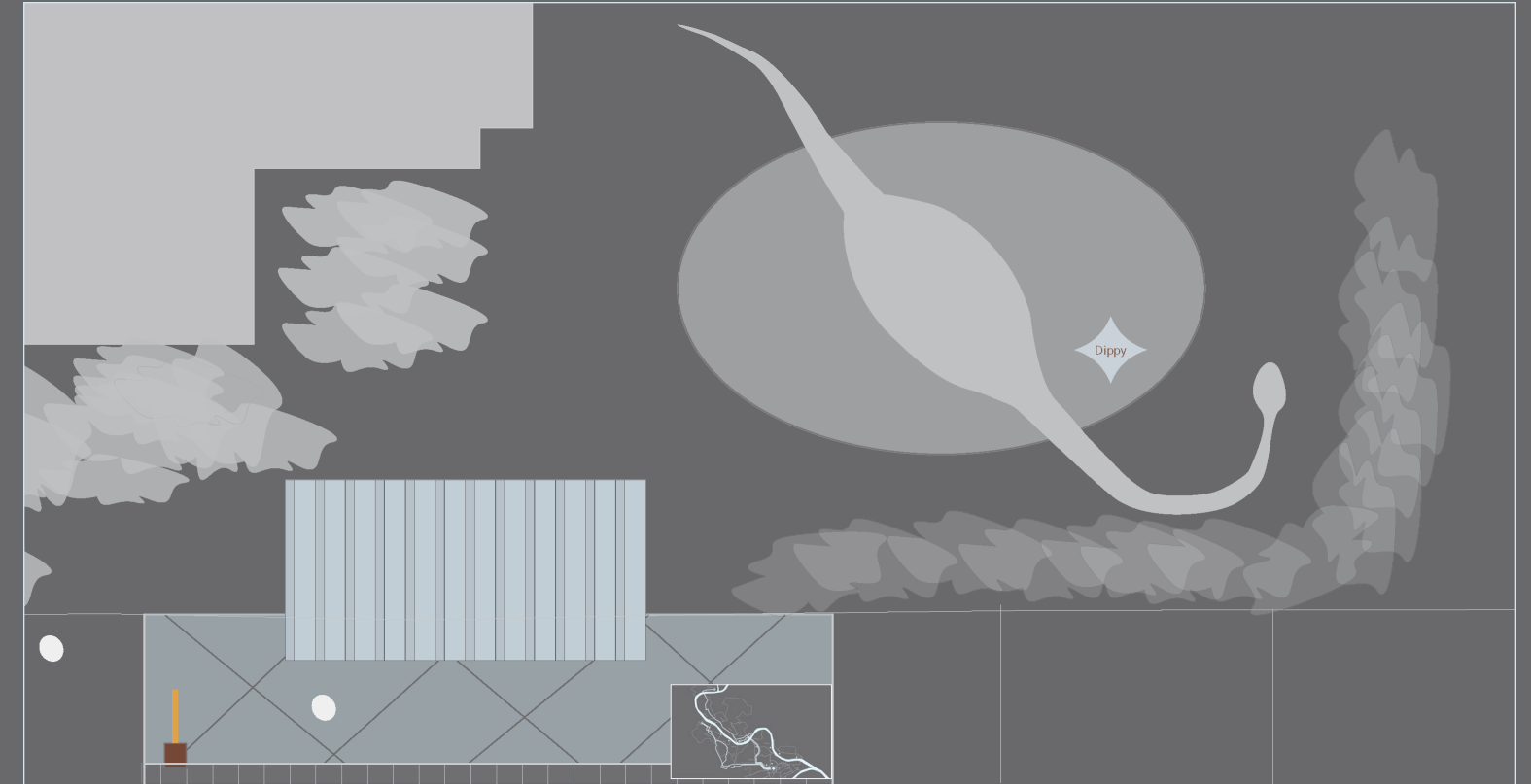
Creating a Wayfinding System for a Disorienting Landscape

Pittsburgh can be a confusing city to navigate, even for longtime residents. It's topography has caused seemingly haphazard urban development with no apparent grid system. In a city where navigation is difficult, especially for new residents, getting from point a to point b becomes primary concern – the quality of journey is often largely unappreciated. The HIT system adds a superlative perspective to urban commuting through the lens of local history. This system, presented as a running visual narrative embedded within the urban landscape aims to connect new and old residents to the city in a deep way in efforts to foster a shared community identity.

Bus Route Sidewalk Map

laser etched slate tile, 36 in X 48 in
typeface: frutiger, 47 light, condensed

Shelter Wall

tempered etched glass with cor-ten steel frame, 55 in in X 90 in
typeface: frutiger, 47 light, condensed

Forbes Ave OPP Bellefield Ave

Completely Surrounded by History

Oakland's impressive architecture is just part of the historical treasures nestled in this area. Within a 2-minute walk of this bus stop, you will find sites that hint back to Pittsburgh's humble beginnings and industrial past.

Dippy

Site Markers

engraved cold-rolled steel, 10 in X 10 in
typeface: Garamond, Regular

Proposed Solution: the *History in Transit System (HIT)*

Diverse Narratives, Consistent Visual Form

Part of Pittsburgh's identity is its vibrant cultural mosaic. Many communities celebrate their distinct legacies by showcasing it through public branding campaigns. Although this helps visualize a community's identity, it results in disconnect between communities. As an entry point for residents to learn about all of Pittsburgh's communities, the HIT System presents information about communities in a visually consistent and subtle way and uses the same materials at each stop as an homage to Pittsburgh's industrial past that spurred community development.

Oakland

A neighoborhood where you can access priceless works of art, dinosaurs, world class medicine, and higher education.
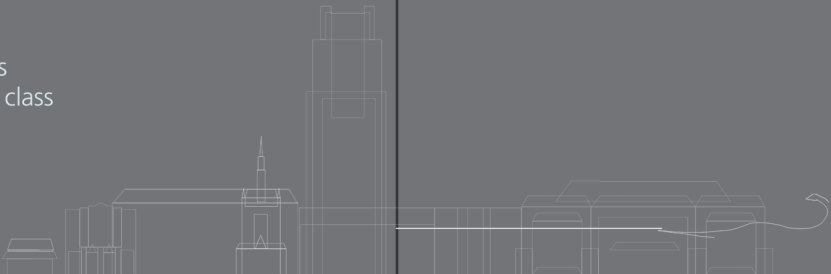
Buses to the Places that made this possible

61A - North Braddock
a scenic route that will take you through significant areas of Pittsburgh's steel history. Be on the lookout for Carrie Furnace which is in Rankin, PA. This is one of the few remaining structures left of the local steel industry and was a crucial part of the steel making process.

61B - Braddock - Swissvale
This bus route will take you to Braddock, a city with an amazing story. Once a vibrant steel town, it experienced major loss in population when the steel industry collapsed in the late 1980's. With a determined mayor, Braddock is slowly regrowing into a beautiful city.

61C - McKeesport
This route tells an intense story of how the steel industry effected the growth of the City of Pittsburgh. Steel mills across the greater Pittsburgh region supported the economy up until the late 1980's. While Pittsburgh has recovered since the industry's collapse, surrounding towns that depended steel have still struggled to regain the the same level of prosperity.

61D - Murray
This bus takes you to the Waterfront, a shopping area which was once the site of sprawling steel mills. The only remnants of local industry are the brick smoke tacks and Pump House.

Shelter Wall

tempered etched glass cor-ten steel frame, 140 in X 90 in typeface: frutiger, 47 light, condensed

Carnegie Institute Complex, est. 1895

Museum of Natural History

Museum of Art   Music Hall

Dippy

Modern Art & Ancient Dinosaurs
2 museums are housed here: the Carnegie Museum of Art and the Carnegie Museum of Natural History. You'll find a world renowned collection of dinosaurs, priceless works, and many changing exhibits that make each visit a unique one.

Refined Grittiness
Pittsburgh grew into a modern, bustling city because of the steel mills built by industrialist Andrew Carnegie. He used his wealth from producing steel to open these museums and fill them with priceless cultural treasures.

So Much to Explore
Think the building looks fancy? You have to see what's inside. With so many exhibits, be sure to set aside at least a few hours for exploring all that both museums have to offer.

Shelter Wall

tempered etched glass cor-ten steel frame, 48 in in X 90 in typeface: frutiger, 47 light, condensed

the HIT System Raises Overall Awareness of Genius Loci

The HIT serves as a gateway experience with Pittsburgh's historical narratives to help residents better understand and appreciate them. With increased awareness and appreciation, residents are primed to participate in the diverse and rich experiences that are available throughout the city.
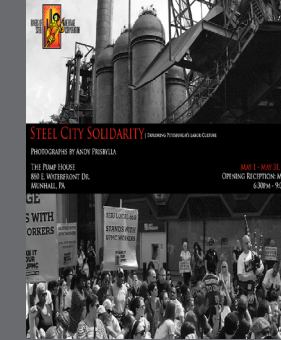

courtesy of pittsburghparks.org
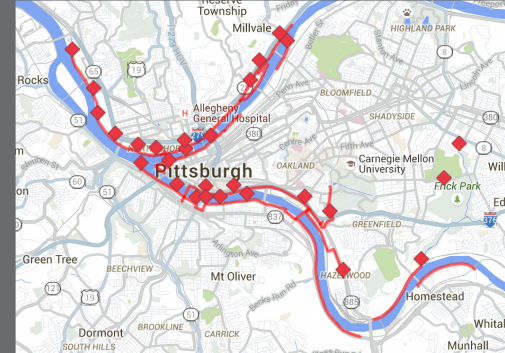
friends of the riverfront.org


courtesy of popcitymedia.com

courtesy of riversofsteel.org

courtesy of riversofsteel.org

courtesy of urbanhike.com

Refining Content Further

The system infrastructure is in place but needs to be filled with content. The challenge with creating content to fill glass panels is that they deal with stories that materialize in different ways. Information can be biographical, technical, personal or actionable thereby requiring different form and design. Information can also relate to thing that are immediately visible while others might reflect more abstract concepts. Great care should be taken on developing the voice that reflects the community but is relatable to new residents.

