# FUNchitecture: Play as Essential Public Urban Infrastructure

by

Xan Hawes

Submitted in partial fulfilment of the requirements
for the degree of Master of Architecture

at

Dalhousie University
Halifax, Nova Scotia
March 2016

## Contents

ABSTRACT ..... iii
ACKNOWLEDGEMENTS ..... iv
TERMS ..... v
CHAPTER 1: INTRODUCTION ..... 1
Play as Essential Public Urban Infrastructure ..... 1
CHAPTER 2: THE IMPORTANCE OF PLAY ..... 3
Play Provides Meaning and Identity to Place ..... 4
The Architectural Potential of Play ..... 5
CHAPTER 3: SITE ..... 7
Toronto as Test ..... 7
CHAPTER 4: A CRITIQUE OF FUNCTIONALISM ..... 11
A Functional City Does Not Equal a FUNctional City ..... 11
Plan for Play ..... 12
CHAPTER 5: THE *FUN*CHITECTURE METHOD ..... 15
Meaning and Identity Through Participation ..... 15
Site Analysis: The City as a Gameboard ..... 15
Template for Public Participation ..... 19
IN-S-OR Play Operations ..... 21
The Need for a FUNchitecture Headquarters ..... 23
CHAPTER 6: *FUN*CHITECTURE HEADQUARTERS ..... 25
City as Building, Building as City ..... 25
A Frame for Change ..... 25
Form Follows Fun ..... 39
CHAPTER 7: JUST HAVE FUN ..... 51
The Roots of FUNchitecture ..... 51
The Expanded Implications of a Play Infrastructure ..... 52
REFERENCES ..... 53
APPENDIX ..... 55

# ABSTRACT

This thesis stresses the importance of social infrastructure in urban environments and proposes that a play infrastructure is an equally essential function to the city as access to water. As play is established as a fundamental social building block, it is incumbent upon cities, planners and architects to design environments that celebrate the beneficial social opportunities play stimulates for all demographics. The instatement of a citywide play infrastructure is achieved through the methods of FUNchitecture. FUNchitecture establishes a method of design that acquires collective public input to transform existing urban infrastructure into a citywide play infrastructure. A FUNchitecture Headquarters is designed as a public research facility that procures, facilitates, fabricates and services the play demands of the city. The FUNchitecture headquarters establishes a top down framework that allows for bottom up action to occur. The establishment of a play infrastructure would confirm the importance of play as more than just a frivolous activity done in our spare time, but as something that gives meaning and identity to space and place. A play infrastructure provides the opportunity for the benefits of play to be unveiled as an essential part of our everyday lives.

Question: How can the methods of FUNchitecture inform the design of a citywide Play Infrastructure that contributes to quality of life and urban experience?

# ACKNOWLEDGEMENTS

Thank you to my committee, the ‘dream team’...

Niall for being ‘out there’. For bringing guidance, understanding and clarity to my ideas. For helping and pushing me to turn an idea into a lifelong thesis. Thank you.

Catherine for showing me that architecture can be both serious and fun. For your endless list of references and precedence. For being a friend. Thank you.

Thank you to my family. To my Mom and Dad for your endless support and forever love. To my brothers for being my best friends who I can always count on for support and for someone to play with.

## TERMS

**FUNchitecture**: architecture that uses fun as its leading design criteria. The etymology of architect is from Greek ‘Arkhitekton’, translating to mean ‘master builder, director of works’, with ‘arkhi’ meaning ‘chief’ and ‘tekton’ meaning ‘builder’. Fun takes the place of ‘arkhi’, translating to mean ‘fun builder’. As a philosophy, FUNchitecture is a way of intentionally interpreting the existing built environment with continuous curiosity, discovery and experimentation.

**Play Infrastructure**: A dispersed framework that provides public access to fundamental facilities and services that enable, sustain and enhance play environments and playful living conditions.

# CHAPTER 1: INTRODUCTION

## Play as Essential Public Urban Infrastructure

Through architecture, the deeply beneficial qualities of play can contribute to urban experience and quality of life. The act of playing has contributed a significant advantage to humans throughout history and evolution. Often assumed to be frivolous acts of insignificance, play is, on the contrary, of vital significance to human health, survival and well being. Studies conducted by Dr. Stuart Brown, of the National Institute of Play, have isolated play as a defining factor in stimulating human bonding, making humans happier, being an antidote to stress and violence, and inspiring innovation (Brown 2016). Although our cities do offer facilities and areas that accommodate play, these are isolated places that undermine the potential of play, reinforcing it as a frivolous activity done in our leisure when time permits. This thesis argues that the benefits of play should not be seen as something we just do in our spare time, but that play should be an integral part of our everyday lives as a public urban infrastructure. Like other urban infrastructures, a play infrastructure is a dispersed framework that provides public access to fundamental facilities and services that enable, sustain and enhance societal living conditions. This thesis investigates the importance of play for all demographics, critiques functionalist planning policies as anti-play, develops a methodology that allows the public to analyze and contribute to their built environment, and develops the design of a citywide play infrastructure and corresponding FUNchitecture headquarters.

A ‘vision image’ showing the ubiquitous dispersal of play as a system throughout the city.

# CHAPTER 2: THE IMPORTANCE OF PLAY

> We are built to play and built through play. When we play, we are engaged in the purest expression of our humanity, the truest expression of our individuality. Is it any wonder that often the times we feel most alive, those that make up our best memories, are moments of play? Play expands our minds in ways that allow us to explore: germinate new ideas or see old ideas in new light. It makes us more inquisitive, more attuned to novelty, more engaged. Play is fundamental to living...(McKeown 2014, 86)

The act of playing is usually perceived as purposeless, without significant meaning, and traditionally reserved for children only. These perceptions are at odds with the essential role that play has in the shaping our humanity, and evolution as human beings. The dutch historian Johan Huizinga introduces play as “one of the main bases of civilization” (Huizinga 1949, 5) and “more than a mere physiological phenomenon or a psychological reflex. It goes beyond the confines of purely physical or purely biological activity. It is a significant function…which transcends the immediate needs of life and imparts meaning to the action. All play means something (Huizinga 1949, 1). It is often hard to evaluate the immediate benefits of play and even more difficult to justify play activities that occur outside of leisure time. In contrast to the popular view that play is designated for leisure time, Dr. Stuart Brown’s research provides evidence that our lives would be more fulfilling if we were to allow play to pervade beyond the confines of leisure, and become integrated into our everyday lives. His research has isolated play as a defining factor in stimulating human bonding, making humans happier, being an antidote to stress and violence, optimizing learning, inspiring innovation and helping us to adapt to future contingencies (Brown 2016). These benefits arise from the unique ability of play to allow humans to understand the world through simulation and testing. Play provides an infinite world to test, experiment and discover without compromising our physical or emotional well being. By playing, “we can imagine and experience situations we have never encountered before and learn from them. We can create possibilities that have never existed but may in the future. We make new cognitive connections that find their way into or everyday lives. We can learn lessons and skills without being directly at risk” (Brown 2009, 34). The ability of play to create a simulated world helps humans from infancy to elderly, develop a better understanding of how the world works. The low risk experimenting that happens in play “creates imaginative new cognitive combinations. And

in creating those novel combinations, we find what works" (Brown 2009, 37). A goal of this thesis is to remove the frivolous, unimportant, ageist stigmas surrounding play, by providing an opportunity for play to be part of our everyday lives.

## Play Provides Meaning and Identity to Place

Play is a fundamental social building block. As mentioned above, play creates a simulated world where uninhibited thought and actions can take place without many looming consequences, fears and risks. As a social function, play provides a low risk environment for people to meet, helping to form the social bonds and develop communities. The chemistry created in play lasts beyond the duration of the play activity enhancing future social interactions. Huizinga states that "a play-community generally tends to become permanent even after the game is over. Of course, not every game of marbles or every bridge-party leads to the founding of a club. But the feeling of being 'apart together' in an exceptional situation, of sharing something important, of mutually withdrawing from the rest of the world and rejecting the usual norms, retains its magic beyond the duration of the individual game" (Huizinga 1949, 12). The meaningful relationships generated from play, help us to identify with ourselves and others but also the place in which the play occurs. Play is a linking element between people and place in what William H. Whyte calls 'triangulation'. Triangulation is the "process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as though they were not" (Whyte 1980, 94). The 'external stimulus' in many of Whyte's observations is play. He describes Dubuffet's 'Four Trees' sculpture as having a "beneficent impact on pedestrian activity. People are drawn through it: they stand under it, beside it; they touch it; they talk about it" (Whyte 1980, 96) In other words they play with it. In this play, they exchange meaningful interactions with other people, and create a meaningful identification with the place.

Image of a Dubuffet *Four Trees* sculpture downtown Manhattan, New York.
(image from http://www.panoramio.com/photo/110513017)

## The Architectural Potential of Play

Dr. Brown's research has proven that play has expansive benefits that has shaped, and continues to shape who we are as humans. Whyte's observational research has provided evidence that play can act as an external stimulus helping people interact. Given these benefits, play has the potential to have a much larger influence on our built environment. In public destinations such as parks and recreation centers, play has an important role in creating a shared ownership of place. The success or failure of a public space depends on the self reinforcing duration and accumulation of activity. Jan Gehl explains this phenomenon of successful public space as "something happening because something is happening" (Gehl 2011, 75). In many instances the 'something happening' is associated with play. Play acts as a social stimulator, activating an awareness of a space as public. If a space is designed for play, it is designed for the public. Through engaging people in activity, whether it is a game or simply watching other people engage in activities, play gives spaces staying power, but it also develops a sense of shared ownership of place. Aldo Rossi argues in *The Architecture of The City* that buildings are independent from their function and evolve over time depending on how the users define them (Rossi 1982,

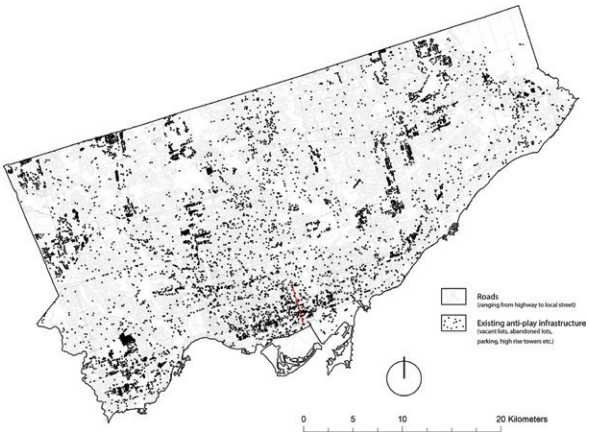
46-49). Play engages people in self reinforcing activities and interactions, transforming space into public place. Play helps people to define how an environment is used. An example of the ability of play to transform space into place is how skateboarders view the urban environment. Iain Borden's explains that "one of skateboarding's central features is adopting and exploring a given physical terrain in order to present skaters with new and distinctive uses other than the original function of that terrain" (Borden 2001, 29). Skateboarders don't view an empty pool as an empty pool, they view the empty pool as a potential place to have fun skateboarding. One of the goals of this thesis is to impart this type of adaptive attitude towards the city. An attitude where people are able to transform existing environments into play environments. An attitude that embraces play as something we can do anywhere and anytime, as part of our everyday lives. This thesis proposes that the widespread benefits of play should be designed into the city as an infrastructure.

# CHAPTER 3: SITE

## Toronto as Test

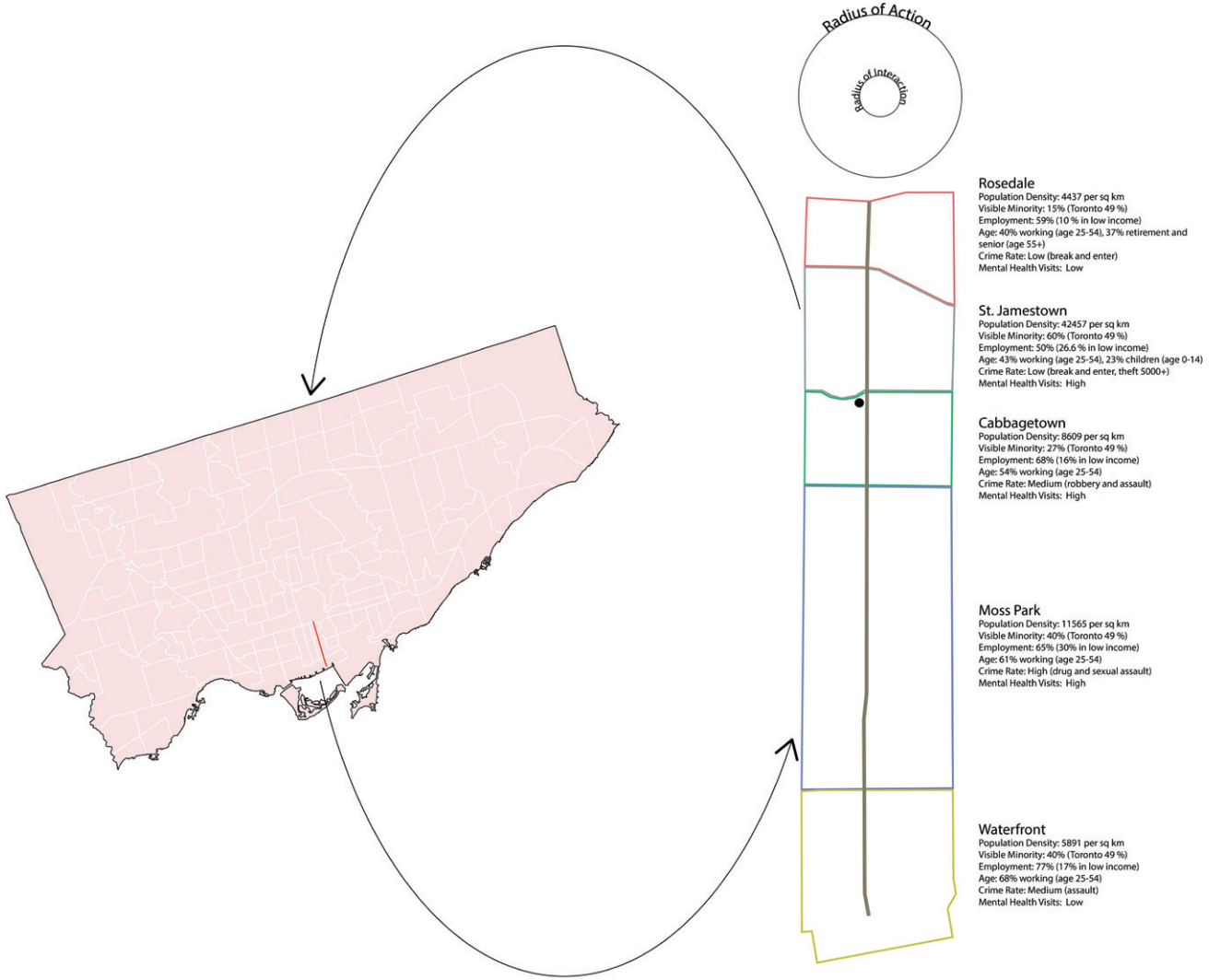
The power of play becoming a citywide play infrastructure, is that it broadens the definition of what play is and who play is for, allowing play to become something that is expected rather than its current state of exception. The definition shifts from being something children do, to something all ages and all demographics are able to participate in without stigmatization. With the credo of 'Play for All' in mind, this thesis investigates the city of Toronto as a test city. As Toronto is the most diversely populated, and multi-cultured city in Canada, it is the perfect testing ground for implementing a play infrastructure. Within Toronto, Sherbourne Street has been chosen as a test street. It slices through a wide range of demographics; starting from the enclaved 'inner urb' of Rosedale through the staggering density of St. Jamestown and the heritage rich Cabbagetown, into the stigmatized Moss park areas, and under the impedimental Gardner expressway, ending at a developing waterfront leisure. The existing infrastructure of Sherbourne street was analyzed and coded based on qualities of supporting play or opposing play. For example a parking lot was coded as anti-play, because of the dominance and danger of the automobile, and a public park was coded as existing play because it provides the opportunity for many pleasurable activities. A street was chosen as a testing tool, because of the important role streets play in connecting places across the city, but also for their contributing role to the public realm of our cities. The street has the potential to weave the public with the private, guide the flow of events and activities, and to activate inspiring public space. The street has the potential to have the highest impact on one's everyday life. The boundaries of the test street were chosen based on where the street begins and ends, but also defined by Jan Gehl and Edward T. Hall's radius of action (1,300 ft to 1,600ft) and radius of interaction (65 ft to 330 ft) (Gehl 2011, 83). Gehl uses these radiuses to argue that the development of successful community happens when it is possible "to see other people and events from the home or on a short walk of a little more than a half kilometer and possible to reach the most important services on foot, the activities and functions must necessarily be assembled very carefully. Only a few space-demanding, trivial functions or a slightly excessive distance is needed to turn richness of experience into poverty" (Gehl 2011, 83). Current existing play locations are distributed in a way that

makes them functional to their immediate radius of action, but increasingly difficult to experience as the distance increases away from the location. This increasing distance turns the experience of an existing play location into a destination space rather than as a place that can be appreciated and experienced as part of ones daily life.





Two maps of Toronto displaying existing play and anti-play locations. The collages display a sample of what is typically understood as a play space vs and ant-iplay space. Sherbourne Street is indicated with a red line.




A map of all the neighbourhoods in Toronto, with a scaled up slice of Sherbourne Street. The diversity of Sherbourne Street is representative of Toronto as a whole.


Sherbourne Street abstracted in existing play and anti-play locations.

# CHAPTER 4: A CRITIQUE OF FUNCTIONALISM

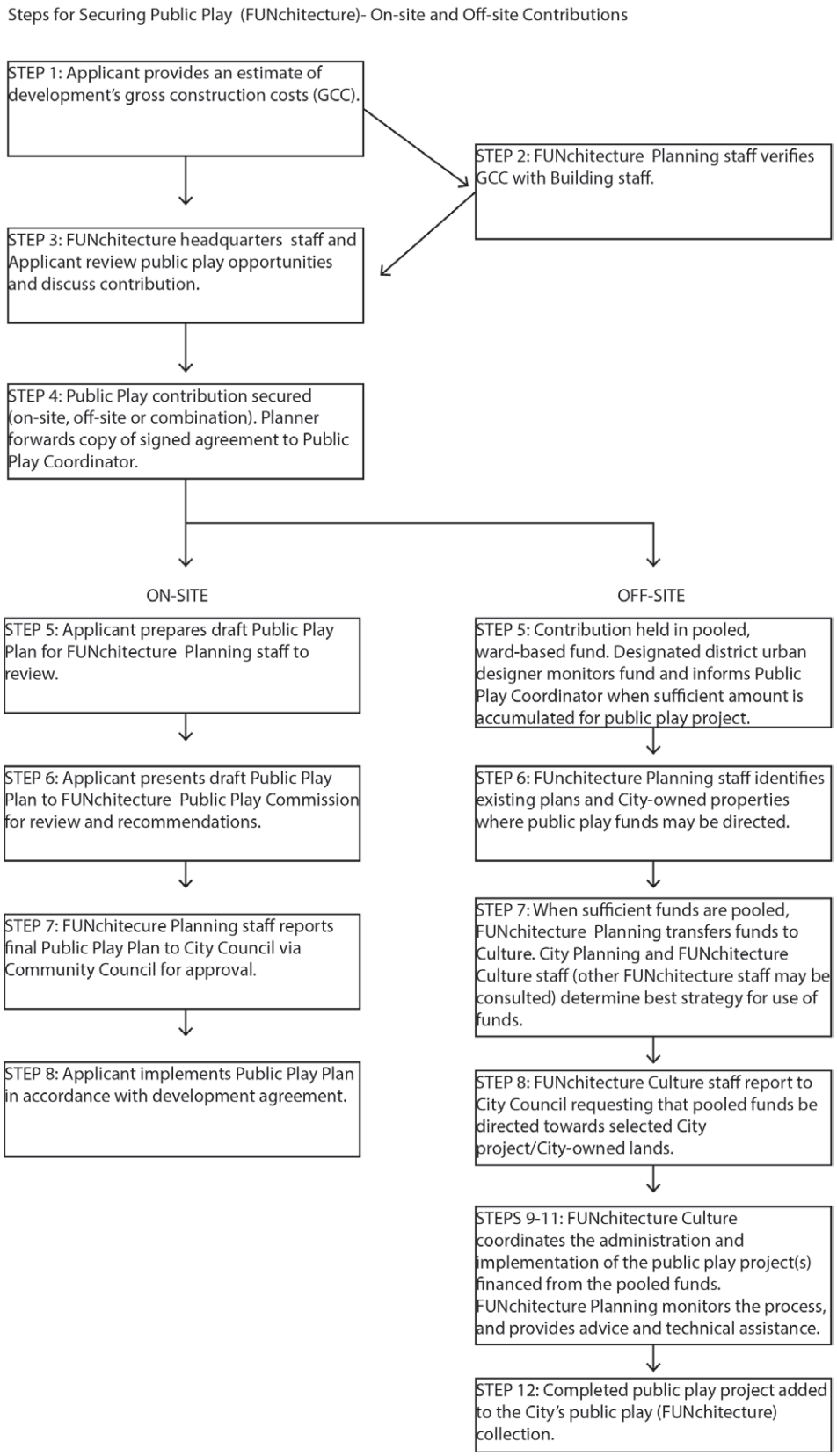
## A Functional City Does Not Equal a FUNctional City

The design of a play infrastructure is intended to re-establish a sense of meaning and identity with the urban environment. Much of our current city planning policies are the residual result of Functionalist planning policies, which have homogenized and rationalized the human scale out of our cities. In describing the residuals of functionalist planning, Christian Norberg-Shultz declares that “as a result, the cities of today tend to become a mere agglomeration of separate buildings. Even the old cities have become subject to a process of disintegration, partly because of the pressure of mechanized traffic. The possibility of meeting and choice is thereby lost, and human alienation becomes a normal state of affairs” (Norberg-Schulz 1982, 69). In the 1930’s it was easy to see the functionalist argument against dark overpopulated disease ridden cities, for dwellings with abundant light and clean air. But this rationalized shift, with all its good intentions also shifted the human scale out of the city, and with it a loss of social and cultural capital. In discussing the results of functionalist planning on our present day cities, Jan Gehl explains that, “the consequences for the social environment were not discussed, because it was not recognized that buildings also had great influence on outdoor activities and consequently on a number of social possibilities… Not until twenty to thirty years later, in the 1960’s and 1970’s, when the big functionalistic multi-story residential cities had been built, was it possible to evaluate the consequences of a one-sided physical-functional planning basis. A review of just a small selection of the most common planning principles from functionalistic building projects illustrates the effects of this type of planning in relation to life between buildings.” (Gehl 2011, 46). Gehl is talking about the negative social effects of specialized and disconnected buildings. This is true of how leisure, and play is currently planned into cities. A recreation centre, although a contributing civic amenity, also reinforces the idea that play is a time allotted destination, rather than harnessing the full potential of play by incorporating it into our everyday lives as an urban infrastructure. As an infrastructure, the benefits of play have the potential to overcome the alienating effects of cities by establishing meaning and identity with place. As an activity, play allows us to interpret and understand the world. Shultz claims that “when we identify with a certain activity or role within a fellowship, we also identify in a

more general sense with the totality to which the role belongs. We cannot possibly identify with everything as it is a basic human condition that an individual cannot 'have everything'. And still, one attains everything through participation" (Norberg-Schulz 1982, 52). A play infrastructure has the potential to re-establish the human scale into cities, by creating opportunity for us to interact with ourselves, each other, and our built environments.

