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Infra[re]structure

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Recommended Citation

Infra[re]structure

A study of the objects and flows of New York City's streets towards mediating and augmenting the street environment.

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Thesis Prep F2014
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Contents

Abstract |

As cities have evolved the street is a contested site of various networks that must work together in order to facilitate infrastructure, transportation and pedestrian activities. The payphone within this context is no longer needed in the same way as it was when originally installed within the city, however we have not stopped using phones on the street. Other cities have approached this problem of the underutilized payphones through replacing the infrastructure with the newer technology of the Internet yet doing so in a way that is only replacing objects with objects. This project contends that through the mediation and expression of systems, energies and flows the pedestrian can reclaim the experience of the street. Crucial to this is an understanding of what is on the street and how objects and people are situated on the streets currently. Through exploiting these issues New York City the pedestrian is offered a more engaged experience of moving through the city.

[1] General Issues, Problems and Opportunities

In New York City, the organization of the street has evolved as a series of networks that shift and develop as technologies rise and fall. Currently, we are at a point where the public payphone is quickly becoming outdated due to newer technologies like Smartphones and other Internet connected devices. The result of this is that places all over the world are considering what new infrastructure should replace it. In New York City this has set forth a series of events from ideas to formal proposals for the replacement of payphones. The ultimate project in process of approval currently provides public wifi and information access with little concern for the spatial implications and how a pedestrian of the 21st century moves through the city. This approach to replacing the payphones leaves problems of street clutter and pedestrian disconnect thorough objects that continue to fulfill singular functions and do little to add to the street environment besides act as a billboard.

[2] What Others Have Done

New York City has made strides to shift the balance between pedestrians and cars in order to make the city more pedestrian friendly. This movement is exemplified by "The Bowtie" project at Times Square and the First Ave parking protected bike lanes. Both of these projects through surface treatment reprogram the way these areas are used by pedestrians. The result of which is more pedestrians to the area that will also lead to an increase in commercial activity in the area. Yet, neither project begins to address how new technologies effect and modify the pedestrian experience. As technology begins to encroach on street life the ideas of architects Phillipe Rahm and Sean Lally become prevalent to how we can occupy the street. For both these architects the environment conditions becomes the genesis of design.

[3] Hypothesis

Technology and influx of media have changed the way we interact with any city; these technologies inundate us with more information than ever before. We are in need of a way to reclaim how we occupy the public space of the street. The infrastructure of the payphone offers the opportunity to mediate the environment and provide various forms of expression, creating a sense of scale and adding experiential qualities to the street.

(4) Research Tactics

The major research tactics for this project include:

•   A study of the various objects that occupy the street currently, reflecting on commonalities amongst objects.

•   Understanding the street cross section within different areas of the city

•   A study of how common objects create networks between each other, both hidden and visually apparent

•   Precedent study looking to answer the question of what elements can be used to create a new understanding of space.
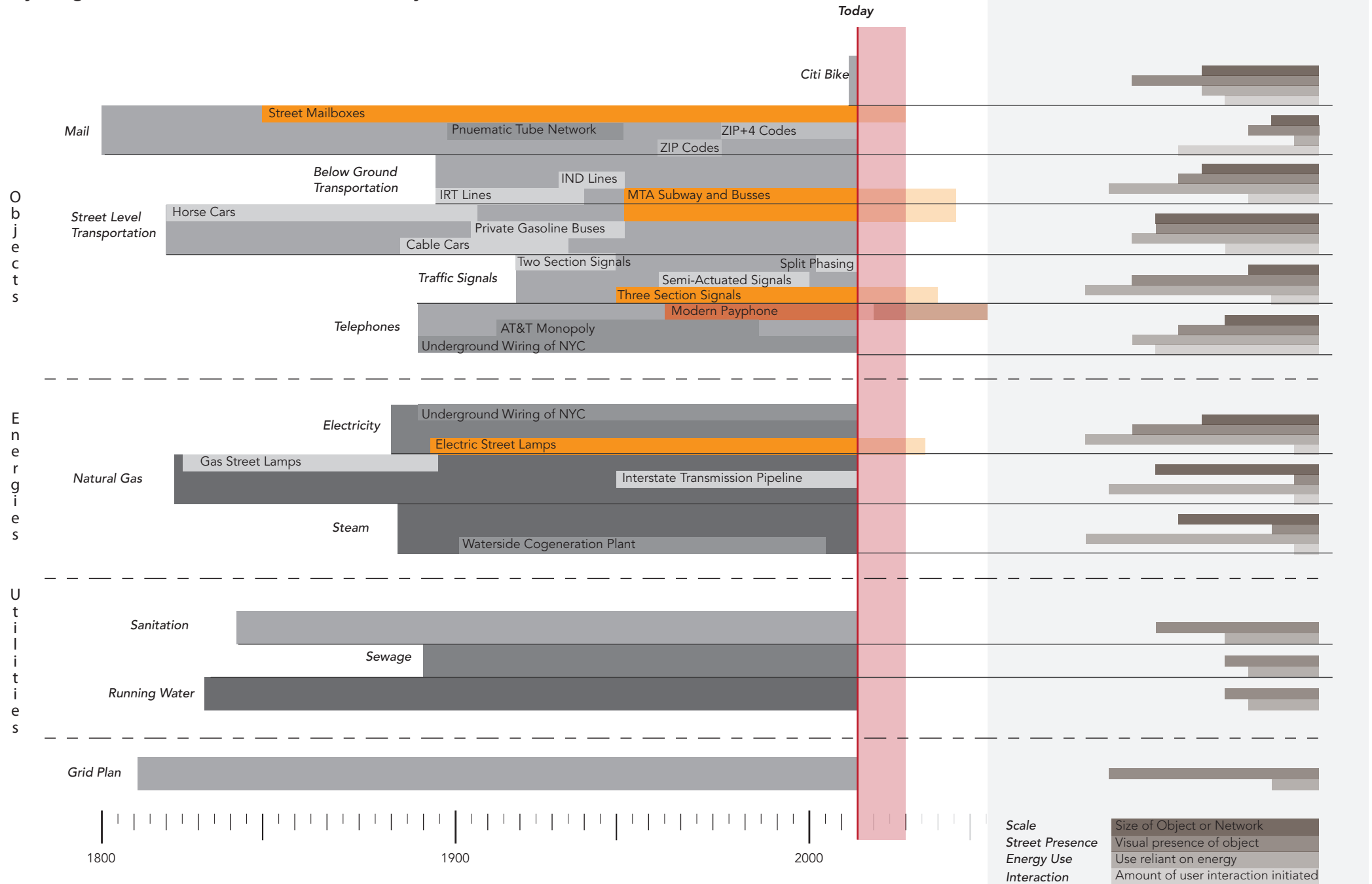
(5) Larger Impacts

At a larger scale this project creates a cohesive link through New York City. It also strives to develop a way to bring people back from the "plugged in" nature of people on the street, to a sense of community within a largely isolating environment. As an architectural project it would raise questions for architects in designing the street environment rather than leaving it to government officials, urban designers, industrial designers and programmers.

Payphone Development

Layering of Infrastructures on New York City Streets

Today

Objects

- Citi Bike

Mail
- Street Mailboxes
- Pnuematic Tube Network
- ZIP+4 Codes
- ZIP Codes

Below Ground Transportation
- IND Lines
- IRT Lines
- MTA Subway and Busses

Street Level Transportation
- Horse Cars
- Private Gasoline Buses
- Cable Cars

Traffic Signals
- Two Section Signals
- Split Phasing
- Semi-Actuated Signals
- Three Section Signals

Telephones
- Modern Payphone
- AT&T Monopoly
- Underground Wiring of NYC

Energies

Electricity
- Underground Wiring of NYC
- Electric Street Lamps

Natural Gas
- Gas Street Lamps
- Interstate Transmission Pipeline

Steam
- Waterside Cogeneration Plant

Utilities

- Sanitation
- Sewage
- Running Water

- Grid Plan

1800   1900   2000

Scale	Size of Object or Network	
Street Presence	Visual presence of object	
Energy Use	Use reliant on energy	
Interaction	Amount of user interaction initiated	

Notes:
1. Ascher, Kate. The Works: Anatomy of a City. New York: Penguin Press, 2005.

Telephones		Modern Payphone		
	AT&T Monopoly			
	Underground Wiring of NYC			

portrait of a city
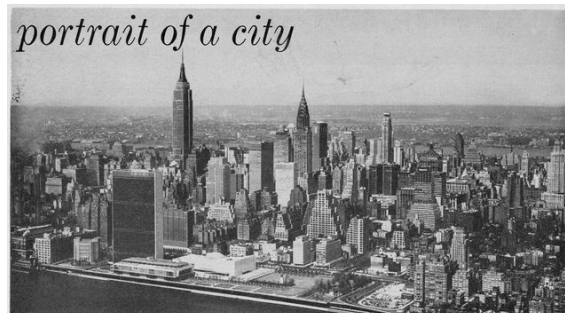
CITIZENS, OFFICIALS PRAISE PUBLIC PHONES ON CITY PROPERTY

The City Is New York.

Just a few months ago, the first outdoor telephone was installed on city property. By the end of this year the citizens of New York will be able to telephone from more than 700 convenient booths, located at key points in Manhattan.

This new program was designed to bring to New Yorkers the safety, convenience and service of round-the-clock telephone facilities.

To their elected officials, public telephones mean a welcome and substantial addition to the municipal revenue.

Perhaps your community can benefit from the same kind of custom-designed public telephone program. For more information, call your local Bell Telephone manager. He'll be happy to send a representative to outline an outdoor telephone plan to suit your needs.

BELL TELEPHONE SYSTEM

Advertisement 1960 from http://thephonebooth.com/

The public payphone as a piece of society has previously held a more integral position in our daily lives. During this time the payphone helped to connect people, and aid in everyday activities. Using a payphone was more of an event as patrons were made to use glass boxes where they could be seen using the phone, activating the small space. As seen in phone booths in other parts of the world the kiosk became an icon within the city street. Using a phone today while not structured as such through the phone booth is still very much a public act requiring a new set of environments to facilitate this activity.

What's on your mind to be done right now?

(Just step into booth No. 9)

PUBLIC   TELEPHONES

Bell Telephone System

Advertisement 1961 from http://thephonebooth.com/

London Phone Booth
from www.fineartamerica.com

Zurich Phone Booth
from www.dailynewsdig.com
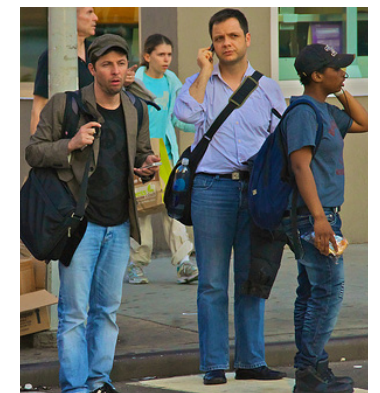
Cell Phone Use
from inkfish.fieldofscience.com

Reinvent Payphones Challenge

Image from: http://nycdigital.tumblr.com/

At the end of 2012 Mayor Bloomberg initiated an ideas competition to try and bring the outdated infrastructure of New York City payphones into the 21st Century. This competition, Reinvent Payphones, was meant to allow anyone with an interest in giving the city feedback on what the payphone should be through developing a prototype. The competition, which only lasted three months, was judged according to connectivity, creativity, visual design, functionality and community impact. From the 125 entries six were chosen which were seen the as the best representing the judging criteria. Winners from the competition were not awarded any contract with the city to implement their ideas but rather were to help the city shape what will be asked of in the formal proposal process.

Notes |
2. "Reinvent Payphones Design Challenge." Reinvent Payphones, 2012.
http://reinventpayphones.splashthat.com/.

Questions Asked By the City [4] |

Connectivity. Payphones currently rely on the power/phone line of the adjacent property. Many phones are electrified and many have traditional copper phone line connections. Almost all locations are capable of becoming electrified and being fitted with fiber connections with speeds of at least 15 Mbps. What alternative communications amenities would fill a need? (E.g. WiFi, touch screens, mobile device charging facilities, etc.)

Design. How can sidewalk payphones be redesigned to enhance aesthetics and integrate seamlessly with city streets and public infrastructure? How should design vary by location? Can sustainable power sources such as solar power support new infrastructure? How can we plan to prevent vandalism? What is the user experience of using the future payphone?

Community Impact. How can payphones support community needs such as local services, businesses and programs? How can the community play a role in content development?

Sustainability. The City of New York receives a 36% share of revenue generated through the payphones. New payphone kiosks should generate revenue that equals or exceeds the most recent annual revenue of $17.7 million: $1.2 million from calls and $15.9 from advertising. How can new payphones continue to generate City revenue while adding value?

Accessibility. Payphone kiosks should ensure that people with disabilities will be able to utilize new communications infrastructure. See Section 7 of the Mayor's Office for People with Disabilities Inclusive Design Guidelines manual on creating public environments that are usable by everyone. How will payphones ensure accessibility?

Safety. Payphone usage tripled in areas that lost power during Hurricane Sandy, as payphones receive electricity via the phone line and not external power sources. Current public safety and service measures include free calls to 911 and 311 at any time. How can the City to use payphones for emergency preparedness, response, and recovery?

Reinvent Payphones Challenge Winners

Windchimes
NYU ITP, Cooper Union and Parsons
Community Impact Award

Pros |
Through engaging sensors looking to enhance how people move through the city

Cons |
Little engagement with actual streetscape

Smart Sidewalks
Syracuse University, UC Davis, Parsons, Rama Chorpash Design LLC, and Cheng+Snyder
Functionality Award

Pros |
Device provides more than just data for street infrastructure, utilizing ground as another surface

Cons |
Spatial quality only through network of multiple objects

NYC I/O
Control Group and Titan
Community Impact Award

Pros |
Community engagement high with flexibility of who can use the billboard aspect of the device

Cons |
Primarily purpose to give data accessibility to street

Beacon
Frog Design
Visual Design Award

Pros |
Sectional relationship between the types of information providing, above commercial focus and below street focus

Cons |
Little opportunity for community customization

All Images from: http://nycdigital.tumblr.com/

Reinvent Payphones Challenge Winners

NYFi
Sage and Coombe Architects
Connectivity and Popular Choice Award

2'   10'   20'

Distance Perceived From

Wifi Hotspot

LED Lantern

MetroCard Dispenser

Muni Meter

Touchscreen Interface

Phone Service

911 and 311 Access

NYFi is designed as a double-sided touch screen panel that allows pedestrians access to various city information like way finding or traffic information. The device integrates the functions of other single function street objects like MetroCard kiosks and Muni Meters through a modular hardware system in order to allow for change in technology over time. Two sized kiosks were designed one taller kiosk for commercial areas and a shorter one for residential areas. Yet, because of the singular panel, the proposal would not generate any spatial qualities and would replace the existing object with another object.

Image from: http://nycdigital.tumblr.com/

Loop
FX Fowle
Creativity Award

2'   10'   20'

Distance Perceived From

Neighborhood Color Customization

Garden Wall

Interactive Image Projector

Touchscreen Interface

Energy Producing Pressure Plate

Bench

Loop unlike all the other projects chosen as winners begins to deal with the performance aspect of making a public phone call and the fact that these objects are defining public space. The kiosk is designed to integrate information access, interactivity from neighborhoods and harvest kinetic energy. The U shape of the object begins to define space and is thought to allow for ease of incorporating more than one into a location. The proposal returns the use of the object as a spectacle for public space as well as formally becoming an icon within the streetscape.

Image from: http://nycdigital.tumblr.com/

Department of Information Technology and Telecommunications Request for Proposals Guidelines

Telephone |

As shown by the aftermath of hurricane Sandy the city still needs to provide public telephone service. All kiosks are to provide free service to call 911 and 311. The kiosks will no longer be required to provide coin payment options, which provide approximately $1.2 million in revenue currently.

Wifi |

This upgrade is what the city sees as the big move that will revitalize the outdated infrastructure. The hotspots are to work together as a network allowing people to stay connected as long as they are within the service distance of any hotspot, as well as the automatically re-connect when back in range. The login page is allowed to have advertisements to supplement gross revenue.

Other Services |

These functions give the proposals flexibility to include more telecommunication services. The kiosks are encouraged to be adaptable in order to incorporate new technologies into their use as time goes on and technology changes. Other pieces the RFP has outlined as possible inclusions are cell phone charging stations and touch screens for business transactions.

Approximate Volumes by NYC DoIIT for the design of the new kiosks as per Request for Proposals

104 in · 10 in
112 in · 20 in
90 in · 35 in
90 in · 35 in

1539 in²
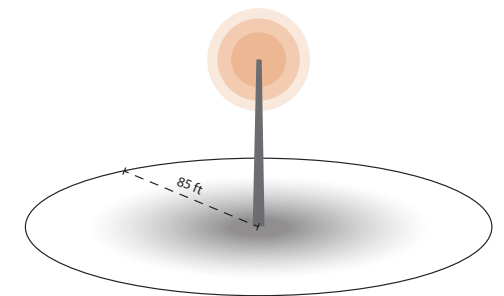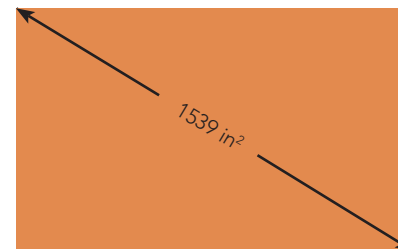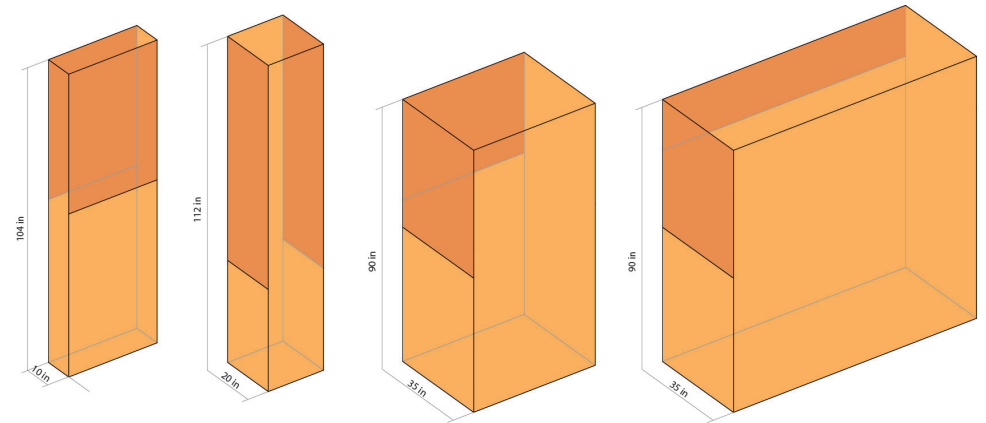
85 ft

Total area allowed to be dedicated to advertising on one panel

Maximum of two panels allowed to have advertising

Advertising not allowed in residential areas

Minimum requirement for service from the wifi kiosks of 85 ft

LinkNYC is the resulting project that is currently going through the process of being approved to replace the payphones on the street. The devices provide free wifi hubs, mobile charging stations, city information access points, phone calls and emergency contact service all at no charge to pedestrians. The entire revamp to the infrastructure is to be financed by the advertisement panels of the commercial district kiosks, which will integrate digital displays and in emergencies be able to communicate information. Similar in many ways to NYFi, LinkNYC does not create any real spatial qualities because it is flat in design and the interactivity of the object only occurs in one dimension.