what is visible   *not visible from bus shelter*

individual point of interest

ideas themes
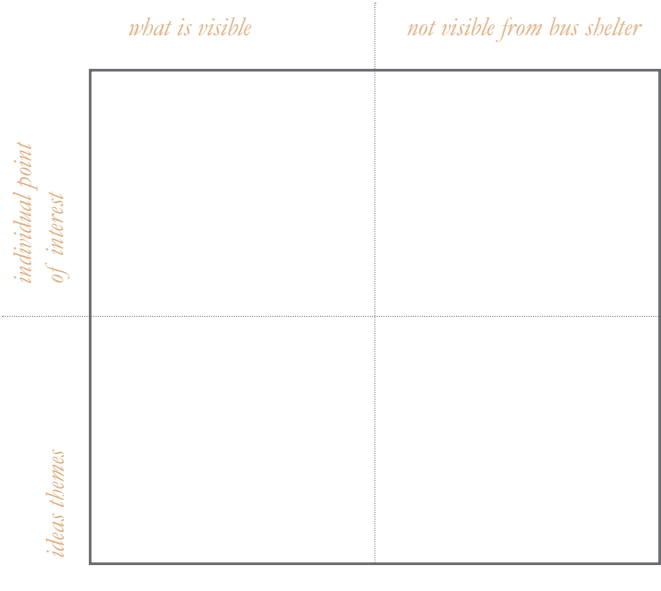
further narrative organization

biographical | technical | personal | actionable

Incorporating More of Pittsburgh's Narratives

The steel industry is a major factor that built Pittsburgh's identity, but it's not the only factor. The HIT System is designed to be expanded and incorporate all of the historical narratives that culminate in communicating Pittsburgh's genius loci. The Hill District is filled with significant sites relating to Pittsburgh's rich cultural history; it was the birthplace of renowned playwright August Wilson and the setting of many of his plays (August Wilson Theatre, 2015). After years of economic hardship, the Hill District is predicted to experience major revitalization, but there is concern that it will come at the expense of its identity.

Developing Processes to Co-creation

A unique characteristic of Pittsburgh is its distinct neighborhoods. Community-led efforts to preserve their own identity adds complexity to the problem but is also an essential part communicating the city's identity as a whole. The process of refining and implementing the HIT system can offer communities the precedent to co-creating the experiences for new

residents. Established residents should be a part of curating identity they helped shape and as a way of connecting with new residents.

"People with roots and interests in the Hill also point to the need for a real effort — both by the city and neighborhood groups — to ensure that longtime residents aren't displaced by gentrification and that the Hill's deep cultural history isn't left behind."

- Patrick Doyle, Pittsburgh Magazine

Extending the Physical Experience through Digital Interaction

Mobile digital experiences offer an opportunity to engage people with information in context. However, educating people about history of their context can be challenging. However, digital experiences designed to complement the contextual information system may do just the opposite. They can take away from the experience of being in a place. With that in mind, an integrated digital component should be scaled appropriately and serve a supportive role to the physical system.

The digital component for the HIT system should be mindful of keeping resident engaged and present in their immediate surrounding by offering nudges that are meant to encourage residents to actually go and explore the landmarks around the bus stop.

There are many facets to Pittsburgh genius loci and history. While designing an experience that lives in a city's physical landscape makes interacting content more cohesively blend in with being in the city, this comes at the expense of going into depth with specific stories that are presented in the system. Having a digital component can allow residents to scratch beneath the surface

Establishing a link between city identity and civic identity

A personalized digital experience may offer a tool that builds a link between city identity and a person's sense of civic identity. During experience prototyping, research participants liked being able to curate their own way of building their knowledge of local history and appreciated the ability to create personal entry points through extensive narratives.

Connecting historical narratives with relevant current issues

History can be presented in permanent installations because it doesn't change (frequently). Current events are constantly changing, making digital platforms better suited for keeping new residents informed. By connecting it back to historical narratives presented in the HIT system, values and perspectives can become more contextualized for new residents who are finding their way through important local issues.

Research participants shared positive opinions of the digital system concept to complement the physical system. Despite their collective opinions, a robust digital system would require a deeper exploration and development process that fell outside the scope of this project.

Conclusion

"*I believe we have the opportunity to establish a lasting role for Pittsburgh in the national and international debate around post-industrial cities. Pittsburgh can redefine what cities are for, how they work, how they look and feel, and who they serve.*"

- Mayor Bill Peduto

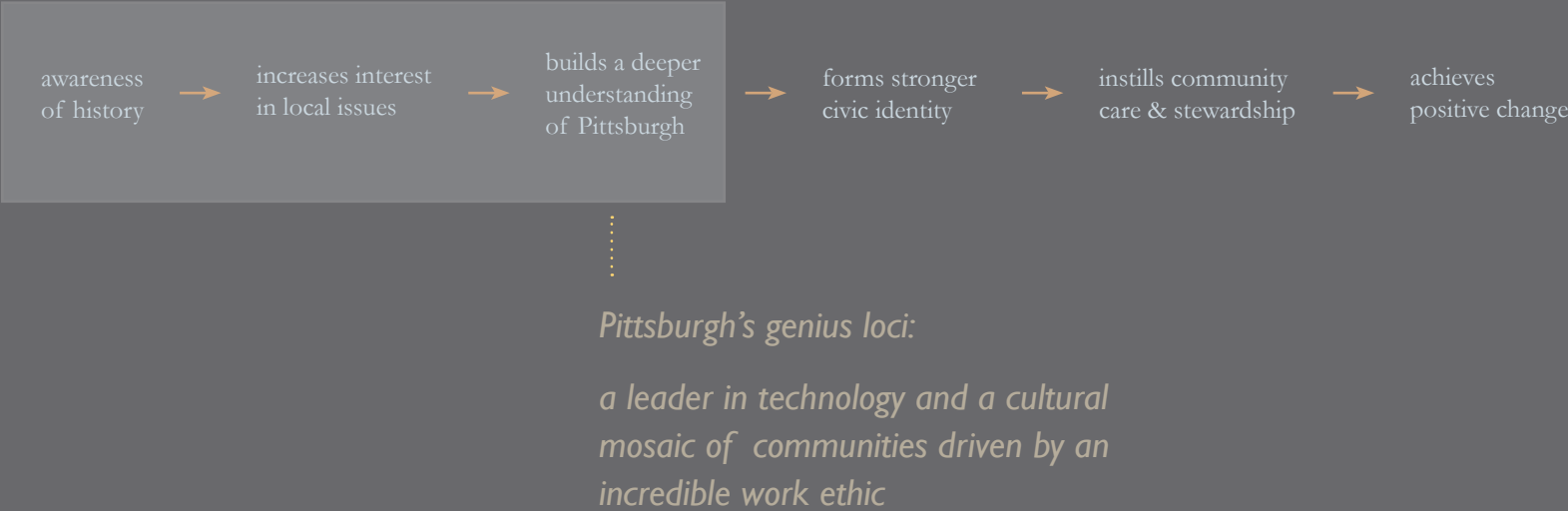## HIT System as a response to Mayor's Policy Papers

Art, wayfinding, and historical preservation work together to help communicate Pittsburgh's genius loci in a way that allows all members of a community, especially new residents, to build a deeper connection with place.

87. Building on Our Past: Historic Preservation as Economic Engine

57. Walk You City: Showcasing Neighborhoods through Pedestrian Wayfinding

History

HIT System

Business   Art

85. City Artist in Residence: Economic Development through Public Art
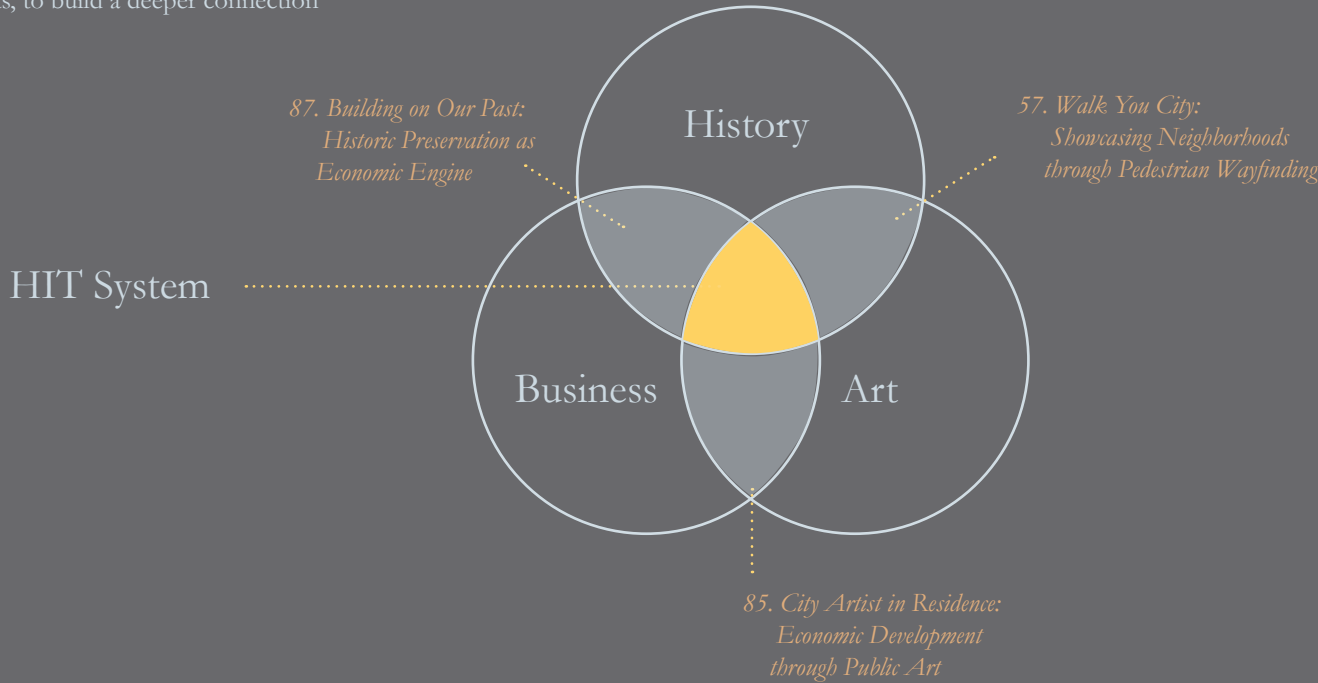
Impact on Place & Identity