## Plan for Play

Toronto's 'Official Plan' boasts Toronto as "an interesting and cohesive city that offers a dynamic mixture of opportunities for everyone to live, work, learn and play" (Wright 2010, 22), without actually providing policy that invests and reinforces our human need to play. An investment into a play infrastructure would more than satisfy many of the goals outlined in *The City of Toronto's Official Plan*. The grand vision of the Official Plan is about "creating an attractive and safe city that evokes pride, passion and a sense of belonging - a city where people of all ages and abilities can enjoy a good quality of life. A city with: vibrant neighbourhoods that are part of complete communities; green spaces of all sizes and public squares that bring people together; cultural facilities that celebrate the best of city living; excellent urban design that astonish and inspire; children and youth find their surroundings safe, stimulating and inviting; the elderly can live comfortably and securely; people enjoy freedom of conscience and religion and opportunities for such enjoyment are supported; sidewalks are animated and attractive people places; the city is well maintained, with clean and beautiful green spaces, including community and rooftop gardens" (Wright 2010, 23). The broad visions of the Official Plan could be actualized with the development of a citywide play infrastructure. This development could be implemented through a One Percent For Public Play investment. This is a tax system based off of the One Percent For Public Art program, wherein for each built project, one percent of that budget would be invested into the play infrastructure.




This flow chart displays funding models for FUNchitecture as public play. It is appropriated from The City of Toronto's funding models for 'One Percent For Public Art'.

Table 1: Toronto Area Chief Building Officials Committee (TACBOC) Construction Value Standard (2009-2010)

| Building Classification and Use | TACBOC Construction Value/$m^2$ | One Percent for Public Play Infrastructure Contribution Value/m2 |
|---|---|---|
| Performing Arts Centres, Museums, Art Galleries, Courthouses | $ 3,200.00 | $ 32 |
| Recreation Facilities, Lecture Halls, Civic Centres, Movie Theatres and Other Similar Assembly Buildings | 2,200.00 | $ 22 |
| Prestige Hotels and Inns | 2,300.00 | $ 23 |
| Average Hotels | 1,500.00 | $ 15 |
| Detached and Semi-Detached Dwellings, Apartment Buildings | 1,400.00 | $ 14 |
| Townhouses | 1,000.00 | $ 10 |
| Banks, Public Administration Buildings, Enclosed Malls | 2,000.00 | $ 20 |
| Office Building Shell, Department Stores | 1,300.00 | $ 13 |
| Retail / Business Plazas, Stores, Exhibition Halls, Supermarkets, Retail Outlets | 1,000.00 | $ 10 |

Note: Range of budgets triggered by the "one percent" contribution based on 2009-2010 standards for different building types with a common floor space of 10,000 square metres.

This chart displays funding models for FUNchitecture as public play. It is appropriated from The City of Toronto's funding models for 'One Percent For Public Art'.

# CHAPTER 5: THE *FUN*CHITECTURE METHOD

## Meaning and Identity Through Participation

An important aspect of a functioning play infrastructure is the continuous participation and contribution from the public. A goal of implementing a play infrastructure is to reestablish the connection between people and their urban surroundings. This is done by empowering the public with a chance to realize and experience their contribution. This experience and participation establishes a deeper sense of identity and meaning in peoples everyday environments. By shifting the design control of peoples everyday environments from the top down to the bottom up, it creates a sense of pride and belonging to place. In discussing the top down verses bottom up approach to public space, Herman Herztzberger explains that “The world that is controlled and managed by everyone as well as for everyone will have to be built up of small-scale, workable entities…each spatial component will thus be more intensively used (whereby the space is enhanced), while it is also more fair to the users to demonstrate their intentions. More emancipation generates more motivation, and in this way energy can be released which is otherwise suppressed by centralized decision making” (Hertzberger 2001, 47). Lucian Kroll’s brick playgrounds and Antoni Gaudi’s mosaics demonstrate how participation has evoked a sense of pride and belonging to place. Play becomes a valuable social force in its ability to attract and encourage people to participate with everyday spaces. FUNchitecture harnesses the attributes of play to inform the design of fun spaces. Outlined below are the FUNchitecture methods in which site analysis and an interpretive model frame and inform a new way of perceiving the city.

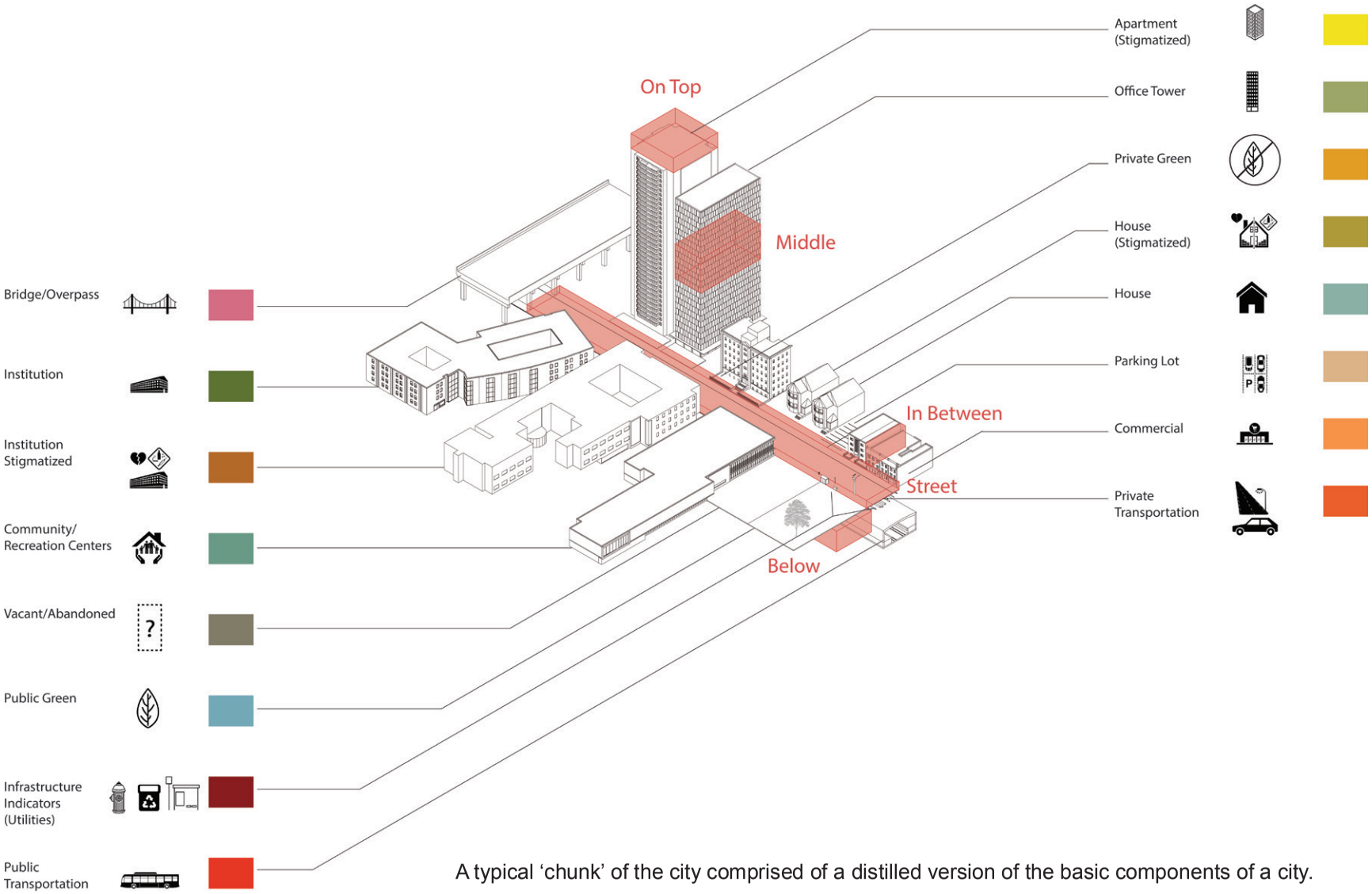
## Site Analysis: The City as a Gameboard

Toronto was chosen as a ‘test’ city because it is the most diversely populated, and multi-cultured city in Canada, and within Toronto, Sherbourne Street has been chosen as a test street, as it slices through a wide range of demographics, from the suburbs through dense stigmatized areas to waterfront leisure (demonstrated in chapter 3). In order to encourage participation, the infrastructure of Sherbourne street was analyzed and coded into prototypical elements. This was done so that the city could be viewed and easily digested allowing it to be ‘played’ as a game. The existing infrastructure of Sherbourne

was simplified into sixteen types, which were labeled as either existing play space or anti-play space. For example a parking lot was coded as anti-play, because of the dominance and danger of the automobile, and a public park was coded as existing play because it provides the opportunity for many pleasurable activities. The goal of this coding was to represent the parts of a city as symbols, to influence how the public reads and perceives their urban environment. For example, a member of the public can look at the map and realize how much of their daily routine takes place in play verses anti-play locations.


Sherbourne Street abstracted in existing play and anti-play locations.

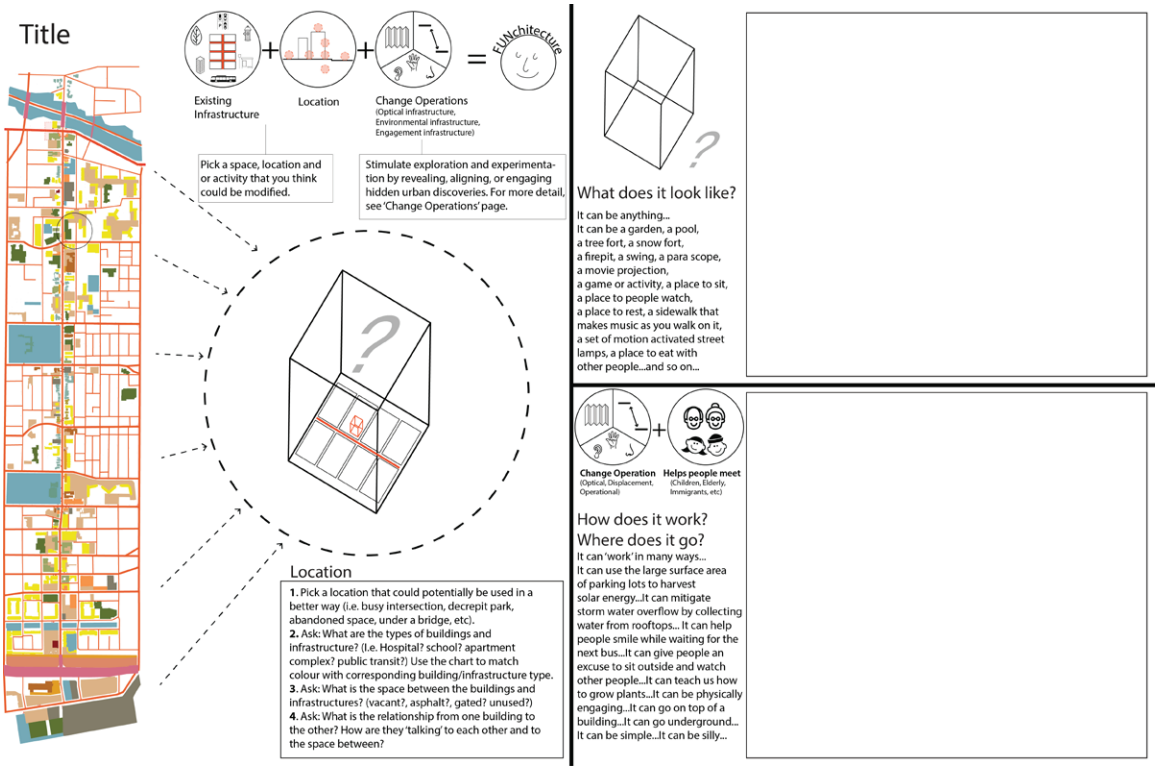

The infrastructure of Sherbourne Street analysed and coded into simplified categories.




A typical ‘chunk’ of the city comprised of a distilled version of the basic components of a city.

## Template for Public Participation

The coding system simplifies the complex components of a city into sixteen manageable infrastructure categories, and marks them as supporting of play or as opposing play. These infrastructure categories are further analyzed spatially as ‘Top’, ‘Middle’, ‘Street’, ‘In Between’, and ‘Below’. This site analysis and spatial allocations are combined to create a prototypical city chunk. Through these reductive filters, the city is transformed into a manageable game board, where relationships and opportunities are more clearly developed. The FUNchitecture template is developed to acquire new ideas from the public. The template provides a codified map, and prototypical city chunk to stimulate the publics creative input. As part of the play infrastructure, a *Guidebook To Play In The City* is also provided, displaying precedents from other members of the public to further inspire participation.

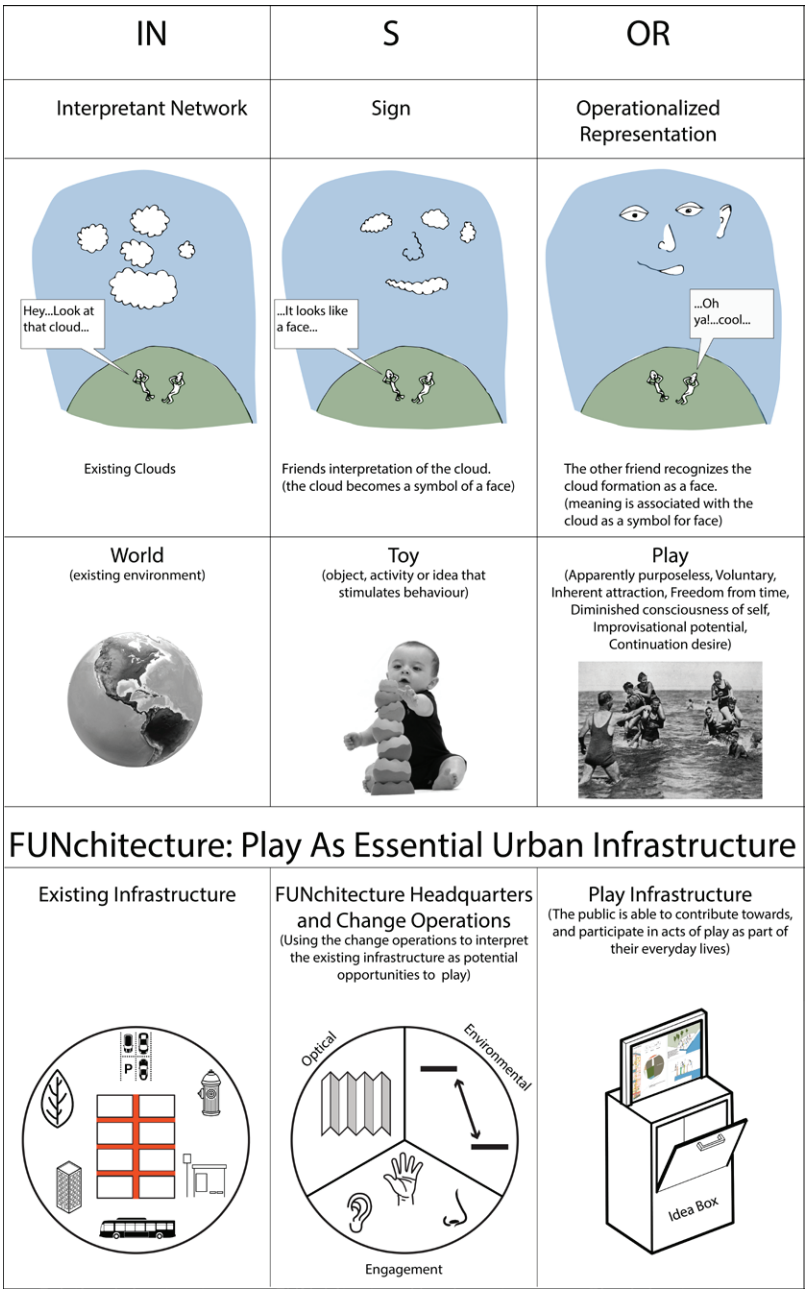



The FUNchitecture template for public participation. It outlines the existing infrastructure to be adapted, the horizontal and vertical location and the change operation to be involved in the future FUNchitecture.

Two iterations of the template participation process, which have informed the contents of the guide-book to date. The first iteration was done in the Dalhousie School of Architecture with a 1:200 model of a chunk of Sherbourne, and the second was done 1:1 on Sherbourne Street.

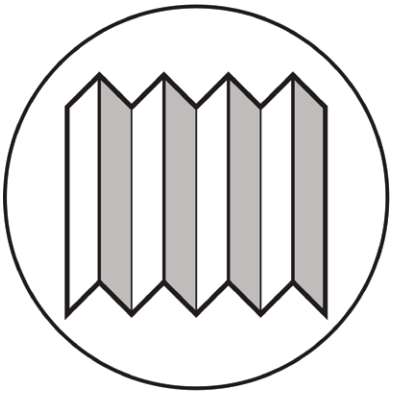
## IN-S-OR Play Operations

A pivotal aspect of the FUNchitecture method is changing how the public perceives and interprets existing infrastructure. Much like how Iain Borden points out that skateboarders perceive the world as a giant skate park, the FUNchitecture method is meant to change the publics perception of existing infrastructure into a play infrastructure. The FUNchitecture method uses C.S. Pierces IN-S-OR model and three ‘change operations’, to encourage this perceptual change.




The diagram above explains how humans perceive the world through interpretation and realization of symbols.