Residential Kiosk

Commercial Kiosk

Wifi Hotspot

Digital Display

Touchscreen Interface

911 and 311 Access

Phone Service

Mobile Charging

Area of Interaction

2'

10'

20'

Distance Perceived From
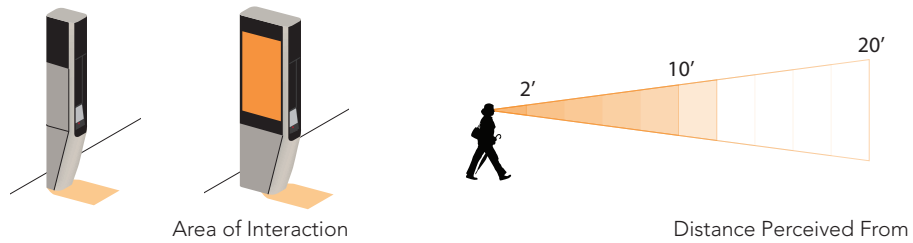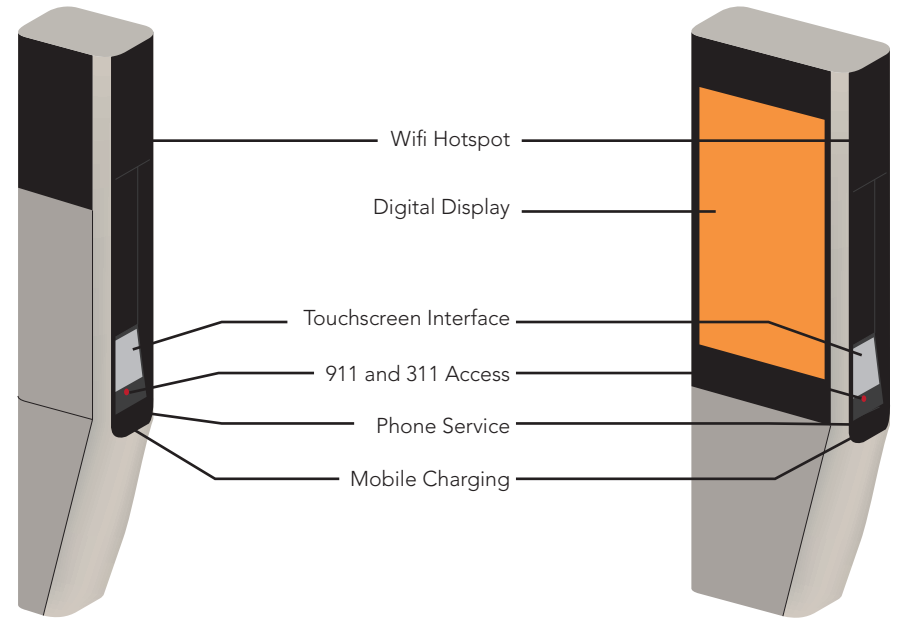
Images from: LinkNYC Media Kit

Intension |

Through the mediation and expression of systems, energies and flows the pedestrian can reclaim the experience of the street. Using the infrastructure of the payphone to generate public event this project works to grapple with issues of information flows, environmental manipulation and street amenity, illuminating networks within the city.

Mediation and Expression

"Shaping Energies"

"Architecture is now in the position to associate energy with opportunities beyond simply reproducing ideal weather conditions within the interior of buildings"[10]

Electricity

Solar Radiation

Rain

Exhaust

Light

Temperature

Wind

Humidity

Sound

Heat
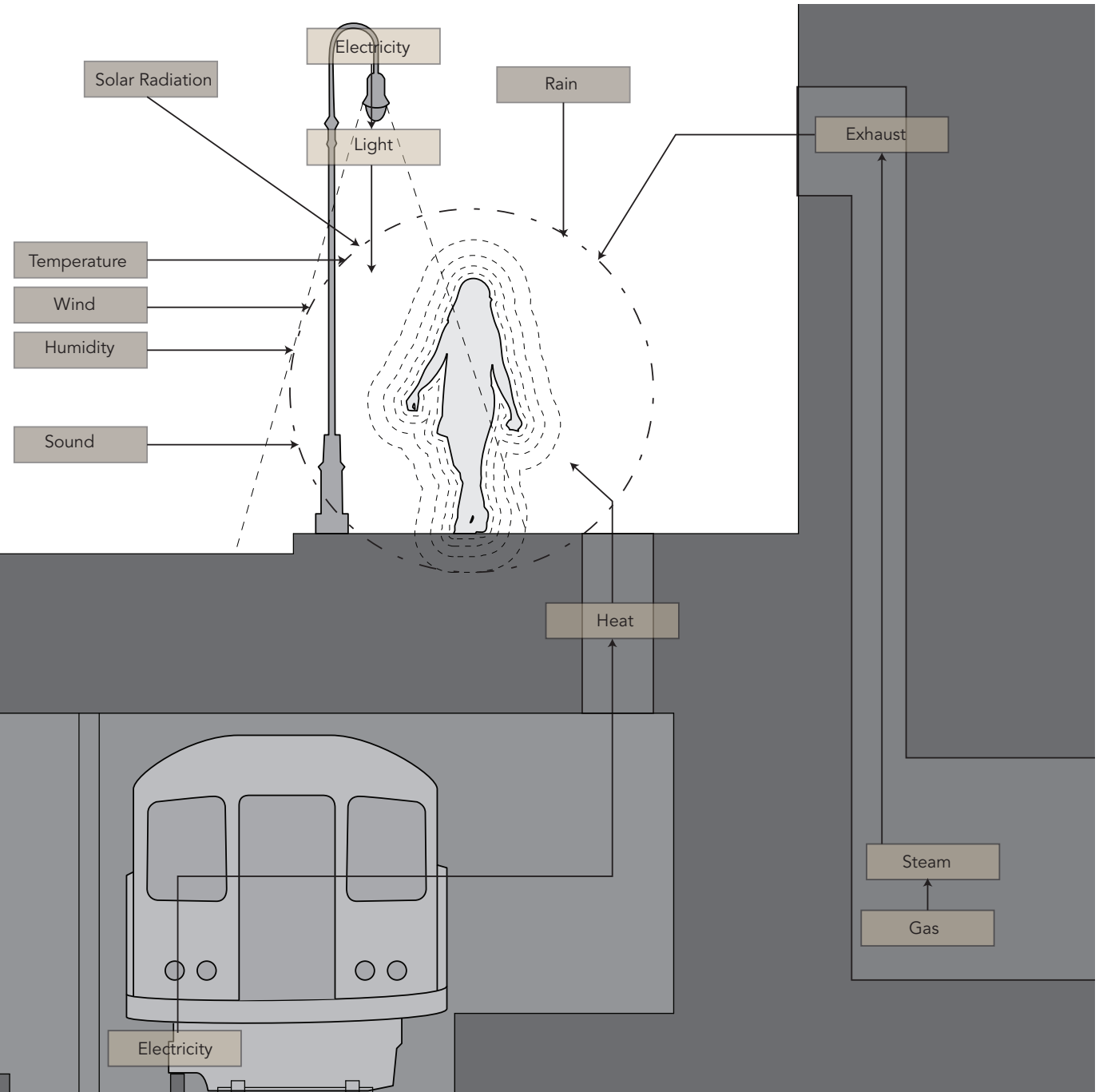
Already within the city there are outlets waiting to be tapped into making the experience of the street mediated from the environment as well as providing visibility to the various flows already inhabiting the city. Drawing on the ideas of Sean Lally, the project would become a sensorial envelope that is a dialogue between material energies and the body's sensorial envelope [4]. Working within this framework the architecture is amplifying the environment for effect drawing on flows like excess heat from subways or using sound to reduce excess noise.

Steam

Gas

Electricity

Notes:
3. Lally, Sean. The Air from Other Planets: A Brief History of Architecture to Come. Zürich: Lars Muller, 2013.
4. Lally. The Air from Other Planets.

"The Sentient City" and the Inhabitant

The evolution of internet technologies are following along a similar pattern to that of electricity which Nicholas Carr contends is creating a shift in the way people work and function [5]. In a same tone Martijn de Waal in his essay on Urban Culture of Sentient Cities, describes the increase in sentient technology that distracts us from the public sphere, and reduces our contact with people of different backgrounds, beliefs and cultures. The public sphere influences our perceptions and helps us to relate to one another. The majority of theorists believe the public sphere should be a physical place fostering exchange and communication [6]. The infrastructure of the payphone sits in a position to provide this through interaction both in real time and through a perceived existence.

Urban life is defined as living situation of people who will remain strangers and may also have a completely different outlook on life [7]

Public sphere is defined as space where these strangers are confronted by each other are forced to both become aware of their existence and come to terms with each other [8]

Private sphere is defined as when people are not aware of the people around them, either in public view or in secluded spaces [9]

Private Sphere

Public Sphere
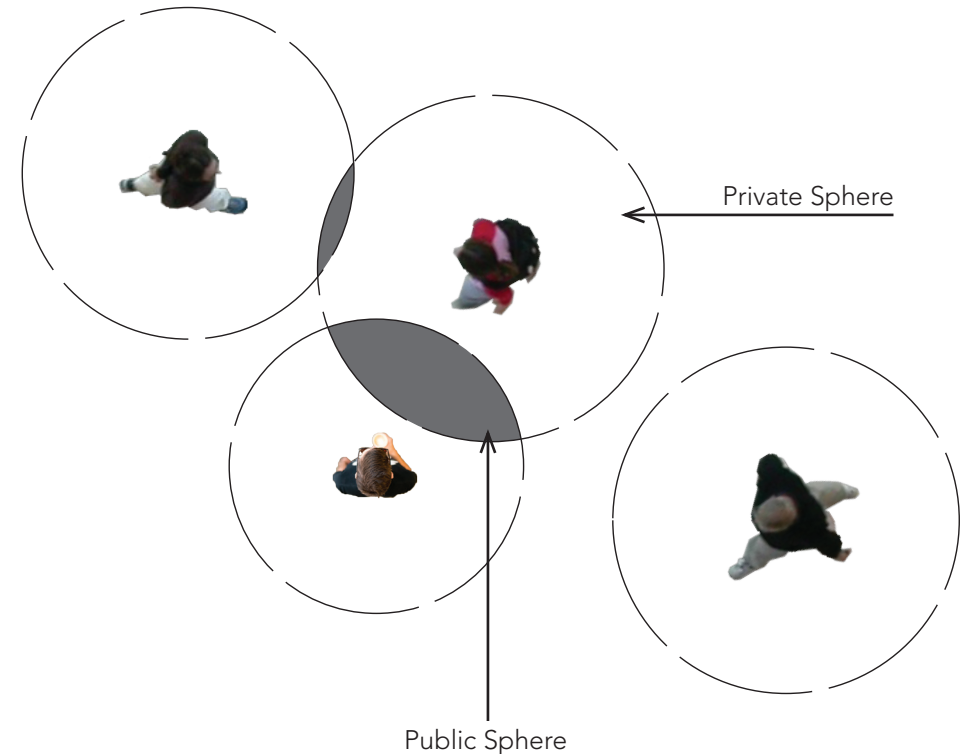
Notes:
5. Carr, Nicholas G. *The Big Switch: Rewiring the World, from Edison to Google*. 1st ed. New York: W.W. Norton & Co, 2008.
6. de Waal, Martijn. "Urban Culture of Sentient Cities." *Sentient City: Ubiquitous Computing, Architecture, and the Future of Urban Space*. New York City : Cambridge, MA: Architectural League of New York ; MIT Press, 2011.
7. de Waal. "Urban Culture of Sentient Cities."
8. de Waal. "Urban Culture of Sentient Cities."
9. de Waal. "Urban Culture of Sentient Cities."

Expression and Mediation as Outcome
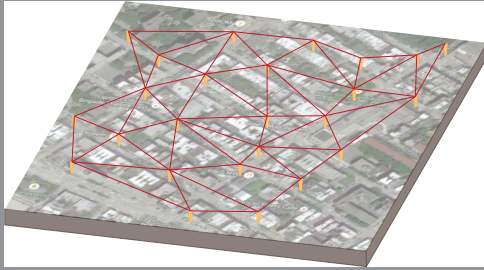
Networks
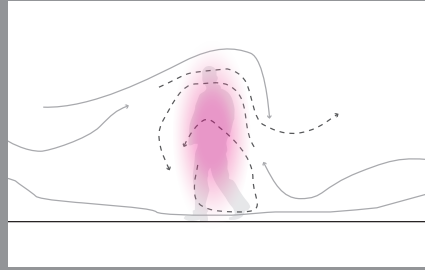
Amplification
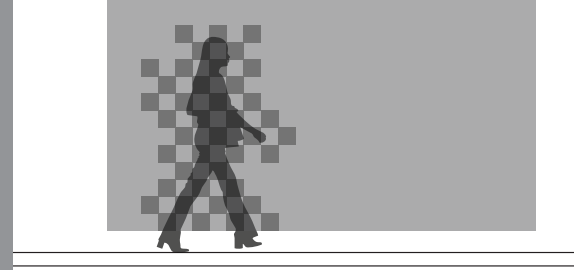
Public Activation

Expression
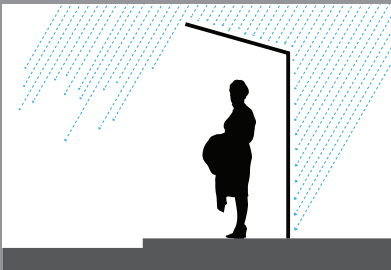
Mediation

Elemental Mediation
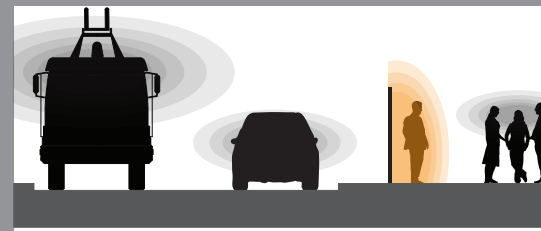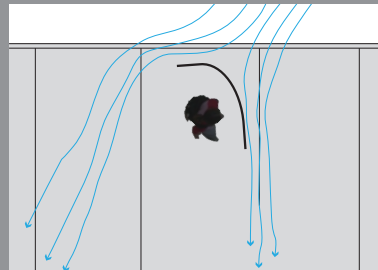
Sound Mediators

Existing Street Objects

www.mailbox-locator.us

2'   10'   20'

Distanced Perceived From

2'   10'   20'

Distanced Perceived From

Placement on Sidewalk

Placement on Sidewalk

2 min

5 min

Time Spent Using Object

Time Spent Using Object

Transient   Fixed

Transient   Fixed

Percent of Visual Change Overtime and Attachment to Location

Percent of Visual Change Overtime and Attachment to Location

Space Necessary Placement and Use of Object

5'   10'   15'

Space Necessary Placement and Use of Object

5'   10'   15'

Percent Functioning as Billboard

Percent Functioning as Billboard

UNITED STATES
POSTAL SERVICE

NEW YORK CITY
DOT

Responsibility

Responsibility

The USPS mailbox is used universally throughout the United States; as such it is one of the most easily recognizable pieces on the New York City streets. As a street object it is only used for the specific function of mailing items. The location of these objects is not specific to the place but is linked to the collection and sorting of the sent mail. The form of the object is primarily utilitarian providing the needed collection box with little frills beyond that.
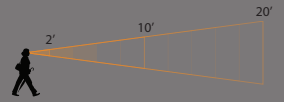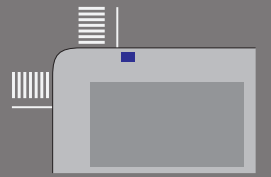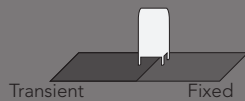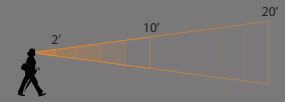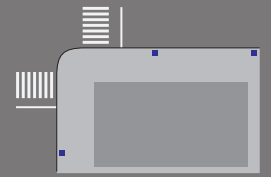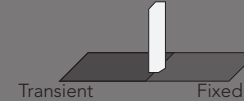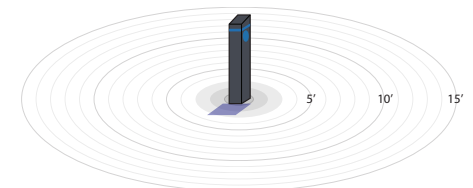
New York City has relatively recently redeveloped the infrastructural object of the parking meter. There is still some variation in the physical object across all five boroughs yet, the interface for use is streamlined. The object itself is minimal in form taking up as little space as possible on the sidewalk both visually through the black color of the object and spatially in its footprint. As a device it seems under programmed providing similar functions as the express bus kiosks.
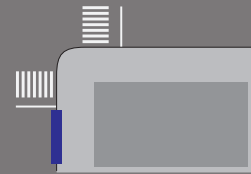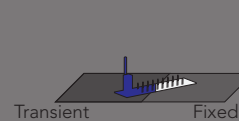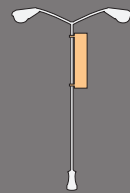
Distanced Perceived From

Distanced Perceived From

Placement on Sidewalk

Placement on Sidewalk

5 min

2 min

Time Spent Using Object

Time Spent Using Object

Transient   Fixed
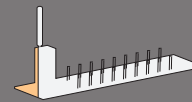
Transient   Fixed

Percent of Visual Change Overtime and Attachment to Location

Percent of Visual Change Overtime and Attachment to Location

Percent Functioning as Billboard
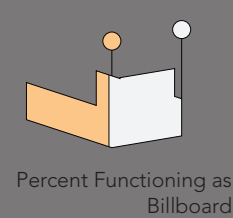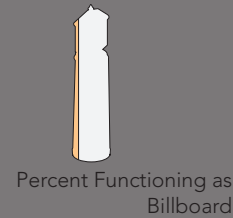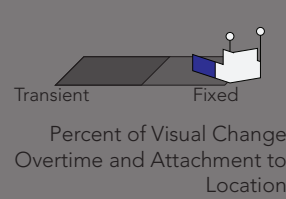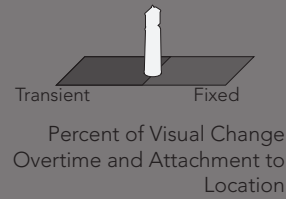
Percent Functioning as Billboard

NEW YORK CITY DOT

Responsibility

Responsibility

Space Necessary Placement and Use of Object

Space Necessary Placement and Use of Object

Of all the objects studied there is greatest variation in form for bike racks in NYC. The variability is partially due to the fact that the form for providing the integral function of the object can vary greatly. This is especially apparent when bicyclists use other objects on the street to secure their bikes. However, this fact provides opportunity for combination with other objects as minimal adjustments would provide the necessary function of something to secure a lock to.
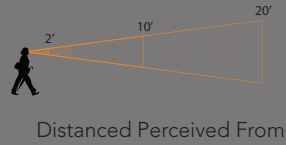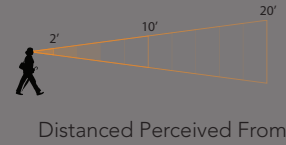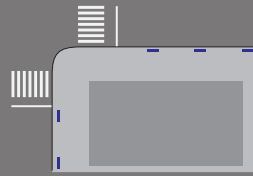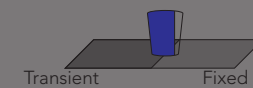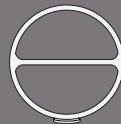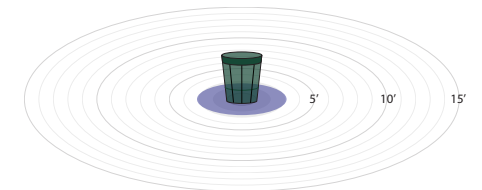
Trash cans as objects tend to be taken for granted until they are no longer functioning. Key to their function is the Sanitation Departments routine maintenance. As such the location of trash cans are placed for both the convenience of the pedestrian as well as the maintenance collection by the Sanitation Department. Within NYC there are neighborhoods that use the trash can as a means of giving identity through a specific form only used in that area.

