Life After Steel

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Life after Steel

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

A thesis submitted to the School of Design, Carnegie Mellon University, for the degree of Master of Design in Communication Planning and Information Design

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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 known 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.
This thesis would not have been possible without Mark’s encouraging guidance, Cameron’s critical perspective, Dylan’s insightful critiques, and Patrick’s unwavering support. I am also deeply grateful to CMU for awarding me a GuSH Research Grant.

to the residents who fill Pittsburgh with their wonderful stories
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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 involve 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.
The Problem Space: (re-)Building the Connection Between Place & 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 “conceptualise 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 connected to place even through times of major transformation. Cities can utilize 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.

How a City Shapes Identity

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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 connected to place even through times of major transformation. Cities can utilize sharing and celebrating local history as one element of creating and conveying their genius loci.
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.

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
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, its 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.

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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 dramatically 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.

Carrie Furnace

Carrie Furnace is the only remaining industrial site that remains intact 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.

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.

SouthSide Works

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

Fairmont

Formerly a site filled with steel mills and factories, Fairmont was developed into a shopping area, employing thousands of people. The 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 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.


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: Featuring Neighborhoods through Pedestrian Wayfinding

Most of the wayfinding and place-making infrastructure is outdated and designed for drivers. These systems are due for an update, and should be planned through incorporating the input of all residents who will be using them. Providing a system that encourages residents to explore their city on foot 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

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 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 is 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 at Louisville Square

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 use 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.
**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.

### (Some of) the Local Stakeholders

<table>
<thead>
<tr>
<th>Preservers</th>
<th>Local Government</th>
<th>Revitalizers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pittsburgh History and Landmarks Foundation (PHLF)</strong></td>
<td><strong>Rivers of Steel National Heritage Area</strong></td>
<td><strong>Urban Redevelopment Authority (URA)</strong></td>
</tr>
<tr>
<td>The PHLF was founded in 1964, a non-profit dedicated to preserving historic properties and educating residents around the significance of local sites (PHLF 2015)</td>
<td>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 Heritage Area 2015)</td>
<td>The URA was established in 1946 and has become the leading local organization for urban renewal projects throughout Pittsburgh (URA 2015)</td>
</tr>
<tr>
<td><strong>Preservation Pittsburgh</strong></td>
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<td><strong>Real Estate Development Companies</strong></td>
</tr>
<tr>
<td>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).</td>
<td><strong>Rivers of Steel National Heritage Area</strong></td>
<td>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.</td>
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### 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.**

### 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 include pursuing innovative regional development projects that seek to revitalize and revitalize local communities. It stresses to use its successes as a model for other cities (Heinz Endowments 2015).
Place & Identity in Pittsburgh

Strip District Produce Terminal development plans showcase this tension. This historic structure was built in 1928 as a terminal for the auction and delivery of produce in Pittsburgh. Spanning 3 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 the building (Department of Public Safety, 2013). This was to help accommodate the development plans of the Buncher Company to develop 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 other development companies are still under negotiation. Buncher was paid $640,000 to abandon its proposal for the building (Belko, 2014).

Stakeholders in Action: the Strip District Produce Terminal

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

3. Existing Ways of Interacting with History
4. Exploring Local Resident Perspectives
5. Concepting & Developing Design Criteria
6. Generative Research
7. Experience Prototyping

Overview

Research methods focused on extracting relevant and important historical narratives from the community and translating these findings into a visual/physical form 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?
Existing Ways of Interacting with History

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.

Approaches to Preserving History & Communicating Genius Loci

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 exhibits engage visitors and focus their full attention on the displayed information. Curators have more control in shaping the space in an intentional way.
Examples of Communicating Pittsburgh’s Identity

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 spans 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).

Existing Ways of Interacting with 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 of its landscapes. My goal was to evaluate how easy it is to become invested in these efforts for people who are actively interested 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 participate 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.

“Unless you get to know a community, you don’t hear its stories”
- Terri Baltimore,
  Director of Community Engagement,
  Hill House Association

Immersing Myself in Local History

Exploring Local Resident Perspectives
Exploring Local Residents’ Perspectives

Interviews

I conducted interviews to 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 individuals’ 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 issues.

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.

Exploring Local Resident Perspectives
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 they 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 do 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 engagement that also serves a practical purpose. When presenting different types of ways of engaging with history, residents favored experiences that occurred in the real world.

Asking More Questions

The primary takeaway from my research sessions with residents is that while they expressed interest in learning 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?

Pittsburgh's genius loci:
a leader in technology and a cultural mosaic of communities driven by an incredible work ethic
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

Content & Developing Design Criteria

Prompts
How Might Pittsburgh...
- take advantage of the gorgeous views of Mon Valley and 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?
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
- Creating Personalized Experiences with Local History
- Discovering Public Services & Amenities

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 desirable for new residents.