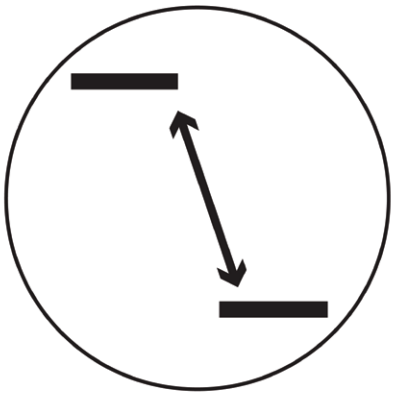
## Optical
Play Infrastructure



Optical Play Infrastructure changes the way the urban environment is perceived. It activates an awareness of often overlooked and unexpected aspects of the urban environment to reveal pleasurable discoveries.

In operation, Optical Play Infrastructure can potentially involve: making things transparent to see more clearly how things work, or creating illusions by distorting views, reflecting views or projecting images and video.

## Environmental
Play Infrastructure



Environmental Play Infrastructure connects activities and energies from one location to another revealing unexpected qualities and uses of the urban environment.

In operation, Environmental Play Infrastructure involves harnessing passive energies and displacing them in unique ways that make one more aware of the urban environment.

## Engagement
Play Infrastructure

Engagement Play Infrastructure entices participation with the urban environment and with other people in a physical and experiential manner.

In operation, Engagement Play Infrastructure Involves using the five senses to participate in acts of discovery and experimentation.

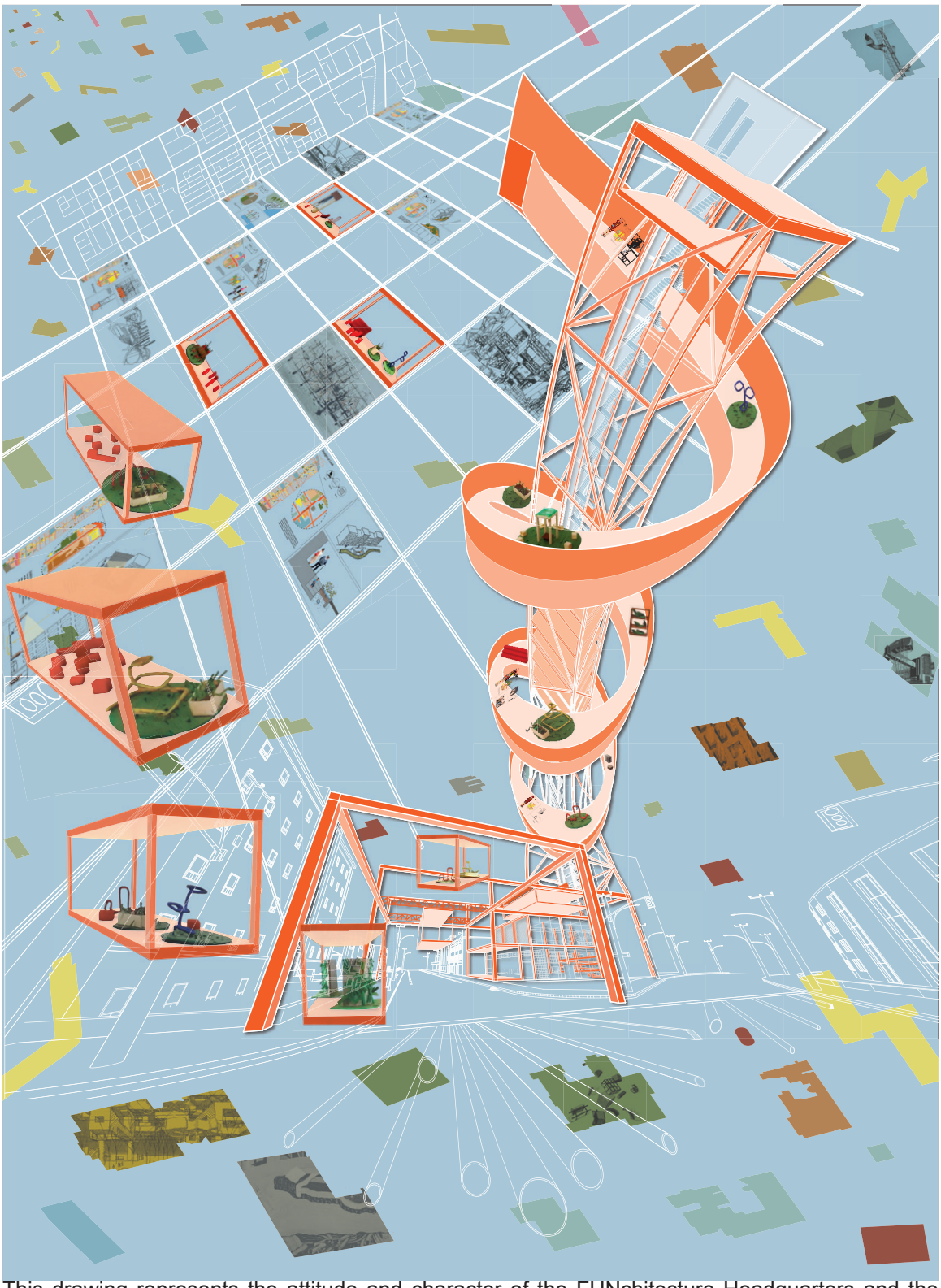
The three change operations. Each helps and encourages the public to percieve their existing environments as play environments.

The three change operations encourage and inform the public with possibilities for interpreting the existing infrastructure into a play infrastructure. The three operations are Optical, Environmental, and Engagement. The success of the play infrastructure rests on the publics ability to interpret existing space as play space, as a toy that can be played with. In their book Urban Flotsam, CHORA displays the results of a similar interpretive model they call E.O.T.M. (erasure, origination, transformation, migration), where play was of pivotal importance in how people interpreted and resolved different problems (CHORA 2001, 168-193). In this model they explain toys, games and play as creating “metaspaces within which new possibilities can be explored. Play involves an irreverent interaction with the world. Games regulate this interaction. Toys provoke play…Toys are instruments for intervention” (CHORA 2001, 155). The goal of the FUNchitecture method is to provide a framework (codified map, prototypical location legend, play idea template) that makes the public aware that they have the power to contribute and participate with the existing infrastructure as a play infrastructure. A play infrastructure that makes the public conscious that they can transform the parts of their everyday life into a toy. A toy that brings the benefits of play into one’s everyday life. In discussing identity of place, Shultz claims “although the world is immediately given, it has to be interpreted to be understood, and although man is part of the world, he has to concretize his belonging to feel at home” (Norberg-Shultz 1982, 20). FUNchitecture seeks to empower the public with the opportunity to interpret a world that can be identified as a place of play.

## The Need for a FUNchitecture Headquarters

In order to procure, manufacture, facilitate, and service the play demands of the city, a FUNchitecture headquarters is of essential importance. Like any other infrastructure, a FUNchitecture headquarters would act as a nucleus, allowing the whole play system to function. The FUNchitecture headquarters main purpose would be to establish an awareness in the public that they have the power to contribute to the identity of their community and city. As the public participates and contributes a steady flow of play ideas, the headquarters acts to manufacture and distribute the play ideas as FUNchitectures throughout the city. In order for the system to remain lively, the distributed FUNchitectures would change locations on a semipermanent basis, according to public demand. The FUNchitecture headquarters provides permanence to a system that requires continuous

change. It provides a top down framework that encourages and makes possible bottom up action to occur.



This drawing represents the attitude and character of the FUNchitecture Headquarters and the benevolent ambitions of establishing a citywide play infrastructure.

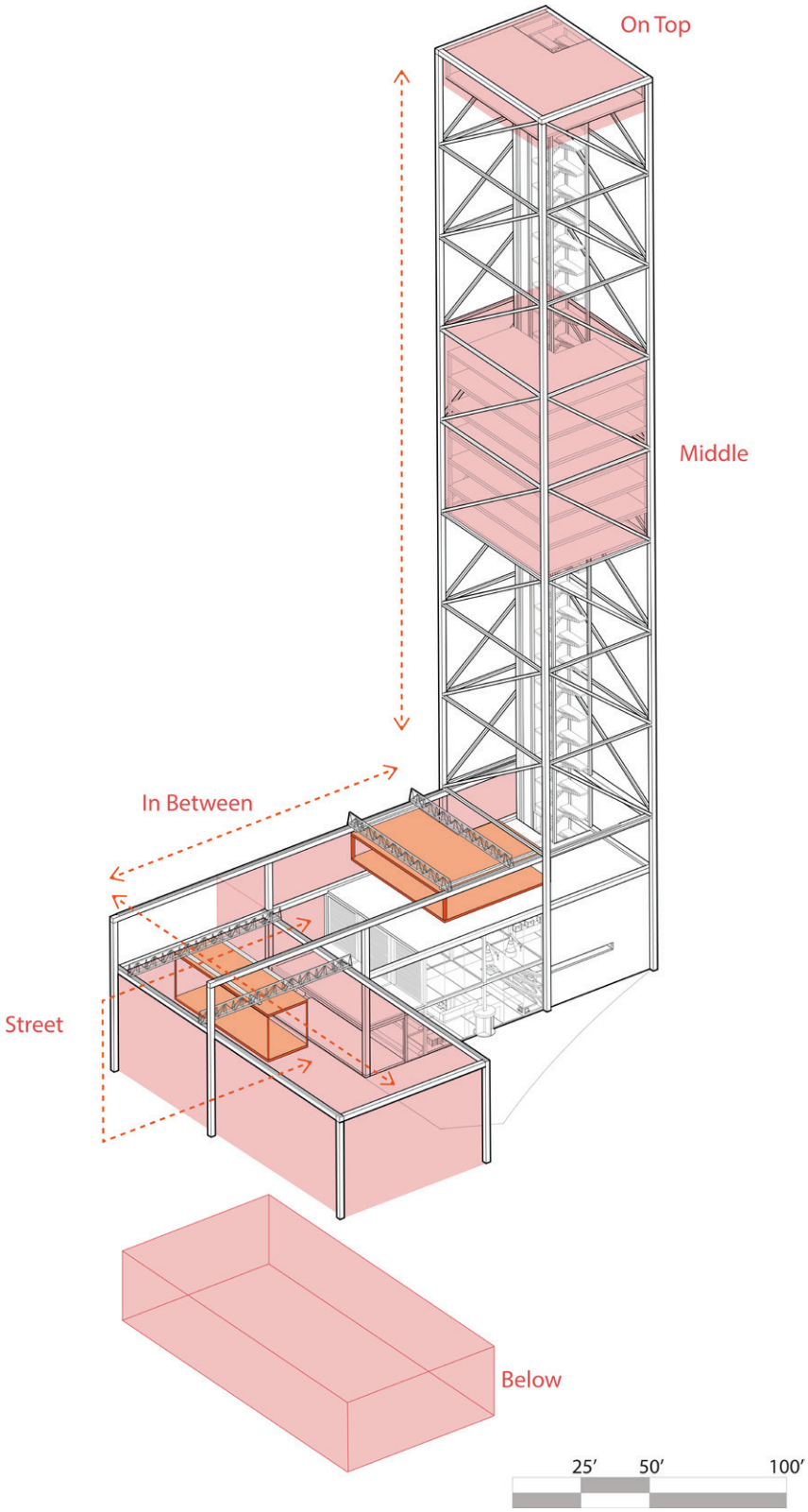
# CHAPTER 6: *FUN*CHITECTURE HEADQUARTERS

## City as Building, Building as City

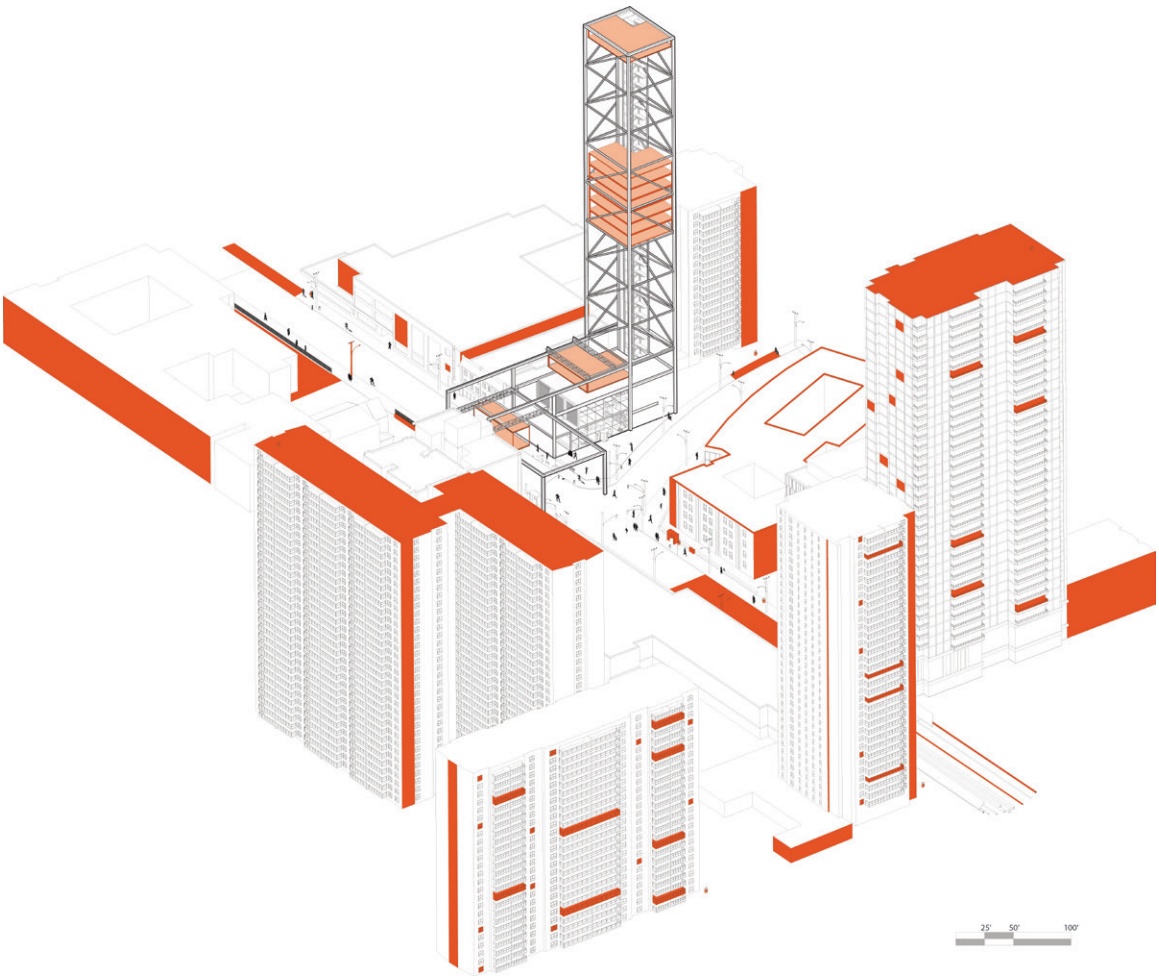
The main function of the FUNchitecture headquarters is the production and testing of FUNchitectures. The public is able to contribute play ideas to the headquarters to be processed. When a play idea is realized, it is a FUNchitecture. The form of the FUNchitecture headquarters is a distilled version of the prototypical city. It is comprised of the typical spaces, locations and infrastructures of the city as a whole. The spacial locations of top, middle, street, in-between and below are used as testing grounds for the play ideas contributed by the public. By organizing the building according to these typical city locations, it provides a representative sample for a more empirical testing of FUNchitecture. This means that the results observed in the headquarters are accurately proportionate to the city as a whole. Once tested, the headquarters operates to produce FUNchitectures that are assured to have their intended playful quality before they are distributed to the requested locations throughout the city.

## A Frame for Change

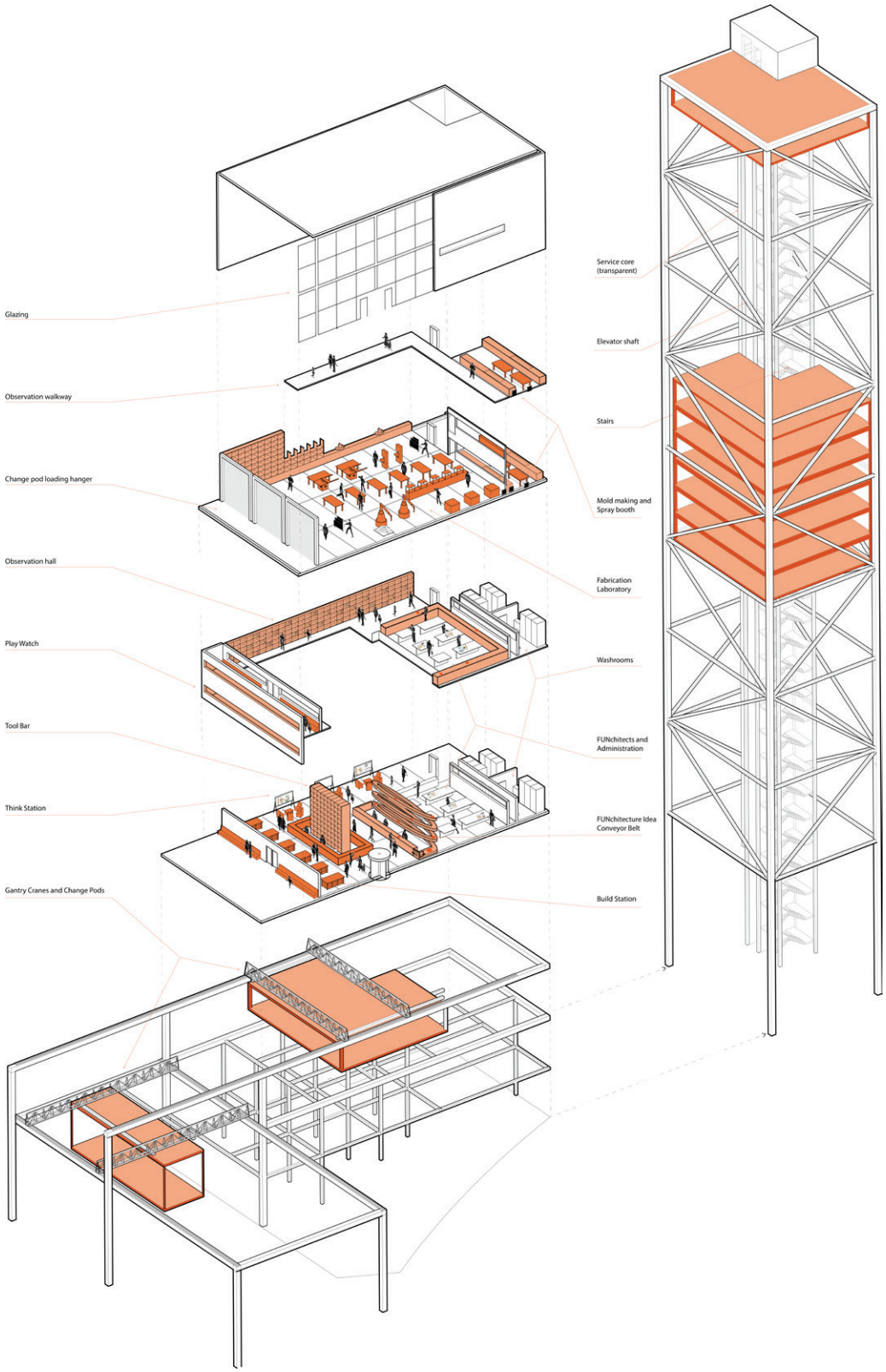
The FUNchitecture headquarters is designed as a framework that supports the requirements of the citywide play infrastructure. The major programs of the headquarters are centred around the procurement, manufacture, facilitation, and servicing of FUNchitectures. The program is similar to that of a public library, where the public areas are interwoven and serviced by the private areas. It is a cross between a public think tank and a fabrication laboratory. The major elements of the building consist of: a large frame that supports gantry cranes, multiple ‘change pods’, a FUNchitecture idea conveyer belt, FUNchitecture drop box’s, think stations, build stations, a tool bar, transparent services, a tower crane, a fabrication laboratory, an observation hall and a play watch observation deck.




The testing locations of the FUNchitecture headquarters, derived from the typical locations of the city.