Local Newspaper Stand
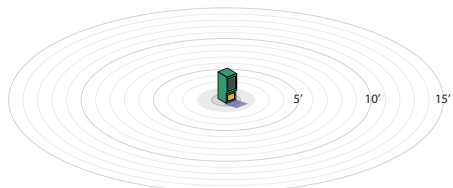
Space Necessary Placement and Use of Object

The free newspaper stand typically is found as a cluster rather than a singular object. As appropriate for the free newspaper the material palette is less durable as well as the objects are more prone to being less well maintained. The locations of the stands are mostly in high traffic areas, especially near subway stations. Formally the objects are simple, but brightly colored boxes providing the simple function of storing the newspaper from the elements.

Sidewalk Sign

2'   10'   20'

Distanced Perceived From

Placement on Sidewalk

2 min

Time Spent Using Object

Transient   Fixed

Percent of Visual Change Overtime and Attachment to Location

Percent Functioning as Billboard

VOICE metro

Responsibility

2'   10'   20'

Distanced Perceived From

Placement on Sidewalk

2 min

Time Spent Using Object

Transient   Fixed

Percent of Visual Change Overtime and Attachment to Location

Percent Functioning as Billboard

Responsibility

Space Necessary Placement and Use of Object

Sidewalk signs allow stores and restaurants of all sizes to quickly increase their street presence. The signs are one of the most temporal objects on the street reflecting when businesses are open as well as where there is foot traffic to gain attention. Formally there is a little variation in the object based off the owners of the signs varying but providing some function of signage and passing of information from interior to exterior.
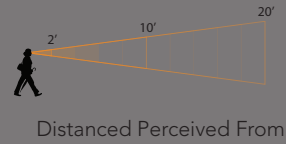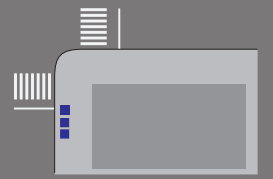
Space Necessary Placement and Use of Object
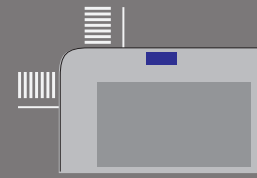
Distanced Perceived From

Distanced Perceived From

Placement on Sidewalk

Placement on Sidewalk

5 min

5 min

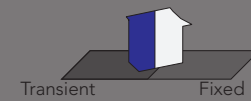Time Spent Using Object

Time Spent Using Object

Transient   Fixed

Transient   Fixed

Percent of Visual Change
Overtime and Attachment to
Location

Percent of Visual Change
Overtime and Attachment to
Location

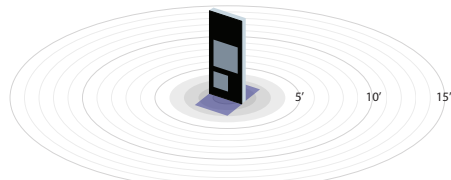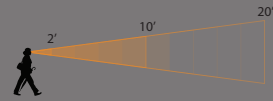Percent Functioning as
Billboard

Percent Functioning as
Billboard

NEW YORK CITY
DOT

alta
BICYCLE SHARE
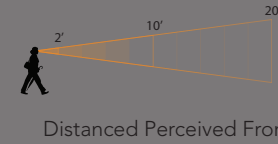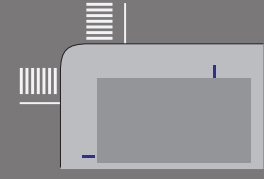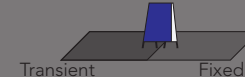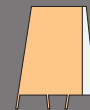
Responsibility

Responsibility
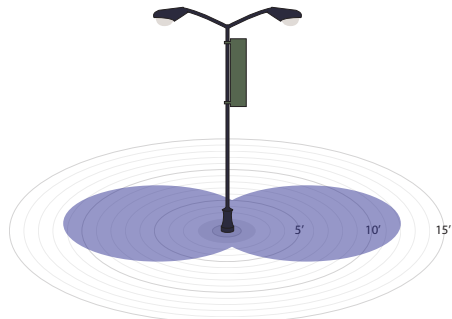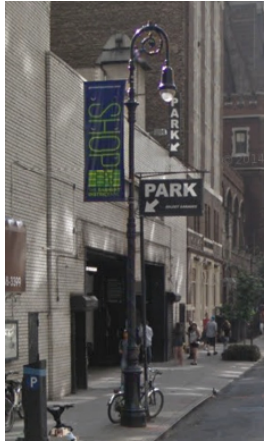
Space Necessary Placement and Use of Object

As a piece of infrastructure the street lamp provides service to both the pedestrian and automobile. Since the lamps are more out of sight than other objects the lamp is understood more through the light emitted rather than physical object. Formally what the object looks may vary but the basic form is a pole with at least one lamp at the end. The object tends to be augmented with signage representing places and events within the neighborhood.
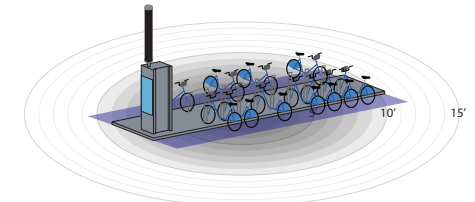
Citi Bike infrastructure is the most recent addition to NYC streets, as such it is only located in parts of Manhattan and Brooklyn. Along with the introduction of the bikes themselves the Citi Bikes have brought added infrastructural changes through new bike lanes. Great variability occurs in the size of the docking stations as well as the configuration of the dock, yet all are connected visually through the kiosk for single time use with a long black antenna.
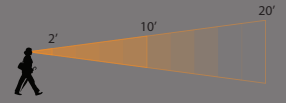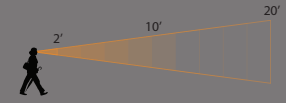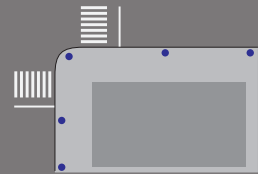
2' 10' 20'
Distanced Perceived From

2' 10' 20'
Distanced Perceived From

Placement on Sidewalk

Placement on Sidewalk

15 min
Time Spent Using Object

5 min
Time Spent Using Object

Transient   Fixed
Percent of Visual Change Overtime and Attachment to Location

Transient   Fixed
Percent of Visual Change Overtime and Attachment to Location

Percent Functioning as Billboard

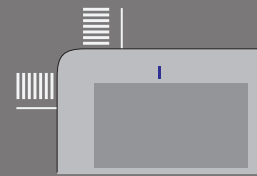Percent Functioning as Billboard

Responsibility

Responsibility

Space Necessary Placement and Use of Object

5' 10' 15'

Space Necessary Placement and Use of Object

10' 15'
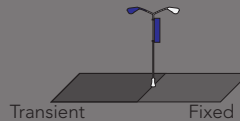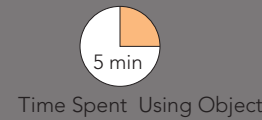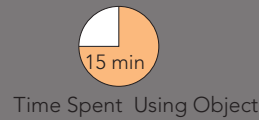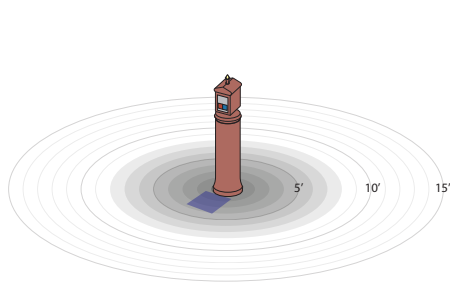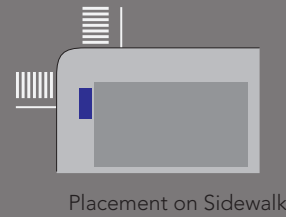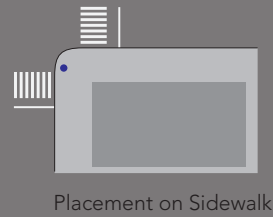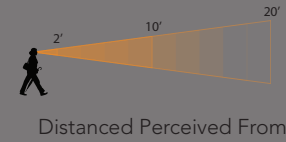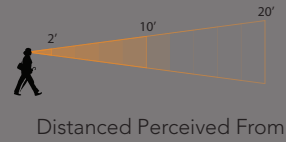
The alarm box provides an emergency service that programmatically is provided for by other devices like the payphone or through any telephone service, yet have been determined necessary because of the dilapidated state of many payphones. The boxes formally are very similar to fire hydrants and through color also connect back to the emergency services they provide.
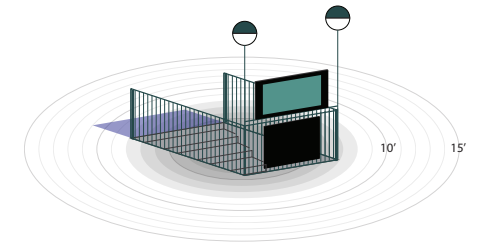
The subway entrances as a street object is the most fixed in location due to the connection it provides to a specific subway station. The street object itself can vary greatly, some solely acting as a marker where as, others provide advertising signage or shelter. These objects provide one of the few connections between layers of city life. As a link for transportation they signify hubs of people which, at peak hours bottle neck from all the people trying to use it.

Bus Shelter
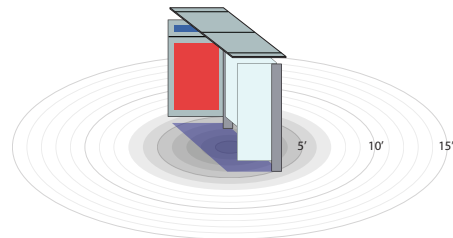
Space Necessary Placement and Use of Object

The bus shelters are also part of the street furniture contract that the city has with Cemusa. Following the formal language the shelters have frosted glass roof and metal posts. Unlike most of the other objects on the street the main material used in the shelters is glass making it blend in more with its surroundings. Similar to the newsstands the bus shelters do provide one double-sided panel of advertising, which are the only part of the structure that is electrified

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Distanced Perceived From

Placement on Sidewalk

10 min

Time Spent Using Object

Transient   Fixed

Percent of Visual Change Overtime and Attachment to Location

Percent Functioning as Billboard

CEMUSA

Responsibility

Distanced Perceived From

Placement on Sidewalk

10 min

Time Spent Using Object

Transient   Fixed

Percent of Visual Change Overtime and Attachment to Location

Percent Functioning as Billboard

CEMUSA

Responsibility

Newspaper Stand

Space Necessary Placement and Use of Object

Most newspaper stands on the street today are part of the street furniture contract that the city has with Cemusa. This form draws on the material palette set up by this project with a frosted glass overhang and a metal shed. The form also provides space for advertising revenue, yet it is not plastered over the entire shed allowing the newsstand to remain the primary function. The stands are individually subcontracted creating some variation from stand to stand.
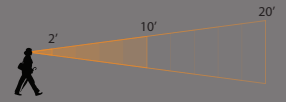
Distanced Perceived From
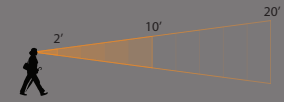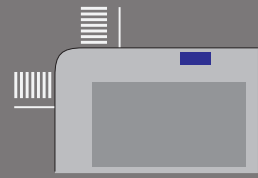
Distanced Perceived From

Placement on Sidewalk

Placement on Sidewalk

15 min

10 min

Time Spent Using Object

Time Spent Using Object

Transient   Fixed

Transient   Fixed

Percent of Visual Change
Overtime and Attachment to
Location

Percent of Visual Change
Overtime and Attachment to
Location

Percent Functioning as
Billboard

Percent Functioning as
Billboard
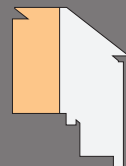
Space Necessary Placement and Use of Object
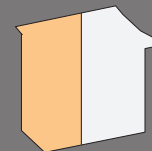
Space Necessary Placement and Use of Object

NEW YORK CITY
DOT
Responsibility

NEW YORK CITY
DOT
Responsibility

NYCwalks was implemented in a few neighborhoods as an attempt to make New York City an easier city to navigate for pedestrians. The panels provide maps and information of the local area they are situated in. The signs follow the material palette of other street objects using mainly metal with black accents. As an object the signs provide little beyond the sign even though they are similar in form to the billboard panel on the bus shelter and newsstand.
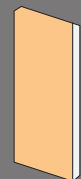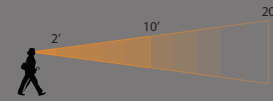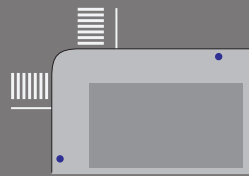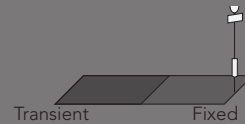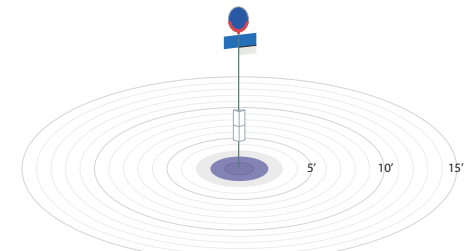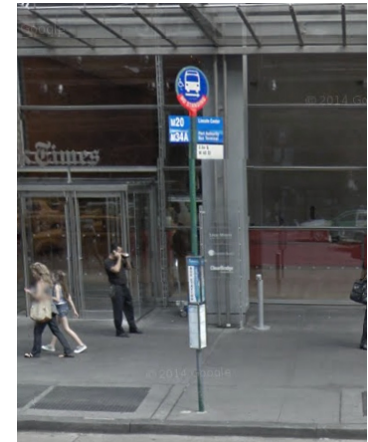
Bus Stop Markers similarly to street lamps are meant for both vehicular and pedestrian traffic. The sign signifies the connection to the transit network of busses and can be found with the bus shelters next to them, however the marker is what actually marks the bus stop. The height of the pole becomes important for visibility, which creates a layering of who used the object; the top is focused on vehicular use where as the base is mainly pedestrian focused.

Large Payphone Kiosk
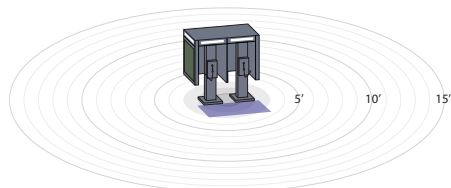
Space Necessary Placement and Use of Object

Payphones in their current configuration reveal that the calling function is secondary to advertising. As such formally the object takes up more space at eye level than its footprint with the three-sided billboards stemming from the pier-like base. The larger payphones provide minimal enclosure to pedestrians looking to use the phone making people vulnerable to various environmental annoyances like wind and unwanted sound.