Examples of Sketches:

- The following examples show concepts that I sketched. The process was similar to mindmapping when I focused less on visual aesthetic and more on thorough exploration.
- Enhancing Public Services and Amenities
- Installing engaging public monuments
- Creating Personalized Experiences with Local History
- Discovering 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.
- 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.
- Fitbit helps users become more aware of their physical activity. I imagined what it would be like if it could be redesigned to make residents more aware of their surroundings.
Building a prototype at a local bus stop across the street from the site of Pittsburgh’s first brick furnace. There is a ‘No parking’ sign attached to the marker.

Generative Research

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.

Overview
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.

I created a timeline depicting landmarks according to the year they were built; most of the landmarks in the area were built during Pittsburgh’s peak years of steel production.
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.

Sketch of commuter journey between CMU campus and home including relevant infrastructure and physical space beyond just the bus stop.
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 if digital tools could be thoughtfully designed to help residents engage more deeply with their physical surroundings.

Generative Research

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

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 ways 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 full shelter, this provided a suitable alternative to exploring form.

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

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

Screen shot of bus route from google map

Experience Prototyping
Components Tested During Experience Prototype Sessions

- Pedestrian wayfinding system
- Digital experience
- Bus route map system
Experience Prototype 1

**Location:** Forbes and Bellefield Bus Stop

**Participant:** Local resident who has been here for 2 years

**Scenario:**
- 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 be 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.

**Summary:**
- Using the digital prototype, the participant explored the area behind the bus stop where part of the wall of Carnegie Music Hall still has soot from when Pittsburgh was polluted with smoke.
- The participant read about the log cabin across from the bus stop using the digital prototype.

**Experience Prototyping**
Experience Prototype 2

- **Iteration:**
  - 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 a continuum.

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

  - Yes, participants really liked the experience overall.

Experience Prototyping
Experience Prototype 3

**Scenario**
- 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 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.

Is the digital component enhancing the experience? Yes, the participant liked the concept, especially the wayfinding component.

**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

Making modifications to the wayfinding pillar, adding information she would like to see on it

Experience Prototyping
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.

Experience Prototyping

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.
“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

Prototyping sessions were most effective testing components in low-fidelity and giving participants freedom to modify the prototypes. With appropriate guidance, participants were able to 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 citywide 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.

Reflections on Design Methods

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 the city.
3. Pittsburgh is 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.
Design Proposal

8. Proposed Solution: the History in Transit System (HIT)

9. Future Opportunities for Research & Refinement

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.

**Overview**

**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.

Proposed Solution: the History in Transit System (HIT)
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. Its 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.

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 their unique cultural legacies. 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 a homage to Pittsburgh’s industrial past that spurred community development.

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

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.

the HIT System Raises Overall Awareness of Genius Loci

courtesy of riversofsteel.org

courtesy of popcitymedia.com

courtesy of pittsburghparks.org

courtesy of friends of the riverfront.org

courtesy of riversofsteel.org

courtesy of urbanhike.com
Future Opportunities for Research & Refinement

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 forms and design. Information can also relate to things 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.

Refining Content Further

<table>
<thead>
<tr>
<th>Individual point of interest</th>
<th>Ideas themes</th>
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<tbody>
<tr>
<td>what is visible</td>
<td>not visible from the shelter</td>
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</table>

Further narrative organization

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.

Incorporating More of Pittsburgh’s Narratives

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 residents engaged and present in their immediate surroundings 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 seamlessly 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

10. Impact on Place & Identity
11. Recommendations for Pittsburgh
   - Afterward
   - Bibliography
   - Appendix

“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
Impact on Place & Identity

Art, wayfinding, and historical preservation work together to help communities 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.

HIT System as a response to Mayor’s Policy Papers

Art, wayfinding, and historical preservation work together to help communities 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.

Revisiting the Thesis Scope

Awareness leads to stewardship and thoughtfulness toward 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.

Pittsburgh’s genius loci:

a leader in technology and a cultural mosaic of communities driven by an incredible work ethic
Impact on Place & Identity

Pittsburgh is still undergoing a period of significant post-industrial transformation. This is evidenced 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 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 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’s urban landscape, residents may be encouraged to make decisions around curating their histories together.

Dr. 1 site for upcoming redevelopment: Downtown, Uptown, and Hazelwood

Dr. 3 sites for upcoming redevelopment: Downtown, Uptown, and Hazelwood

**“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

**Courtesies 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 riot, 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.

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.

The 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 and around campus is filled with historic landmarks that shed light on how steel built Pittsburgh.

The Strip District, Strip District Produce Terminal

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

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.

SouthSide Works

Similar to the Waterfront, SouthSide Works is a 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.
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.
Bibliography


Appendix A: IRB Application
Appendix A: IRB Application Cont’d
Appendix B: Resident Interview Guides

Interview Questions: New Pittsburgh Resident

Experience
1. What do you do?
2. How long have you lived in Pittsburgh?
3. How do you like it so far?
4. What's a typical day like for you?
5. Do you think your day-to-day life is as busy as it was in your

Service
6. What was the biggest challenge you faced when you first

Shaping Narratives
7. How important is it for you, for Pittsburgh's story to be

General Questions on Learning Preferences
8. What was the most memorable about your visit?
9. What was the most memorable about your visit?
10. What was the most memorable about your visit?
11. What was the most memorable about your visit?
12. What was the most memorable about your visit?
13. What was the most memorable about your visit?
Appendix C: Survey Questions

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

a. Do you currently live in Pittsburgh?
- [ ] Yes
- [ ] No

b. Where did you grow up?

c. How long have you lived in Pittsburgh?

d. How old are you?