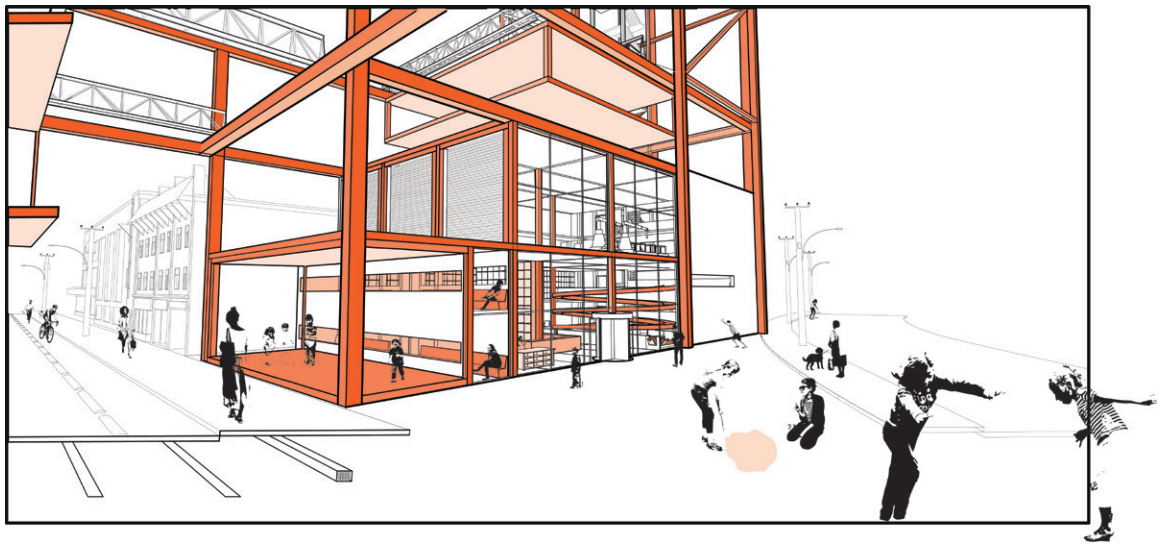


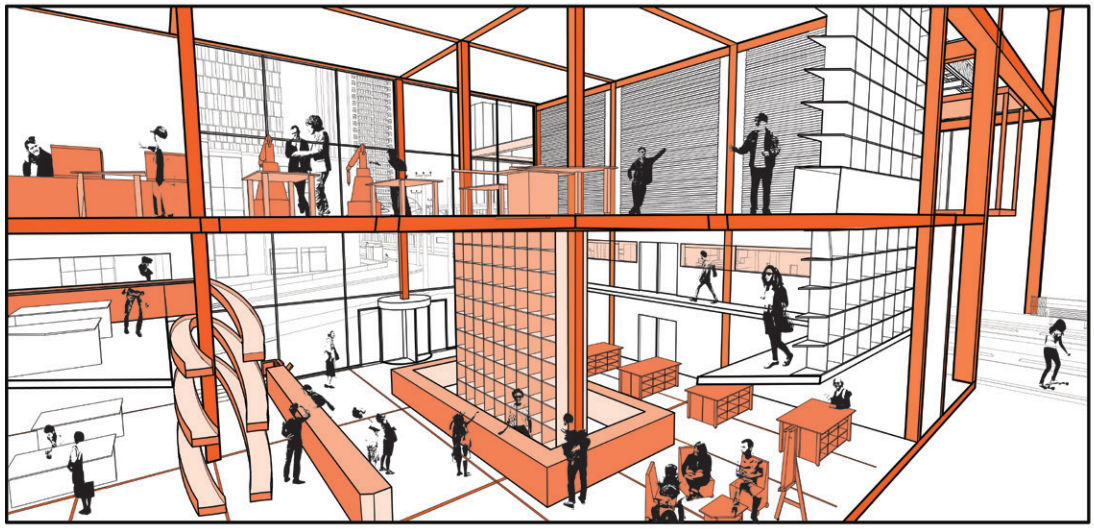

The FUNchitecture headquarters and site. The orange represents an abstracted play infrastructure.

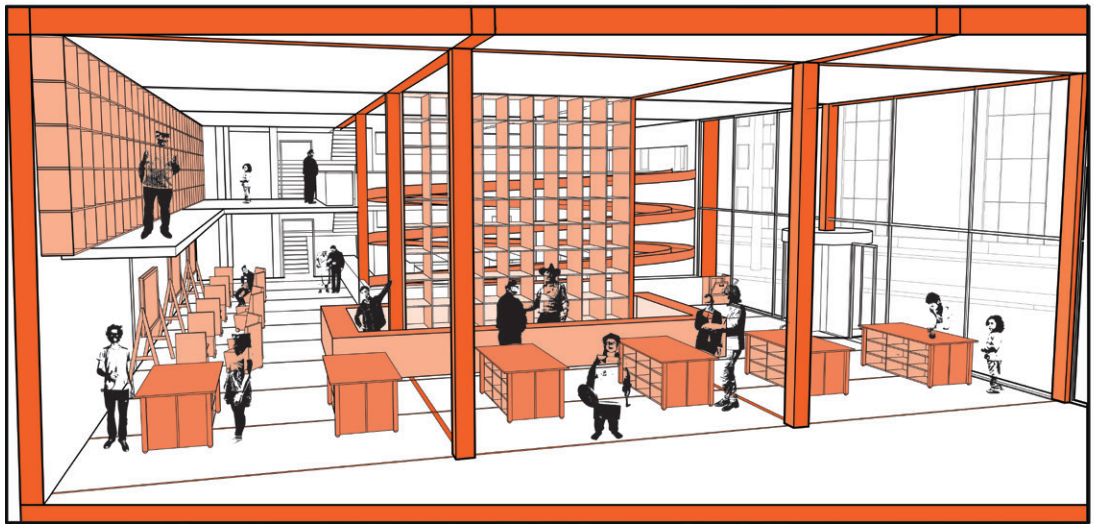


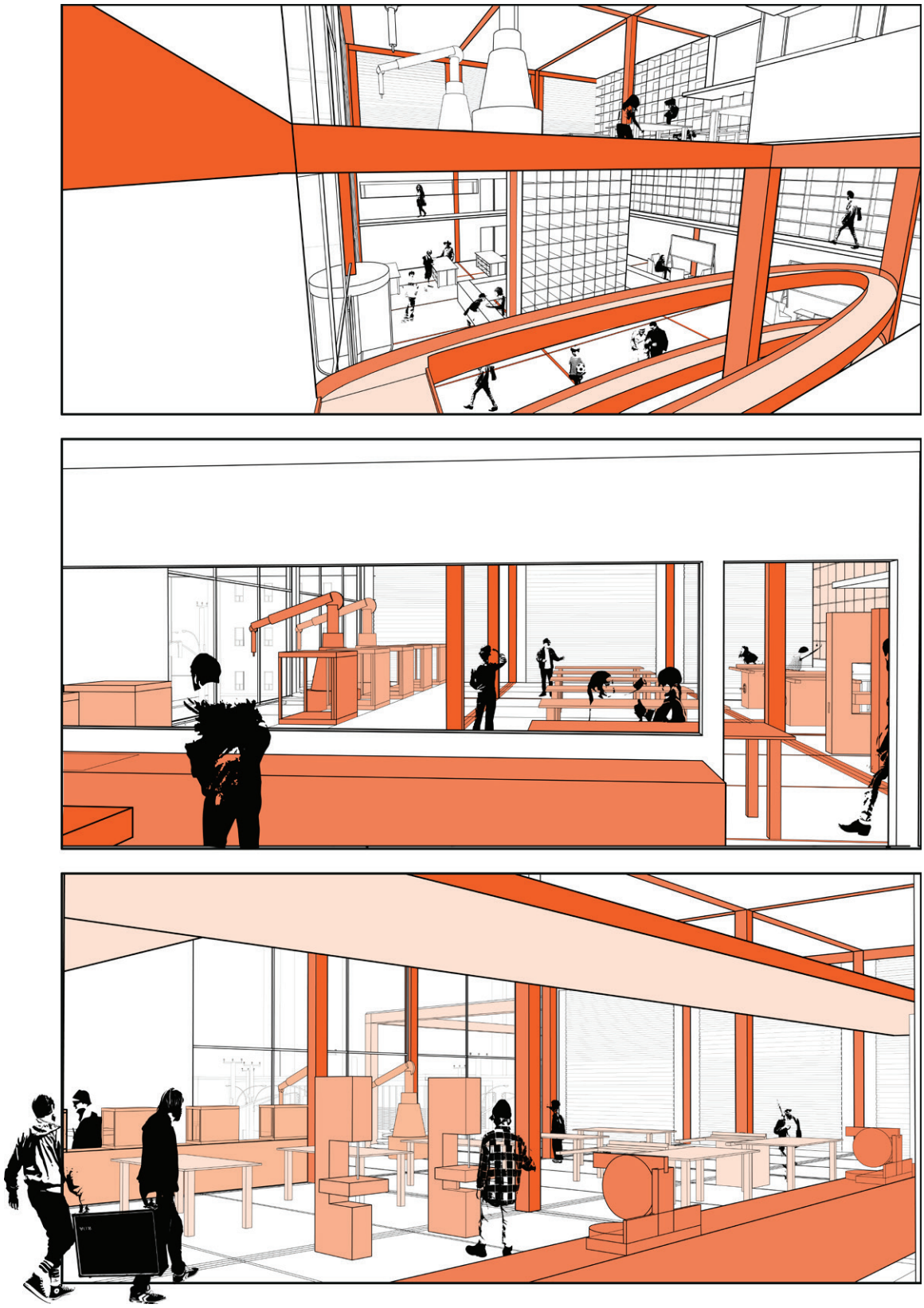

An exploded axonometric of the FUNchitecture headquarters.

An elevation of Sherbourne Street. The orange dots represent the play infrastructure, as a system of FUNchitectures.









Six vignettes describing the potential experience of the FUNchitecture headquarters.

The gantry cranes main function is to move and transfer the ‘change pods’ from the fabrication laboratory to testing grounds at the top, middle, street, in-between and below locations.

The change pods are frames that host a multitude of FUNchitectures to be tested. There are multiple variations of the pods in order to accommodate the different locations and infrastructure throughout the city. For example, at the street location, there is a change pod that tests a commercial storefront which is different than a change pod that tests a gated setback. Much like movie sets, different simulations can be attached and detached from the frame of the change pod.

The FUNchitecture idea conveyor belt accepts peoples play ideas and circulates them from the first floor to the second floor where they are accepted by the FUNchitecture staff. Like a library, the ideas are able to be dropped off after operating hours. As the play ideas spiral from the first floor to the second, their presence is intended to trigger the inspiration for more ideas. The ideas can be seen spiralling inside the building, but they can also be seen from outside, shifting across a long horizontal window on the second floor. This acts as a beacon to the outside observer.

A critical component of the play infrastructure as a system, is the FUNchitecture drop box. It functions in three ways. First, they allocate a designated space for the installation of different FUNchitecture’s. They act as an indicator to the public creating an awareness of their power to participate. Second, the box’s act as an extension of the idea conveyor belt. They function like a mailbox, where people are able to drop their ideas off, which are then picked up for processing by FUNchitecture staff. Third, the box’s are fitted with screens which flash other peoples submissions, acting to inspire future contributions and to create a sense of pride in contributing to ones community.

The think stations function as collective brainstorming areas. They can be co-ordinated by a FUNchitecture staff member or as an independent group. They offer a place to flush out a multitude of play ideas.

The build stations are mobile tables outfitted with small tools and supplies. If power is needed, they plug into the floors gridded power docks. People are able build and

experiment with models of their future FUNchitecture.

The tool bar displays a large assortment of tools and materials that are available by request from the public. The bar is also home to FUNchitecture staff who are able to offer advice and expertise about material and tool use. Members of the public are able come to the bar with an idea or problem, and the FUNchitecture staff are able to help realize an optimal solution. The presence of the bar is also meant to inspire new thoughts about what is possible.

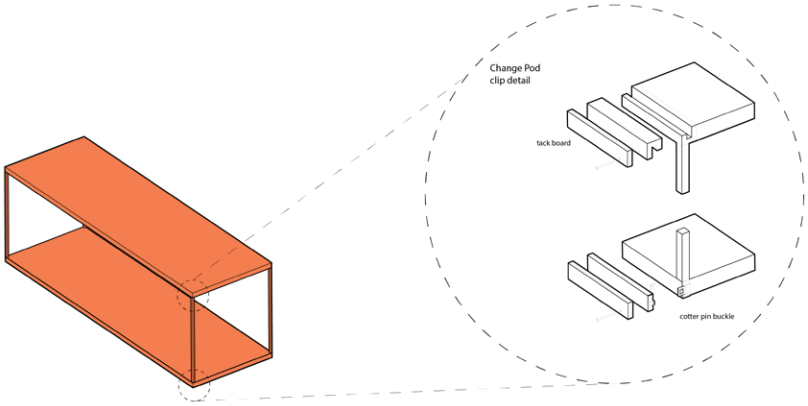
The major services of the building are transparent to the public. A transparent stairwell, elevator and service core run vertically from the bottom of the building to the top, displaying the inner workings of the headquarters, but also the typical workings of buildings throughout the city. The floor is gridded according to the parking lot that the headquarters is built on. The painted marks of the parking stalls, are transformed into a grid work of transparent services, that designate the locations and support of different programs. The public is able to view where the services are coming from, inspiring new ideas about how a city works. Like many other buildings in the city, the grid of the parking lot acts to inform the proportions of the rest of the building.

The fabrication laboratory is located on the third floor, and houses a multitude of tools, machines and spaces allocated for the manufacture of FUNchitectures to be tested. This laboratory functions similar to a film production studio. A team of specialized builders work together to fabricate the FUNchitectures and position them on to the appropriate change pods in line to be tested.

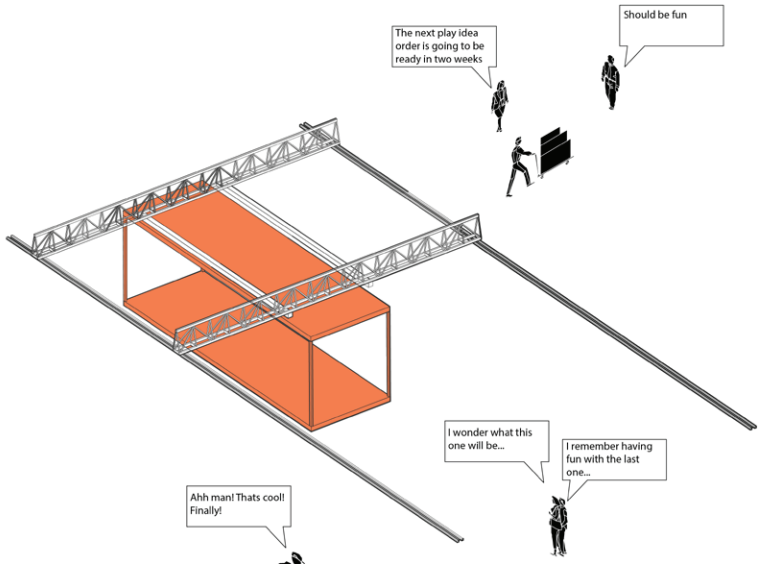
The observation hall displays models and other representations of past FUNchitectures. The public is able to walk and observe other peoples contributions for inspiration. The hall also allows the public to observe the activities of the fabrication lab, providing insight into how things are made.

The public is able to access the observation deck on the first and second floor. People are able to sit and observe how other people play with the FUNchitecture being tested. This can act as inspiration for future FUNchitectures, but it can also just be a place to relax and enjoy the benefits of play.