Distanced Perceived From

Placement on Sidewalk

10 min

Time Spent Using Object

Transient   Fixed

Percent of Visual Change
Overtime and Attachment to
Location

Percent Functioning as
Billboard

Responsibility

Distanced Perceived From

Placement on Sidewalk

5 min

Time Spent Using Object

Transient   Fixed

Percent of Visual Change
Overtime and Attachment to
Location

Percent Functioning as
Billboard

Responsibility

Small Payphone Kiosk

Space Necessary Placement and Use of Object

Similar to the larger payphones the primacy of the billboard is apparent in the plastering all visible surfaces with advertising and the increase in size at eye height in comparison to the foot print of the object. However, unlike the larger counterpart these provide no real enclosure for people using the phone. Formally the pier with a hood creates some consistency between the different sized payphones.
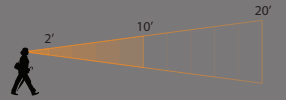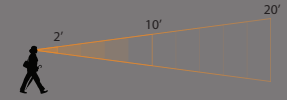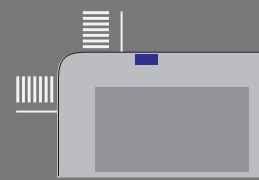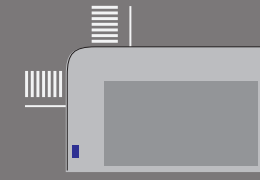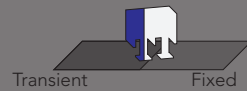
Typologies of Objects

Screen

Container

Post

Local

Tourist

More Frequent

Less Frequent
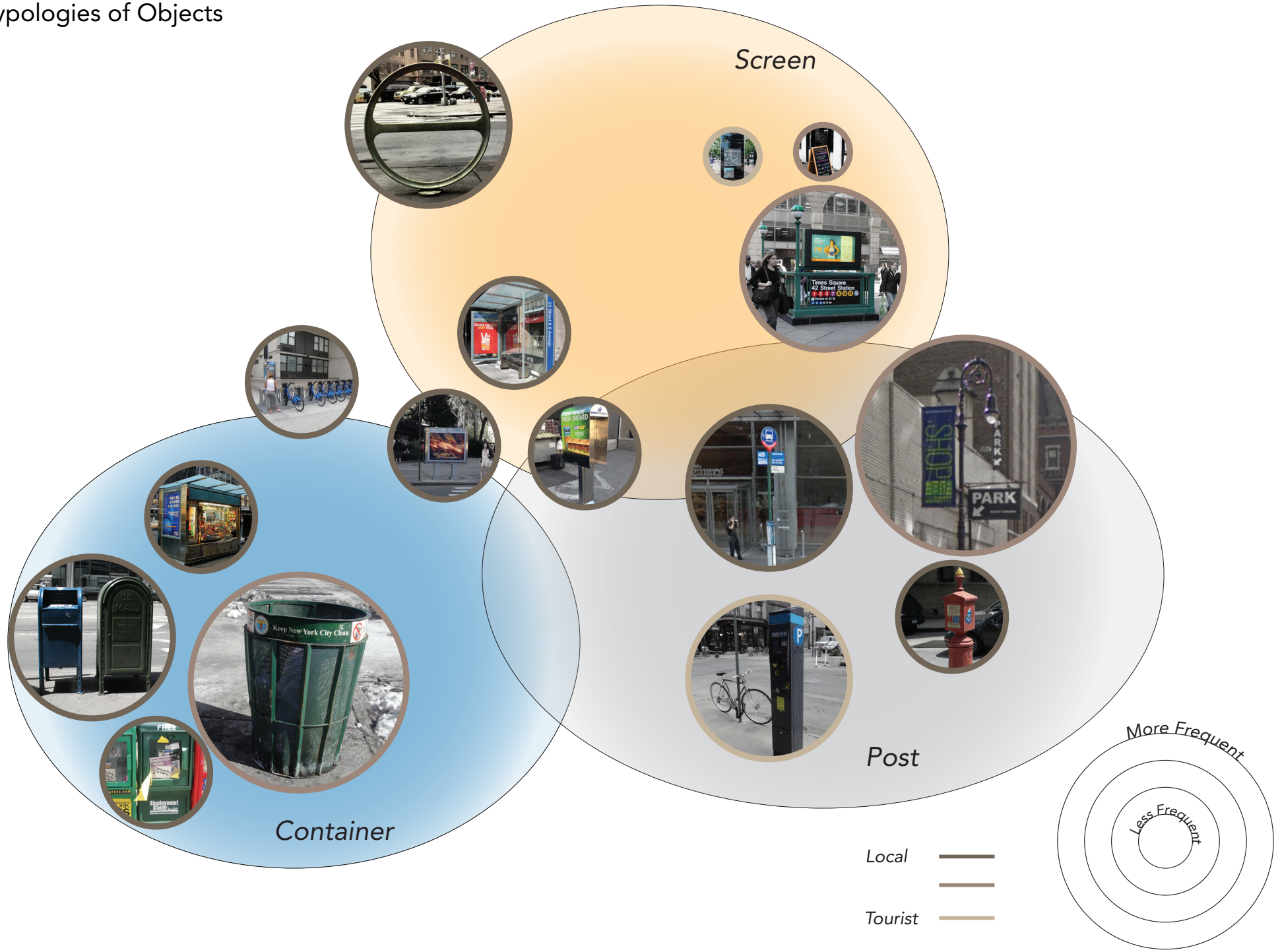
Screen

Through looking at the current landscape of street elements there are a few key themes:

Elements are competing for our attention |

The vertical surface of objects is the prime real estate for expressing as much as possible in the smallest footprint.

Hidden Networks |

Almost all the objects operate as individual objects that are not linked to the networks they belong to. The only real instance of a revealed network is through the tiny banner at the bottom of the screen on subway entrances that inform of service status.

Interaction within Singular Dimension |

Many of the objects that are already on the street even though are three-imensional objects only utilizing one or two surfaces for their functions.

Post

More Frequent

Less Frequent

Container

Local

Tourist
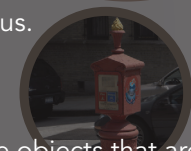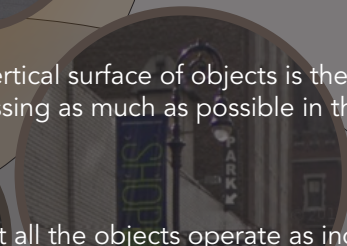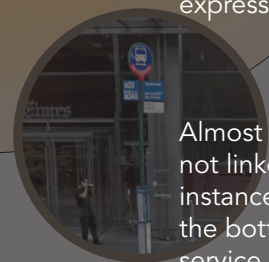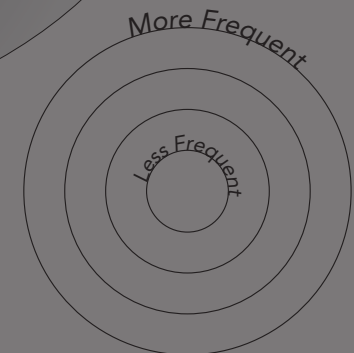
Typical Street Conditions in New York City

Store Front

Conditions:

Visual connection between interior and exterior facilitated by the glazed windows exhibiting products or store

Higher level of billboard objects due to increased foot traffic

At corners typically clusters of trash cans, local newspaper dispensers, mailboxes and multi-phone phonebooths.

Throughout the street are street lamps, bike racks, parking meters and bus kiosks.

Unique to this area are easel signs for individual stores

Zones of Use I

Shelter
Private Controlled
City Controlled
Street Object

Post
Container
Screen

Mid Rise Residential
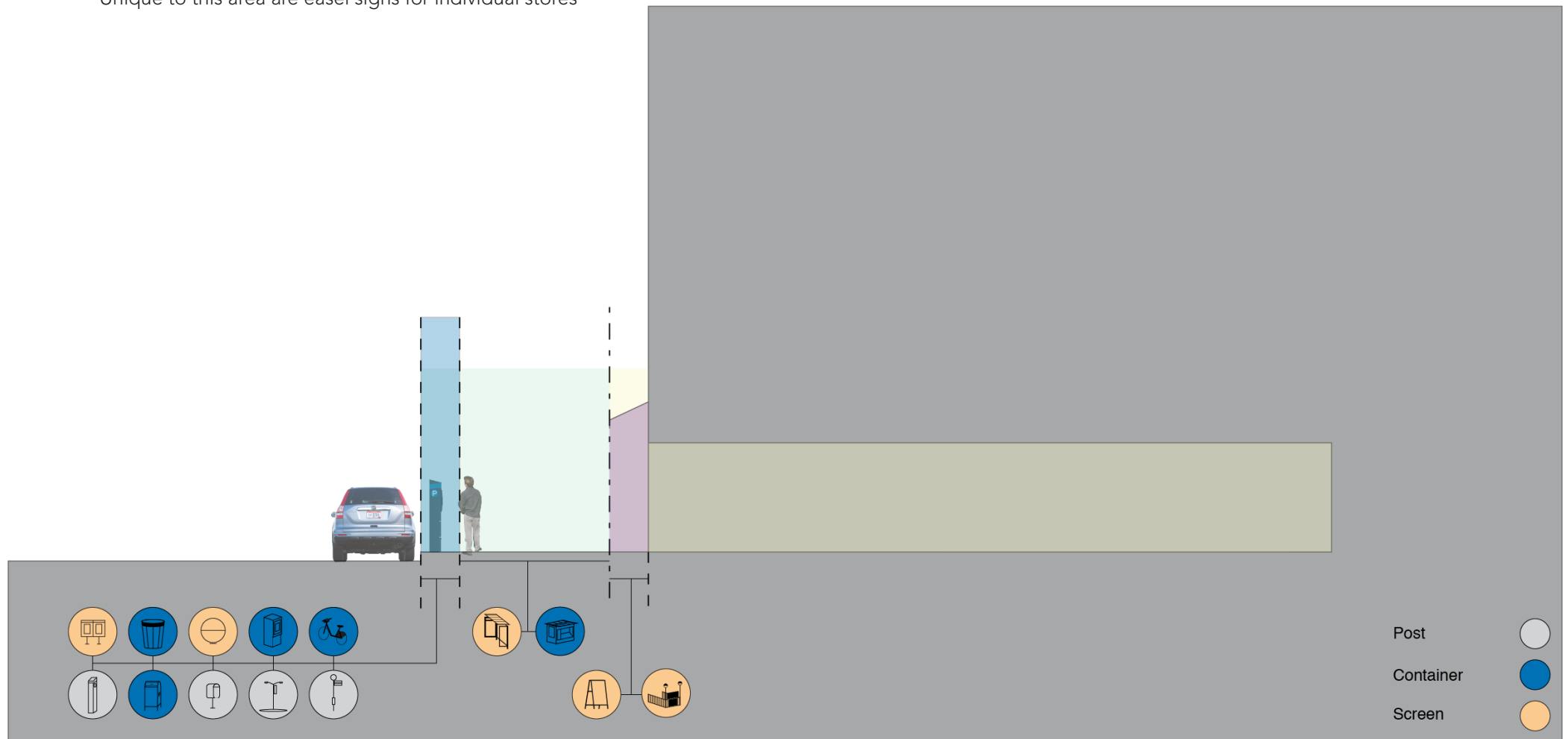
Conditions:

Typically least space of sidewalk

Typically a sectional variation exists between the entrance and the sidewalk

Billboards for advertising are minimal in this area

More instances of greenery

Objects provide more infrastructural services and fewer in number.

Zones of Use I

Shelter
Private Controlled
City Controlled
Street Object
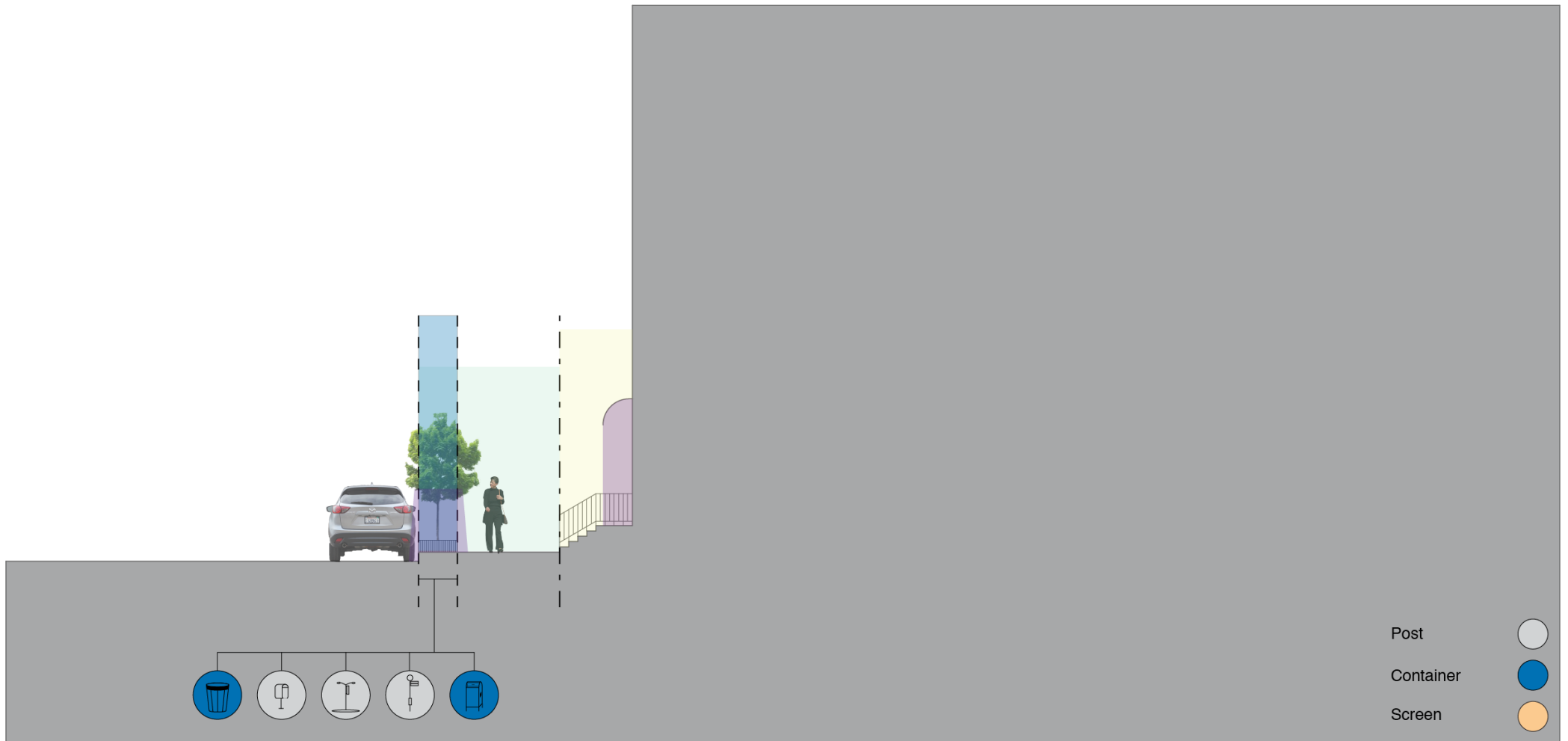
Post

Container

Screen

Conditions:

Typically a physical boundary of a fence between sidewalk and park

Visual connection between park and sidewalk

Fewer objects acting as billboards

Similar to objects on residential streets as most providing an infrastructural service

Zones of Use I

	Shelter
	Private Controlled
	City Controlled
	Street Object

Post	⚪
Container	🔵
Screen	🟠

Conditions:

Typically most space for sidewalk, due to entry setback of buildings

Clearly defined area of sidewalk versus private public property

Full spectrum of objects, more objects with bilboard qualitites.

Street corners typically have trash can, street lamp, multi-phone payphone, Citi Bikes, and mailboxes.

More likely to be kiosks for buses, newspaper stands and larger subway entrances.

Also may have information signs for the building or the area

Zones of Use I

Shelter
Private Controlled
City Controlled
Street Object
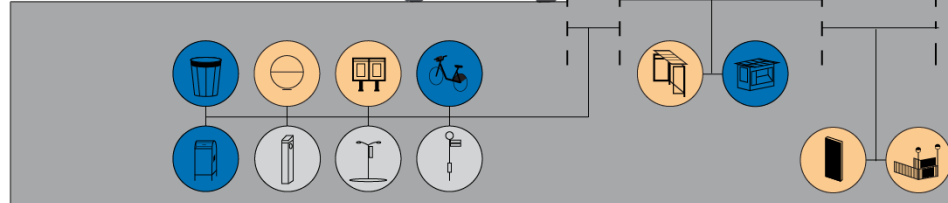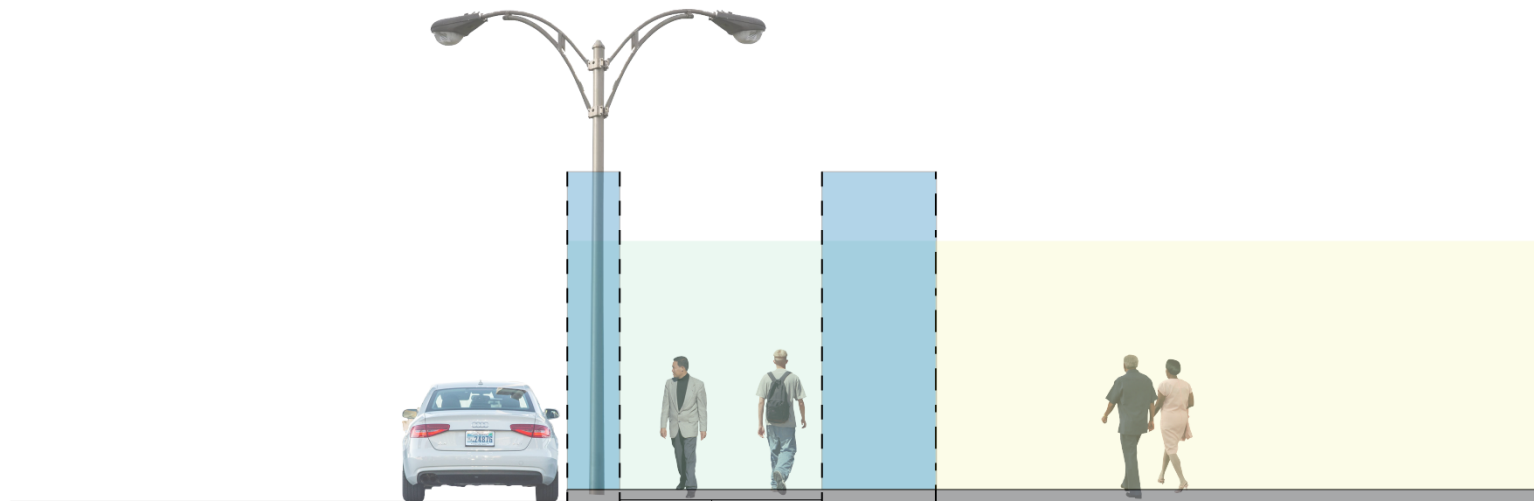
Post
Container
Screen

Conditions:

Sidewalk space bottlenecks at peaks of use, where there is not enough space for people to move in and out of subway and walk on street

Sectional relationship only apparent through entry stair

Entry stair includes the only instance of digital display in city street objects

Can combine with similar attributes to Storefront, High Rise Office and Park situations

Zones of Use I

Shelter
Private Controlled
City Controlled
Street Object
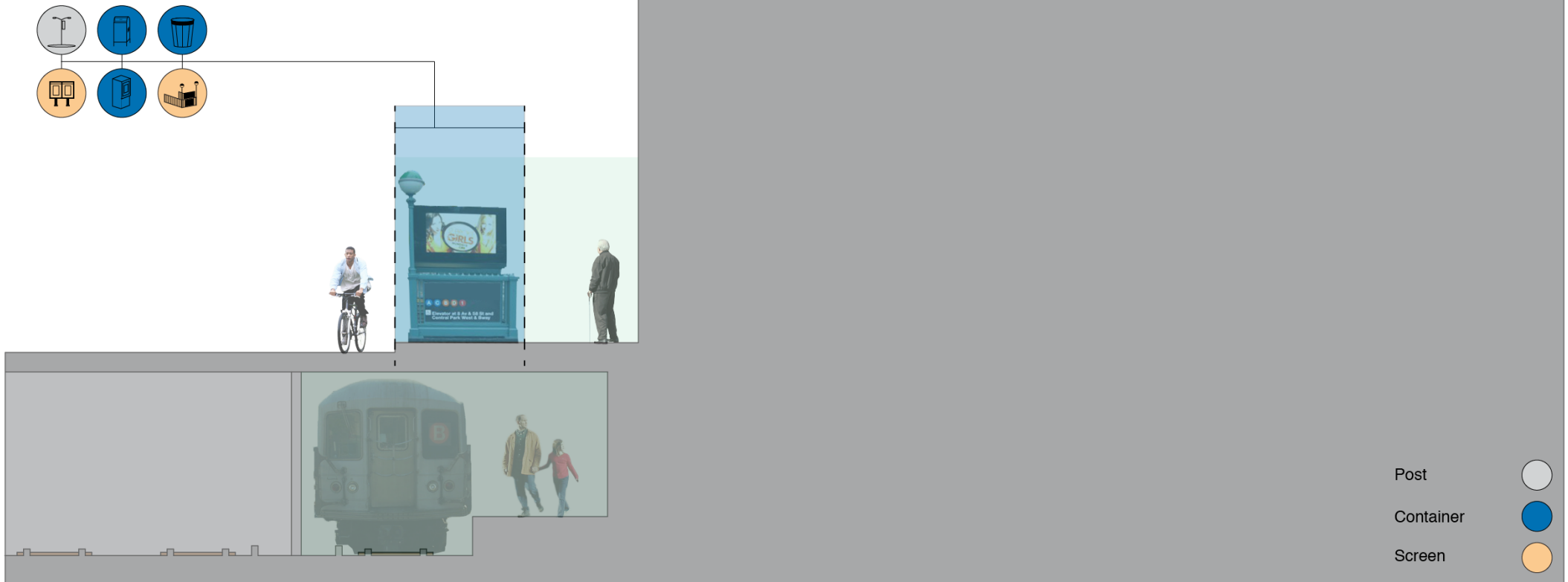
Post