Revisiting the Thesis Scope

Awareness leads to stewardship and thoughtfulness towards balancing efforts of historic preservation with urban development. The proposed system offers a way to ease the tension that may arise between these two goals. A better communicated context could build a shared value of historical assets, transforming the dialogue from preservation impeding revitalization (as was the case with the strip district terminal) to harnessing preservation to develop thoughtfully.

| awareness of history | → | increases interest in local issues | → | builds a deeper understanding of Pittsburgh | → | forms stronger civic identity | → | instills community care & stewardship | → | achieves positive change |

Pittsburgh's genius loci:

a leader in technology and a cultural mosaic of communities driven by an incredible work ethic

Contributing to the Dialogue on Post-Industrial Development

Pittsburgh is still undergoing a period of significant post-industrial transformation. This is witnessed in its changing landscapes and emerging communities. And there are still more changes to come. Many of Pittsburgh's neighborhoods are still in need of revitalization The HIT System visualizes local histories, connecting them to the present and linking them to issues surrounding urban development.

Most revitalization initiatives are locally based, focusing on individual communities. However, the current city administration has launched a new broad-based initiative that aims to improve the city on a larger scale. The p4 Initiative was launched in April 2015 as a project seeking to become a model for pursuing comprehensive, inclusive approaches to urban planning in post-industrial cities. There are 3 areas that are a part of the plan: Downtown, Uptown, and Hazelwood. This initiative will bring together many stakeholders in order to complete the goals of this project.

While the p4 Initiative aims to have deep and far reaching effects on the city, one aspect is noticeably missing - local urban histories that form Pittsburgh's genius loci. As city officials begin to implement the p4's

programs, an opportunity exists to connect to encourage stewardship and care as a part of community revitalization.

Formerly the site of LTV Steel, Almono in Hazelwood is the one of the last remaining industrial sites to be revitalized and one of the city's largest brownfield development projects (P4 Pittsburgh, 2015). Other brownfield redevelopment projects include the Waterfront and the SouthSide Works. While steel production is no longer part of the city's identity, the work ethic and local culture that it brought about still is. Almono can be viewed as the chance to commemorate this history through thoughtful development.

Investing in the Present with Past

Effort to preserve identity and local history is often left out of the conversation around Pittsburgh's urban revitalization. This needs to change. Stakeholders should incorporate this into dialogue concerning redevelopment to establish continuity between Pittsburgh's past and present. The HIT System is designed to lay the groundwork for these conversations. Through interacting with this system in Pittsburgh urban landscape, residents may be encouraged to make

decisions around curating their histories together. This process of curation may help uncover links between diverse historic sites that contribute to the larger narrative of place and strengthen partnership across communities.

"Above all, it's important that the opportunities Pittsburgh has worked so hard to give itself are available to everyone. In Pittsburgh everyone should have a valuable role and equal opportunity in the urban future we are building together,"

- Grant Oliphant,
Heinz Endowments President

the 3 sites for upcoming redevelopment: Downtown, Uptown, and Hazelwood

courtesy of p4pittsburgh.org

Recommendations
for Implementation

Implementation should first focus on bus stops in areas of high historic significance:
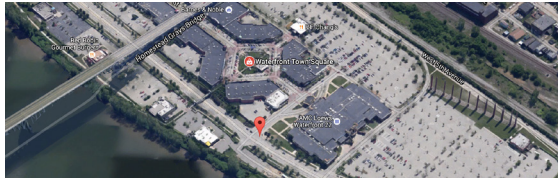
The Waterfront, the Smoke Stacks

the waterfront was the site of major industry as well as the Pinkerton riots, a significant moment in US labor history (Rivers of Steel, 2015). It is now a shopping center filled primarily with chain businesses. Currently there is little visual communication to reflect how important the area was. The smoke stacks, while iconic, offers little in fostering awareness of place to its visitors.

CMU Campus, Entrance

Carnegie Mellon University began as a technical school established by Andrew Carnegie in order to create a skilled workforce for the steel industry (Carnegie Mellon University, 2015). Since opening in 1900 it has become one of the top universities in the world, helping Pittsburgh maintain its reputation as a leader in technological innovation.

University of Pittsburgh: Dippy the Dinosaur

Steel production created a wealthy upper class. in Pittsburgh, They lived in Oakland and Shadyside to escape the smoky air on the river fronts (Pittsburgh City Living, 2015). The University of Pittsburgh eventually moved to its Oakland location, prompting more development of the area. Today, the area on and around campus is filled with historic landmarks, gorgeous architecture, and stories that shed light on how steel built Pittsburgh.
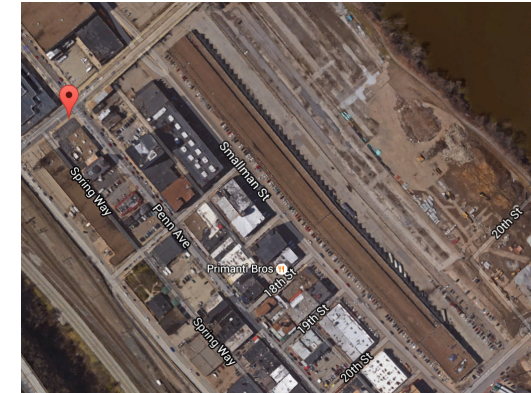
Strip District, Strip District Produce Terminal,

The Strip District is one of Pittsburgh's defining areas. Part of its unique landscape include the Strip District Produce Terminal that spans for 5 blocks of the Strip.
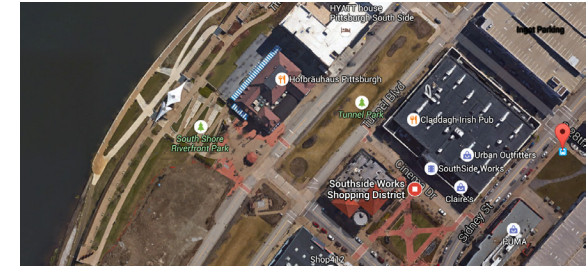
South Side, SouthSide Works

Similar to the Waterfront, the SouthSide Works is redeveloped brownfield site that was formerly part of LTV Steel Mill (URA, 2015).

The first phase of implementation should include evaluative research in order to understand resident reactions to the HIT System. Feedback from residents can be used to make appropriate modifications prior to making financial commitments to a larger investment in carrying out city-wide installation.

screen shots taken from Google Maps

© Susanna Zlotnikov, 2013

Afterward

Learn through experiences, research through making,
be in the world

Whenever possible design research should be immersive and experiential. Insightful discoveries happen through making and exploring place, especially when the problem space spans a city's landscape. Designers are also members of their communities. And in order to design for a community, research must occur within it.

Carrying out this project taught me how to apply design methodology to approach a complex problem space filled with diverse stakeholders whose views range from opposing to indifferent. Design has the potential to change the way individuals think about and solve challenges that affect their community as a whole. The process and design proposed in this thesis offer lessons for designers to better apply their skills in projects that better their city and inspiration for influential stakeholders to welcome them into the dialogue.

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Appendix

Appendix A: IRB Application

Carnegie Mellon University

For IRB Office Use
IRB No: _____
Rec'd: _____

APPLICATION FOR IRB REVIEW OF RESEARCH INVOLVING HUMAN SUBJECTS
(Not for exempt research)

Please complete this application as thoroughly as possible. Your application should include the following:

1. A consent form using the current CMU template that the participants and/or parent/guardian will be required to sign.
2. A copy of any questionnaires, surveys, images, de-briefings that will be used.
3. A copy of any recruitment documents (including advertisements, flyers, letters, invitations, email) to be used;
4. A copy of the training certificates for all individuals working on the research unless they are on file with the CMU IRB. Training is available at: http://www.citiprogram.org. See the IRB website for details.
5. If the PI is a student, the faculty advisor must submit a Faculty Advisor Assurance Form.

Please email all documents to irb-review@andrew.cmu.edu. For assistance call the CMU Office of Research Integrity and Compliance @ 412-268-5460 or email irb-review@andrew.cmu.edu. Additional information and templates are available at http://www.cmu.edu/osp/regulatory-compliance/human-subjects.html

1. Protocol

Title: Life after Steel: Delivering Pittsburgh Historical Narratives in an Evolving Social Landscape

☐ This is a previously approved study that has lapsed. Previous IRB No: HS

2. Principal Investigator (PI)

| Name: Susanna Ziotnikov | Department: School of Design | |
| Telephone: 4129772676 | E-mail: susannaz@andrew.cmu.edu | Training Cert. ☒ Attached ☐ On File |

☒ I am a student. If so, please provide information about your faculty advisor below.

| Faculty Advisor Name: Mark Baskinger | E-mail: baskinger@cmu.edu | Training Cert. ☐ Attached ☒ On File |

If a student is the PI, the faculty advisor must complete and submit a Faculty Advisor Assurance Form.