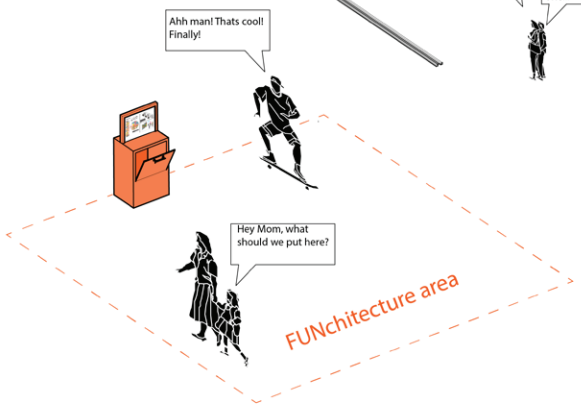
Change Pod



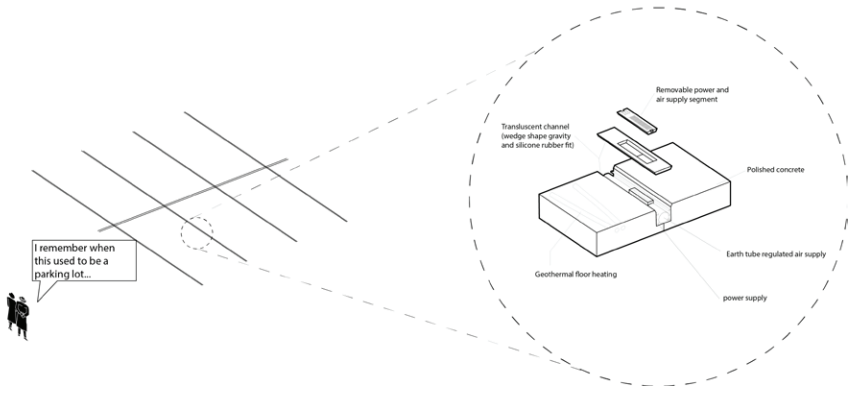

Gantry Cranes



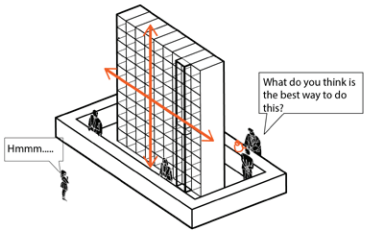

Play Drop



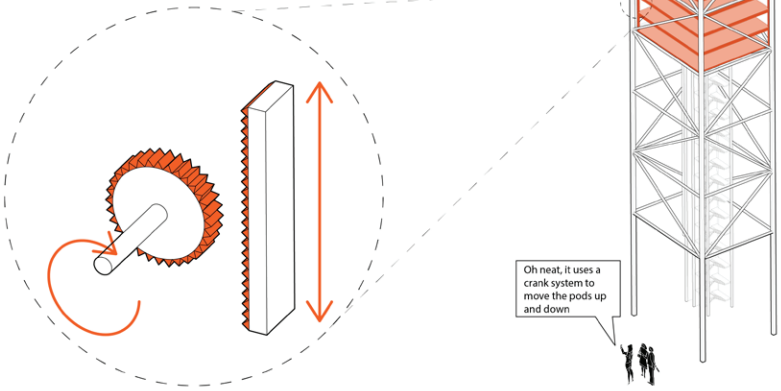

Transparent services



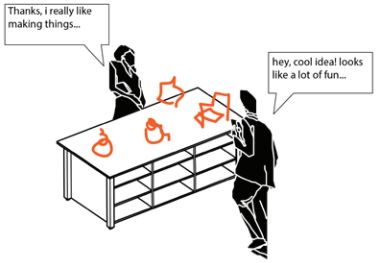
Tool Bar




Test Tower

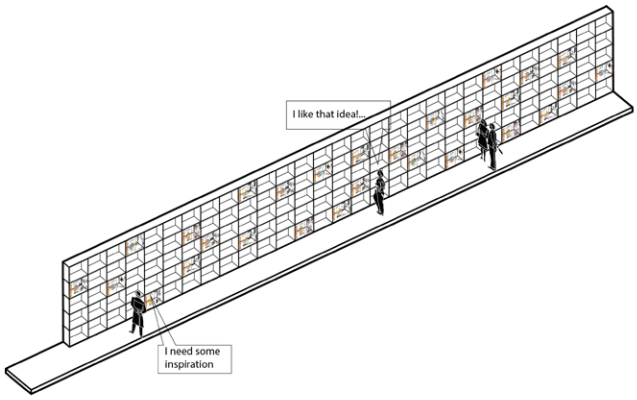



Build Station

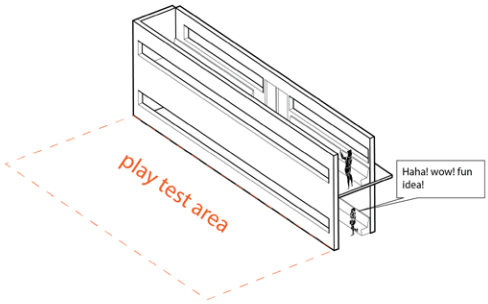



Think Station

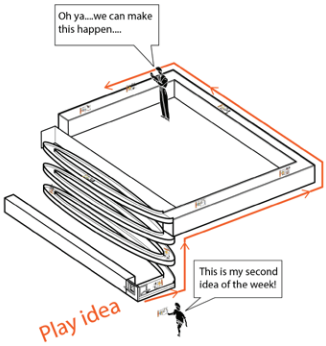
Observation Hall




Play Watch

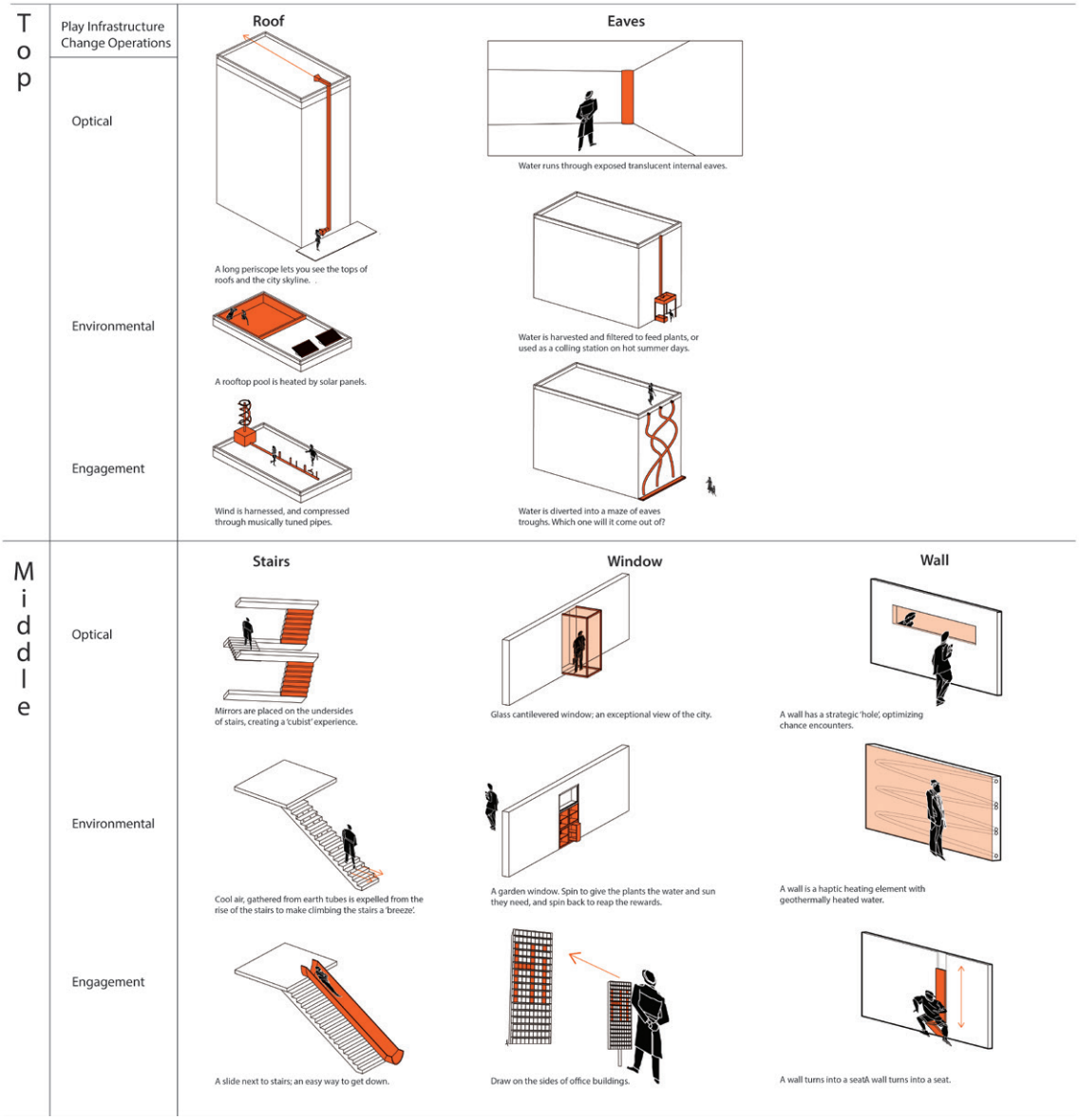



Idea Circulation




A closer look at the essential elements of the FUNchitecture headquarters and how they work.

# FUNchitecture Change Operations (examples)

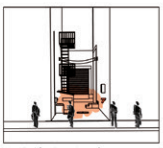



Examples of typical elements according to location (top, middle, in between, street, below). Each typical element is shown how it changes based on the three change operations.

## In Between

### Optical

**Vent**



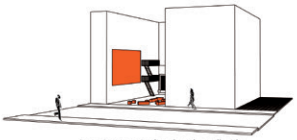
A video is projected onto the steam from the vent.

**Wall**

Two mirrors are set up between two walls to create an infinite spacial illusion.

### Environmental

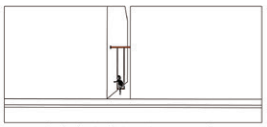
Fragrances are emitted from the inside of restaurants to be experienced outside.



A movie screen is placed on the wall with accompanied mobile seating. It is powered by a nearby solar paneled parking lot.

### Engagement

Laundry exhaust is circulated through musically tuned pipes that can be played.

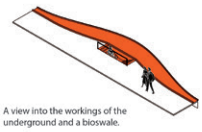


A swing is set up between two narrow walls.

## Street Level

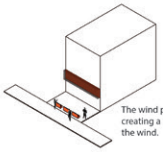
### Optical

**Sidewalk/Road**



A view into the workings of the underground and a bioswale.

**Setback**

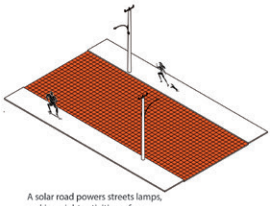


The wind passes by a grid work of tubes, creating a psychedelic physical visual of the wind.

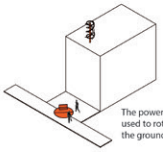
**Transit Stop**

A large lens creates magnifications and distortions of the streets cape.

### Environmental



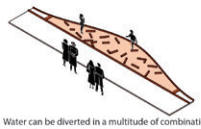
A solar road powers streets lamps, making night activities safer.



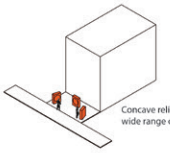
The power of the wind is harnessed and used to rotate an assortment of spaces on the ground.

The heat is activated by human touch.

### Engagement



Water can be diverted in a multitude of combinations.



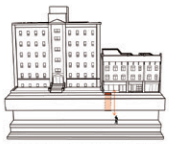
Concave reliefs distort and dispense a wide range of acoustic experiences.

Play Pong while you wait for the next bus.

## Below

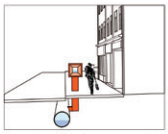
### Optical

**Sidewalk/Road**



Look up, look down, see straight through the translucent sidewalk.

**Utilities**



See the inner workings of the water and sewer systems.

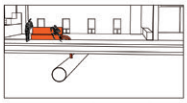
### Environmental

Track the subway as it moves through the city, shining light through the pavement with fiber optic rods.

Turn the sounds of the sewer into music by stepping on the sidewalk panels.

### Engagement

The incoming subway's lights are turned into music by spinning a coding panel attached to light sensors.



A bench is heated by the excess heat from nearby buildings.

## Form Follows Fun

One of the most important functions of the FUNchitecture headquarters is that it concretizes the benefits that play can have on peoples everyday lives. The main experience of the play infrastructure is at the small scale of individual FUNchitectectures. Whyte outlines the significance these micro-spaces have on shaping how we experience the city. Whyte concludes “In the end, in praise of small spaces. The multiplier effect is tremendous. It is not just the number of people using them, but the larger number who pass by and enjoy them vicariously, or the even larger number who feel better about the city centre for knowledge of them. For a city, such places are priceless, whatever the cost. They are built of a set of basics and they are right in front of our noses. If we look” (Whyte 1980, 101). A dynamic relationship is set up between the experience of FUNchitecture at the small scale, and an individuals autonomy to contribute ideas that shape their everyday environments. It is in this relationship that the public can reap the benefits that play affords, but also establish a stronger sense of pride and identity with place.

An important aspect of the play infrastructure is that it changes our attitudes about play and the city. It shifts our attitudes about play as a frivolous activity done in our leisure when time permits to one that appreciates the widespread benefits play has on shaping our cities, communities and selves. In describing successful community development Gehl states “It is of prime importance to recognize that it is not buildings, but people and events, that need to be assembled. Concepts like floor area/site ratio and building density say nothing conclusive about whether human activities are adequately concentrated” (Gehl 2011, 81). FUNchitecture empowers citizens with the ability to participate and contribute to the spaces they experience on a daily bases. FUNchitecture, as a distributed play network defines the experience of play not as a destination space, but as part of our everyday life experience. As an individual walks down the street, they are able to perceive the city as a place of play.

Below are a set of collages representing the experience of a play infrastructure. Each FUNchitecture is highlighted in orange and can be explained in the ‘FUNchitecture guidebook’. They are sequenced from top, middle, in between, street, and below, play infrastructure locations.

“I’ll meet you at four o’clock on top of the roof for some tea...”


“That’s one of my favourite movies...”

“Check out the top of the roof! What a view!”


“Whoa! cool...look what I’m drawing on that wall”

“Check out the wind move across that wall!...whoa, I can see all the way down from here...”


“I can’t believe I grew all these plants from my living room window...”

“I’m so glad I spotted the swing in here! Its so much fun!”


“mmmm, that smell gets me every time...”

“Hey Jeff, listen to this one...Awesome!”


“Oh cool... psychedelic man!”

“Oh neat...the wind is making this spin...”


“Check out this dam, its about to overflow!”

“Oh nice...I like that beat...”

“Cool! I had no idea what it looked like under here...”

“I see the Milky Way! I see Orion!”

# CHAPTER 7: JUST HAVE FUN

## The Roots of FUNchitecture

The FUNchitecture headquarters and corresponding play infrastructure can be compared to Cedric Price's Fun Palace, Yona Friedman's Ville Spatiale and Constant Nieuwenhuys' New Babylon. In similarity to New Babylon, a play infrastructure seeks to create a world where humans are able to experience the benefits of play as an essential part of our everyday lives. Although the end goal may be similar, a play infrastructure provides the opportunity for people to interpret their existing environment as a play environment. A play infrastructure incorporates play to become a part of peoples existing lives. This is in contrast to the perched megastuctures of New Babylon, which sought an erasure of existing bourgeoisie metropolises. In similarity to Yona Friedman's Ville Spatiale, FUNchitecture seeks to contribute to quality of life and urban experience through the intensification of inhabitation. The participatory methods that FUNchitecture offers are similar to that of the goals of Yona Friedman. He states that "as the user is not necessarily at the same technical level as the master builder or the planner, what he needs is the possibility to apply a 'trial and error' technique. The development of such methods is my goal in all my projects" (Friedman 2006, preface). In contrast to Ville Spatiale, a play infrastructure does not impose a new structural system in order to achieve the goal of intensification of inhabitation. In similarity to the Fun Palace, the FUNchitecture headquarters is a frame that seeks to support the desires and social improvements of the public. Price was committed to "architecture as an instrument of social improvement. As in all his projects, his motivation for the Fun Palace was primarily social: the emancipation and empowerment of the individual" (Mathews 2005, 91). Although Price's goals were towards social improvement, the cybernetics aspect of the Fun Palace imposed an eerie amount of controlling power in its ability to modify peoples behaviours based on predictive patterns. In contrast, the FUNchitecture headquarters empowers the public with the ability to contribute and participate with the environment, strengthening the connection between place and identity.

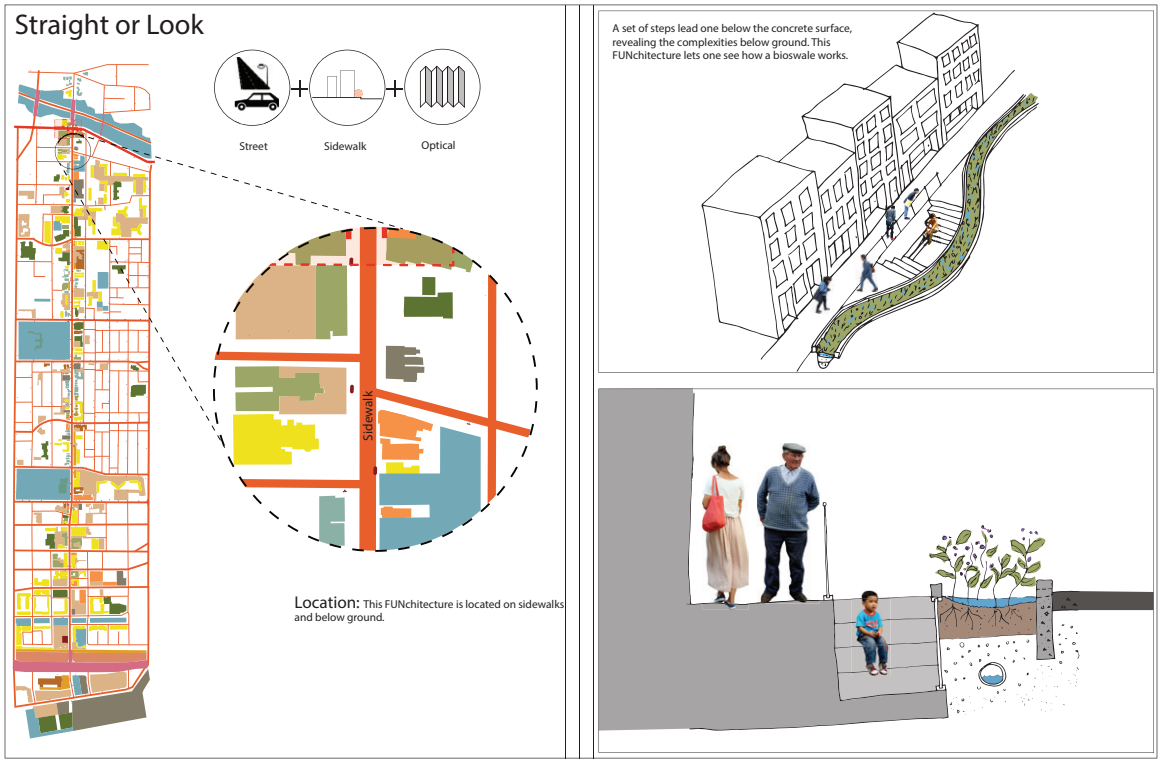
## The Expanded Implications of a Play Infrastructure

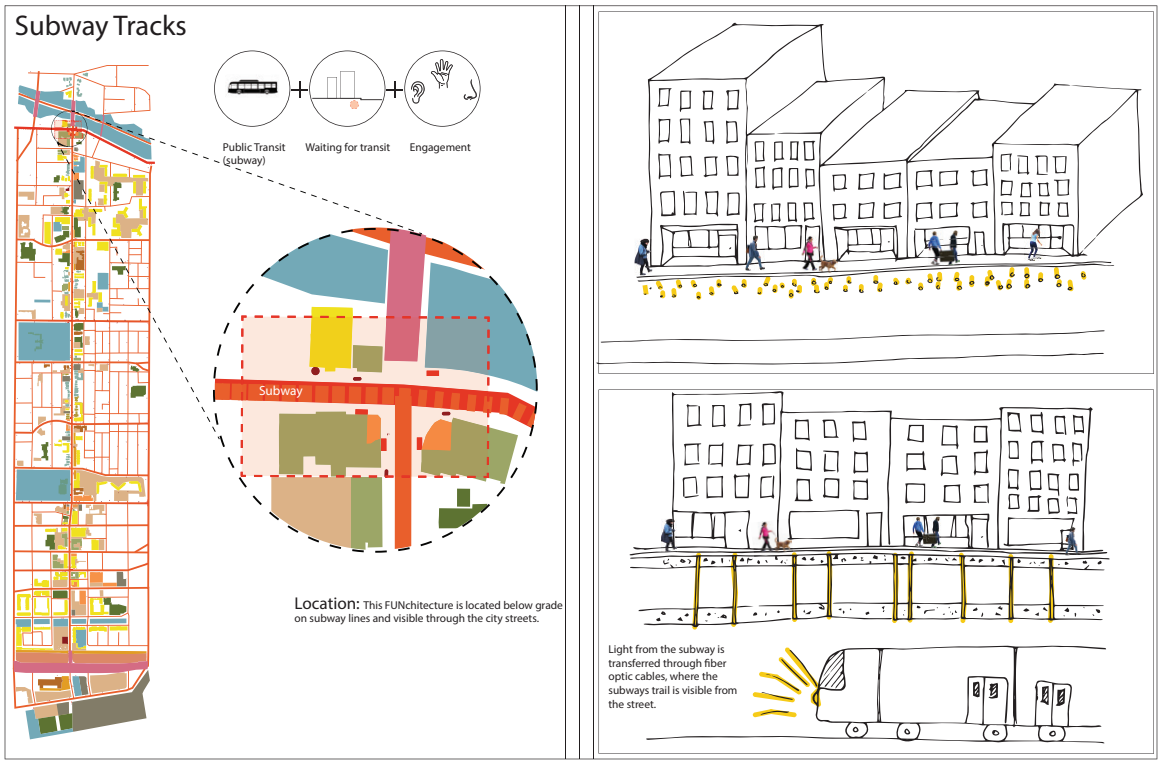
As cities continue to grow and space becomes increasingly valuable, there is an increasing need for architects, designers and the general public to re-vision the undesirable and under utilized spaces in cities. Current architecture movements that are arising from this trend, such as Tactical urbanism, Lean Urbanism, and many pop-up ‘gorilla style’ urban interventions demonstrate the shifting attitudes people have for under-utilized urban space. Many of these grassroots movements are appreciated by the public but suffer from lack of permanence and longevity. In this manner they appear more closely related to ephemeral public art than architecture. In contribution to these small scale movements, a FUNchitecture headquarters would concretize the ephemeral small scale as part of a permanent public play infrastructure. As cities continue to grow and densify, the rewarding attributes of play become increasingly valuable to the well being of humanity. A play infrastructure and corresponding FUNchitecture headquarters offers an implementation strategy that encourages our cities to embrace the benefits play.

In conclusion, the FUNchitecture headquarters, is a symbol that empowers the public with the idea that play should happen anywhere and everyday with anyone. It enables the public to contribute and participate with their everyday environments in a permanent way.

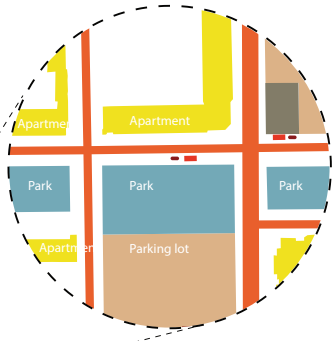
# APPENDIX

Below is the current accumulation of FUNchitecture ideas contributed from myself and from the public and is part of the '*Guidebook to Play In The City*'.



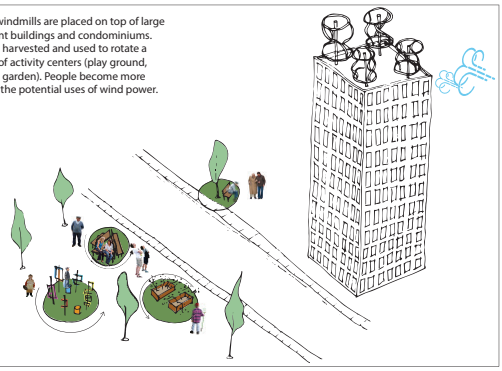



## Wind Spin

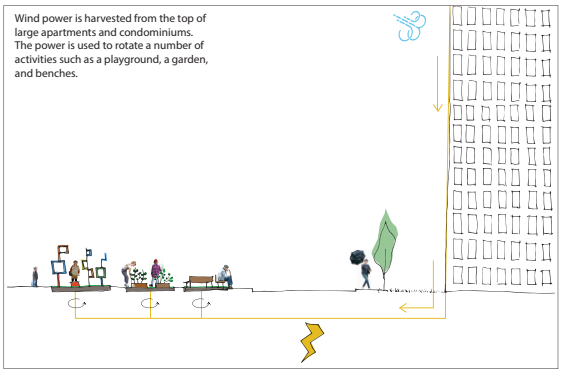




**Location:** Examining the relationships between a large cluster of mid rise apartments/condominiums and a strip park. A large number of people live in this area, and the park is used frequently. It is a good opportunity to expose a lot of people to the potentials of FUNchitecture.

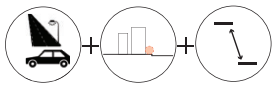
Vertical windmills are placed on top of large apartment buildings and condominiums. Energy is harvested and used to rotate a number of activity centers (play ground, benches, garden). People become more aware of the potential uses of wind power.



Wind power is harvested from the top of large apartments and condominiums. The power is used to rotate a number of activities such as a playground, a garden, and benches.