Container

Screen

Zones of Use I

Shelter
Private Controlled
City Controlled
Street Object

There is an underlying formula to how New York City Streets are constructed:

Street + Sidewalk + Building

This formula creates a clear definition of street, sidewalk and building. However, there is little to relate any sectional quality to the cities below ground infrastructures that facilitate these pieces.
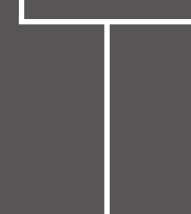
[Object Zone + Public Occupiable Zone + (Private Occupiable Zone)]

Post

Container

Screen

Street Objects as Networks
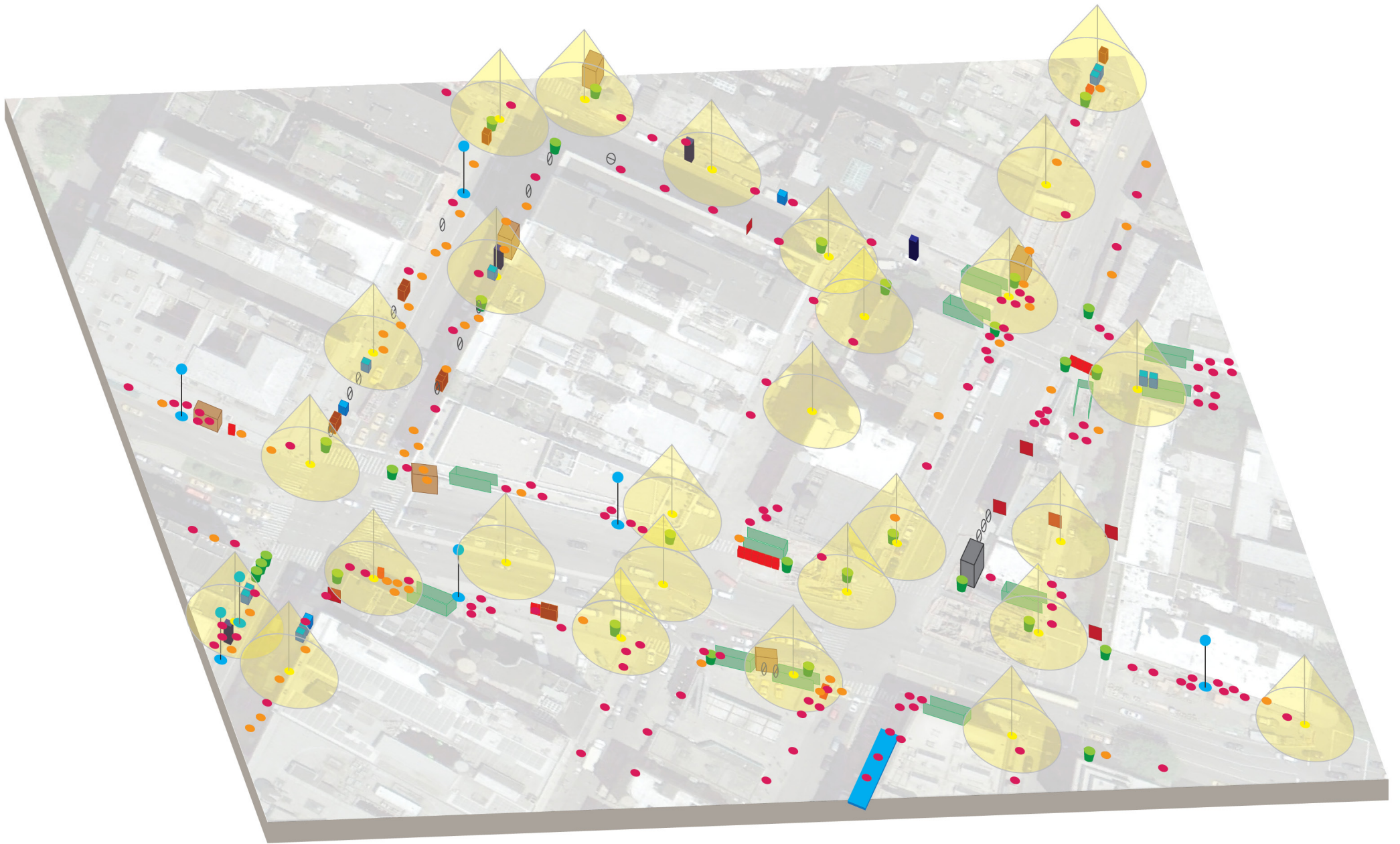
Street Object Network Study
Houston St and Broadway Intersection

Pedestrians as Network

Just as important to where street objects are is who and when they are used. Throughout the day the primary pedestrian shifts in alignment with construct of the workday. This creates peak local pedestrian times during rush hour when people are commuting to and from work. In contrast to this there is peak tourist traffic in areas mid-day. This contrast between pedestrian groups allows the streets to have continual use and provides bustle to the streets. This bustle helps to make successful street environments, which in turn attract businesses and more people to an area.

Electric Dependent Networks

The objects that make up these networks reveal a layer of information about the city that is only thought about when something goes wrong. As represented after hurricane Sandy hit and the lower end of Manhattan lost power people realized just how much they are a part of everyday life. The most prevalent result of this network is the perception of safety and draw of people light has. The density of the objects reveals the increased amount of foot and car traffic that travel along Houston St. and Broadway, where as a lower density of them along smaller streets resulting in a higher density of people in the more lit areas.
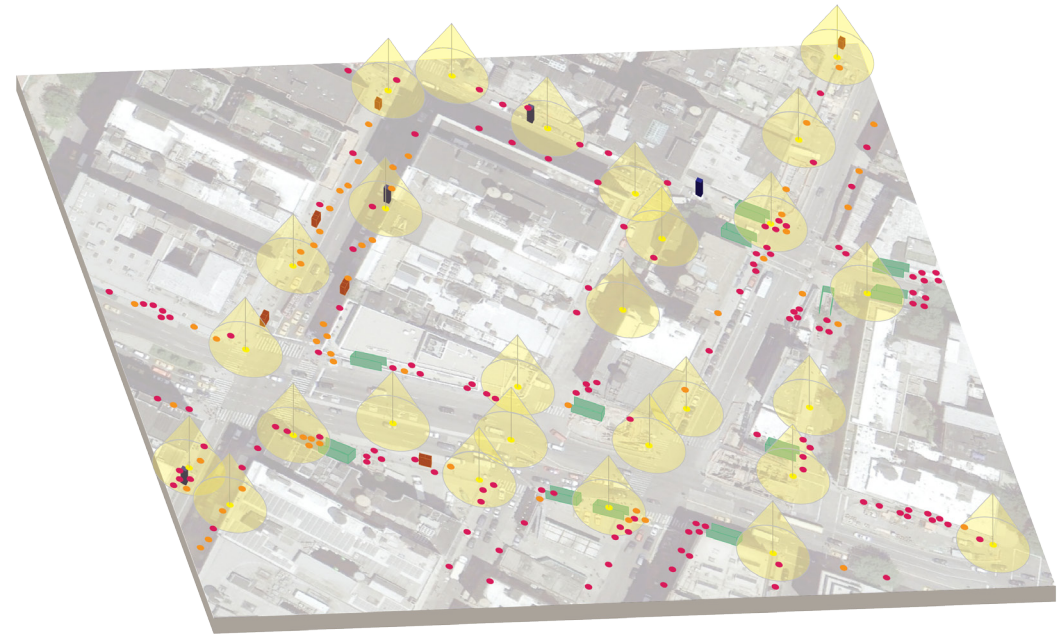
The networks associated with transportation are vital to the ebbs and flows of people through New York City. The different means of moving through the city provide a framework for where concentrations of people occur. Public transportation, especially the subway entrances, creates hubs of people who are trying to use the networks. The response to this need is met slightly through overhangs of buildings on the subway entrances or bus shelters. Yet, in mostly commercial areas, like that of this intersection these amenities are not provided as often.

Conclusions |

When looking at the pieces as a collective in an area the networks of how the context informs placement of objects is revealed, which is in contrast to when actually using these objects their connected nature is hidden.

Major Veins of the City |

Importance of the Corner |

Tourists vs. Locals |

The intensity of people traveling along the street brings with it the increase of street objects

The street corner becomes the most valuable real estate for objects both for view and ease of access for maintenance

Depending on the time of day who is on the street varies

Influential Projects

Adopt a Kiosk
SoftWalks
The Cascade
SHAGG
Wanderings Installation
Jade Eco Park

Key Question: What can you do with 72 ft^3?

ADOPT A KIOSK FOR AS LITTLE AS A £1

Protect a part of your community's heritage with an iconic red kiosk.

Check if the kiosk you want is available for adoption here

Kiosk phone number   Check now ›

Image from: http://business.bt.com/phone-services/payphone-services/

Adopt a Kiosk is a program that the owner of all the telephone boxes in the United Kingdom, British Telecommunications (BT), started back in 2008 that looked to solve a similar problem of what to do with these underused pieces of infrastructure. This program is a compromise between communities not wanting to loose a piece of their local street icons and BT trying to make the pieces profitable. It involves any local authority, Parish/Community/Town council, or registered charity are able to sponsor specific kiosks to keep BT from removing the structure. The adopted kiosks then become the responsibility of the new owner for upkeep and maintenance but are allowed to change the use as they see fit. However, the kiosks are "adopted" as is which means that if the phone or power has been removed there is no opportunity to get those services back.

Kiosk

Kiosk Volume

Programed Kiosk as Gallery

Distance Perceived From
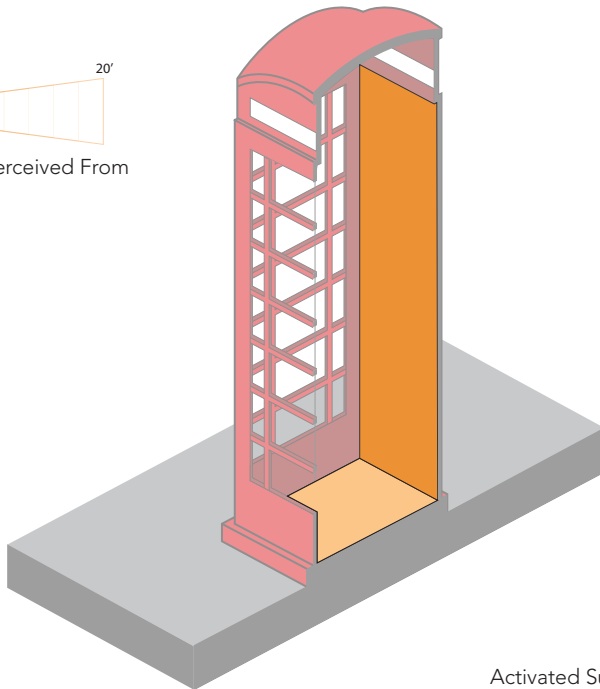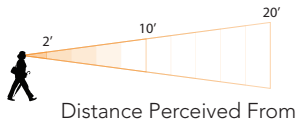
Activated Surfaces
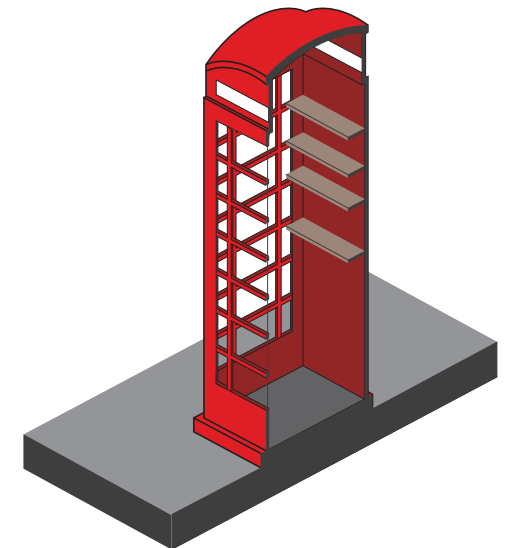
Programed Kiosk as Library

Softwalks
Bland Hoke and Howard Chambers | New York, NY

Key Question: How can we re-imagine what is already on the street?

Softwalks looks to repurpose the way scaffolding changes a sidewalk's character. The project is predicated on the fact that buildings above 5 floors within New York City are required every five years to undergo a façade inspection leaving an average of 6,000 sidewalk sheds along the streets. The project introduces a kit of parts that can be attached onto the scaffolding and allow people to use that space to foster community through shared use and experience. The kit of parts includes a seat, bench, light reflector and planter with other pieces like a screen to be developed as the project develops. This project changes the quality and use of these spaces through introducing new objects, yet does so in a way where the objects have a much larger impact than the space they take up.
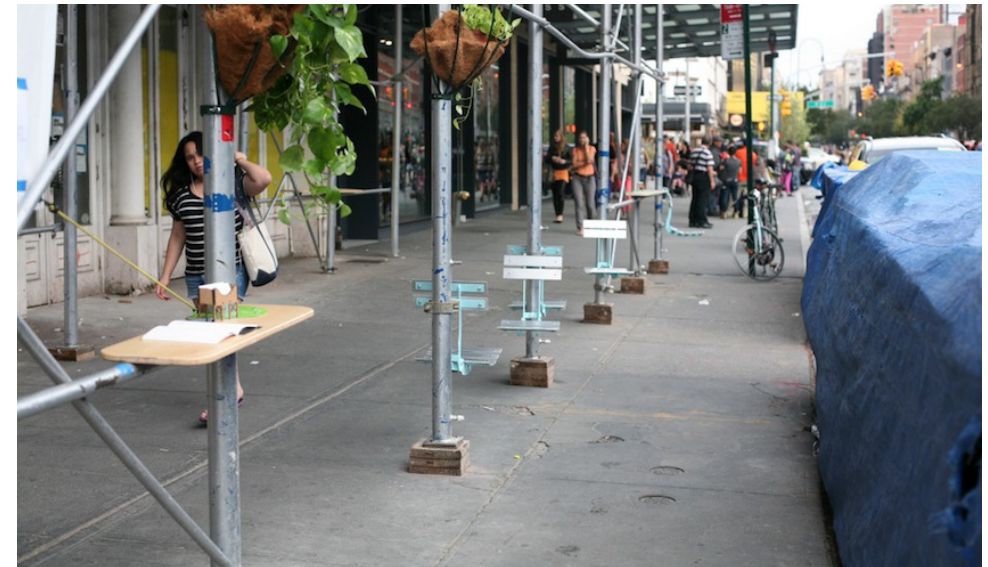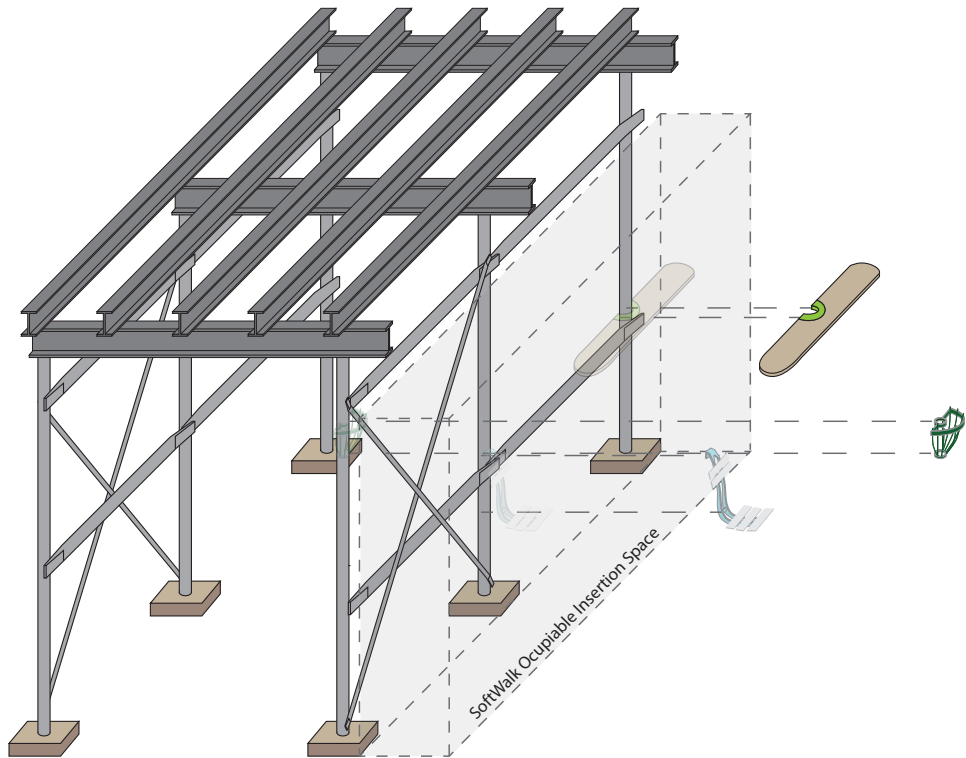
Intended Use

THE **KIT OF PARTS**

PLANTER
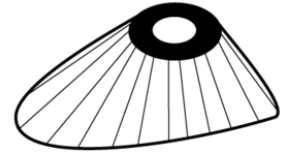
LIGHT REFLECTOR
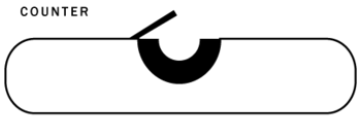
COUNTER

CHAIR

COMING SOON - SCREEN

Connection Types

The Cascade
Edge Design Institute | Hong Kong
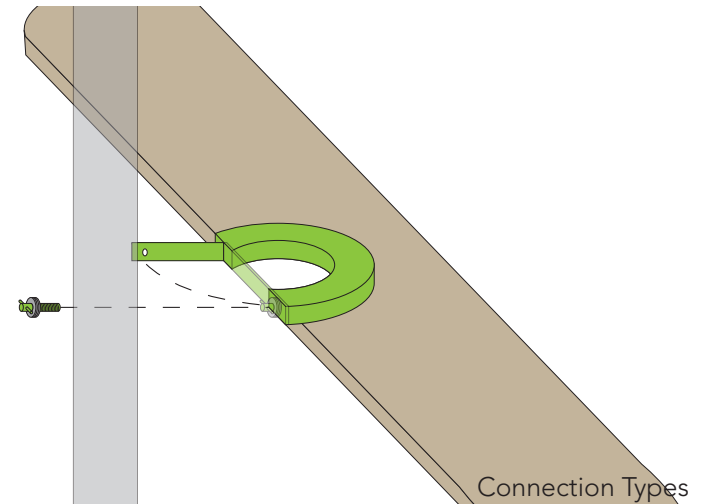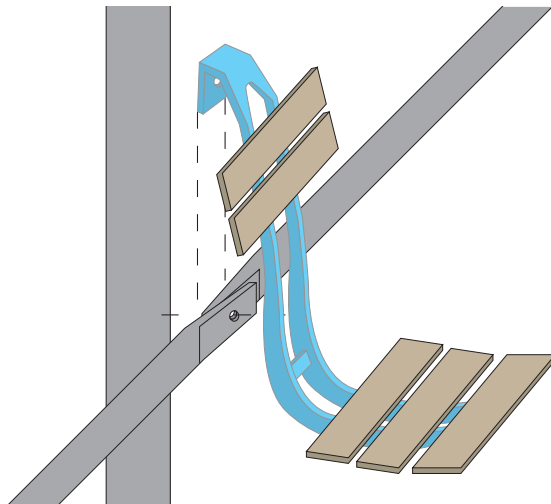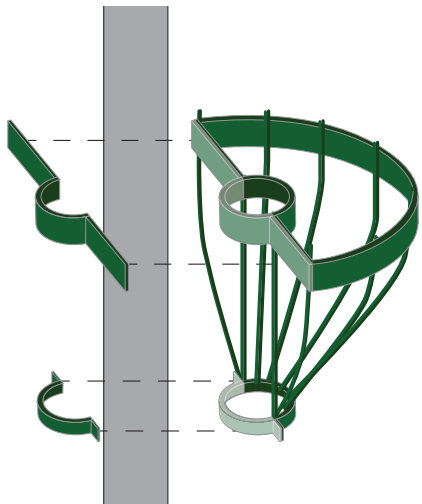
Key Question: How can you institute pedestrian scale?