If there is someone other than PI to correspond with regarding this protocol, please list below.

| Contact Person Name: | Telephone: | E-mail: |
| Business Manager for your department: | | E-mail: |

3. Co-Investigators

Name: Cameron Tonkinwise	E-mail: cameront@andrew.cmu.edu	Training Cert. ☐ Attached ☐ On File
Name:	E-mail:	Training Cert. ☐ Attached ☐ On File
Name:	E-mail:	Training Cert. ☐ Attached ☐ On File
Name:	E-mail:	Training Cert. ☐ Attached ☐ On File
Name:	E-mail:	Training Cert. ☐ Attached ☐ On File
Name:	E-mail:	Training Cert. ☐ Attached ☐ On File

4. Funding

☒ Unfunded research   ☐ External Funding   ☒ Internal Funding
Sponsor/Source: ☐ NSF ☐ NIH ☒ Other, please specify: CMU
Grant Title: GuSH research funding
If federally funded, is this application consistent with the grant? ☐ Yes ☐ No

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Is CMU the prime recipient of funding? ☐ Yes ☐ No   Is CMU a sub-recipient? ☐ Yes ☐ No
☐ SPEX Proposal #:   ☐ SPEX Award #:

If you don't know the funding/grant information, please get it from your department's business manager.

5. Protocol Description

a. Provide, in lay terms, a summary of your proposed study as outlined below. You may attach the protocol to this form if you like. The study will have 4 components. The first part is set and described below, the second part will require an additional updated protocol.

The first part of the study will include hour-long interviews with members within 2 groups of Pittsburgh's population. The first group I will examine consists of individuals who have lived in Pittsburgh before the steel industry collapsed. I will ask participants to share their experiences of living in Pittsburgh when it was considered an industrial city. I will also ask them to share their opinions on Pittsburgh's evolution into specializing in health and education. My goal is to gain a better understanding of this group's attitudes Pittsburgh's identity and how important it is to them to commemorate Pittsburgh's industrial past.

The second group includes residents who moved to Pittsburgh after it became de-industrialized. Questions will seek to uncover familiarity with Pittsburgh's history as well as attitudes towards their own level of knowledge. I plan to audio record the interviews.

The third aspect of my study will involve holding design workshops that will ask groups of 4 participants to complete 3 activities together in 1 hr to 1 and a half sessions. The first activity asks participants to rate concepts that I present to them. The second activity asks participants to prioritize urban planning projects under a constrained budget to determine where their preferences lie in terms of preserving local history. The third activity asks them to create a hypothetical memorial using craft supplies that I will provide them.

I will create an online survey asking people to answer questions regarding their experience at Carrie Furnace (potentially other museums/landmarks in Pittsburgh. This online survey will not require them to provide name but will ask for gender, age and occupation. This will be similar to the design workshops where participants will be asked to complete simple tasks that will simulate the experience of learning local history in a public space (bus shelters).

b. What is the purpose of the study (what is your research question) and how will the data collected be used?

The purpose of the study is to understand how and why people interact with the history of the city they live in. Data collected will be used to inform the design process by understanding user needs and validating design concepts. The final result of the study will be a proposed method of commemorating Pittsburgh's past that will thrive as the population continues to evolve.

c. Describe the research procedures (include the activity(s), location(s) and time required of the participant).

Participants will be asked to provide information of their knowledge of the particular area that the test is being conducted in (this will take place at bus shelters between between CMU and Pitt's campus). If the weather isn't good I will conduct the experience prototype on CMU campus. Participants will be asked to complete several activities to test concepts that I have designed. I will take notes, pictures during this test. Additionally we will video record with participant's permission. I will conclude with asking several follow up questions relating to their opinion of the experience. This test will require no more than providing their name on the consent form. We expect that this study will take between 30 minutes to an 1 hour.

d. Who will be asked to participate? Pittsburgh residents

e. Will questionnaires or surveys be used? ☒ Yes ☐ No If yes, please attach.

f. Will tasks be done on a computer? ☒ Yes ☐ No
If yes, how will the tasks be accessed? ☒ Remotely via the internet? ☐ In the research lab? ☐ Other, please

Appendix A: IRB Application Cont'd

Carnegie Mellon University

For IRB Office Use
IRB No: _____
Rec'd: _____

explain: _____
g. Will deception be used? ☐ Yes ☒ No
   If yes, describe how participants will be debriefed. Please include the de-briefing material and/or script. _____
h. In what country will the research be conducted (check all that apply)? ☒ United States ☐ Qatar
   ☐ Other country, please list: _____
i. Will the research be conducted on a CMU campus? ☒ Pittsburgh ☐ Silicon Valley ☐ Qatar ☐ No
   If no, please indicate the location(s). _____
   If applicable, please attach documentation of permission to conduct research in private, non-CMU space.

6. Participants
a. Will any of the following classes of vulnerable subjects be involved in the proposed study? (check all that apply)

Class		Comments
Pregnant women, human fetuses ☐ Yes ☒ No ☐ Pregnant women will not be specifically included or excluded. (See http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm, research that is incidental to pregnancy and has no risk to the fetus can only include pregnant women if ALL aspects of Subpart B are met.)		
Neonates ☐ Yes ☒ No		
Prisoners ☐ Yes ☒ No		
Children ☐ Yes ☒ No		

b. Individuals with compromised mental status ☐ Yes ☒ No
   If yes, indicate how this will be determined.
c. What is the age range of participants in the proposed study? 18 - 99
d. How many participants are needed for the study?
   How was that number determined?
   Maximum number of people I expect to be able to recruit and interview within each group
e. What do you estimate the ratio of males to females to be? 1:1
   Will this be reflective of the local population? ☒ Yes ☐ No
   Will you target a certain population? ☒ Yes ☐ No Please explain _____
g. Do you anticipate that your participants will represent a cross-section of the population in the region where the study is being conducted? ☒ Yes ☐ No
   If yes, please describe and estimate the percentage that will be from minority groups. 40%
   If no, please describe your study population and address why minority representation is not considered.
h. Please list inclusion and exclusion criteria.
   The criteria for inclusion is for participants to have lived here for at least a month. They must be able to speak English proficiently and be over 18 years old.

7. Participant Recruitment
a. Describe how participant recruitment will be performed. Include how and by whom potential participants are introduced into the study.
   I may recruit participants using email lists such as the IICII or design members list. Finally, the researchers will post recruitment notices on the websites mentioned below (facebook.com and twitter.com). We may also use direct recruiting and word of mouth recruiting for participants that meet our criteria. Potential participants who respond to the recruitment materials will be contacted by me.

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Check all boxes below that apply.
☐ Flyers Where will they be posted? _____
☐ Radio, TV
☒ E-mail solicitation indicate how the email addresses are obtained.
The email addresses will be obtained through our membership in the School of Design. Personal email lists may also be used.
☒ Web-based solicitation. Specify sites: Facebook and Twitter
☐ Participant Pool. Specify what pool: _____
☐ Other, please specify:
Word of mouth recruiting and direct recruiting of qualified participants.
b. Will participants undergo screening prior to their participation? If yes, please describe.
   Yes. We will screen participants to ensure that meet the criteria for participating in the study: that they can speak English, use a computer, and have lived in Pittsburgh for at least a month
   Please attach any recruiting materials you plan to use and the text of e-mail or web-based solicitations you will use.

8. Consent
a. Do you plan to use consent forms? ☐ Yes ☒ No
   If no, you must complete the section below on waiver of informed consent.
   If yes, describe how consent will be obtained and by whom.
   Will consent be obtained online? ☐ Yes ☐ No
   If yes, you must request a waiver of written documentation below in section 8h.
b. If participants are minors will assent forms be used? ☐ Yes ☐ No If no, please explain. ☒ NA no minors
c. Will the consent form be presented on paper or online? ☐ Paper ☐ Online
d. Are you requesting to use a consent format that is different from the CMU model consent? ☐ Yes ☒ No
   If yes, please explain.
e. Are you requesting a **waiver of informed consent**? ☐ Yes ☒ No
   If yes, please explain how each of the elements listed apply to your request for a waiver:
   • The research involves no more than minimal risk to the subjects;
   • The waiver will not adversely affect the rights and welfare of the subjects;
   • The research could not practicably be carried out without the waiver; and ;
   • Whenever appropriate, the subjects will be provided with additional pertinent information after participation.
   Explain: _____
f. Is the waiver for all study participants? ☐ Yes ☐ No If no, please explain.
   If no, to whom does the waiver apply?
g. Is the waiver for all study procedures? ☐ Yes ☐ No
   If no, to what procedures does the waiver apply?
h. Are you requesting a **waiver of written documentation** (signed) of informed consent? ☐ Yes ☒ No
   If yes, please indicate which one of the following applies:
   ☐ The only record linking the research and the participant will be the consent document and the principal risk to the participant harm would be from breach of confidentiality.
   ☐ I consider this a minimal risk study that involves no procedures for which written consent is normally required outside of research.
i. Explain how the study meets the criteria checked above.
   If an internet survey is used, participants will not be asked any personal information, no personally identifiable

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information will be requested.