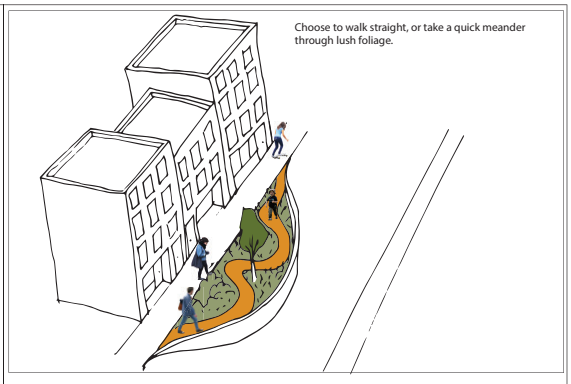
## Which Walk?

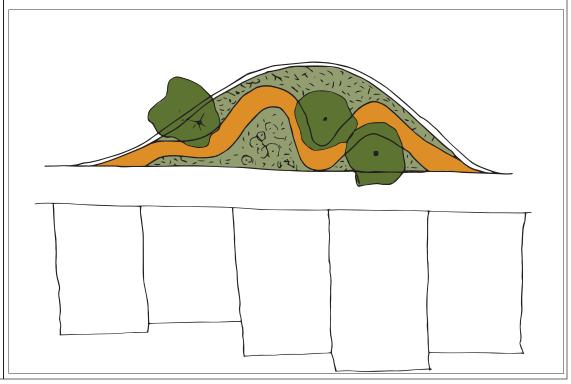




**Location:** This FUNchitecture is located on sidewalks and streets.

Choose to walk straight, or take a quick meander through lush foliage.

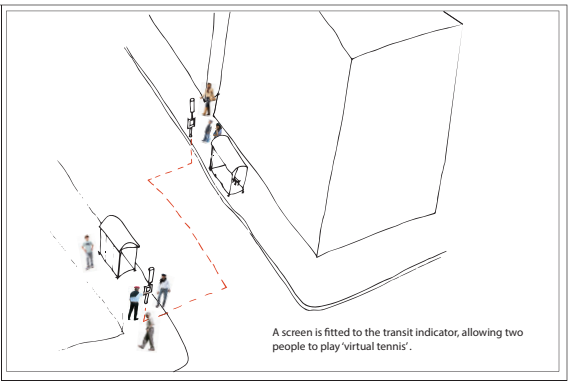




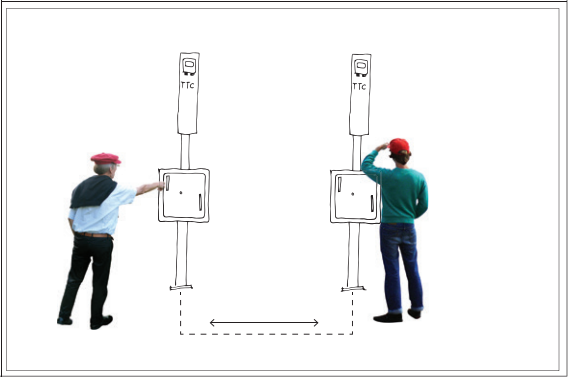
## Transit Pong



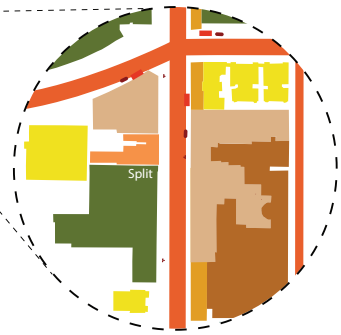
**Location:** This FUNchitecture is located on next to two opposing bus stops on either side of the street.



A screen is fitted to the transit indicator, allowing two people to play 'virtual tennis'.

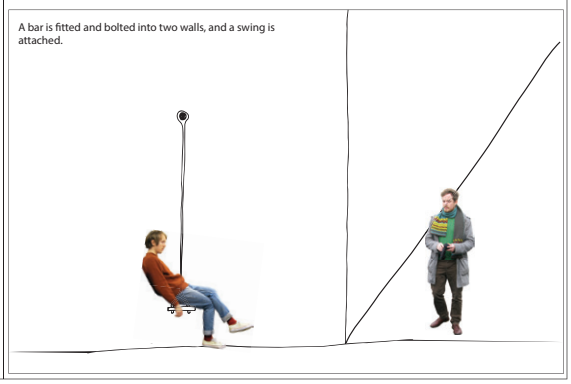



## Split Swing

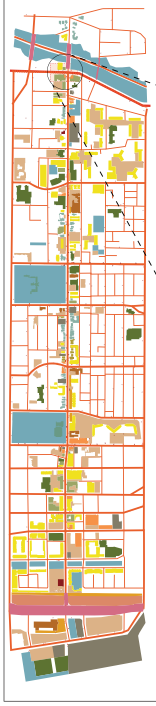




**Location:** This FUNchitecture is located in small alleys between buildings.

A bar is fitted and bolted into two walls, and a swing is attached.

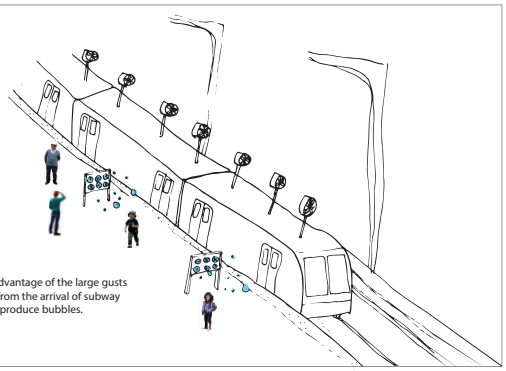


## Subway Bubbles



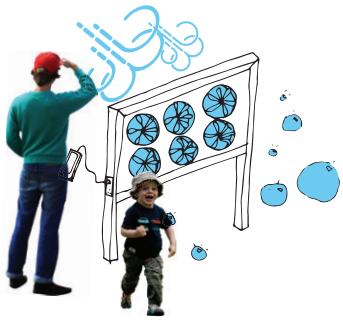


**Location:** Using the wind produced from the arrival and departures of subway trains.



Taking advantage of the large gusts of wind from the arrival of subway trains to produce bubbles.

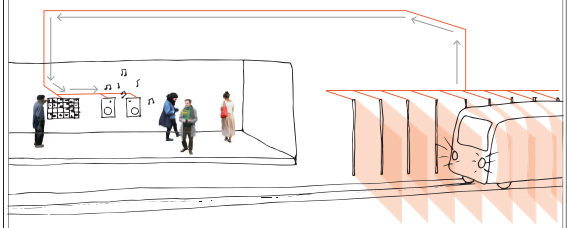
The gusts of wind from the subway are used to turn propellers and produce bubbles. The bubbles give people a chance to smile before getting onto a cramped train to work.



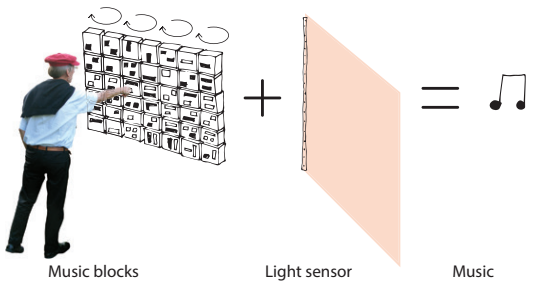
## Subway Sound



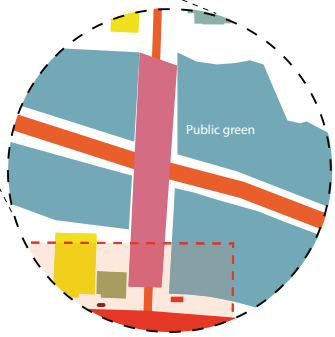
**Location:** This FUNchitecture is located below grade, on subway waiting platforms.



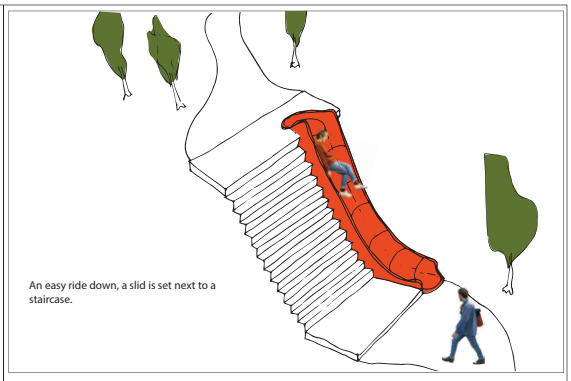
Sensors read the light from an incoming train. The information is relayed to a master board to be transfered into music. People are able to spin blocks with different shapes. The shapes correspond to notes and rhythm.



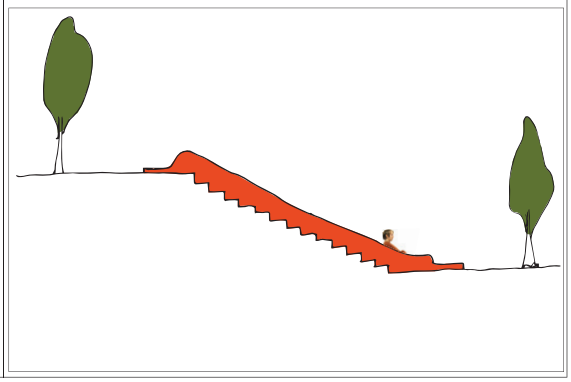
## Stair Slide

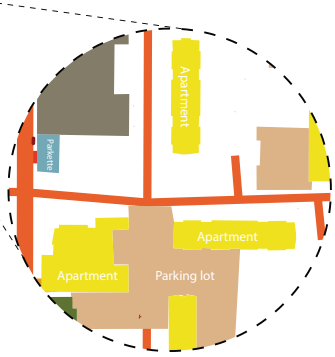

**Location:** This FUNchitecture is located next to any set of staircases.



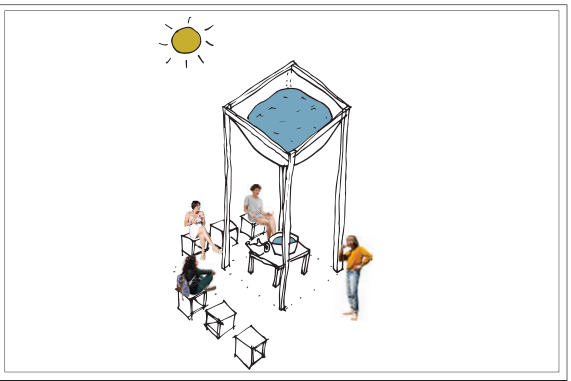
An easy ride down, a slid is set next to a staircase.

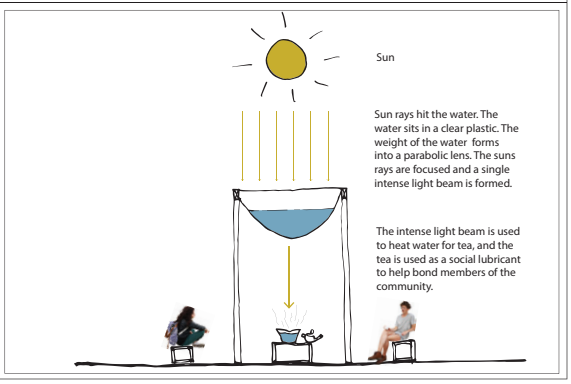


## Solar Tea

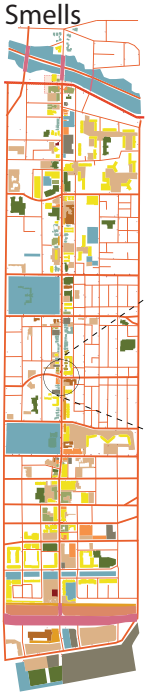



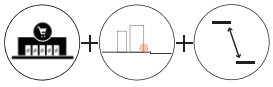

**Location:** The most dense residential housing area in Canada is only supplied with one small public parkette. The 'Solar Tea' project proposes that the rooftops of large apartment complexes be reclaimed as Public Space.





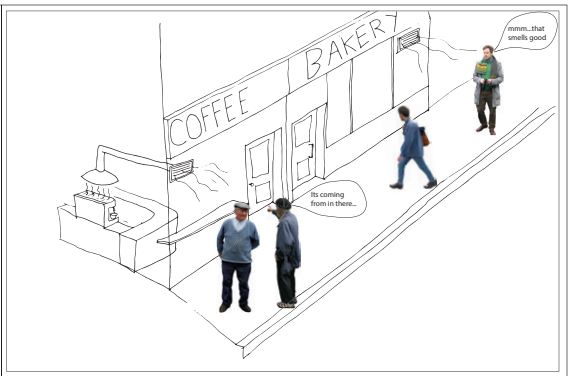
## Sidewalk Smells



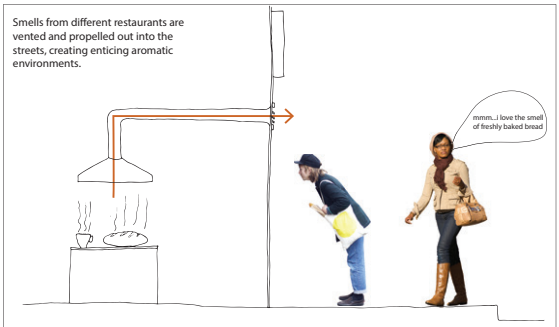




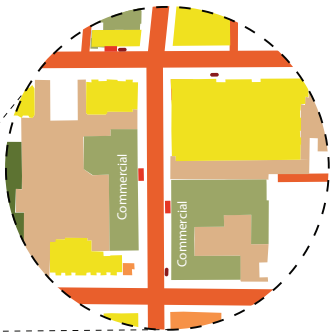
**Location:** This FUNchitecture is located on sidewalks and inside restaurants.



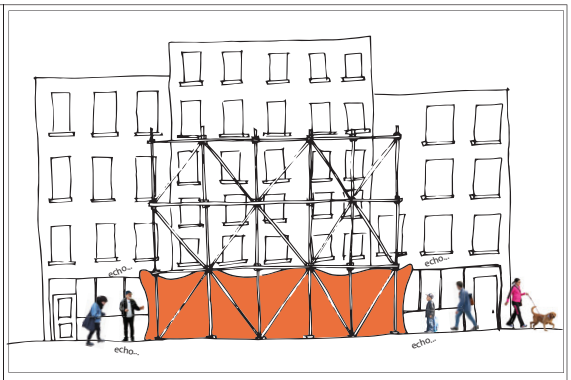

Smells from different restaurants are vented and propelled out into the streets, creating enticing aromatic environments.



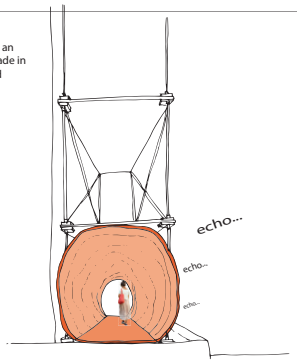

## Scaffold Sound

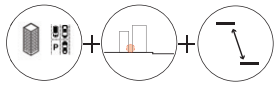

**Location:** This FUNchitecture adapts to the scaffolding used when buildings are under construction.

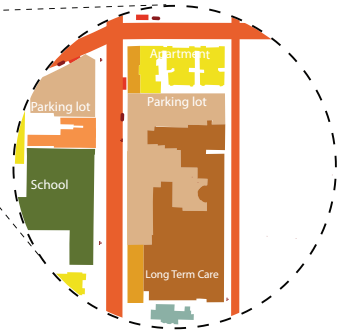



A dense fabric is molded in between the scaffolding into an undulating tunnel. Noises made in the chamber reverberate and echo.

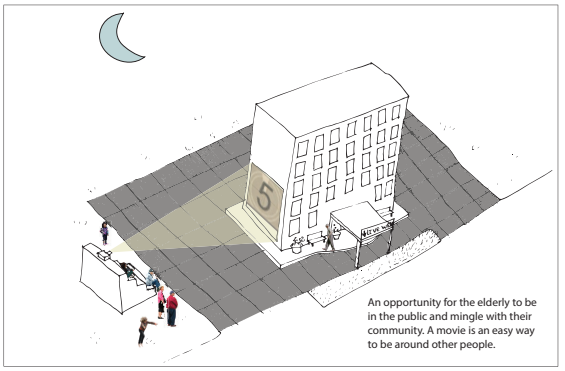


## Pavement Power



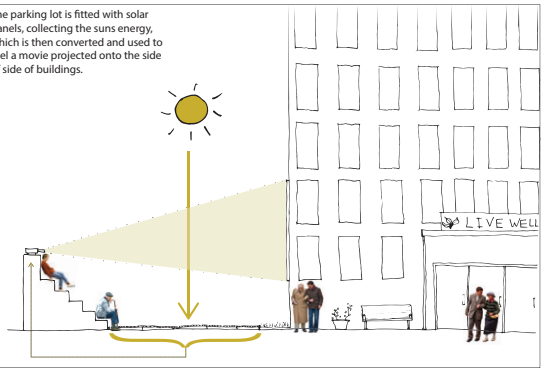




**Location:** Residents of long term care and old age homes often complain about feeling socially isolated and suffer from lonlines. There is opportunity to reclaim portions of parking lots next to these stigmatized care residences as public space.

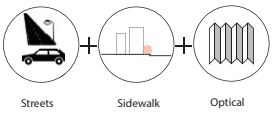


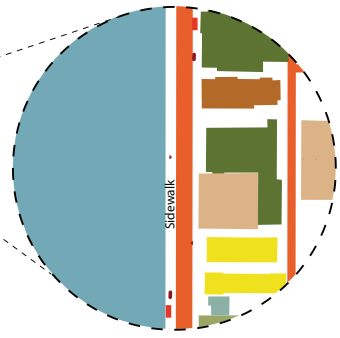
An opportunity for the elderly to be in the public and mingle with their community. A movie is an easy way to be around other people.

The parking lot is fitted with solar panels, collecting the suns energy, which is then converted and used to fuel a movie projected onto the side of side of buildings.

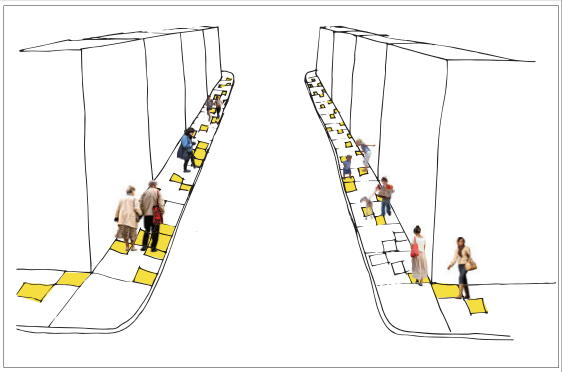



## Light Walk

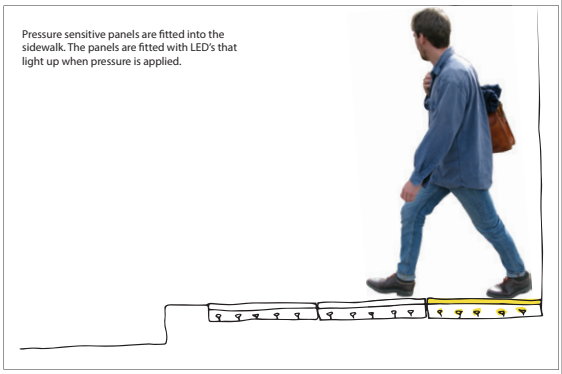



**Location:** This FUNchitecture is located on sidewalks.



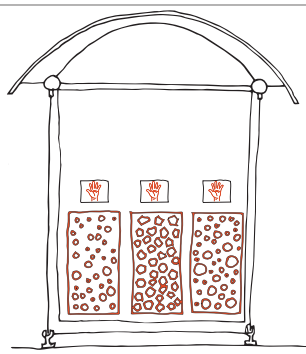
Pressure sensitive panels are fitted into the sidewalk. The panels are fitted with LED's that light up when pressure is applied.



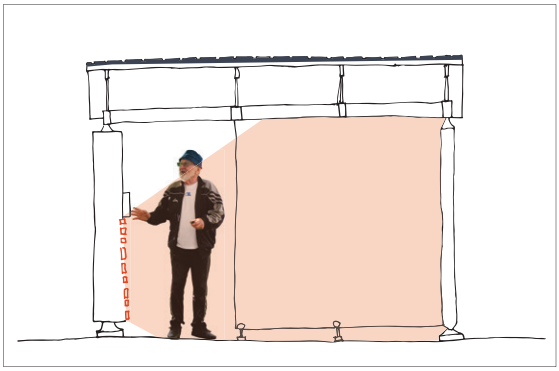
## Hand Heat



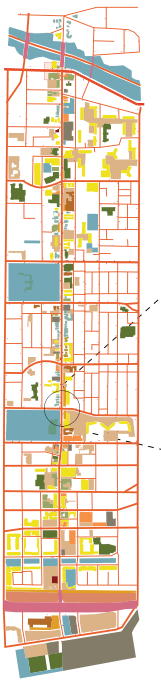
**Location:** This FUNchitecture is adaptable to the existing infrastructures of bus stops. It takes advantage of the awkward 5-10 minutes people spend waiting for the next bus or streetcar.