Image from: http://reprogrammingthecity.com/

Situated in the city of Hong Kong, the Cascade, takes its cues from a context that is an example of extreme density where any and all real estate is used for a variety of uses. The project looks to provide a new use for the numerous public stairs within Hong Kong by repurposing the railing of the stair at The Centrium in Hong Kong Central into a sculptural pieces that incorporates seating, lighting and foliage while still allowing the stair to function as it needs to. The project reinvigorates the use of the stair through providing seating for singular or small group use breaking up the mundane use of the stair. Mediating this the stair returns to the scale of the pedestrian and turns this utilitarian space into a habitable space that is comfortable for pedestrians.

Image from: http://inhabitat.com/

Modulation of Stair

A B C D
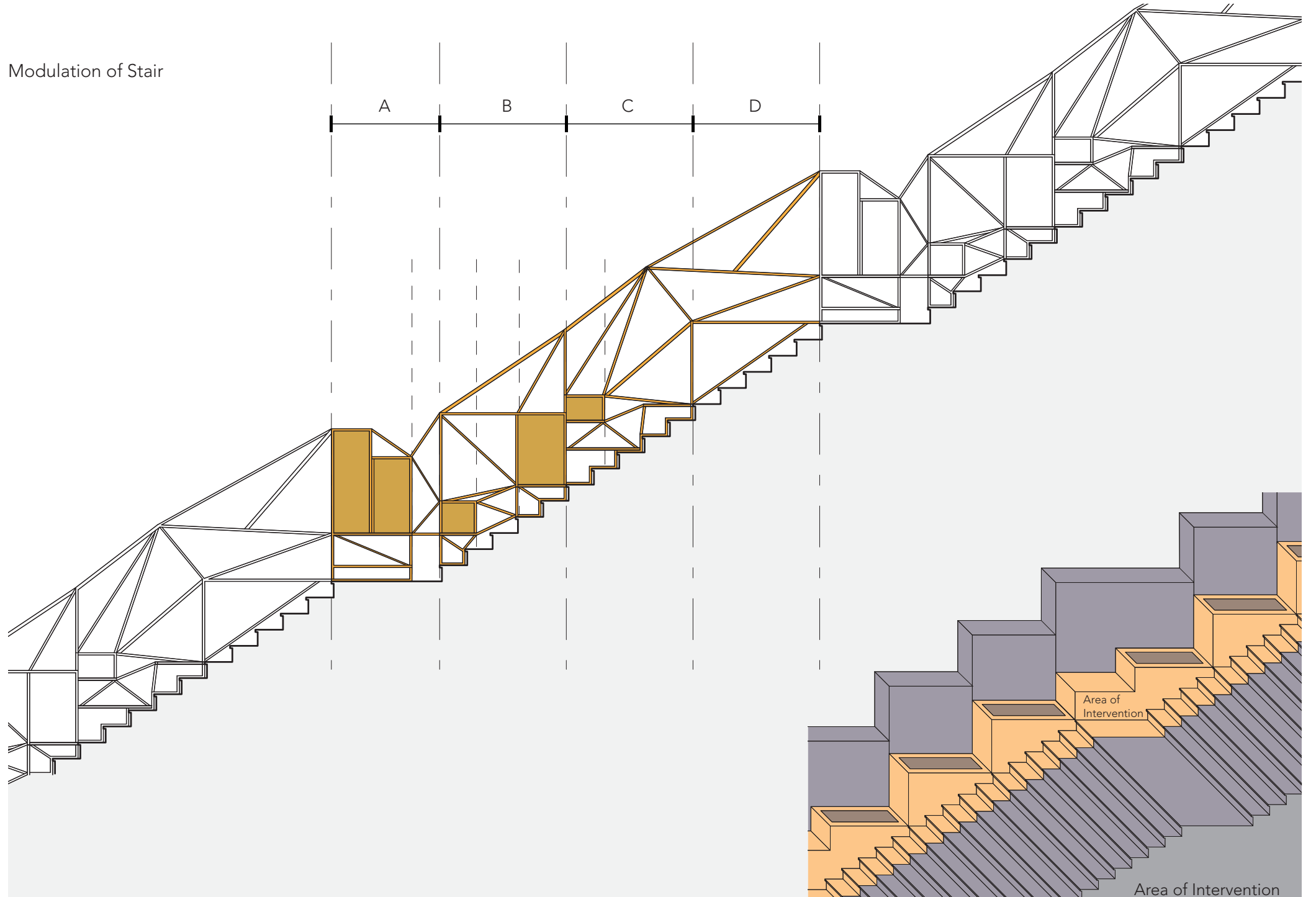
Area of
Intervention

Area of Intervention

SHAGG
WEATHERS | San Fernando, California

Key Question: Is there an architecture beyond walls?

The project SHAGG approaches Sean Lally's interest in using energy as a starting point for architecture through the concept of creating microclimates as a means of redefining exterior space. Energy in this instance is understood as a gradient condition that, unlike traditional architecture that looks to mediate interior and exterior energy instead tries to use energy to amplify space [10]. The proposal for an installation works to use embedded technologies in a thickened exterior carpet that emit light, heat and sound allowing for people to find oasis like spots within urban conditions [11]. This project most interestingly works with pieces that are formally invisible yet privileges the sensory that is normally secondary in our visually driven environment.

Notes |
10. Lally, Sean. The Air from Other Planets: A Brief History of Architecture to Come. Zürich: Lars Muller, 2013.
11. "WEATHERS / Sean Lally." http://www.weathers.cc/.
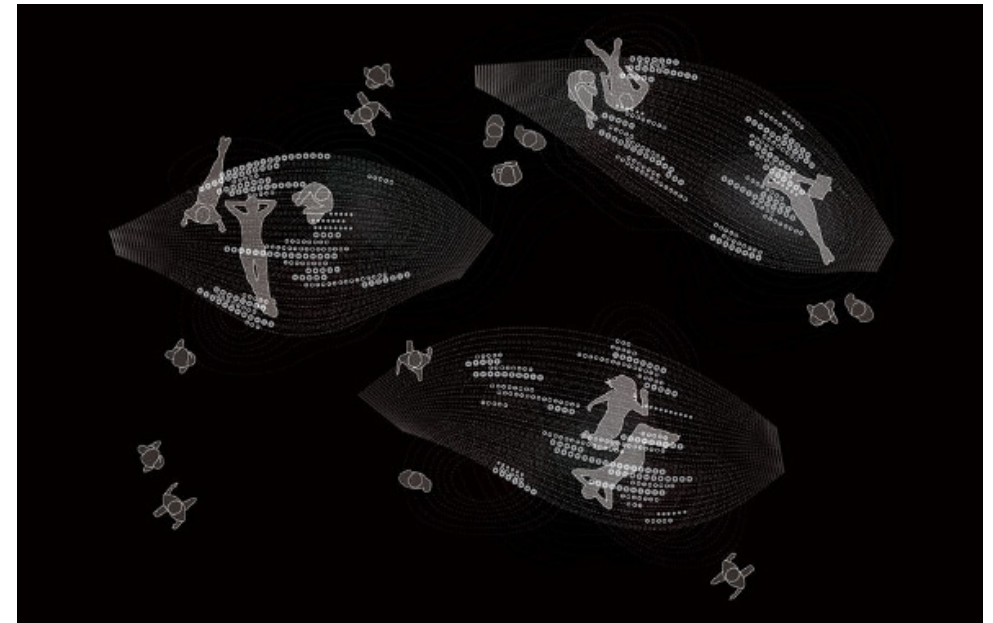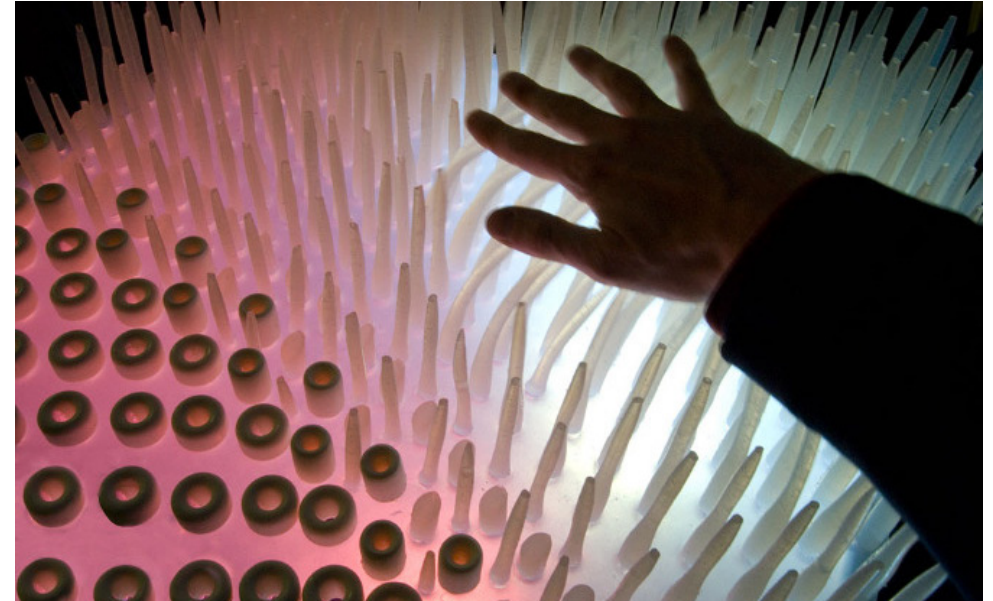
Images from: Lally, Sean. The Air From Other Planets: A Brief History of Architecture to Come
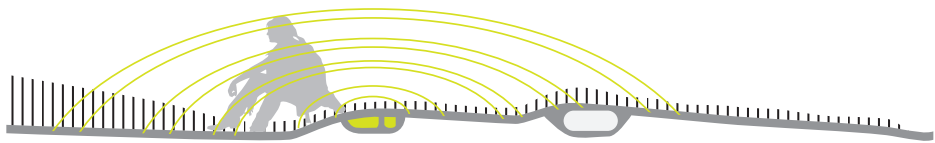
White Noise Emission
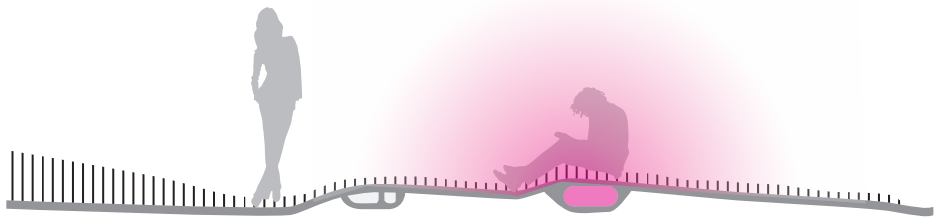
Heat Emission
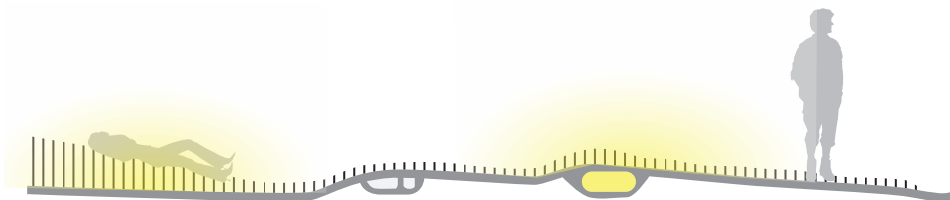
Light Emission
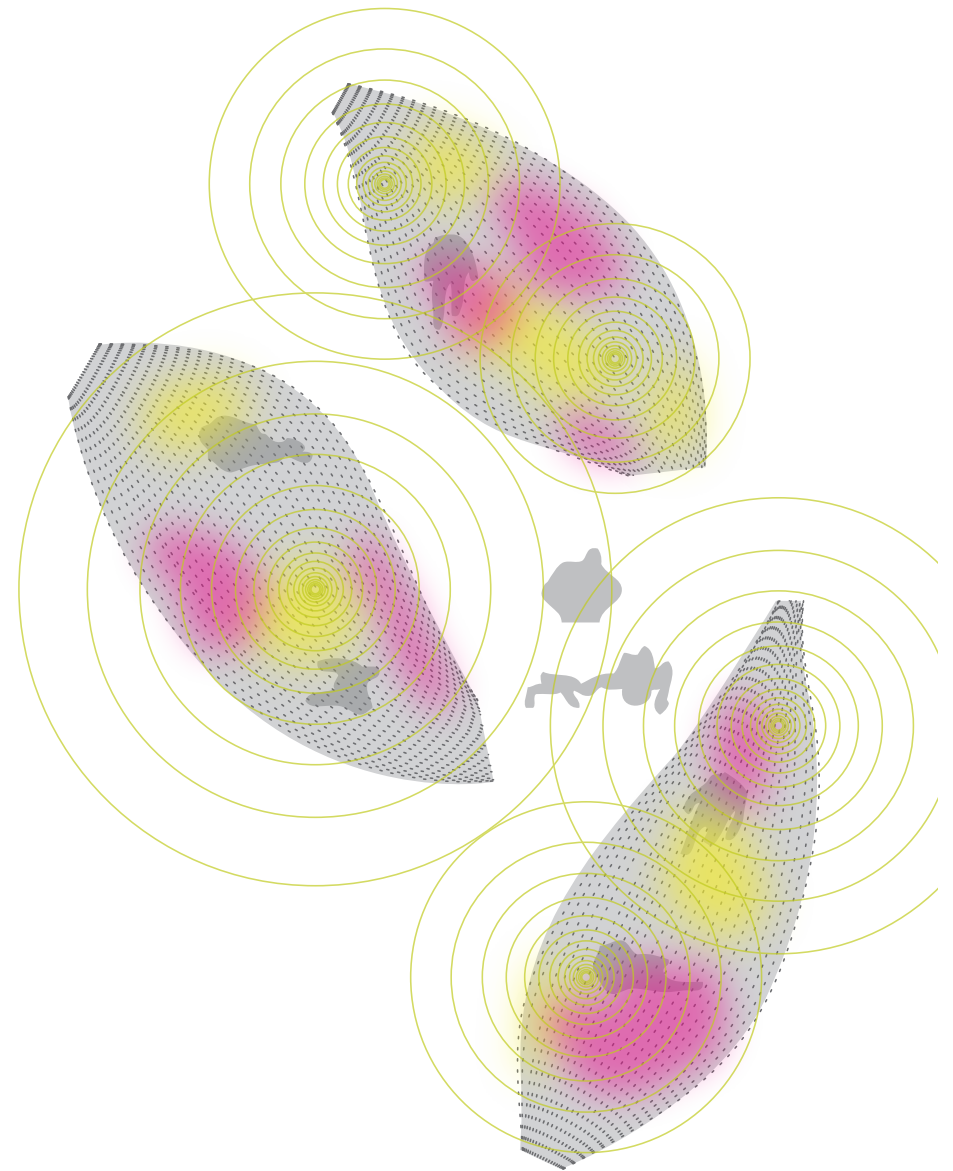
Carpet Environment with Mixed Emissions

Wanderings Installation
WEATHERS |Houston, Texas

Key Question: How can objects working together define space?

Similar to SHAGG, the Wanderings installation takes the concept of manipulating climate as a means of redefining the use of space. For the installation prototypes were developed that emitted light, heat and water vapor to produce a microclimate. The objects make a sizeable difference in the environment when clustered working together to produce a defined sense of space [12]. This project also explores the idea that with designed energies the body must sense the changes beyond just see them. Through this idea the body becomes the "calibration device" that responds to the energy devices [13].

Notes |
12. Lally, Sean. The Air from Other Planets: A Brief History of Architecture to Come. Zürich: Lars Muller, 2013.
13. Lally. The Air from Other Planets.