9. Risks and Benefits (Note: payments to participants are not considered to be a benefit)
a. Will participants receive intangible benefit from the study? ☐ Yes ☒ No
b. Discuss the direct and indirect benefits to participants. None.
c. Discuss the risks to participants. Residents who lived in Pittsburgh during the collapse of the steel industry may feel upset as they share their experiences, especially if sharing stories of personal hardship. There is a risk of breach of confidentiality since I will have a document containing participants' personal information including emails and signtures.
d. Discuss how any risks will be managed and/or minimized. In order to minimize discomfort, I will make sure that participants know that they are free to decline to answer any questions and that all information they provide will be anonymized. In order to protect the personal information supplied by participants, we will protect this data by keeping it in a locked cabinet and by ensuring that I do not leave my laptop or notebook unattended in public places.
e. If deception is involved, please explain. _____
f. Indicate the degree of physical or psychological risk you believe the research poses to human subjects (check which one applies).
   ☒ Minimal Risk: A risk is minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are not greater, in and of themselves, than those ordinarily encountered in daily life of during the performance o routine physical or psychological examinations or tests.
   ☐ Greater than Minimal Risk: A risk is greater than minimal where the probability and magnitude of harm or discomfort anticipated in the proposed research are greater than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.
g. Describe how the study fits in this risk level. participants are free to stop the interview/prototype test at any time or decline to respond to specific questions that make them feel uncomfortable. I will not be conducting any activies that can cause physical harm.

10. Participant Compensation and Costs
a. Are participants to be compensated for the study? ☒ Yes ☐ No
   If yes, what is the amount, type and source of funds?
   Amount: $15   Source personal and GuSII funding   Type (gift card, cash): gift card
b. Will participants who are students be offered class credit? ☐ Yes ☒ No
   If yes, please indentify the class and instructor.
c. Are other inducements planned to recruit participants? ☐ Yes ☒ No
   If yes, please describe.
d. Are there any costs to participants? ☐ Yes ☒ No
   If yes, please explain. including travel which I will offer to reimburse
e. Will you compensate participants for injury resulting from participation? ☐ Yes ☐ No ☒ NA
   If yes, please describe.

11. Confidentiality and Data Security
a. Will personal identifiers be collected? ☒ Yes ☐ No
   If yes, list the personal identifiers that will be collected. Age, gender, name
b. Will identifiers be translated to a code? ☒ Yes ☐ No
   If no, indicate why.
c. Will audio recordings be made? ☒ Yes ☐ No
   If yes, please describe.

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We will ask participants for their permission on a consent form. If we are granted permission, we may record audio using an audio recording program.
d. Will video recordings be made? ☒ Yes ☐ No
   If yes, please describe. I will ask participants if they are ok with being videotaped during the interview on the consent form and make clear that this is completely optional. I will use a personal camera to record.
e. Is the information so sensitive that you will obtain a certificate of confidentiality from NIH? ☐ Yes ☒ No
f. Who will have access to data (surveys, questionnaires, recordings, interview records, etc.)? Only myself and my academic advisors
g. Describe how you will protect participant confidentiality and secure research records (Will they be stored on a secure computer, locked cabinet, etc?).
   We will assign codes to each participant and separate their name and identity from the information collected about them. Any physical documents will be stored in a locked filing cabinet. Any identifying information that could link participants to the data they've provided will be kept in a separate location.
h. Describe your process for monitoring data to ensure that study goals are met. (Review of lab notebooks, frequency of meetings to review data, who will be present at the meetings, how recruitment and retention will be monitored, etc.)
   My advisors and I will meet regularly to discuss the data that has been collected.

12. Conflict of Interest
Do you or any individual who is associated with or responsible for the design, the conduct of or the reporting of this research have an economic or financial interest in, or act as an officer or director for any outside entity whose interests could reasonably appear to be affected by this research project? ☐ Yes ☒ No
If yes, please provide detailed information to permit the IRB to determine if such involvement should be disclosed to potential research subjects.

13. Cooperating Institutions
a. Is this research being done in cooperation with any institutions, individuals or organizations not affiliated with CMU?
   ☐ Yes ☒ No
   If yes, please list and describe their role in this research.
b. Have you received IRB approval from another IRB for this study? ☐ Yes ☒ No ☐ Pending
   If yes, please attach a copy of the IRB approval.
c. If multiple institutions are involved in this study indicate who is responsible for oversight of the entire study.
   If applicable, please provide the name(s) and address(es) of all officials authorizing to access human subjects in cooperating institutions not affiliated with CMU.
   Please attach documentation of approval.

Principal Investigator's Assurance Statement for Using Human Subjects in Research
I certify that the information provided in this IRB application is complete and accurate.

I understand that as Principal Investigator, I have ultimate responsibility for the conduct of IRB approved studies, the ethical performance of protocols, the protection of the rights and welfare of human participants, and strict adherence to the studies protocol and any stipulations imposed by Carnegie Mellon University Institutional Review Board.

I understand that it is my responsibility to ensure that the human participants' involvement as described in the funding proposal(s) is consistent in principle, to that contained in the IRB application. I will submit modifications and/or changes

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Carnegie Mellon University

to the IRB as necessary.

I agree to comply with all Carnegie Mellon University policies and procedures, as well as with all applicable federal, state, and local laws, regarding the protection of human participants in research, including, but not limited to:
• Ensuring all investigators and key study personnel have completed human subjects training program;
• Ensuring protocols are conducted by qualified personnel following the approved IRB application;
• Implementing no changes in approved IRB applications or informed consent documents without prior IRB approval in accordance with CMU IRB policy (except in an emergency, if necessary to safeguard the well-being of a human participant, and will report to the IRB within 1 day of such change);
• Obtaining the legally effective informed consent from human participants or their representative, using only the currently approved date-stamped informed consent documents, and providing a copy to the participant.
• Ensuring that only IRB-approved investigators for this study obtain informed consent from potential subjects.
• Informing participants of any relevant new information regarding their participation in the research that becomes available.
• Promptly reporting to the IRB any new information involving risks to research participants, including reporting to the IRB, Data Safety and Monitoring Boards, sponsors and appropriate federal agencies any adverse experiences and all unanticipated problems involving risks to human subjects or others that occur in the course of the research.
• If unavailable to conduct research personally, as when on sabbatical leave or vacation, arrangements for another investigator to assume direct responsibility for studies will be made through modification requests to the IRB;
• Promptly providing the IRB with any information requested relative to protocols;
• Promptly and completely complying with IRB decisions to suspend or withdraw approval for projects;
• Obtaining Continuing Review approval prior to the date the approval for a study expires (approval for the study will automatically expire);
• Maintaining accurate and complete research records, including, but not limited to, all informed consent documents for 3 years from the date of study completion;
• Informing the CMU IRB of all locations in which human participants will be recruited for protocols and being responsible for obtaining and maintaining current IRB approvals/letters of cooperation when applicable;
• Complying with federal, state and local laws and regulations and sponsor terms and conditions; and
• Complying with CMU policies on the responsible conduct of research.

Susanna Zlotnikov _____   August 26, 2014
Principal Investigator Name and Signature   Date

Note: If e-mailed from the PI's CMU e-mail account a hand written signature is not needed. Please type in name and date. If the PI is a student, the faculty advisor must submit a Faculty Advisor Assurance Form.

Please email all documents to irb-review@andrew.cmu.edu.

Note: Links to the policies and Federal regulations for the protection of human research subjects (including the Code of Federal Regulations [C.F.R.] Title 45 CFR Part 46 and Title 21 C.F.R. parts 50 and 56) are available on the IRB web page (http://www.cmu.edu/provost/span-res/compliance/hs.htm).

Comments: _____

Appendix B: Resident Interview Guides

Interview Questions; Steelworker

Experience
1. How long have you lived in Pittsburgh?
1. Where in Pittsburgh did you grow up? What was it like?
2. Can you tell me about how you came to work in the steel mill?
3. What was your job exactly?
4. Can you take me through a typical day at the steel mill?
5. Are there any experiences that you went through that particularly stand out?
6. What was it like when mills shut down?
7. Can you describe your last day of work as a _____ ?

Sharing Narratives
8. How important is it for you for Pittsburgh's steel heritage to be shared?
9. Is there anything you currently do to preserve the memory of the steel mills?
10. What aspects of the steel industry is do you find most important?
11. How do you feel about the city's current efforts to preserve this history?

General Questions on Learning Preferences
12. Have you visited any of memorials/museums in Pittsburgh? What was most memorable about your visits?
13. Generally, what method of learning about history do you find most engaging?
14. Can you give an example of a time you learned about history and really enjoyed it?
15. If you could choose any one story, what would be the most important one to pass down to your family?

Interview Questions; New Pittsburgh Resident

Experience in Pittsburgh
1. What do you do?
2. How long have you lived in Pittsburgh?
3. How do you like it so far?
4. Where did you grow up?
5. Is it really different from living here? (in what way?)
6. Is there anything that you really dislike about living here? why?
7. Do you know anyone who's lived in Pittsburgh for a really long time?
8. How familiar would you say you are with the local history of Pittsburgh?
9. How important is it for you to become more aware of Pittsburgh's history?
10. What aspects of it do you find most interesting?

On learning and museum experiences:
11. Have you visited any of memorials/museums in Pittsburgh? What was most memorable about your visits?
12. Generally, what when do you find that learning about history is most engaging?
13. Can you give an example of a time when you learned about history and really enjoyed it?

Interview Questions; Longtime Resident

Experience
1. How long have you lived in Pittsburgh?
2. Where in Pittsburgh did you grow up? What was it like?
3. What was it like living here when the steel industry was still a major part of Pittsburgh Economy?
4. Are there any experiences that you went through that particularly stand out?
5. What was it like when mills shut down?
6. Can you describe your last day of work as a _____ ?