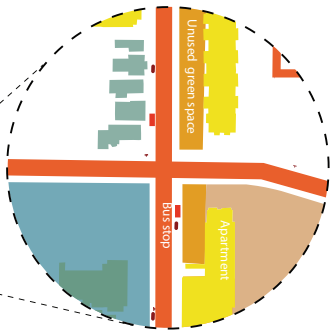


Hand prints are provided above heating panels. The heating panels are activated by human touch, providing needed heat for cold winter days.

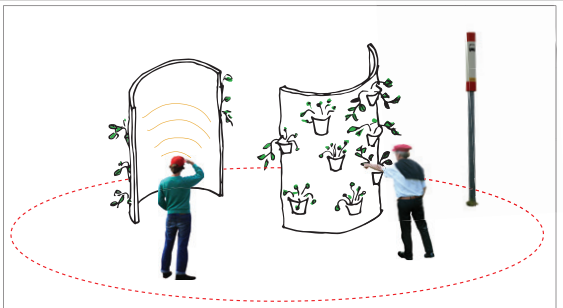


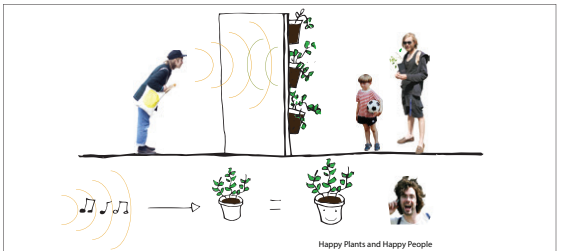
## Garden Sound




**Location:** This FUNcatecture is adaptable to the existing infrastructures of bus stops, open underused green space, and large apartment complexes. It takes advantage of the awkward 5-10 minutes people spend waiting for the next bus or streetcar.





Happy Plants and Happy People

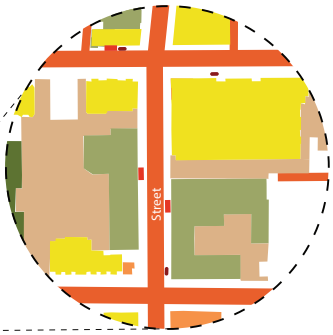
Sound is applied to the reverberating plant wall.

This is a form of Phytosemiotics. People's voices are recognized by the plants, and helps them to grow.*

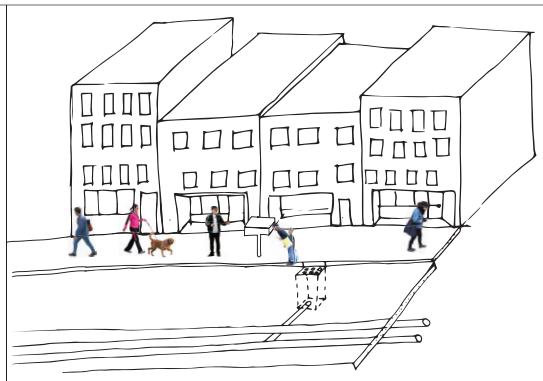
Phytosemiotics helps the plants grow, but it also gives the community an outlet to step out of their comfort zone by shouting, and it engages their investment in 'nature' further through their active participation. They are able to provide an action (voice) and recieve two rewards, one immediate (hearing one's voice echo) and one longer term (watching the plants grow).

*The term 'phytosemiotics' has been introduced by Martin Krampen in 1981. Phytosemiotics is a branch of biosemiotics that studies the sign processes in plants, or more broadly, the vegetative semiosis. Vegetative semiosis is a type of sign processes that occurs at cellular and tissue level, including cellular recognition, plant perception, plant signal transduction, intercellular communication, immunological processes, etc.

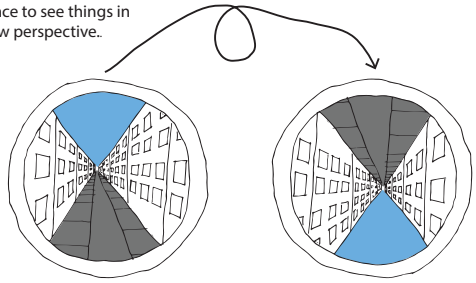
## Flip


**Location:** Located on the sidewalk in a relatively busy area, giving people the opportunity for a quick visual pleasure.

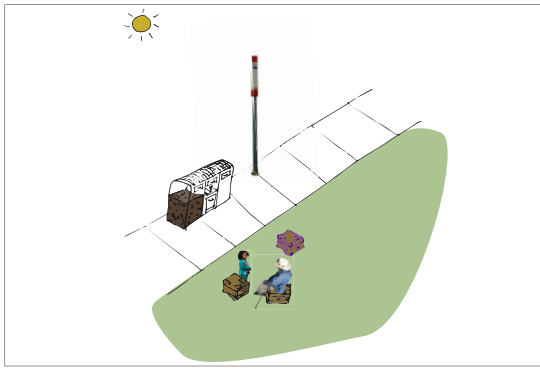


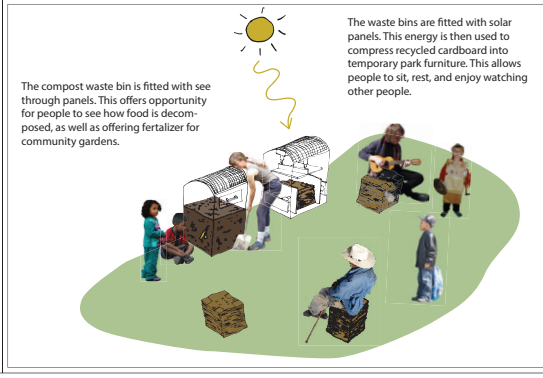
Using mirrors, the street is flipped upside down, providing the chance to see things in a new perspective..



## Compact Community


**Location:** Looking at the relationship between public transit waiting areas, waste bins, and public parks. There is often an awkward waiting time between transit arrival/departures where there is an opportunity for people to engage in play.





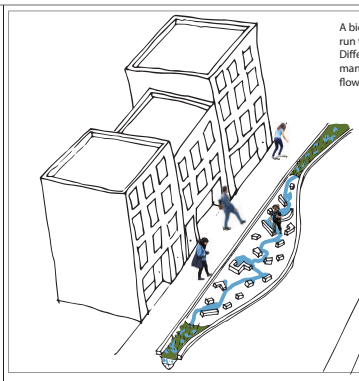
The compost waste bin is fitted with see through panels. This offers opportunity for people to see how food is decomposed, as well as offering fertalizer for community gardens.

The waste bins are fitted with solar panels. This energy is then used to compress recycled cardboard into temporary park furniture. This allows people to sit, rest, and enjoy watching other people.

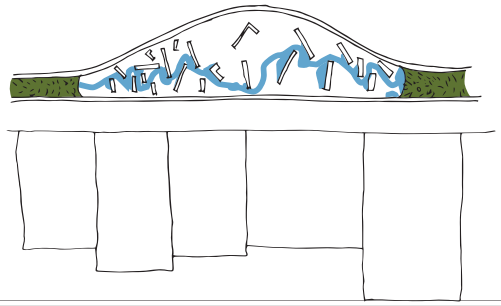
## Damn Play



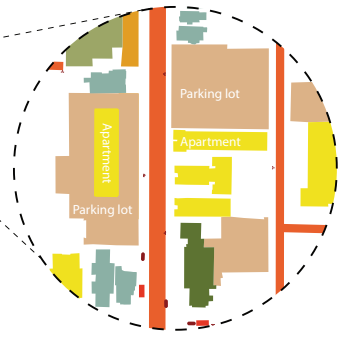
**Location:** The sidewalk is widened in a 'Woonerf' style, allowing for bioswale filtered water to run through the space filled with movable obstacles.



A bioswale filters water, that is then able to run through a widened sidewalk area. Different water obstacles are able to be maneuvered to damn the water, or let it flow.

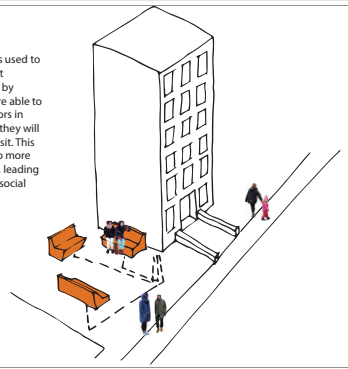


## Bench Warmers

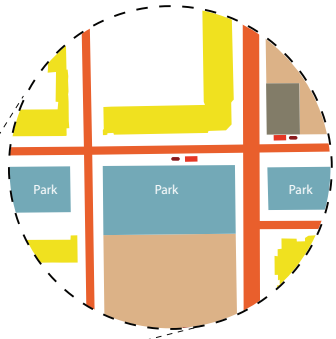




**Location:** Apartment buildings are usually surrounded or in close proximity to parking lots. This FUNchitecture uses the excess heat generated by apartment buildings and circulates it through benches. This keeps peoples bottoms warm in the winter.

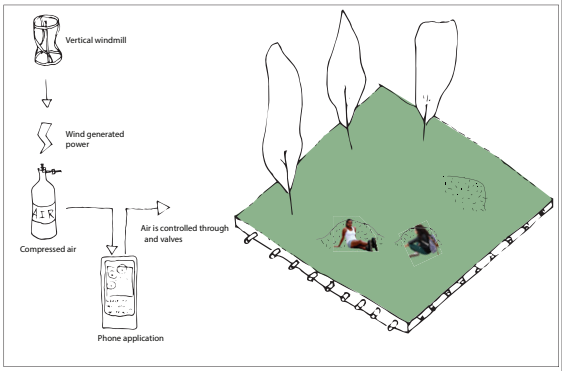
A heat recovery unit is used to collect the excess heat production from near by apartments. People are able to appreciate the outdoors in winter more because they will have a warm place to sit. This enjoyment will lead to more people being outside, leading to greater chances of social exchanges.



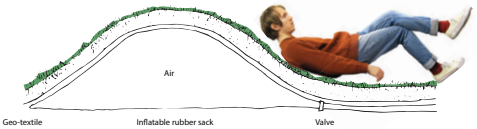
## Wind Lump

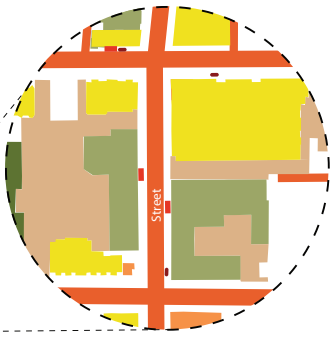

**Location:** This FUNchitecture is located in open parks or grassy apartment/condominium setbacks.



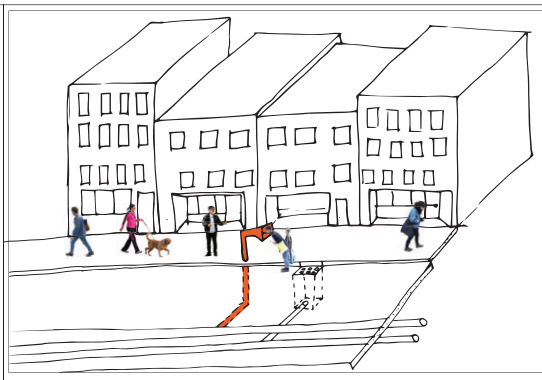

Vertical windmills generate power that is used to compress air. The air is released into inflatable rubber sacks, below the tensile grass layer. The public is able to use their mobile devices to locate an area of terrain that they would like to inflate and relax on.



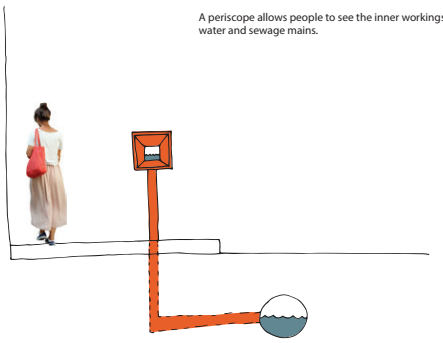

## Water Watch

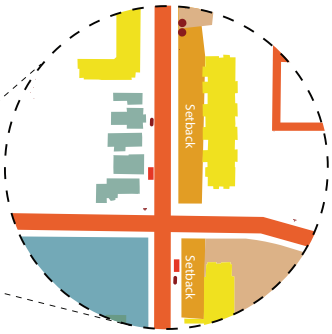

**Location:** This FUNchitecture is located on sidewalks and below the street.



A periscope allows people to see the inner workings of water and sewage mains.



## Wall Warmers

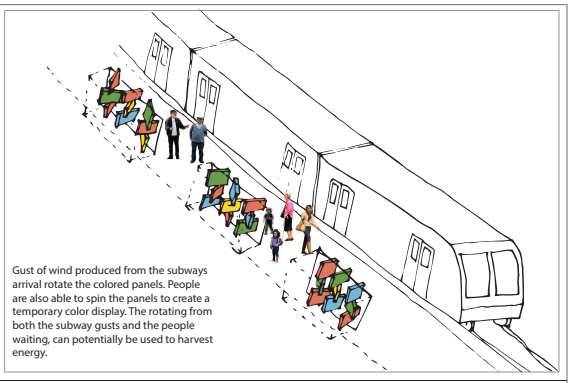

**Location:** This FUNchitecture is located on blank walls.

Small holes are carved into walls and fitted with warming materials. Jackets and other warming garments are also provided.

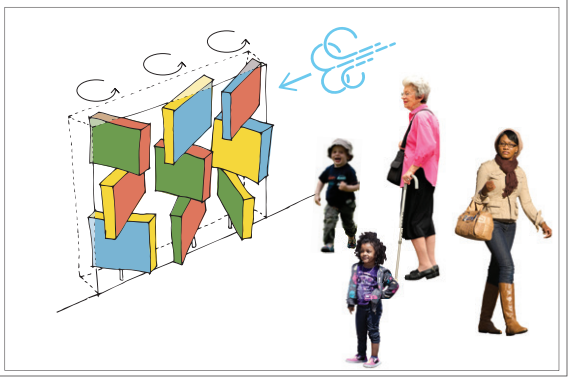
## Subway Colour



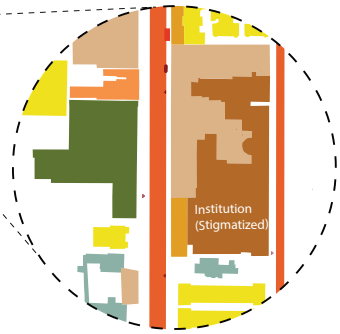
**Location:** Using the wind produced from the arrival and departures of subway trains along with the small increments of time people spend waiting for the next train to arrive.



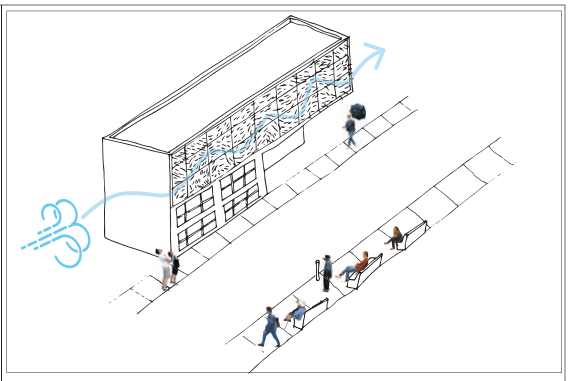
Gust of wind produced from the subways arrival rotate the colored panels. People are also able to spin the panels to create a temporary color display. The rotating from both the subway gusts and the people waiting, can potentially be used to harvest energy.



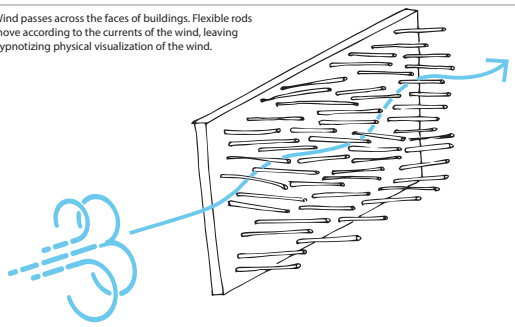
## Wind Wall


**Location:** This FUNchitecture is located on blank walls and building facades.



Wind passes across the faces of buildings. Flexible rods move according to the currents of the wind, leaving hypnotizing physical visualization of the wind.

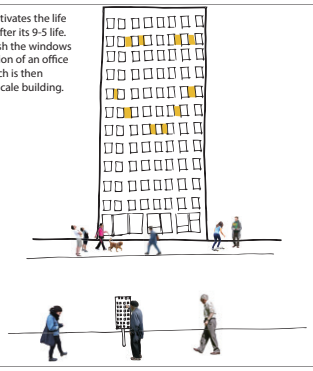


## Window Light

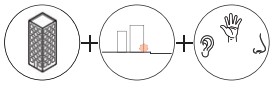


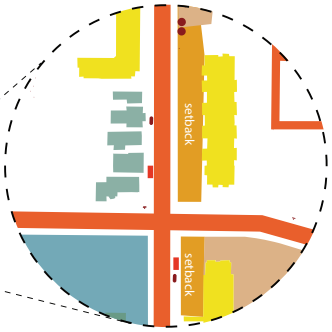
**Location:** This FUNchitecture is located on the street and the middle of office buildings.

This FUNchitecture activates the life of an office building after its 9-5 life. People are able to push the windows of a scaled down version of an office buildings facade, which is then transfered to the full scale building.

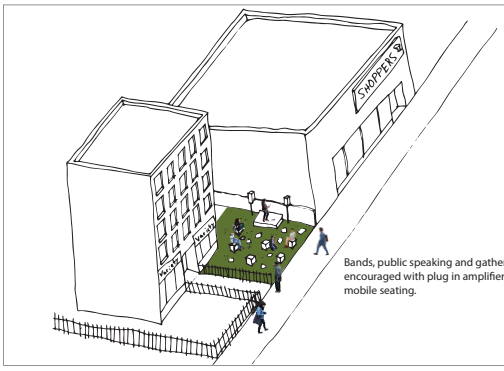


## Speaker Box



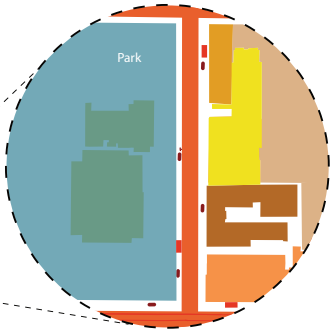




**Location:** This FUNchitecture reclaims gated setback areas as public space.

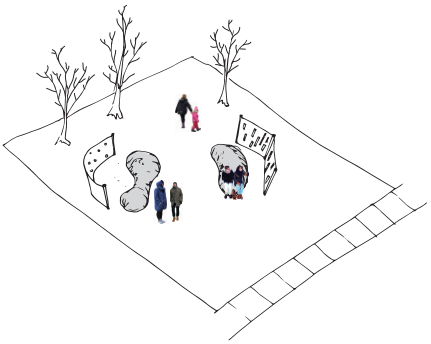



Bands, public speaking and gatherings are encouraged with plug in amplifiers and mobile seating.

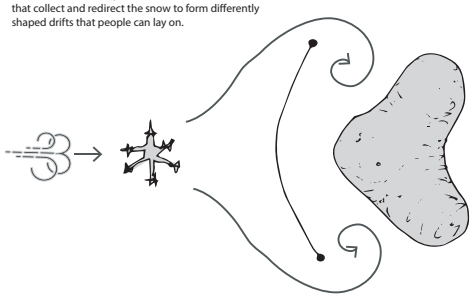
## Snow Fence

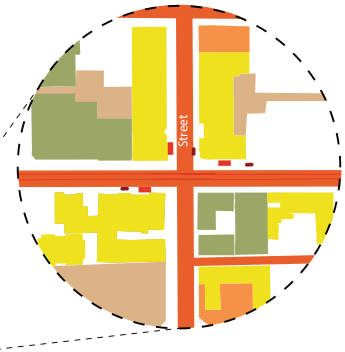

**Location:** This FUNchitecture is located in public parks in the winter.



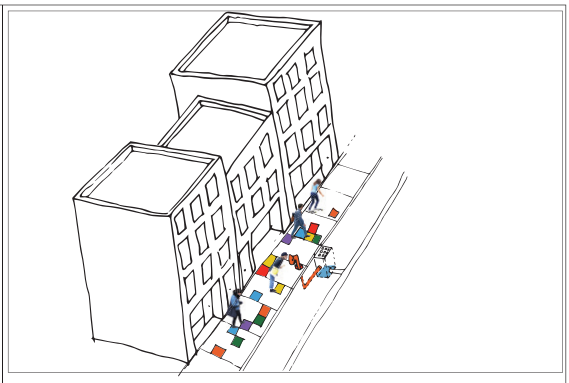
Wind is blown across parks and streets into snow fences that collect and redirect the snow to form differently shaped drifts that people can lay on.