Sensible Heat

Heating/Lighting

Water Vapor

Heating Filament

Water Reservoir

Water Agitator

Environment Manipulation from Objects

Microenvironment

Aggregation of the Units Provide Sensible Change to the Immediate Environment
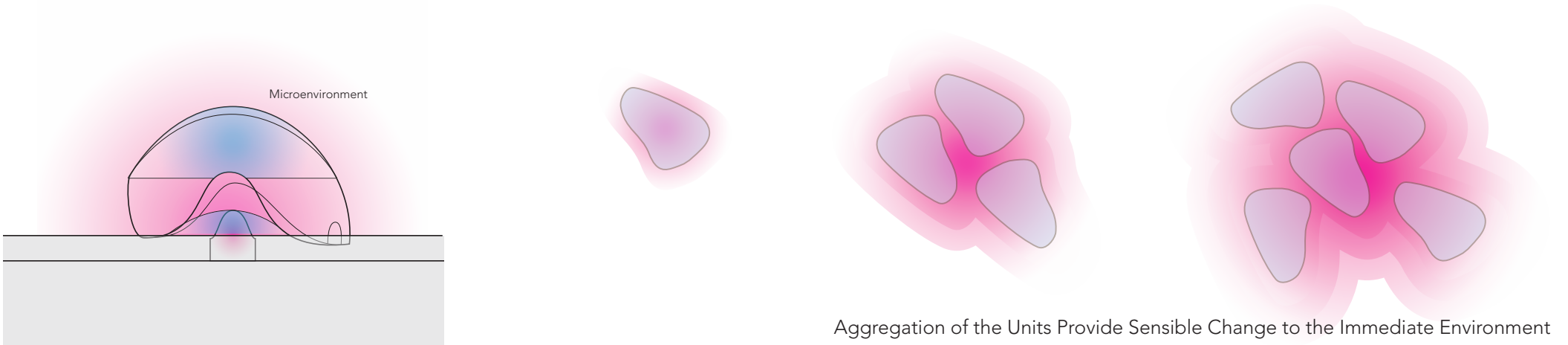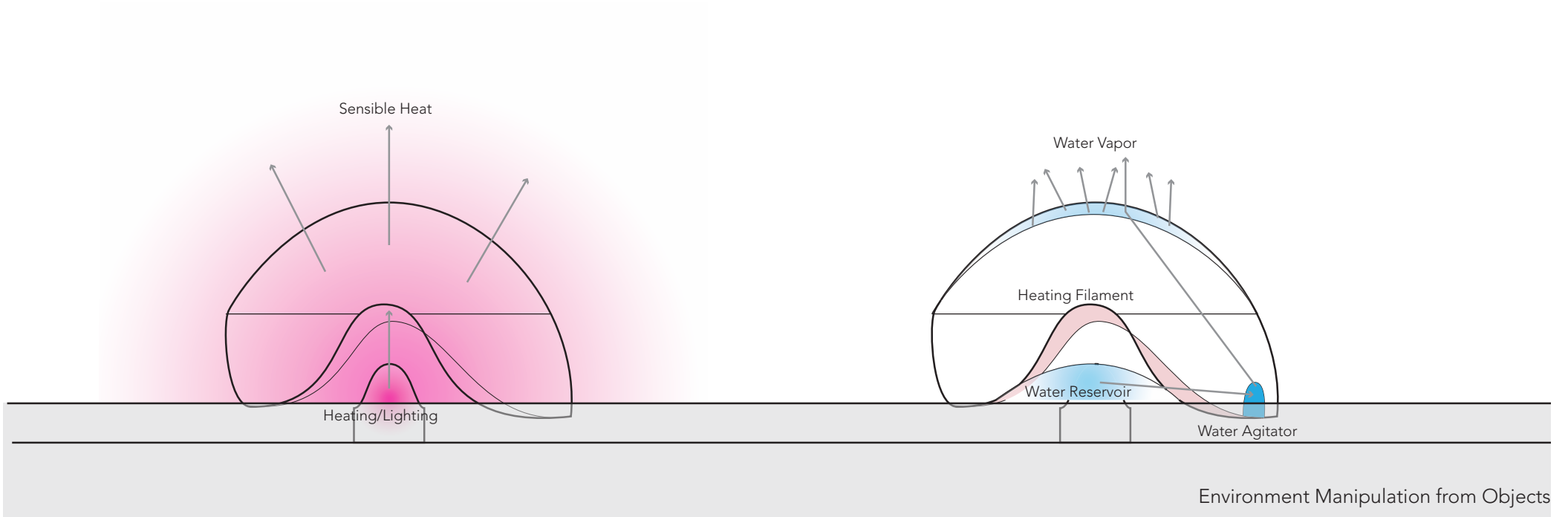
Jade Eco Park
Philippe Rahm Architectes | Taichung, Taiwan

Key Question: What is the potential of atmosphere to shape space?

Jade Eco Park addresses the ideas of "meteorological architecture," where the organization and details are derived from atmospheric effects. The idea being that "novel domains of perception through skin contact, smell and hormones" [14] would become realized. This project in particular strives to give the people of Taichung a place where they can escape from the harshness of their climate. Within the park features that allow for sound isolation, temperature moderation and humidity moderation are placed to make the certain areas more habitable. The park itself is conceptualized as a set of overlaid maps that deal with the variation of temperature, humidity and sound and air pollution of the site that inform where the features that moderate these variables are placed. The park's design leverages the atmospheric with the ideas from other precedents to use technology as an enhancement not the end all and be all of the project [15].

Notes |
14. "Philippe Rahm Architectes." Philippe Rahm Architetes. 2014. http://www.philipperahm.com/data/.
15. Rahm, Philippe. "Future Landscapes of Spacial Details." *AD Future Details*.

Images from: http://www.philipperahm.com/data/projects/taiwan/index.html
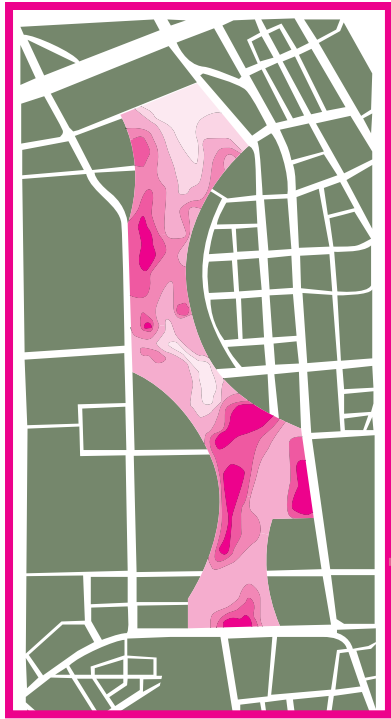
Temperature
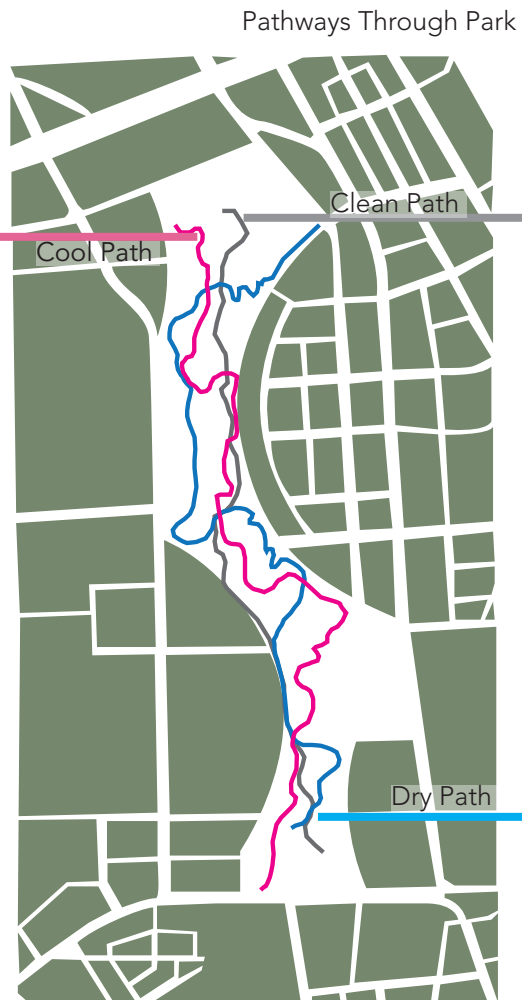
Pathways Through Park

Cool Path

Clean Path

Dry Path

Pollution Intensity

Humidity

Areas for Implementation

West 72nd St Subway Station
Herald Square
Flatiron Square
Astor Place
Bleeker Street Subway Station

Intervention as Cohesive Link

Potential Pedestrian Street: 73rd-70th St.

15 min

10 min

5 min
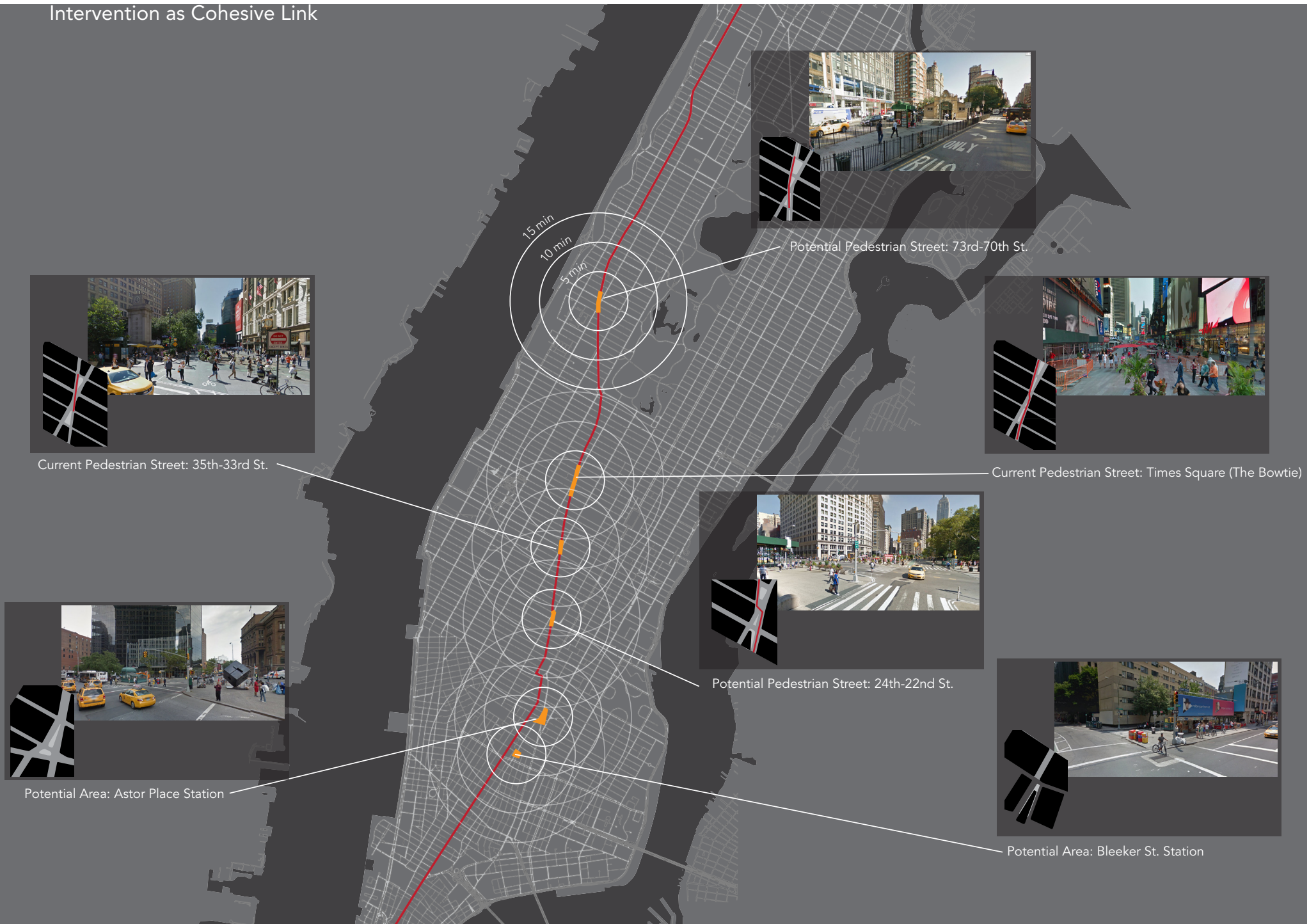
Current Pedestrian Street: 35th-33rd St.

Current Pedestrian Street: Times Square (The Bowtie)

Potential Pedestrian Street: 24th-22nd St.

Potential Area: Astor Place Station

Potential Area: Bleeker St. Station

72nd Street Station
Upper East Side, Manhattan
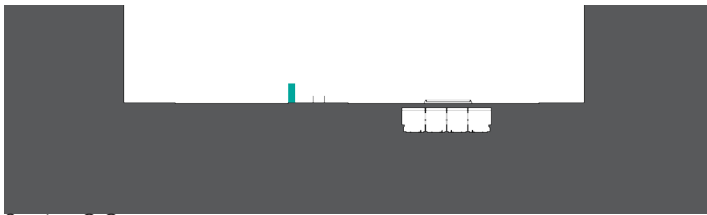
Section C-C
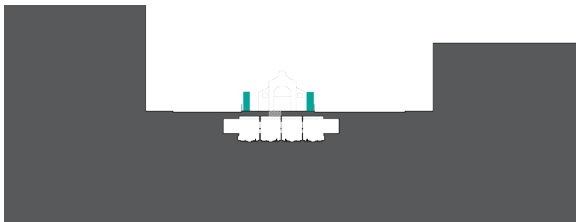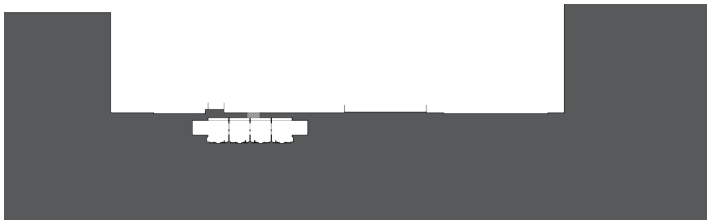
Section B-B

Section A-A

(MTA)	Subway Entrance
– – –	Subway Line
�,	Bike
▦	Grate
▨	Bus Stop
▦	Car Parking
⋯	Moveable Seating
▨	Pedestrian Intensity
▬	Billboard
▬	Intervension Zone
●	Existing Payphone
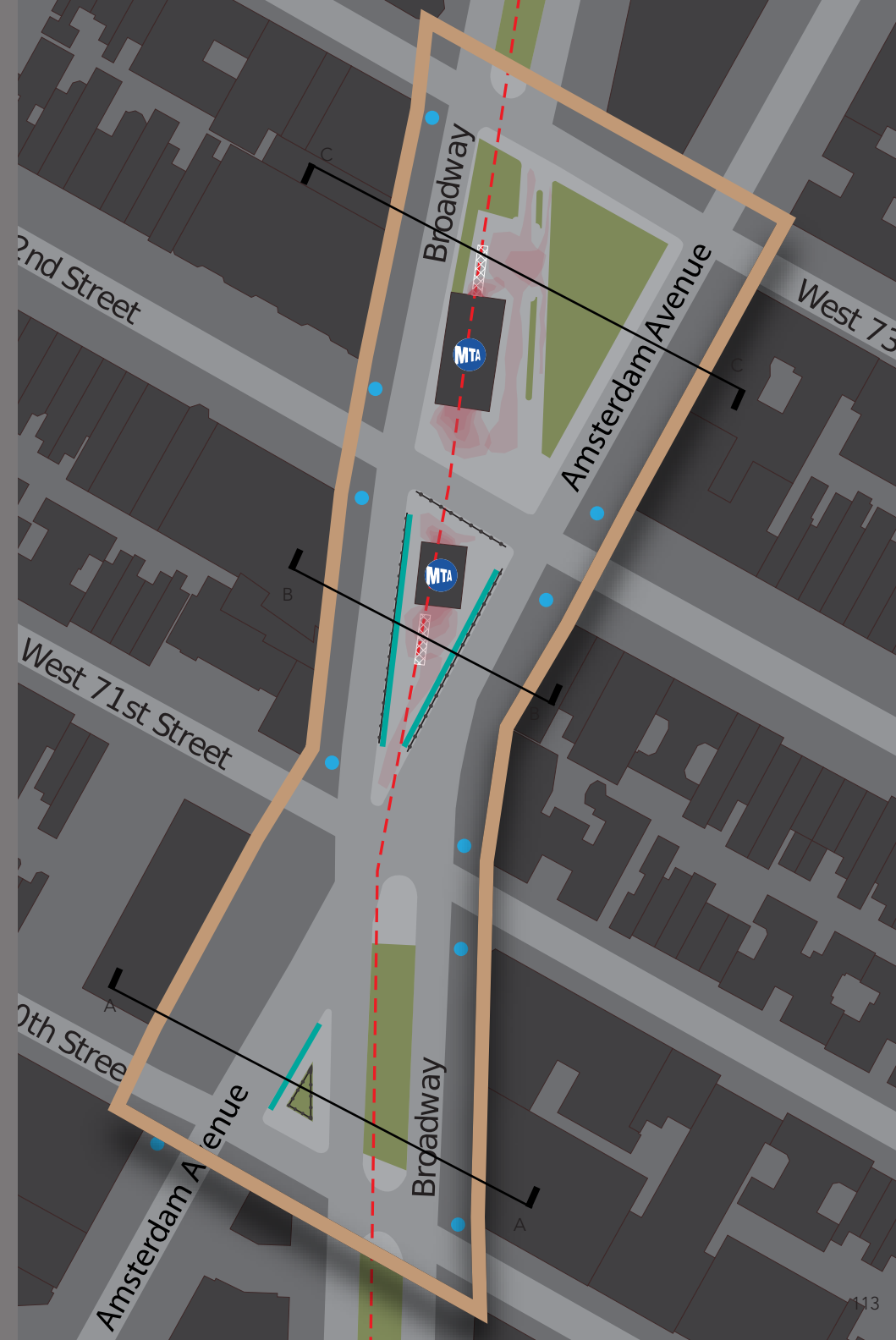
Herald Square
Midtown, Manhattan
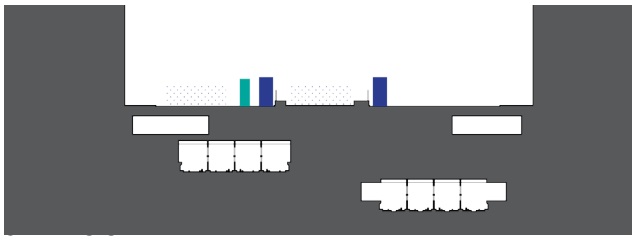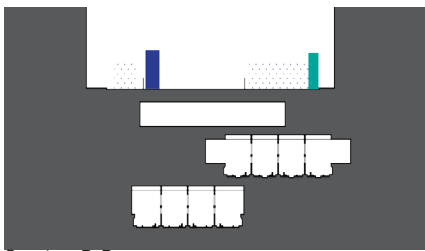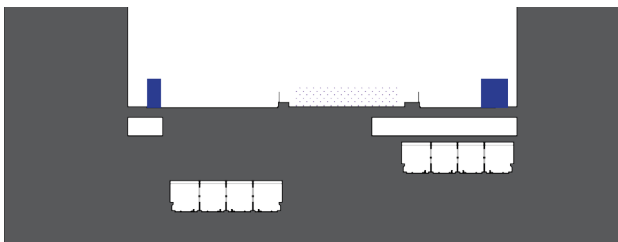
Section C-C