Importance of Preserving Steel History
7. How important is it for you for Pittsburgh's steel heritage to be shared?
8. Is there anything you currently do to preserve the memory of the steel mills?
9. What aspects of the steel industry is do you find most important?
10. How do you feel about the city's current efforts to preserve this history?

General Preferences around Learning History
11. Have you visited any of memorials/museums in Pittsburgh? What was most memorable about your visits?
12. Generally, what method of learning about history do you find most engaging?
13. Can you give an example of a time you learned about history and really enjoyed it?
14. If you could choose any one story, what would be the most important one to pass down to your family?

Appendix C: Survey Questions

live survey can be accessed at: https://susannazlotnikov.typeform.com/to/HxZ5Uu

a. Do you currently live in Pittsburgh *

[Y] Yes

[N] No

b. Where did you grow up?

c. How long have you lived in Pittsburgh?

d. How old are you?

---

e. What do you do?

↳ Tell me a bit about you experience at Carrie Furnace

a. How many times have you been to Carrie Furnace?

b. How did you hear about Carrie Furnace

Choose as many as you like

[A] at work/school   [B] word of mouth   [C] read about it

[D] Other

---

c. how interesting was your trip to Carrie?

0	1	2	3	4	5	6	7	8	9	10

boooooring   the coolest!

d. Would you go again?

[Y] Yes

[N] No

e. What was your favorite part of the trip?

f. What would make the experience even better?

↳ some questions about life in Pittsburgh

a. How would you describe your level of knowledge about Pittsburgh's history

0	1	2	3	4	5	6	7	8	9	10

not much   some stuff about steel and football   history buff

b. How **interested** are you in learning about Pittsburgh's history?

0	1	2	3	4	5	6	7	8	9	10

not at all   can't learn enough

---

c. What's the biggest obstacle you face when trying to learn more about the local history of Pittsburgh?

If you no longer live in Pittsburgh, please select the choices that applied to you when you lived here.

Choose as many as you like

[A] I can't relate to it

[B] I just don't have enough time

[C] I wouldn't know where to start

[D] costs too much money

[E] hard to get to these places

[F] I don't have friends who would go with me to these types of things

[G] in theory I'm interested, but what's out there is boring

[H] Other

d. What's your favorite thing to do on the weekend?

e. Are you currently involved in or support any community organizations?

[Y] Yes

[N] No

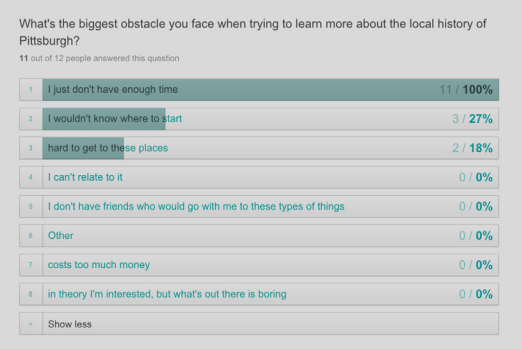---

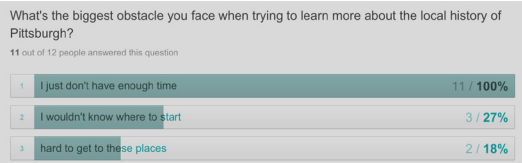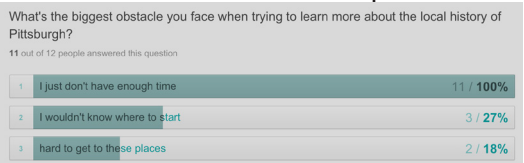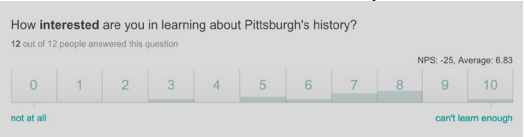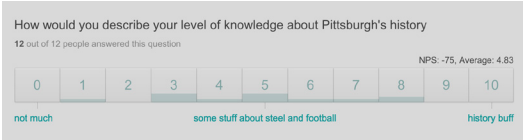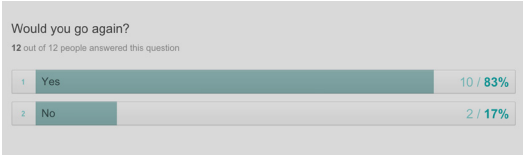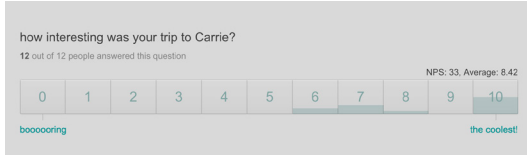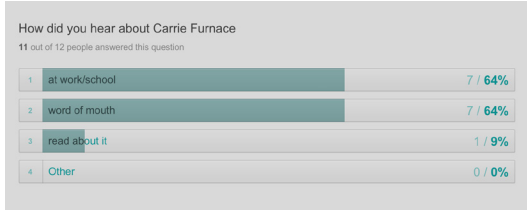f. If you answered yes to the previous question, can you tell me a little bit more about which organization(s) you're involved with and what you do?

↳ If you would be interested in participating further in this research study, please provide your email address below

Appendix D: Quantitative Results of Survey

How did you hear about Carrie Furnace
11 out of 12 people answered this question

1	at work/school	7 / **64%**
2	word of mouth	7 / **64%**
3	read about it	1 / **9%**
4	Other	0 / **0%**

how interesting was your trip to Carrie?
12 out of 12 people answered this question

NPS: 33, Average: 8.42

0	1	2	3	4	5	6	7	8	9	10

booooooring — the coolest!

Would you go again?
12 out of 12 people answered this question

1	Yes	10 / **83%**
2	No	2 / **17%**

How would you describe your level of knowledge about Pittsburgh's history
12 out of 12 people answered this question

NPS: -75, Average: 4.83

0	1	2	3	4	5	6	7	8	9	10

not much — some stuff about steel and football — history buff

How interested are you in learning about Pittsburgh's history?
12 out of 12 people answered this question

NPS: -25, Average: 6.83

0	1	2	3	4	5	6	7	8	9	10

not at all — can't learn enough

What's the biggest obstacle you face when trying to learn more about the local history of Pittsburgh?
11 out of 12 people answered this question

1	I just don't have enough time	11 / **100%**
2	I wouldn't know where to start	3 / **27%**
3	hard to get to these places	2 / **18%**

What's the biggest obstacle you face when trying to learn more about the local history of Pittsburgh?
11 out of 12 people answered this question

1	I just don't have enough time	11 / **100%**
2	I wouldn't know where to start	3 / **27%**
3	hard to get to these places	2 / **18%**

What's the biggest obstacle you face when trying to learn more about the local history of Pittsburgh?
11 out of 12 people answered this question

1	I just don't have enough time	11 / **100%**
2	I wouldn't know where to start	3 / **27%**
3	hard to get to these places	2 / **18%**
4	I can't relate to it	0 / **0%**
5	I don't have friends who would go with me to these types of things	0 / **0%**
6	Other	0 / **0%**
7	costs too much money	0 / **0%**
8	in theory I'm interested, but what's out there is boring	0 / **0%**
∨	Show less	

Appendix E: Design Workshop; Facilitator's Guide

Total Time: 1 hr 30 min
Place: TBD
# of participants: 4
Date: TBD

read out consent form, ask if participants have any questions or concerns, have them sign the form.

ice-breaker:
4 box question sheet:
each participant shares what they wrote

supplies: printouts / markers and color pencil

activity 1: speed dating concepts
speed dating concepts: present printouts of 6 concepts; I will read the description of each concept and after each description will ask participants to place a sticker if they like it. Following all six, I will ask them to pick their favorite and least favorite

group discussion: what was your favorite and why.

supplies: printouts / stickers / markers

cost: free

activity 2: identifying priorities
prioritizing a limited budget: imagine you have $100 dollars to spend for the year. work together to decide how to allot money towards the following:

ex:refurbishing a historic landmark
ex: adding more bus routes
ex: adding more bike lanes

group discussion about around participants' approach to decision making and how they feel when they come across this type of scenario in real life

supplies: post-its / sharpies / construction paper

cost:

activity 3: co-design a re-imagined historic landmark

divide group into pairs, give each pair brief that describes what the mayor would like them to memorialize (ex: closing of the steel mills)
-allow pairs to present idea in any form they are comfortable with (ie drawing, building a model with cardboard, legos

group discussion on what they came up with and their thoughts on creating initiatives like this

supplies:

cost:

activity 4: perceived levels of empowerment

-provide stakeholder maps for the scenario of redeveloping the strip district terminal building and ask participants to identify their role and place themselves on the map.
-discuss why they chose their placement and their opinions on how involved they feel should be in these types of urban planning decisions

supplies: (color) printouts/ cutouts

cost: $?