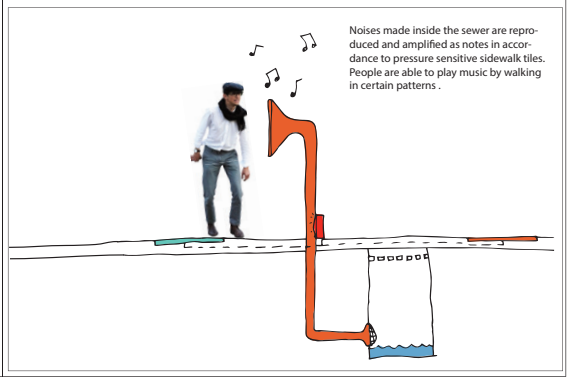


## Sewer Sounds

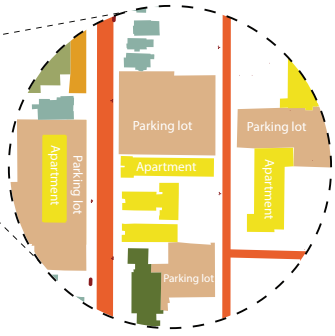

**Location:** This FUNchitecture is located on the sidewalk and underground.



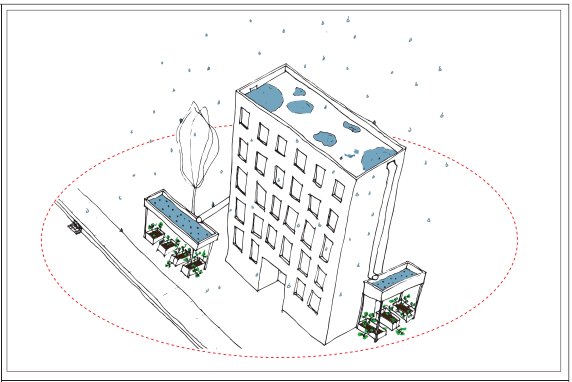


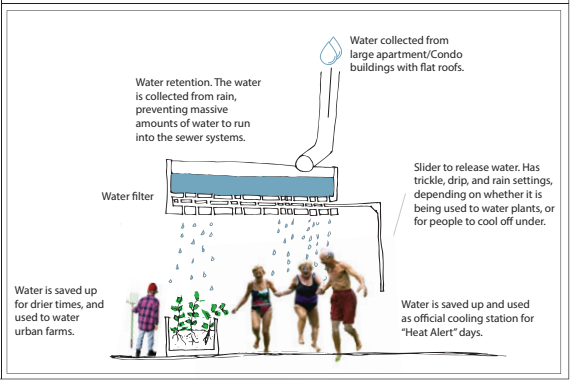
Noises made inside the sewer are reproduced and amplified as notes in accordance to pressure sensitive sidewalk tiles. People are able to play music by walking in certain patterns .

## Rain Dance

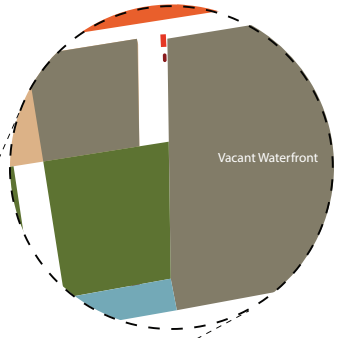

**Location:** Looking at the relationship between large apartment complexes, and how they are usually surrounded by a vast amount of asphalt parking lots. There is opportunity to reclaim some of the parking lot as public space.



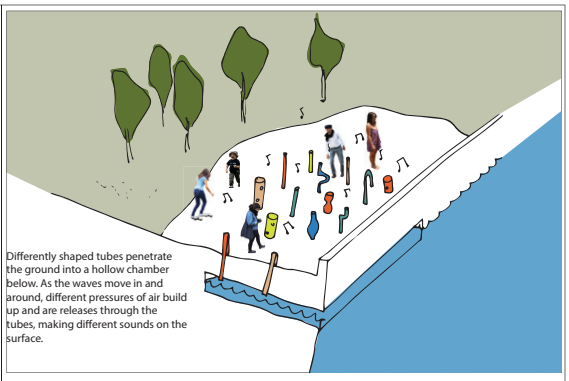


## Liquid Noise

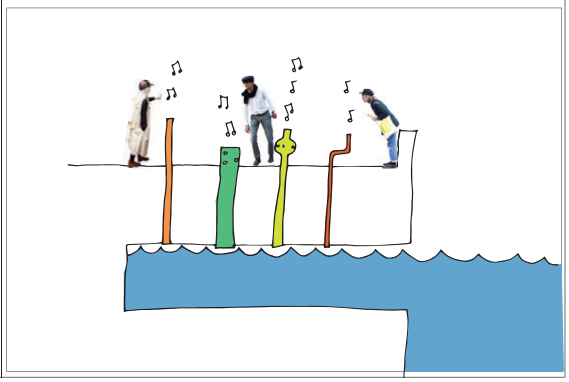

Vacant Waterfront Engagement




**Location:** This FUNchitecture is located on a vacant area of the waterfront.

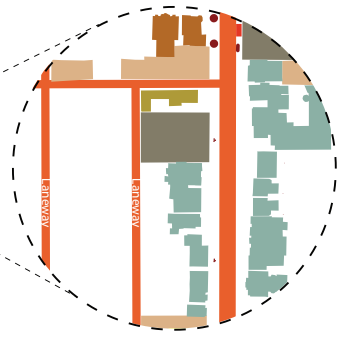


Differently shaped tubes penetrate the ground into a hollow chamber below. As the waves move in and around, different pressures of air build up and are releases through the tubes, making different sounds on the surface.



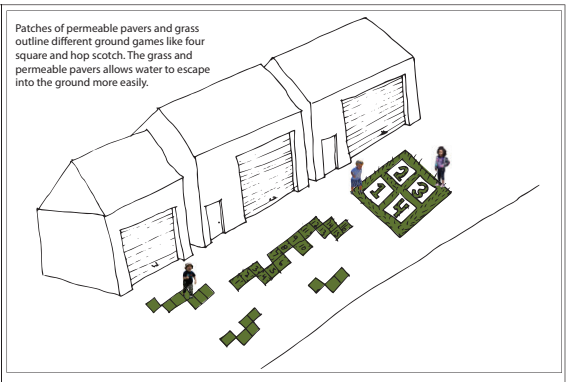
## Laneway Hop

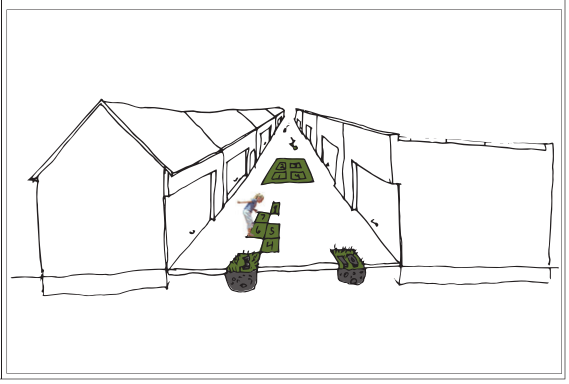
Private Transit In Between (Laneway) Engagement




**Location:** This FUNchitecture is located in between houses in laneways.

Patches of permeable pavers and grass outline different ground games like four square and hop scotch. The grass and permeable pavers allows water to escape into the ground more easily.



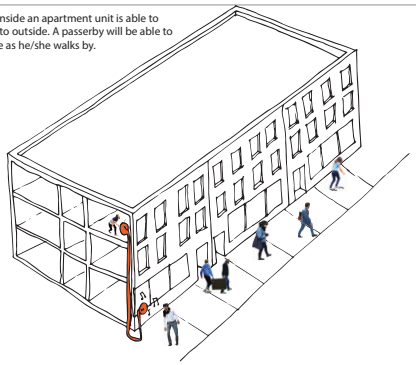


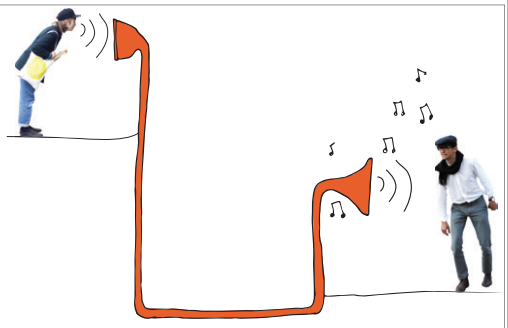
## In/Out Voices



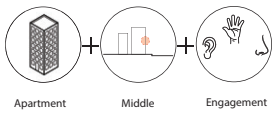
**Location:** This FUNchitecture is located inside apartment building units, and sidewalks.

Sound produced inside an apartment unit is able to travel from inside to outside. A passerby will be able to hear muffled noise as he/she walks by.





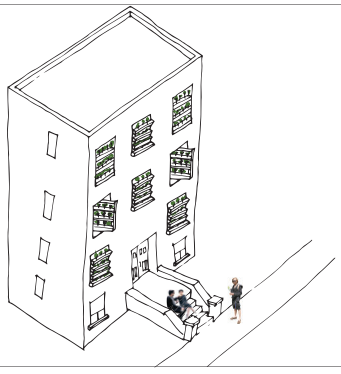
## Garden Window





**Location:** This FUNchitecture is a new window for large apartments buildings without easy access to the outdoors.

Its allows the resident to spin the window to allow the plant to get more light or rain water, and for the resident to harvest the plants for cooking, sharing or selling.

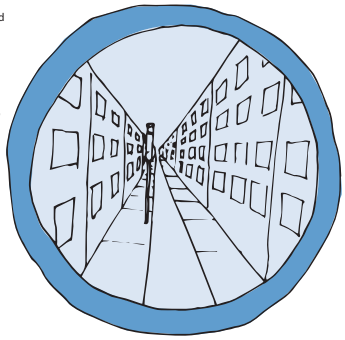


## Spy Hole



**Location:** This FUNchitecture is adaptable to the existing infrastructures of bus stops. It takes advantage of the awkward 5-10 minutes people spend waiting for the next bus or streetcar.

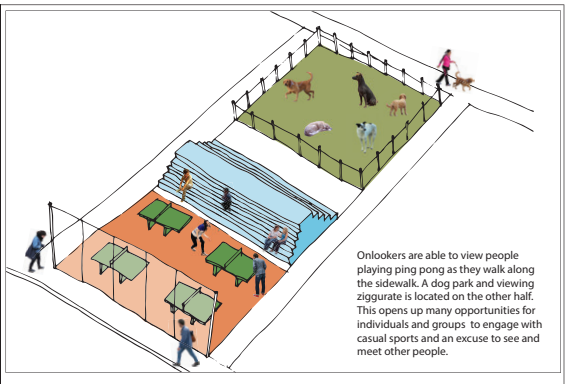

.The bust stop is fitted with a number of peep holes that distort the perspective of the street and anything and everyone on it. It gives people the chance to see the street in a different way.



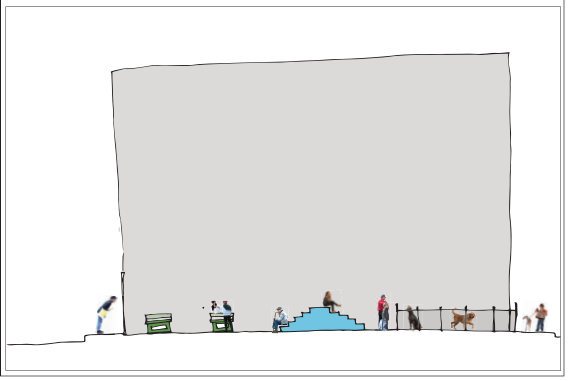
## Dog Pong



**Location:** Located in a run down public park, from the main street cross to a local street.



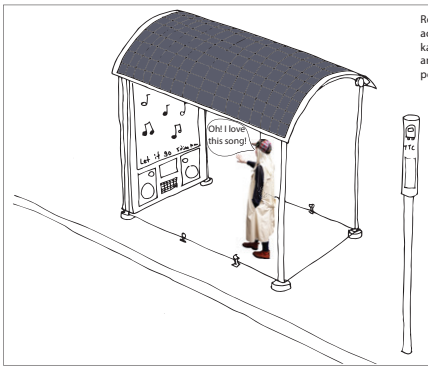
Onlookers are able to view people playing ping pong as they walk along the sidewalk. A dog park and viewing ziggurate is located on the other half. This opens up many opportunities for individuals and groups to engage with casual sports and an excuse to see and meet other people.



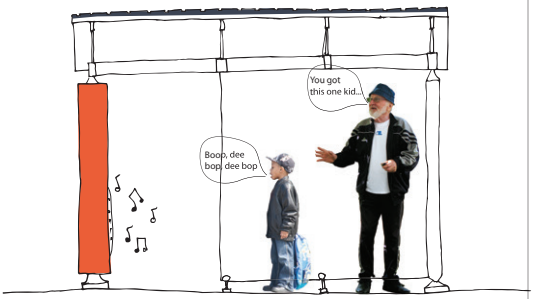
## Bus Stop Karaoke



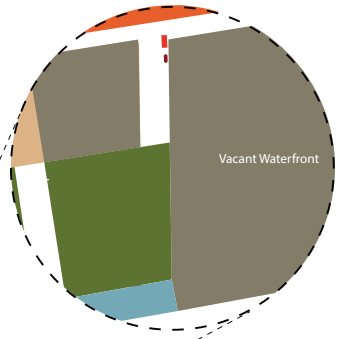
**Location:** This FUNchitecture is adaptable to the existing infrastructures of bus stops, open underused green space, and large apartment complexes. It takes advantage of the awkward 5-10 minutes people spend waiting for the next bus or streetcar.



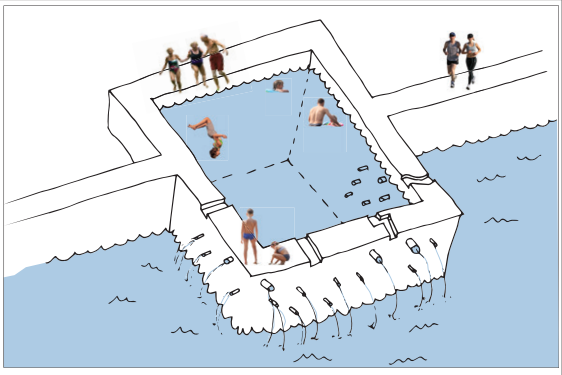

Reminiscent of 'bathtub acoustics' the bus stop karaoke lets people choose and sing songs. It helps people to meet and laugh.

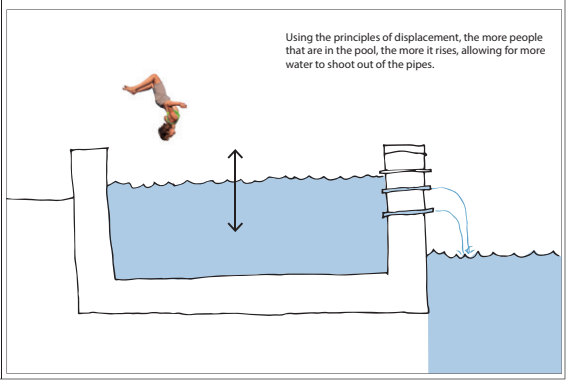



## Dis-Water-Place


**Location:** This FUNchitecture is located on a vacant waterfront.



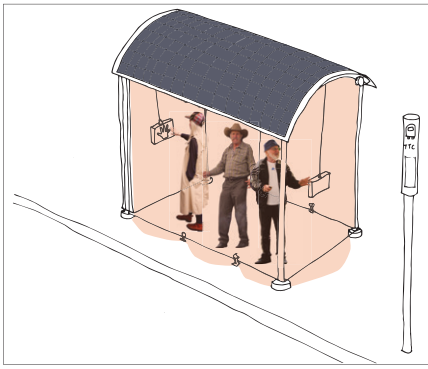


Using the principles of displacement, the more people that are in the pool, the more it rises, allowing for more water to shoot out of the pipes.

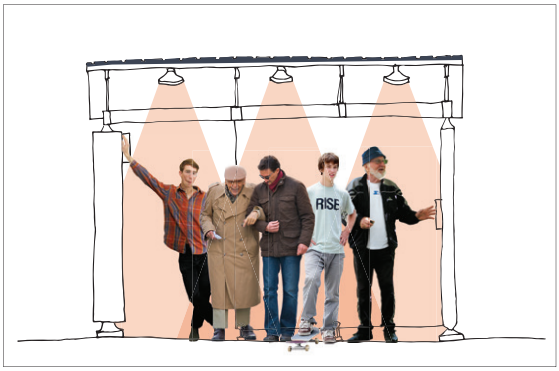
# Kinetic Heat



**Location:** This FUNchitecture is adaptable to the existing infrastructures of bus stops. It takes advantage of the awkward 5-10 minutes people spend waiting for the next bus or streetcar.



Activated by human touch, the heat in the shelter turns on when buttons on either side of the shelter are in contact. This requires that more than one person has to be linked up in order for the current to run through and activate the heat source. The more people the merrier.



# REFERENCES


Beekmans, Jeroen., and Joop De Boer. 2014. *Pop-up City: City-making in a Fluid World*. Amsterdam, the Netherlands: BIS.

Borden, Iain. 2001. *Skateboarding, Space and the City: Architecture and the Body*. Oxford [England]; New York: Berg.

Brown, Stewart. 2016. “The Vision, The Science, The Opportunities.” Last modified March 03. http://www.nifplay.org.

Brown, Stuart L., and Christopher C Vaughan. 2009. *Play: How It Shapes the Brain, Opens the Imagination, and Invigorates the Soul*. New York: Avery.

Bunjes, Alex. 2014. “Art at New York” Panoramio Blog. http://www.panoramio.com/photo/110513017.

CHORA., and Kariye Camii. 2001. *Urban Flotsam: Stirring the City*. Rotterdam: 010 Publishers.

Friedman, Yona. 2006. *Pro Domo*. Barcelona: Actar.

Gehl, Jan. 2011. *Life Between Buildings Using Public Space*. Washington, DC: Island Press.

Hertzberger, Herman., Ghaït, Laila, and Marieke Van Vlijmen. 2001. *Lessons for Students in Architecture*. 4th Rev. ed. Rotterdam: 010 Publishers.

Huizinga, Johan. 1949. *Homo Ludens; a Study of the Play-element in Culture*. International Library of Sociology and Social Reconstruction (Routledge & Kegan Paul). London: Routledge & K. Paul.

Mathews, Stanley. 2009. “The Fun Palace: Cedric Price’s experiment in architecture and technology.” *Journal of Speculative Research*. vol 3. no 2: 73-91.

McKeown, Greg. 2014. *Essentialism: The Disciplined Pursuit of Less*. First ed. New York: Crown Business.

Micallef, Shawn. 2010. *Stroll Psychogeographic Walking Tours of Toronto*. 1st ed. Toronto: Coach House Books: Eye Weekly.

Norberg-Schulz, Christian. 1980. *Genius Loci: Towards a Phenomenology of Architecture*. New York, N.Y.: Rizzoli.

Norberg-Schulz, Christian. 1985. *The Concept of Dwelling: On the Way to Figurative Architecture*. Architectural Documents. Milan: New York: Electa; Rizzoli.

Rossi, Aldo., and Peter Eisenman, and Graham Foundation for Advanced Studies in the Fine Arts. 1982. *The Architecture of the City*. Oppositions Books. Cambridge, Mass.: MIT Press.

Whyte, William Hollingsworth. 1980. *The Social Life of Small Urban Spaces*. Washington, D.C.: Conservation Foundation.

Whyte, William Hollingsworth., and Albert LaFarge. 2000. *The Essential William H. Whyte*. New York: Fordham University Press.

Wright, Gary, comp. 2010. “Toronto Official Plan”. *Toronto City Planning*.

Zegher, M. Catherine De., Constant, Mark Wigley, and Drawing Center. 2001. *The Activist Drawing: Retracing Situationist Architectures from Constant’s New Babylon to Beyond*. New York: Cambridge, Mass.: Drawing Center; MIT Press.