Section B-B

Section A-A

MTA	Subway Entrance
– – –	Subway Line
■	Bike
▦	Grate
▨	Bus Stop
▦	Car Parking
⁙	Moveable Seating
▩	Pedestrian Intensity
▬	Billboard
▬	Intervension Zone
●	Existing Payphone
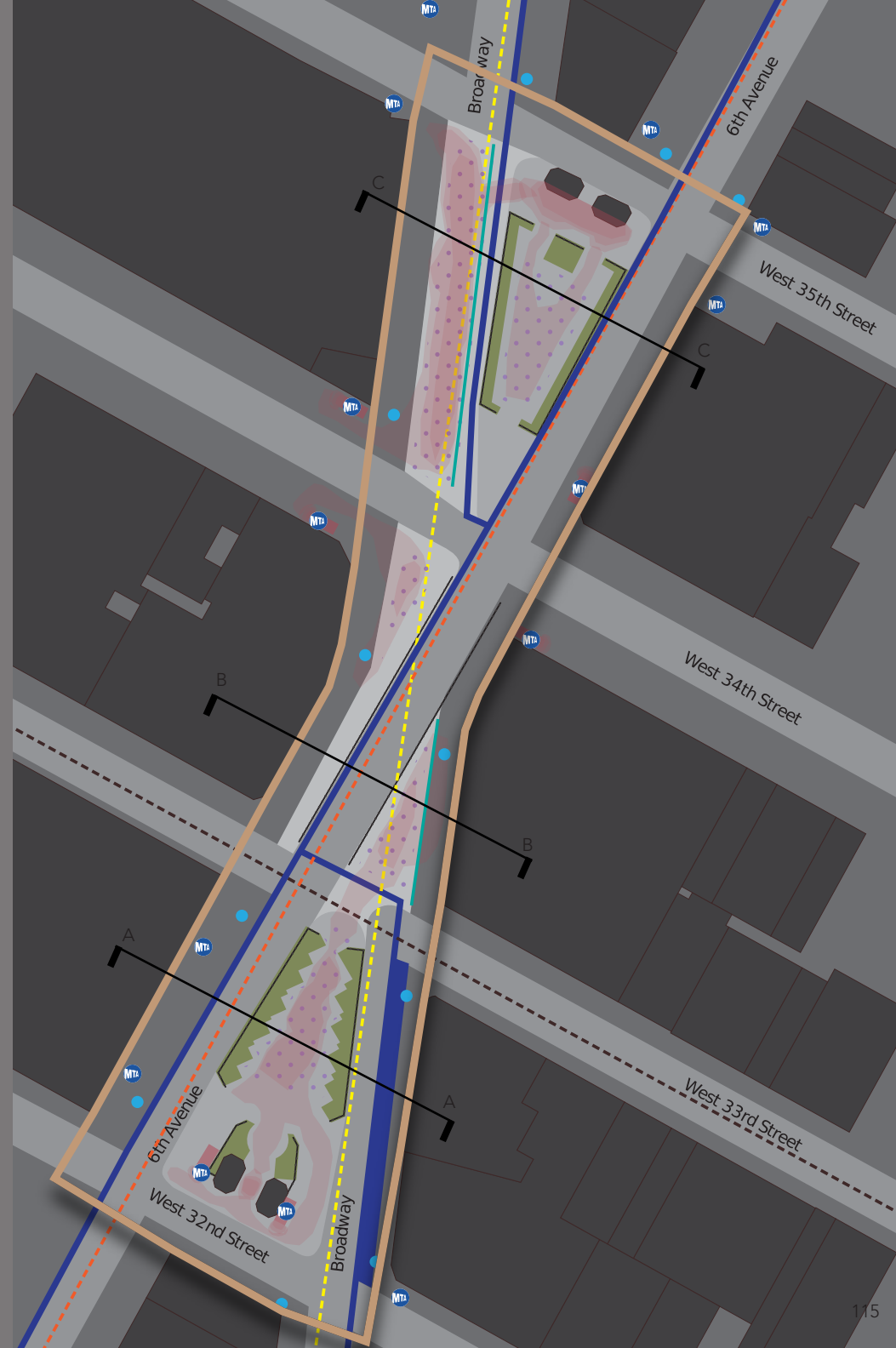
Flatiron Square
Midtown, Manhattan
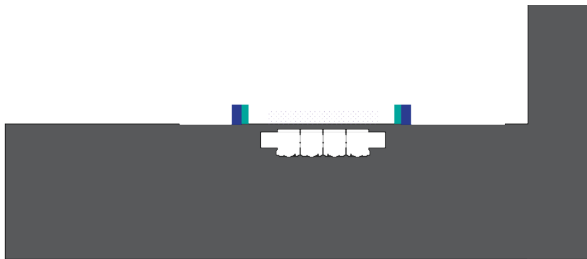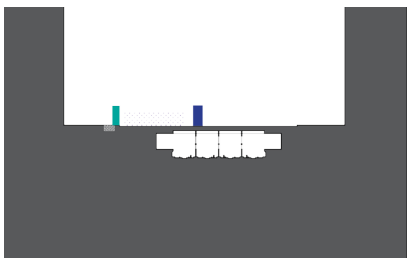
Section C-C

Section B-B

Section A-A

(MTA)	Subway Entrance
– – –	Subway Line
▮	Bike
▦	Grate
▨	Bus Stop
▦	Car Parking
⣿	Moveable Seating
▨	Pedestrian Intensity
▬	Billboard
▬	Intervension Zone
●	Existing Payphone
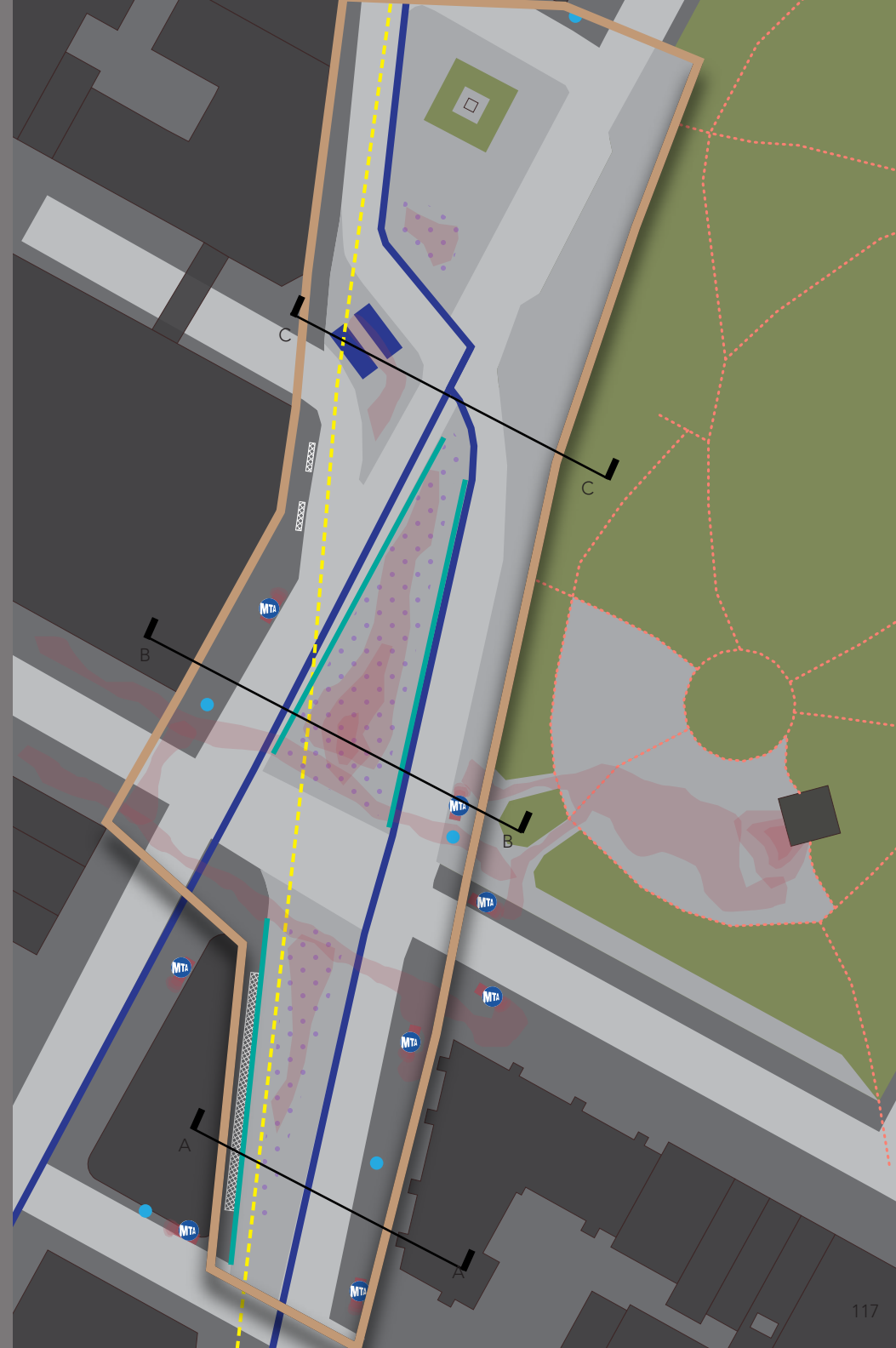
Astor Place Station
East Village, Manhattan
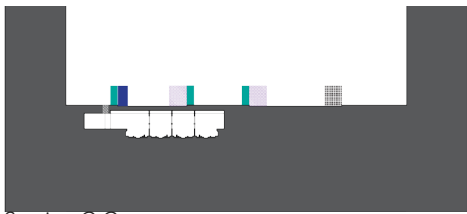
Section C-C
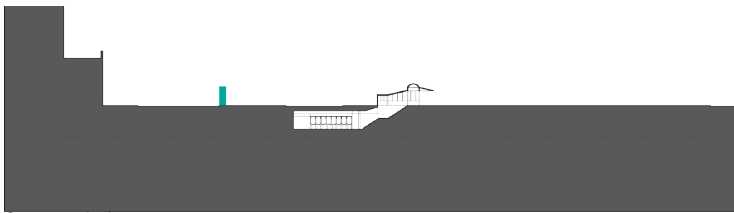
Section B-B

Section A-A

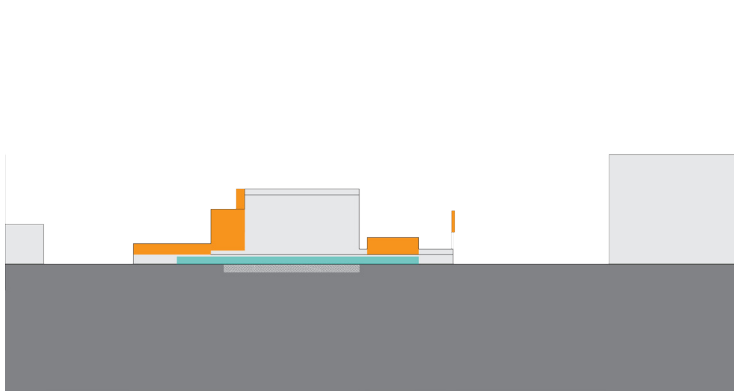|	
(MTA)	Subway Entrance
– – –	Subway Line
▓	Bike
▒	Grate
▨	Bus Stop
▦	Car Parking
⠿	Moveable Seating
▨	Pedestrian Intensity
▨	Billboard
▬	Intervension Zone
●	Existing Payphone

Wanamaker Place

East 8th Street

Lafayette Street

4th Avenue

Place

Lafayette Street

Cooper Square

Bleeker Street Station
East Village, Manhattan
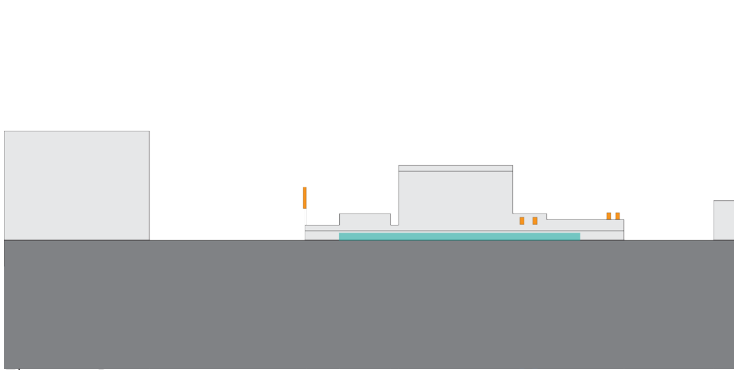
Elevation B

Elevation A

(MTA)	Subway Entrance
– – –	Subway Line
▬	Bike
▨	Grate
▨	Bus Stop
▦	Car Parking
⋮	Moveable Seating
▬	Pedestrian Intensity
▬	Billboard
▬	Intervension Zone
●	Existing Payphone
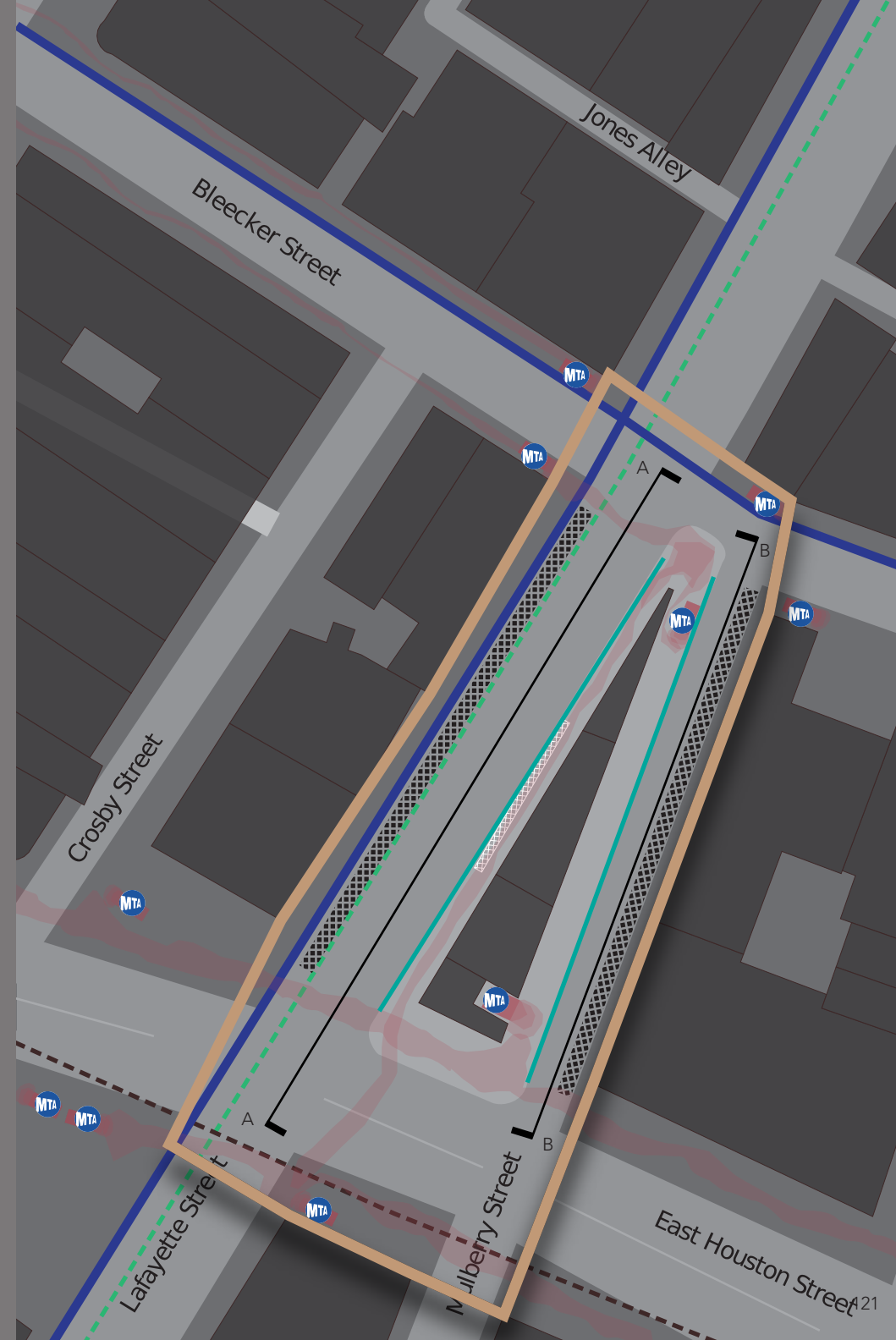
Objectives and Deliverables

Networks

Amplification

Public Activation

Expression

Mediation
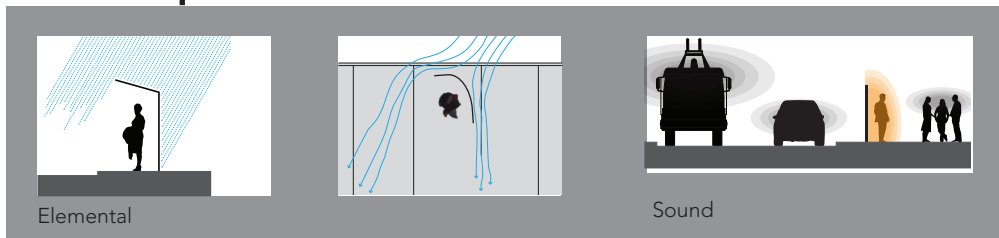
Elemental

Sound

Key Deadlines:

January 14: All Site Documentation

February 28: 1':1/8" Scale Plans, Sections
1':500' Site Plan
1':1/2" Detail Drawings

March 6: Test Scale Mock up

April 13: 1':1/4" Scale Plans, Sections
1':500' Site Plan
1':1" Detail Drawings

May 1: 1':1/4" Scale Plans, Sections
1':500' Site Plan
1':1" Detail Drawings
Scale Mock up

January

February

March

April

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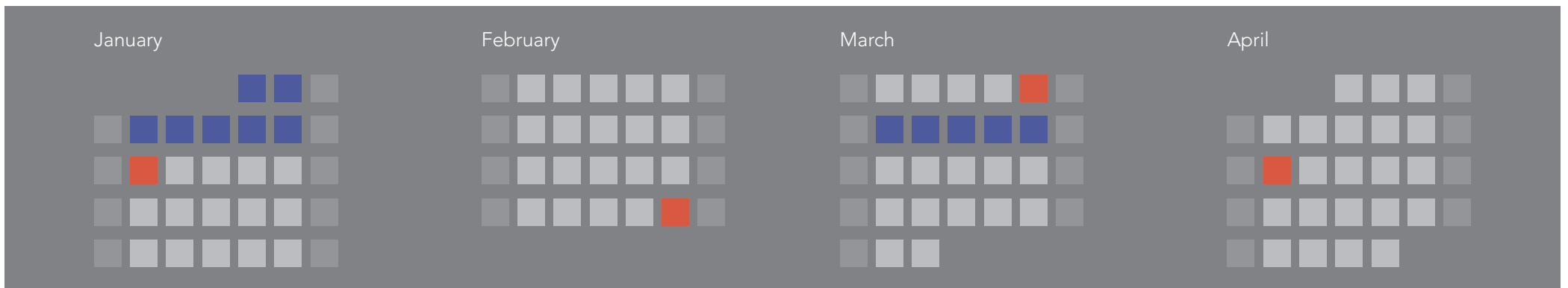
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