closing the session
thank everyone, hand out gift cards and ask if they would be open to being in touch and participating in prototype testing

supplies: amazon gift cards

cost: $60

Appendix F: Design Workshop; Stakeholder Map

Name _____

Re-purposing the Strip District Terminal Building

Do you consider yourself to be an passive, active, or core stakeholder?
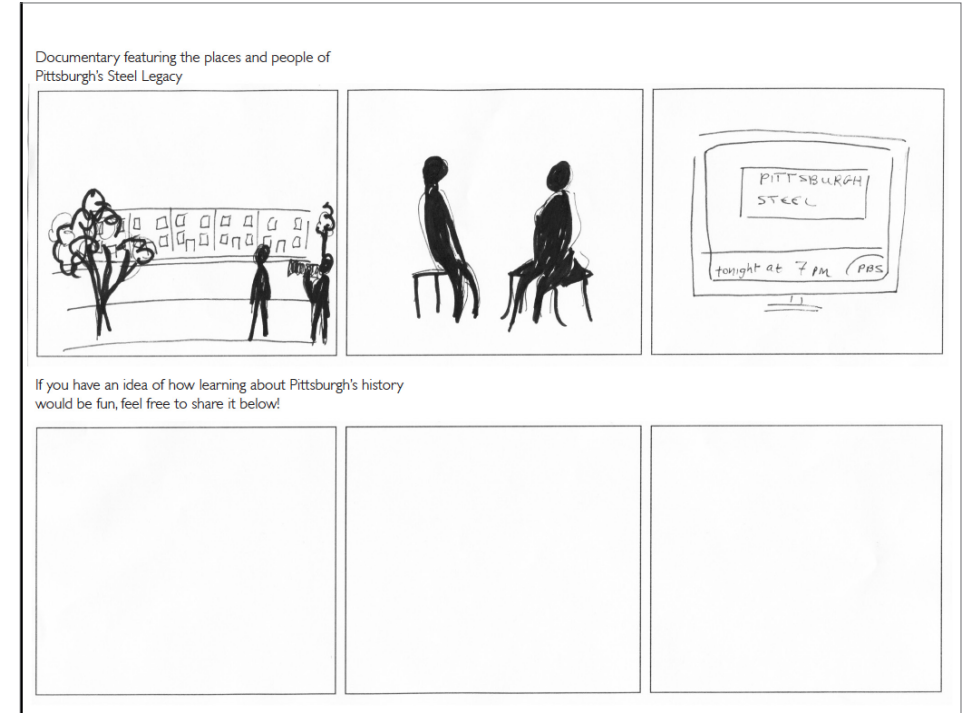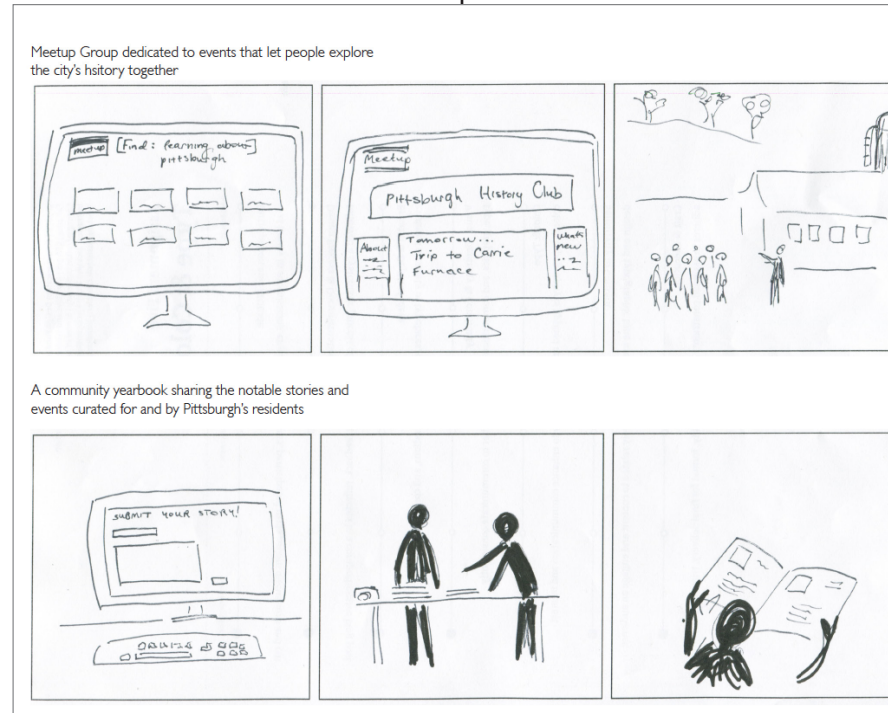
PASSIVE

ACTIVE

CORE

Ideally, what kind of stakeholder do you want to be?

PASSIVE

ACTIVE

CORE

Appendix G: Design Workshop; Speed Dating Concepts

Trails in the city become learning spaces, incoporating
Pittsburgh's historical narratives

Trails in the city become learning spaces, incoporating
Pittsburgh's historical narratives

Meetup Group dedicated to events that let people explore
the city's history together

A community yearbook sharing the notable stories and
events curated for and by Pittsburgh's residents

Documentary featuring the places and people of
Pittsburgh's Steel Legacy

If you have an idea of how learning about Pittsburgh's history
would be fun, feel free to share it below!

Appendix H: Design Workshop; Public Projects

Name: _____

RESTORE THE HISTORIC STRIP DISTRICT TERMINAL BUILDING	BUILD MORE BIKING LANES THROUGHOUT THE CITY
SUMMER MUSIC FESTIVAL FEATURING LOCAL MUSICIANS	ERECT A MEMORIAL CELEBRATING PITTSBURGH'S STEEL LEGACY

Appendix I: Design Workshop; Neil Log Cabin Brief

Neill Log House

Neill Log House is one of the oldest structures in Pittsburgh. Built in the late 1700's hundreds by Robert Neill, it now sits on the edge of Schenley Golf Course in Squirrel Hill unused. It is surrounded by a chain link fence.

The Pittsburgh History and Landmarks Foundation would like change that. Imagine you are on a committee appointed to find a way for residents to experience this significant building.

Using the materials on the table, work with your partner to create a proposal for an engaging and interesting experience for local residents. (This does not necessarily require involving the actual structure.)

Feel free to do this activity as you please. Sketching, building, writing notes are all acceptable.

Appendix J: Historic Landmark Organization

List of Landmarks on and within walking distance of CMU

Legend

Historical Significance
- Arts + Culture
- Steel + Industry
- Science + Medicine
- Community Development

Used for…
- Private Residence
- Recreational Activity
- Educational Institution
- Place of Worship

1 Calvary Episcopal Church. Shady Avenue and Walnut Street, **Shadyside**. 1907. Ralph Adams Cram, architect. designated 1969

2 Sellers Carnahan house. Shady Avenue and Walnut Street, **Shadyside.** 1858. designated 1969

3 Carnegie Institute. 4400 Forbes Avenue, **Oakland.** 1895, 1907. Longfellow, Alden & Harlow; Alden & Harlow, architects. designated 1970

4 Croghan-Schenley Ballroom. Cathedral of Learning, **Oakland.** 1835. Mordecai van Horne (?), decorator. designated 1970 (moved to cathedral)

5 Carnegie Library of Pittsburgh. Schenley Plaza, **Oakland.** 1895. Longfellow, Alden & Harlow, architects. designated 1970

6 Neill Log House. East Circuit Road, **Schenley Park.** C. 1790. designated 1970

7 Phipps Conservatory. Schenley Drive, **Schenley Park.** 1893. Lord & Burnham, builders. designated 1970

8 Pittsburgh Athletic Association. Fifth Avenue and Bigelow Boulevard, **Oakland.** 1911. Janssen & Abbott, architects. designated 1970

9 Sacred Heart Roman Catholic Church. Walnut Street and Shady Avenue, **Shadyside.** 1924–53. Carlton Strong, architect. designated 1970

10 Soldiers' and Sailors' Memorial Hall. Fifth Avenue and Bigelow Boulevard, **Oakland.** 1911. Henry Hornbostel, architect. designated 1970

11 Church of the Ascension. Ellsworth Avenue and Neville Street, **Shadyside.** 1898. William Halsey Wood, architect. designated 1971

12 Pittsburgh Center for the Arts (Arts and Crafts Center). Fifth and Shady Avenues, **Squirrel Hill.** 1912, 1980s. Charles Barton Keen, architect. designated 1971

13 Rodef Shalom Temple. Fifth and Morewood Avenues, **Shadyside.** 1906. Henry Hornbostel, architect. designated 1971

14 Shadyside Presbyterian Church. Amberson Avenue and Westminster Place, **Shadyside.** 1889, 1892. S. hepley, Rutan & Coolidge, architects. designated 1971

15 Alden Hall, University of Pittsburgh (Old Mellon Institute). O'Hara and Thackeray Streets, **Oakland.** 1915. J. H. Giesey, architect. (radar and atomic) designated 1972

16 **Cathedral of Learning interiors, University of Pittsburgh** (Nationality Rooms, Commons Room, Darlington Library, Croghan-Schenley Ballroom, Braun Room). **Oakland.** C. 1937–1946. (The plaque was dedicated in 1974.) designated 1972

17 Coltart house **(gone).** 3441 Forbes Avenue, **Oakland.** 1843. designated 1972

18 St. Peter's Episcopal Church (gone). Forbes and Craft Avenues, **Oakland.** 1852, 1901. John Notman, architect. designated 1972

19 Salk Hall (Municipal Hospital). University of Pittsburgh, 3501 Terrace Street, **Oakland.** 1940. (1st polio vaccine) Richard Irving and Theodore Eicholz, architects. designated 1972

20 Schenley Apartments. Fifth Avenue opposite Thackeray Street, **Oakland.** 1922. Henry Hornbostel, with Rutan & Russell, architects. designated 1972

21 **Cathedral of Learning.** University of Pittsburgh, **Oakland.** 1926–37. Charles Z. Klauder, architect. designated 1973

22 Chancellor's house (Harvey Childs house). University of Pittsburgh. 718 Devonshire Street, **Shadyside.** 1896. Peabody & Stearns, architects. designated 1973

23 Stephen Collins Foster Memorial. University of Pittsburgh, **Oakland.** 1937. Charles Z. Klauder, architect. designated 1973