What do you do?

Tell me about your experience at Carnegie Science Center

Would you go again?

What was your favorite part of the trip?

What would make the experience even better?

If you answered yes to the previous question, can you describe what you like about this organization that you’re involved with and what you do?

If you would be interested in participating further in the research study, please provide your email address here.

What’s your favorite thing to do on the weekend?

Are you currently involved in or support any community organizations?
### Appendix D: Quantitative Results of Survey

#### Would you visit again?

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<th>Percentage</th>
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<tr>
<td>Yes</td>
<td>90%</td>
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<tr>
<td>No</td>
<td>8%</td>
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<tr>
<td>Don't Know</td>
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#### How likely is it that you would recommend this hotel to a friend?

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<th>Percentage</th>
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<tr>
<td>Very Likely</td>
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<td>Likely</td>
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<tr>
<td>Not Sure</td>
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<tr>
<td>Unlikely</td>
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#### How satisfied are you with the location of the hotel?

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<tr>
<td>Very Satisfied</td>
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<td>Satisfied</td>
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<td>Not Sure</td>
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<tr>
<td>Dissatisfied</td>
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#### How satisfied are you with the cleanliness of the hotel?

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<td>Dissatisfied</td>
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#### How satisfied are you with the staff?

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<tr>
<td>Very Satisfied</td>
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<td>Dissatisfied</td>
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#### How interested are you in learning more about the hotel or the city?

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<tr>
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<td>Not Interested</td>
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#### What was the biggest obstacle you faced when trying to learn more about the hotel or the city?

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<thead>
<tr>
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<tbody>
<tr>
<td>Lack of Time</td>
<td>30%</td>
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<td>Lack of Information</td>
<td>20%</td>
</tr>
<tr>
<td>Language Barrier</td>
<td>15%</td>
</tr>
<tr>
<td>Cost of Accommodation</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>35%</td>
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#### Would you stay at this hotel again?

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<th></th>
<th>Percentage</th>
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<tr>
<td>Yes</td>
<td>90%</td>
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<tr>
<td>Don't Know</td>
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#### Would you recommend this hotel to a friend?

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<th>Percentage</th>
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<tbody>
<tr>
<td>Yes</td>
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<td>8%</td>
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<td>Don't Know</td>
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#### How likely is it that you would return to this hotel?

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<tbody>
<tr>
<td>Very Likely</td>
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<td>Not Sure</td>
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Appendix G: Design Workshop; Speed Dating Concepts
Appendix H: Design Workshop; Public Projects

- Restore the Historic Strip District Terminal Buildings
- 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

Neil Log House

Neil Log House is one of the oldest structures in Pittsburgh. In the days of Pittsburgh's steel mills, the buildings were not just workplaces, but also places of community and family. It is surrounded by a coal field from

The Pittsburgh History and Landmarks Foundation would like to engage the community in a discussion of how the building can be preserved. The association is considering a visitor center expansion, which would include:

- A museum on the history of the building and its role in Pittsburgh's history.
- Interpretive displays that highlight the contributions of the workers who lived and worked there.

Using the materials on the table, work with your group to create a concept plan for the Neil Log House. Be prepared to present your ideas in class tomorrow.
Appendix J: Historic Landmark Organization

<table>
<thead>
<tr>
<th>List of Landmarks on and within walking distance of ONU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Legend</strong></td>
</tr>
<tr>
<td>- *- Landmark</td>
</tr>
<tr>
<td>- *- Mural</td>
</tr>
<tr>
<td>- *- Monument</td>
</tr>
<tr>
<td>- *- Cemetery</td>
</tr>
<tr>
<td>- *- Surrounding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Landmark Name</th>
<th>Location</th>
<th>Year Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recreation Center Park</td>
<td>Columbus, OH</td>
<td>1959</td>
</tr>
<tr>
<td>Memorial Union, Ohio Union</td>
<td>Columbus, OH</td>
<td>1910</td>
</tr>
<tr>
<td>Ohio Union</td>
<td>Columbus, OH</td>
<td>1910</td>
</tr>
<tr>
<td>Ohio Union Health Center</td>
<td>Columbus, OH</td>
<td>1979</td>
</tr>
<tr>
<td>SporCenter</td>
<td>Columbus, OH</td>
<td>1970</td>
</tr>
<tr>
<td>Ohio Union</td>
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</table>
Appendix J: Historic Landmark Organization Cont’d

[Table and map showing landmarks and their details]
Appendix K: Experience Prototype Guide

Appendix L: Thesis Posters