24 Heinz Memorial Chapel. University of Pittsburgh, **Oakland.** 1938. Charles Z. Klauder, architect. designated 1973

25 Third Presbyterian Church. Fifth and Negley Avenues, **Shadyside.** 1903. Theophilus P. Chandler, architect. designated 1973

26 Devonshire Street. **Shadyside**. Late 19th century. designated 1974

27 "Sunnyledge" (McClelland house). Fifth and Wilkins Avenues, **Squirrel Hill.** 1886. Longfellow & Harlow, architects. designated 1974

28 Alder Court apartments. 6112 Alder Street, **Shadyside.** 1913. Henry M. Kropff, architect. designated 1975

29 St. Paul's Roman Catholic Cathedral. Fifth Avenue and Craig Street, **Oakland.** 1906. Egan & Prindeville, architects. designated 1975

30 Central Catholic High School. 4720 Fifth Avenue, **Oakland.** 1927. Edward J. Weber, of Weber, Link & Bowers, architect. designated 1976

31 Highland Towers. 340 South Highland Avenue, **Shadyside.** 1913. Frederick G. Scheibler, Jr., architect. designated 1976

32 Roslyn Place pavement. Off 5400 block, Ellsworth Avenue, **Shadyside.** 1913 and after. designated 1976

33 Schenley Farms District. Bigelow Boulevard and Parkman Avenue, **Oakland.** Planned 1905. designated 1976

34 First Church of Christ Scientist. 635 Clyde Street, **Shadyside.** 1905. Solon Spencer Beman, architect. designated 1977

35 Forbes Field wall; remnant. Roberto Clemente Drive, **Oakland.** 1909. designated 1977

36 Convent of Mercy. 3333 Fifth Avenue, **Oakland**. 1909. Edward Stotz, architect. designated 1979

37 Montgomery house. 424 Shady Avenue, **Shadyside.** 1877. designated 1979

38 D'Arlington Apartments. 504 North Neville Street, **Oakland.** 1910. Edward Keen, architect. designated 1981

39 Mellon Park. Fifth Avenue, Squirrel Hill. 1943. designated 1982

40 St. Nicholas Cathedral (First Congregational Church). 419 South Dithridge Street, **Oakland.** 1904. Thomas Hannah, architect. designated 1982

41 Iron fence from "The Maples" (C.-L. Magee estate). Forbes Avenue and Halkett Street, **Oakland.** C. 1890. designated 1983

42 Craig-Wertheimer house (gone). 3210 Niagara Street, **Oakland.** C. 1870. designated 1984

43 Schenley Hotel. Bigelow Boulevard and Forbes Avenue, **Oakland.** 1898. Rutan & Russell, architects. designated 1984

44 Hampton Hall. 166 North Dithridge Street, **Oakland.** C. 1926. designated 1985

45 Moreland Highfield house. 5057 Fifth Avenue, **Shadyside.** 1914. Paul Irwin, architect. designated 1985 (also on national register)

46 **Schenley Park. Oakland.** Begun 1889. designated 1989

47 Bellefield Hall (YMHA). 315 South Bellefield Avenue, **Oakland.** 1924. Benno Janssen, architects. designated 1992

48 Schenley High School. Bigelow Boulevard and Centre Avenue, **Oakland.** 1915–16. Edward Stotz, architect. designated 1992

Appendix J: Historic Landmark Organization Cont'd

List of Landmarks on and within walking distance of CMU cont'd

Legend

Historical Significance
- ■ Arts + Culture
- ■ Steel + Industry
- ■ Science + Medicine
- ■ Community Development

Used for...
- Private Residence
- Recreational Activity
- Educational Institution
- Place of Worship

49 Carlow College Worship and Community Center (St. Agnes' Roman Catholic Church). Fifth Avenue and Robinson Street, **Oakland**. 1917. John T. Comes, architect. designated 2000

50 Carnegie Mellon University, the original campus). Between Forbes Avenue and Frew Street, **Oakland**. 1905–32. Palmer & Hornbostel, Henry Hornbostel, architects. designated 2000

51 Baker Hall (Central Building, Administration Hall). **CMU** 1914, 1919. Palmer & Hornbostel, architects. designated 2000

52 Boss Hall. 1916. Henry Hornbostel, architect. College of Fine Arts (School of Applied Design). **CMU** 1912, 1916. Henry Hornbostel, architect. designated 2000

53 Doherty Hall (School of Applied Sciences, Engineering Hall) **CMU** 1908. Palmer & Hornbostel, architects. designated 2000

54 Gymnasium. 1923, 1932. Henry Hornbostel, architect. **CMU** designated 2000

55 Hamburg Hall (U.S. Bureau of Mines). 4800 Forbes Avenue, **Oakland**. 1915. Henry Hornbostel, architect. designated 2000

56 Hamerschlag Hall (Machinery Hall). 1906,1914. **CMU** Palmer & Hornbostel, architects. designated 2000

57 Henderson Hall. 1916. Henry Hornbostel, architect. **CMU** designated 2000

58 Margaret Morrison Carnegie Hall (Margaret Morrison Carnegie School for Women). **CMU** 1906, 1914. Palmer & Hornbostel, architects. designated 2000

59 McGill Hall. **CMU** 1916. Henry Hornbostel, architect. designated 2000

60 Porter Hall (School of Applied Industries). 1905, 1915. **CMU** Palmer & Hornbostel, architects. designated 2000

61 Scobell Hall. 1918. **CMU** Henry Hornbostel, architect. designated 2000.

62 Welch Hall. 1918. **CMU** Henry Hornbostel, architect. designated 2000

63 Gwinner-Harter house. Fifth and Amberson Avenues, **Shadyside**. C. 1870, 1911, restorations 1986, 1996. Frederick John Osterling, architect, 1911. (house with the huge red bow) designated 2000

64 Panther Hollow Bridge. Over Panther Hollow, **Schenley Park**. 1897. Henry B. Rust, engineer. designated 2000

65 Roslyn Place (entire fabric). Off 5400 block, Ellsworth Avenue, **Shadyside**. Begun 1913 designated 2000

66 Andrew W. Mellon house. Woodland Road, **Squirrel Hill**. 1897, after 1917 MacClure & Spahr, architects. designated 2001 (chatham campus)

67 The Pittsburgh Children's Center (Gulf Research Laboratory). 327 Craft Avenue, **Oakland**. 1930 Ludlow & Schwab, architects. designated 2001

68 Alumni Hall, University of Pittsburgh (Masonic Temple). Fifth and Lytton Avenues, **Oakland**. 1914. Janssen & Abbott, architects. designated 2002

69 5800 block of Pierce Street. **Shadyside**. 1891–92. designated 2003

70 The Highwood. 372 S. Highland Avenue, **Shadyside**. 1929–30. R. Garey Dickson, architect. designated 2003

71 Mellon Institute of Industrial Research. 4400 Fifth Avenue, **Oakland**. 1931–37. Janssen & Cocken, architects. designated 2003

72 Thaw Hall, University of Pittsburgh (School of Engineering). 4015 O'Hara Street, **Oakland** 1909. Henry Hornbostel, architect. designated 2003

73 Murray Hill Avenue Historic District. 1010–1201 Murray Hill Avenue, **Squirrel Hill**. after 1890. designated 2004

74 The Pittsburgh Golf Club. 5280 Northumberland Street, **Squirrel Hill**. 1899, enlarged 1904. Alden & Harlow, architects. designated 2004

75 Schenley Park Visitors Center. 101 Panther Hollow Road, Schenley Park. 1910. Rutan & Russell, architects. designated 2004

76 Colonial Place Historic District. Colonial Place and Ellsworth Avenue, **Shadyside**. 1898. George S. Orth, architect; E. H. Bachman, landscape artist. designated 2007

Map of CMU and surrounding neighborhoods showing most of the 76 PHLF designated landmarks in the area

As an initial approach to categorizing these landmarks I color-coded each based on the general theme within Pittsburgh's local history. Missing landmarks indicate that they are no longer standing

Appendix K: Experience Prototype Guide

Experience Prototype

//go to place day before and take pics from points where I want her to stand. Print out items to put on bus shelter.

Where
Grad Studio

When
Sunday, 9 am

Materials
gift card for $25 to noodlehead/smiling banana/or bites and brews
consent form
w-9 forms
script
camera
app prototype

Pre Questions

How often do you pass through this space?
What can you tell me about this area?
What interests you the most?

Setting the context

Wayfinding Pillar

The wayfinding pillar allows you to gain a deeper understanding of the immediate space you're in by sharing information about specific sites that are within walking distance of your location.

Bus Route System

This map tells you what routes pass this stop and where they're headed. This map is set within the context of important steel history sites

Your Digital City timeline

The Digital City timeline integrates with Instagram to offer an enhanced experience of experiencing the beauty of a city. The timeline is your personalized history lesson

You're waiting for the bus which is coming in 5 minutes //set 5 minute timer

task:

1. interact with wayfinding materials

Scenario 2:

you're having fun exploring the city on your day off and come across this wayfinding pillar. Spend as much time with at this pillar as you want.

task:

1. use the pillar
2. add sites to your city timeline as a place of interest

Scenario 3:

you're exploring the city on your day off and come across this wayfinding pillar. You see the map and decide to go and explore some of the sites nearby. let's visit one site together!

task:

1. use pillar to pick a site
2. go to the site
3. take a picture of the plaque and add it to your list of visited spots.

Post Prototype Questions
What did you think of the experience?
How did the digital aspect affect your experience with historical sites?
When would you use the digital timeline? Why?
How well does the digital component integrate with your current use of social media/apps?
What do you wish was different?

Appendix L: Thesis Posters